

**ALIGNMENT OF BANKING SECTOR TOWARDS A
SUSTAINABLE ECONOMY: THE CASE OF
BANGLADESH**

BY

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ABSTRACT

This thesis seeks to develop a sustainable banking business model that addresses the funding gap in achieving the Sustainable Development Goals (SDGs) by aligning with the challenges of sustainable development. It commences by identifying key limitations within the prevailing profit-centric sustainable banking model, specifically its lack of objectivity, significance, and efficacy in advancing the SDG implementation. To redress these deficiencies, the thesis introduces an impact-optimizing model, with a focus on augmenting sustainability contributions by banks in various aspects of impacts. Additionally, it adopts a Theory of Change initially proposed by Weiss (1972) and later popularized by Patton (1980) as a qualitative evaluation method for development programs, in order to establish a transparent link between sustainable banking interventions and desired outcomes. This research also entails the development of a multifaceted application framework encompassing planning, implementation, monitoring, and evaluation components to facilitate the practical application of the proposed model. Ultimately, the thesis culminates in the creation of tailored sustainable banking plans for relevant SDGs, accompanied by the formulation of objectively verifiable indicators and an assessment index, serving as a comprehensive test for the proposed model and its associated application framework. Methodologically, existing materials are reviewed, summarized, and analyzed to develop the proposed model and formulate the theory of change. Fundamental tools such as the log frame matrix, theory of action, and theory of change are utilized to devise planning, implementation, monitoring, and evaluation components. Statistical tools are applied alongside the application framework to formulate sustainable banking plans, establish objectively verifiable indicators, and calculate assessment indices for relevant SDGs for a sample bank in Bangladesh. The findings of this study can be categorized into four: first, the development of an impact-optimizing model incorporating strategies to optimize sustainability impact within different components of the Business Model Canvas (BMC); second, the selection of actionable themes from 11 relevant SDGs and the alignment of bank practices with these themes; third, the identification and categorization of objectively verifiable indicators into a triple-bottom-line framework; and fourth, the calculation of an overall composite index to evaluate sustainable banking performance in contributing to SDG implementation. This study guides the bank's aligning micro-level sustainability efforts with macro-level sustainability themes derived from global goals. The significant contribution of this study lies in providing guidance on aligning existing banks' micro-level sustainability efforts to address funding gaps in achieving macro-level sustainability themes derived from global sustainability goals.

خلاصة البحث

تسعى هذه الأطروحة إلى تطوير نموذج عمل مصرفي مستدام يعالج فجوة التمويل في تحقيق أهداف التنمية المستدامة من خلال التوافق مع تحديات التنمية المستدامة. وهي تبدأ بتحديد القيود الرئيسية في النموذج المصرفي المستدام السائد الذي يركز على الربح، وعلى وجه التحديد افتقاره إلى الموضوعية والأهمية والفعالية في تعزيز تنفيذ أهداف التنمية المستدامة. ولمعالجة أوجه القصور هذه، تقدم الأطروحة نموذجًا لتحسين التأثير، مع التركيز على زيادة مساهمات الاستدامة من قبل البنوك في مختلف جوانب التأثيرات. بالإضافة إلى ذلك، فهي تتبنى نظرية التغيير التي اقترحتها في البداية فايس (1972) ثم شاعها باتون (1980) كأسلوب تقييم نوعي لبرامج التنمية، من أجل إقامة رابط شفاف بين التدخلات المصرفية المستدامة والنتائج المرجوة. وينطوي هذا البحث أيضًا على تطوير إطار تطبيق متعدد الأوجه يشمل مكونات التخطيط والتنفيذ والمراقبة والتقييم لتسهيل التطبيق العملي للنموذج المقترح. وفي نهاية المطاف، تتوج الأطروحة بإنشاء خطط مصرفية مستدامة مصممة خصيصًا لأهداف التنمية المستدامة ذات الصلة، مصحوبة بصياغة مؤشرات يمكن التحقق منها موضوعيًا ومؤشر تقييم، ليكون بمثابة اختبار شامل للنموذج المقترح وإطار التطبيق المرتبط به. ومن الناحية المنهجية، تتم مراجعة المواد الموجودة وتلخيصها وتحليلها لتطوير النموذج المقترح وصياغة نظرية التغيير. يتم استخدام الأدوات الأساسية مثل مصفوفة الإطار المنطقي ونظرية العمل ونظرية التغيير لوضع مكونات التخطيط، والتنفيذ، والرصد، والتقييم. كما يتم تطبيق الأدوات الإحصائية جنبًا إلى جنب مع إطار التطبيق لصياغة خطط مصرفية مستدامة، وإنشاء مؤشرات يمكن التحقق منها موضوعيًا، وحساب مؤشرات التقييم لأهداف التنمية المستدامة ذات الصلة لعينة بنك في بنغلاديش. ويمكن تصنيف نتائج هذه الدراسة إلى أربعة: أولاً، تطوير نموذج لتحسين التأثير يتضمن استراتيجيات لتحسين تأثير الاستدامة ضمن المكونات المختلفة لنموذج الأعمال (BMC)؛ ثانياً، اختيار المواضيع القابلة للتنفيذ من بين 11 هدفاً من أهداف التنمية المستدامة ذات الصلة ومواءمة ممارسات البنوك مع هذه المواضيع؛ ثالثاً، تحديد وتصنيف المؤشرات التي يمكن التحقق منها موضوعياً في إطار ثلاثي القاعدة؛ ورابعاً، حساب مؤشر مركب شامل لتقييم الأداء المصرفي المستدام في المساهمة في تنفيذ أهداف التنمية المستدامة. توجه هذه الدراسة جهود البنك في مواءمة جهود الاستدامة على المستوى

الجزئي مع موضوعات الاستدامة على المستوى الكلي المستمدة من الأهداف العالمية. وتكمن المساهمة الكبيرة لهذه الدراسة في تقديم إرشادات حول مواءمة جهود الاستدامة على المستوى الجزئي للبنوك الحالية لمعالجة فجوات التمويل في تحقيق موضوعات الاستدامة على المستوى الكلي المستمدة من أهداف الاستدامة العالمية.



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DECLARATION

I hereby declare that this thesis is the result of my investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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I wish to dedicate this thesis to my beloved late mother and late father, who taught me never to give up and whose influence has been life-long and has shaped my aspirations and goals. I also dedicate this thesis to my beloved wife, son, daughters, brothers, sisters, family, friends, and the Muslim Ummah.



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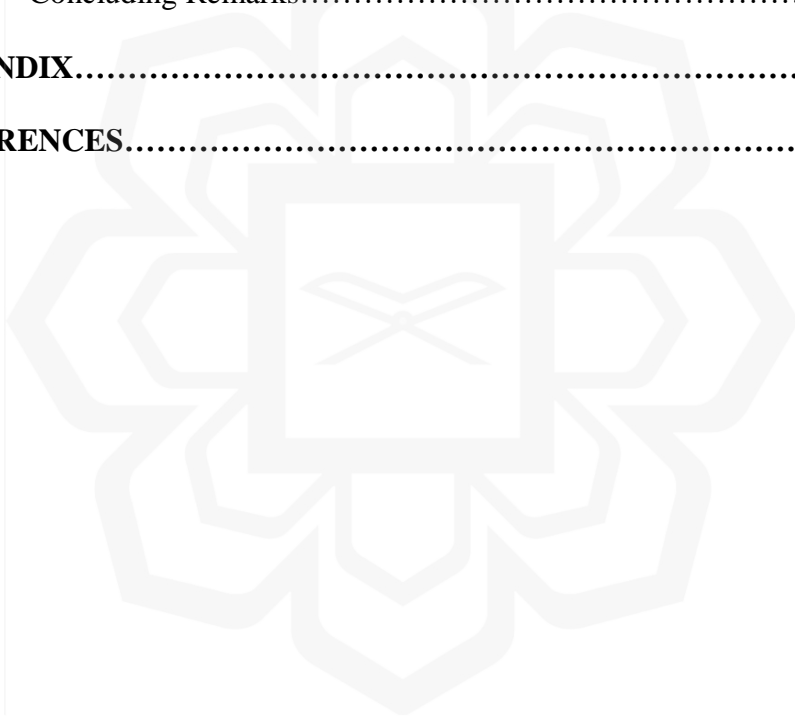
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LIST OF ABBREVIATIONS

SDGs	Sustainable Development Goals
BMC	Business Model Canvas
LFA	Logical Framework Approach
TOC	Theory of Change
TOA	Theory of Action
OVI	Objectively Verifiable Indicator
QQTTP	Quantity, Quality, Target, Time, Place.
SMART	Specific, Measurable, Availability, Resource, Time
NPT	National Priority Target
TBL	Triple Bottom Line



CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

The most popular notion of Sustainable Development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Burton, 1987). One of the celebrated sustainability approaches related to the economy and business activities is the concept of triple-bottom-line; profit, people, planet, introduced by John Elkington (1998). Addressing sustainability with merely those abstract theories is vague and challenging. For this reason, from the very beginning, there is a tendency to concretize this noble concept into a planning framework. Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs) are the consecutive largest efforts in this line of planning where the United Nations declared sustainability as the global development agenda in a far comprehensive, concrete, and consistent way. When it comes to implementation, one of the key differences between MDGs and SDGs is that while the former was solely the responsibility of governments, the latter involves building strong and collaborative partnerships between the public, private, and social sectors to achieve sustainable development, as highlighted by Kumar et al. (2016).

However, in the private sector, sustainability practices and processes usually focus on how business activities can benefit from incorporating sustainability concerns. Current sustainability management approaches and strategies have failed to support businesses “in identifying and attaining goals that contribute significantly and effectively to sustainable development” including banking (Baumgartner & Rauter, 2017).

The shift from abstract and isolated sustainability suggestions towards global goals such as MDGs and SDGs demands an impact-optimized sustainable business model where banks’ efforts towards sustainability contribute to sustainable development. This thesis will try to develop a suitable sustainable banking model and will apply that model to align sustainable banking discourse to contribute to meeting

the SDG targets.

The SDGs, as agreed at the UN General Assembly in September 2015, were presented as 'a plan of action for people, planet and prosperity' (United Nations, 2015). The member countries resolved "to create conditions for sustainable, inclusive and sustained economic growth, shared prosperity and decent work for all, taking into account different levels of national development and capacities" (United Nations, 2015). The UN SDG Declaration is "a historic decision on a comprehensive, far-reaching and people-centered set of universal and transformative goals and targets" (United Nations, 2015). It incorporates a large number of issues related to the environment, society, and economy, ranging from water, energy, climate, gender equality, economic growth, sustainable production and consumption, etc.

One of the major obstacles to achieving the 17 SDGs with 169 targets is the requirement to establish a sustainable financial system that contributes to realizing those goals and targets. The 2016 report by the United Nations Conference on Trade and Development (UNCTAD) estimates that an annual financing of USD 5 to 7 trillion is required to achieve SDGs. Although the government must lead the way, the private sector including the financial industry is indispensable in tackling the funding challenge this challenge. Acknowledging the role of the private sector together with the public sector, the UN invited all governments to develop national strategies in pursuit of the SDGs. For the private sector, sustainability is not only an imposed responsibility; rather it is a new horizon of business opportunity.

As a part of the private sector, the financial sector is expected to positively impact the implementation of SDGs by providing financing and banking. Specifically, a large amount of the capital of industries in most emerging markets is from the banking sector, making it an important player in ensuring sustainable development (IFC, 2013). In the banking sector, an ethical movement has been going on under different names at different times, such as ethical, responsible, social, civic, and sustainable banking. This alternative type of banking movement ranges from ethical investment, impact investment, and socially responsible investment to corporate social responsibility (Weber and Feltmate, 2016).

Though sustainable banking discourse is evolving (Rebai, 2014), the banking

sector is slow in addressing sustainable development (Jones et al. 2016, Jeucken, 2010) compared to other industries. One reason for this tendency is that the banking sector is comparatively cleaner and its products and services themselves are not directly responsible for environmental pollution (Jeucken, 2010). This explanation would be meaningful when only the environmental footprint of banks' energy and material usage is taken into account. Accounting for such issues, is not difficult as long as this does not impede the core business of a bank and the disclosure process to stakeholders remains simple (Bouma et al. 2001; Cowton and Thompson, 2000).

The contribution of the business to sustainable development can be both direct and indirect. Direct impacts are generated from the production process and related activities. Indirect impacts originate from processes that do not occur at the production site. Westpac, states that as a large financial institution, we can impact the environment both from our operations directly and through our value chain indirectly (Westpac Group, 2014). Banks and financial companies have a direct impact on sustainable development through the use of their energy, water, and office supplies. Their employees' commuting and business travel behaviors also have an impact. Therefore, increasing energy efficiency, decreasing paper use, video conferencing, and changing commuter behavior are some of the measures banks can employ to reduce these direct impacts. Banks and other financial institutions usually publish information about these kinds of direct impacts in their annual reports or reports on sustainability and corporate social responsibility (CSR). Although they do not focus specifically on sustainable development the indirect impact of financial institutions is very important (Herring and Santomero, 1995). The financial sector mobilizes savings, allocates credit, and provides products that help firms and households manage economic uncertainties through hedging and other risk management and product pricing.

As an informed intermediary, banks and other financial institutions have an economic control and channeling function, which means they can decide what businesses or projects they aspire to lend to or invest in. Often the main criterion for a lending or investment decision is the risk-adjusted financial return. Banks invest in or lend to those offering the best risk-adjusted financial return. Consequently, businesses that are financially successful have better access to capital. Linked with the control and channeling function, however, is a certain responsibility with regard to the kinds of businesses and projects the investment is supporting. Even from an exclusively financial perspective,

capital should be channeled into businesses that offer financial returns with an acceptable rate of risk (Carhart, 1997).

Using the triple-bottom-line concept of sustainable business, the risk-adjusted return approach can be broadened in a way that takes non-financial risks into account in addition to conventional criteria (Elkington, 1998). These include environmental, societal, and sustainability risks that are often externalized in traditional economic approaches. In line with Elkington (1998) and other advocates of sustainable business, financial intermediaries, such as banks, conduct responsible financial business by taking sustainability risks into account in investing and lending processes and in other financial products and services. Hence, the impact of financial intermediaries on the environment, society, and sustainable development is mainly indirect and through their clients, be they the providers or the receivers of financial capital. Since the financial sector's direct sustainability impacts are relatively small compared with those of the industrial sectors, indirect impacts, particularly through financed clients, are far more important than direct impacts (Thien, 2015). It is an indirect impact, through which banks can play a crucial role in promoting sustainable development in financing the SDGs.

Models of Sustainable banking practice can be categorized into two. The first one is the business case for sustainability. This model leans towards sustainability if and only if it is favorable to the business in the form of minimizing risk or building a reputation. The second is what some social/ethical banks use, which is the sustainability case for the banking model. This second category has the potential for enhancing sustainable development and for financing the SDGs on a larger scale though it has not been completely accepted. This model is expected to help the environment and society by infusing sustainability into the core business (Weber & Feltmate 2016).

From the institutional viewpoint, the sustainability engagement of an organization can be understood from the 'inside-out' and 'outside-in' approaches. Normally companies will start from their existing business, strategy, or product lines and work to make them sustainable (inside-out). However, this approach results in action that does not contribute highly to societal and environmental sustainability issues. Therefore, a radically different approach is needed that will place sustainability challenges at the starting point without losing the business sense. And that is called the 'outside-in' approach. This change in perspective is crucial for achieving true business

sustainability and expected- results in every different strategy, business model, product, and service (Dyllick & Muff, 2013). In the case of banking, Weber and Feltmate (2016), referring to the work of Porter and Kramer (2006), said that the existing sustainable banking practice addresses inside-out effects, where, focusing on the improvement of the sustainability of projects, investments, or loans is not the primary goal of financial institutions. Contrary to this, outside-in relations, organizational concern, process, expected output, and the value creation will be based on deliberate consideration of sustainability effect on the economy. Since, the SDGs can be a ideal way of identifying the most important sustainability needs of the economy and of unleashing the full potential of sustainability and the bank's role in promoting SDGs, the second approach is more important where the effect on the real economy is the prime concern.

The application of the above-required approaches for taking full advantage of the bank's potential for funding SDGs, in turn, calls for the development of an appropriate business model giving a special focus on the bank's indirect impact on the real economy through its core business activities in sustainable banking policies, strategies, practices and measurements.

1.2 PROBLEM STATEMENT

The funding gap in implementing the strategies and activities necessary to achieve the SDGs and the Bank's potentiality to solve it creates a new context for sustainable banking practice, procedure, and measurement. This new context of funding SDGs demands the possible optimum sustainability impacts from banking operations. It is crucial that banks are managed, monitored, assessed, and compared objectively, effectively, efficiently, significantly, and transparently for this purpose. Moreover, appropriate policies are needed to control and guide the banking sector as a whole in identifying and addressing the bank-specific issues for implementing the SDGs. Hence, different policies, strategies and approaches are required at the micro or institutional level along with the existing ones at the macro (national), industry (financial sector), and market (banking sector) level.

The 'SDG funding gap' and failure to align current banking activities towards sustainability goals adequately are symptomatic of a 'business model gap' impeding

the realization of the bank's full potential in contributing to the SDG implementation. This business model gap can be understood in terms of existing practices and performances of sustainable banking. Most of the current sustainability agenda in the finance and banking industry is designed for in-house operation either to serve cost reduction through reduced energy and water use or to promote stability, security, loyalty and efficiency through showing company's commitments to their employees, focusing on good working conditions, health and safety at work and training. Apart from this, financial institutions often find it financially unfavorable to be leveled as unsustainable and as a result they may resort to "green washing" – creating an image of being environmentally responsible – even if their core practices do not align with sustainability principles. All these prevailing practice and interpretations of sustainability within the financial and banking services industry could be seen as emphasizing a business case for sustainability model where sustainability decisions are accepted when it is profitable and are rejected when sustainability logic contradicts with profitability logic. This type of model failed to drive fundamental internal changes in culture and structure' in the banking sector (Azapagic, 2003). As a result the sustainable banking practice, products and services that actively support sustainable development are only niche far from becoming mainstream products and core business activities in this industry. The same picture is seen in the existing sustainability assessment tools largely focus on different criteria to fund its conclusions, prioritizing certain aspects more than other (Hanseler-2017). Hence these are not able to deflect the risk of green washing or to incorporate adequate indicators targeting SDGs capturing appropriate scope, scale and direction.

The context of addressing the funding gap and a considerable public expectation for the banking sector to play its potential role necessitates a shift in the current sustainable banking efforts from its profit optimizing 'business case for sustainability model' towards a higher impact based 'sustainability case for business model', giving special focus on aligning the source, process and direction of sustainable banking impact towards implementing the SDGs. But adaptation of such business model within internal institutional culture is possible when sustainability reasoning system between profitability logics and sustainability logics within banks will shift from the existing 'instrumental paradigm' where one serves as a means to achieve other to the desired 'intrinsic paradigm' where both will be considered as ends of corporate objective

function.

Banks are needed to measure their achievements and ensure sustainability reporting as integral daily business for that pursuit. Determining a specific goal and indicators out of seventeen SDGs goals and 169 indicators, hence, will be a difficult choice for them. In that case, self-interest of the banks, as PwC (2015) mention, may trigger banks to pick cozy targets regardless of outcomes. No doubt, that in the SDG selection process, banks will ‘see their greatest impact and opportunity in areas that will help drive their own business growth within the existing business model and sustainability – profitability paradigm. So therefore, not only the sustainable banking practice, but also the selection of indicators, construction of assessment tools, calculation of performance measurement and formulation of policies to address the new context of SDGs financing, should also be guided and reflected upon by the proposed high impact business model and deeper integration paradigm between sustainability logics and profitability logics.

Our literature review shows that in the case of banking, a higher scale sustainable banking impact in terms of quality and quantity can be captured through a business model, assessment indicators and tools when at least three change is managed in focus regarding impacts. As a source of impact, focus will be given to the core business activities instead of the peripheral practices. Instead of direct impact derived from in-house operation, focus will be given to those impacts that are processed indirectly through bank’s clients. Instead of target less scattered sustainability efforts, all the sustainable banking activities should be mapped and directed throughout the established links and channels between banks and the real economy to implementing pressing sustainability needs of the economy, which is now SDGs. But, reviewing existing literature, it is found that no studies have touched all these issues yet as special focus in developing business model, identifying sustainable banking indicators, constructing of assessment index and comparing the sustainability performance of different banks. This deficiency translates into an academic gap where a rigorous study should be undertaken at least for ensuring proper response to the context of SDGs funding gap from the sustainable banking discourse. Moreover, reviewing the existing trend we see that though so many policies for promoting sustainability within the banking sector have already been taken at macro, industry and market level, little or almost no attention is given to micro and institutional

level which is another area of scientific gap that should be addressed to broaden the policy options in an innovative and diversified way.

Throughout this thesis, we focused on developing a suitable business model and applying it in fulfilling the research gaps mentioned earlier. Throughout this process we developed a sustainable banking model incorporating suitable impact optimizing strategies, adopted a theory of change, developed an application framework, prepared a plan for approaching some relevant SDGs by banks, determined some indicators and calculated an assessment index. Sustainable banking performance based on the proposed model, indicators and index will represent the pace of institutional journey towards a deeper sustainability integrative reasoning system within ‘intrinsic paradigm’ resulting in its journey towards a higher impact based and SDG financing special business model named as ‘sustainability case for business model’. The indicators and index value imply a deeper sustainability reasoning scheme within a bank during day to day operation.

1.3 RESEARCH OBJECTIVES

Banks, given their influence on industries, play a crucial role at the forefront of the SDGs agenda. The differences in focus and approaches in sustainability management affect deposit and credit flow of a certain bank which eventually affect its sustainability related practices and performances. Hence, the objectives of this thesis are:

1. To determine a suitable sustainable banking business model that incorporates impact optimizing strategies and features (properties) to address SDG funding gap.
2. To adopt a theory of change outlining the concepts from the proposed sustainable banking business model about how sustainable banking efforts can be linked with the macro sustainability goals within the proposed model.
3. To determine an application framework (encompassing planning, implementation, monitoring and evaluation components) in order to put the proposed sustainable banking business model into actions.
4. To test the application framework in aligning the sustainable banking

towards addressing the context of SDGs.

1.4 RESEARCH QUESTIONS

To address the research problem, the general research question of this thesis is:

How to develop a suitable impact optimizing sustainable banking model and apply the same to address the context of SDG funding gap.

Specifically,

1. What is the sustainable banking business model combining the suitable impact optimizing features and strategies to address the context of the SDG funding gap through ensuing bank's proactive, effective, and significant contribution in achieving the SDGs?
2. What will be the theory of change of the proposed sustainable banking model?
3. What will be the application frameworks of the proposed sustainable banking model?
4. How to prepare a sustainable banking plan, monitoring indicators, and assessment index within the proposed model applying the determined frameworks?

1.5 SCOPE OF THE STUDY

The study is divided into conceptual and application parts. The theoretical part is about building the impact-optimizing sustainable banking model and developing planning, applying, monitoring, and evaluating frameworks to apply the model. The application part is about preparing a sustainable banking plan for some relevant SDGs, developing suitable indicators to implement, monitor, and evaluate the operation according to the prepared plan, and constructing an overall assessment index to track progress of performance within the proposed model. The model is suggested to address the context

of the SDGs funding gap. Hence, sustainability strategies and practices are adapted to the proposed model aiming to optimize the bank's contribution to sustainable development through implementing the SDGs. As a result, the proposed impact-optimizing sustainable banking model may adopt some of the popular sustainability strategies, approaches, and indicators used in the profit-optimizing model while it excludes any strategies that have limited or no relevance to the goal of impact optimization in the context of SDGs. In the application part, the thesis addressed only those SDGs and their sustainability themes that are highly relevant to the banking industry in preparing plans, developing indicators, and constructing an overall index. Here the focus was given to the application of the proposed model merely based on easily available information. Again, the impact-optimizing features and the application frameworks of the model are adopted to optimize the source, scale, and direction of impact aiming to overcome the limitations of the existing model in terms of the significance, effectiveness, and pro-activeness of contribution to sustainable development. Hence, though the model is developed in the context of SDG, it is also expected to be a supportive step to the context of any other global goals to be declared in the future to ensure sustainable development.

1.6 SIGNIFICANCE OF THE STUDY

The significance of the research is three-fold.

Firstly, theoretical. The current concern in sustainable banking discourse is how banks can engage with sustainable development issues, beginning with an analysis of the sustainability needs of the real economy, especially in the context of SDGs. A suitable model, incorporating the appropriate strategies and application frameworks beyond the existing profit-based business case sustainability model is crucially important for this purpose. This thesis will try to fill this gap by developing a sustainable banking model and its application framework focusing on the optimization of different dimensions of impact like impact-utility, impact-scale, and impact-stream.

Secondly, policy formulation. Currently, governments and other policymakers all over the world have already taken many policies and programs to implement SDGs through the Financial Sector. Reviewing these policies and programs it is found that

most of them are of command and control or regulatory type and they intervene mainly in macro and market-level variables, giving little or almost no consideration to the issues at the institutional level. But merely compliance with regulatory requirements cannot help to unleash the full institutional capacity to achieve the SDGs. In the case of developing countries, it requires a collaborative approach, where both the regulatory and market-led approaches should simultaneously be developed either in a distinctive manner or as the policy mix for ensuring sustainability in finance (Habib et al, 2017). This approach demands consideration of the influence of institutional sustainability initiatives on the financial industry's contribution to sustainable development. The model and the application framework proposed in the thesis will help the policymakers understand the institutional-level barriers and potentials in achieving sustainability goals in the real economy and extracting insights in formulating appropriate policies.

Thirdly, managerial. The management body of different types of banks will understand their strengths and weaknesses in alignment of their institutional goal with social, economic, and environmental needs. This understanding will help them to improve their current status in terms of sustainability and will encourage them to more disclosure of their sustainability performance which, in turn, will contribute to building confidence among all of their stakeholders.

1.7 ORGANISATION OF THE STUDY

The structure of proposal is organized in the following manner. The first chapter gave an overall introduction to the thesis. The second chapter contains relevant literature reviews whereas the third chapter is about the research methodology of this thesis. The fourth chapter is divided into two parts. The first part of this chapter is the theoretical development part of the thesis where the impact-optimizing sustainable model and different application frameworks are developed and explained. The second part of this chapter is about the application of the model and its application frameworks. In the fifth chapter, the thesis is concluded by providing some implications of the study and recommendations for further research and development.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This Chapter gives a review of the literature to look at the context of the funding gap for implementing the SDGs as the failure of micro-sustainability efforts to address the macro-sustainability goals properly. This failure helps to identify the limitations of the currently dominant profit-driven sustainable banking business model gap from the institutional logic perspective and necessitates developing a new impact-based sustainability case for the business model to ensure significant, effective, and proactively objective contribution to sustainable development. Initially, this chapter discusses the disconnected sustainability efforts in the business world. Then the business model gap is identified with the reference of inherent conflicts between the sustainability logic and the profitability logic. Finally, the motivation is given to developing a new business model focusing on a noble ambition of impact optimization discussing about its importance.

2.2 THE DISCONNECTION BETWEEN SUSTAINABILITY EFFORTS AND SUSTAINABLE DEVELOPMENT

During the past centuries, almost all the systems have been developed through natural processes. However, with the emergence of the Industrial Revolution, in response to the huge demand for goods and services, businesses have been striving to attain efficiency by producing maximum outputs with minimum inputs. The impact of this kind of efficiency and productivity is both positive and negative on the society and environment. Though the positive impacts are easily comprehensible (enhancing the living standards and providing an adequate supply of goods and services), disadvantages are also becoming manifested day by day (overexploitation of natural resources, destruction of the biodiversities, and increasing inequality between the rich and the poor (Mooser & Norton, 2001). Due to the growing concern about the negative

aspects of business activities on the environment and society, the entire world started paying attention to these issues and a consciousness spread all over the world regarding sustainable development which is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Burton, 1987). This idea suggested that corporations should focus not only on a single bottom line, the profit but also on ecological and societal consequences. According to Elkington, doing so would create a win-win situation for a corporation, the ecology, and the greater society.

In response to this consciousness and suggestions, the role of business in making our world a more sustainable place is at the center of the study of sustainability management. If we follow the studies monitoring the acceptance and integration of sustainability by big companies, there is a strong consensus emerging that sustainability is having and will continue to have a significant material impact on company strategies and operations. More and more business executives agree that sustainability-related strategies are necessary to be competitive today and even more so in the future. More and more executives report that their organization’s commitment to sustainability has increased in the past and will develop further in the future. They report that benefits of addressing sustainability accrue not only to the environment and society but also to the companies themselves, through tangible benefits in the form of reduced costs and risks of doing business, as well as through intangible benefits in the form of increased brand reputation, increased attractiveness to talent, and increased competitiveness (Haanaes et al., 2011; Haanaes et al., 2012; Kron, Kruschwitz, Haanaes, Reeves, & Goh, 2013; U.N. Global Compact & Accenture, 2010 & 2013). But somehow this good news is not reflected in studies monitoring the state of our planet. Here we learn that poverty has not been eradicated, inequity is growing, the world is already at a tipping point with nature declining globally at unprecedented rates in human history (IPBES, 2020), with more than half of global GDP (55%) depending on high-functioning biodiversity and ecosystem services (BES) (Swiss Re Institute (2020), 9.2% of the world live in extreme poverty, surviving on less than \$1.90 a day (WB, 2020), 6.2 % of the world population are unemployed (ILO, 2021), the poorest half of the global population owns just 2% of the global total, while the richest 10% own 76% of all wealth (World Inequality Report, 2021), around 45% of deaths among children under 5 years of age are linked to under nutrition (WHO, 2020), 29% of the planet drinks unsafe water and 2.6 million people

die every year of water related diseases (Solidarites international, 2020), more than half of the people living in LDCs which is equivalent to two thirds of the world population lacked access to electricity (UNCTAD, 2019), more than one third people worldwide did not have access to basic sanitation (WHO and UNICEF, 2019) etc. Dyllick and Muff (2016) called this discrepancy between micro-level progress and macro-level deterioration the “big disconnect” between business’ sustainability efforts and the global state of the environment and society. Although there are different reasons to explain this disconnect—after all corporations are not the only relevant actors in the global sustainability arena—the current situation should be considered a wake-up call for business people and management scholars alike that their good intentions and actions have not been leading to significant sustainability improvements on a global level.

2.3 THE DISCONNECTED SUSTAINABLE BANKING DISCOURSE IN THE CONTEXT OF SDG FUNDING GAP

Following the sustainability consciousness in the real economy, alongside with the dominant profit-driven trend in finance and the banking industry, a different banking trend called ethical, social, or sustainable banking has also been seen since the 1970s of the previous century. Though they were named after different names at different times and varied with different focus and scales, in content, they all wanted to reintegrate ethics and nonfinancial issues related to the economy, society, and environment into the financial business decision. Despite diversity in scale, scope, span, and titles, this type of banking in essence tried to bring concern for people and the planet in the decision-making process beyond mere profit-earning goals. Though there is a lack of consensus in defining this noble movement, the term “sustainable banking” can be coined due to the similarity of its goal with sustainable development in economic, social, and environmental dimensions. Like other businesses, this sustainable banking discourse is not free from the above syndrome of disconnect between micro effort and macro outcome as Busch, Bauer, and Orlitzky (2016) made the paradoxical observation that increasing sustainable investment does not necessarily spur sustainable development, and call for a system perspective.

The disconnecting syndrome in sustainable banking discourse can be realized in

a more vivid picture by analyzing the context of the SDG funding gap. On 25th September 2016, The United Nations declared a global sustainability agenda with the consensus of its 192 member countries in the name of Sustainable Development Goals (SDGs). It is composed of 17 goals, 169 targets, and 230 indicators. One of the major impediments to achieving these ambitious goals is a paucity of adequate funding. The deficit in global development financing was revealed with an annual estimated investment requirement of \$ 2.5 trillion (UNCTAD, World Investment Report 2014). In 2016, the United Nations Conference on Trade and Development (UNCTAD) again projected that an annual financing of USD 5 to 7 trillion, on average is required globally throughout 2015-2030 to finance the sustainable development goals successfully. Based on a review of available data including UNCTAD (2014), and UNCTAD (2016) UNEP Financial Initiative estimates that global investment in the SDG needs to be on average US\$ 6 trillion per annum. Developed countries account for US\$ 1.5 trillion per year while emerging markets and developing economies (EMDEs) represent US\$ 4.5 trillion. Africa alone represents one-third or 1.5 trillion USD of the investment needs of the EMDEs (UNEP FI- 2018).

Conventionally, official development assistance (ODA) is a vital part of the funding for international development. Despite this, only a limited number of countries have achieved the UN target to use 0.7 percent of their gross national income (GNI) for official development assistance (ODA) and it is also important to note that investment in the least developed countries (LDCs) are on the declining trend (Lebada 2017). Since the SDGs also address LDCs, this declining trend of funds could also have a major impact on achieving the SDGs and the world's 31 LDCs only received \$18 billion in investment in 2016 (Lebada 2017).

Moreover, as a result of the COVID-19 crisis, the gap to achieving several SDGs, including SDG 1 on poverty, is increasing again. It has exposed the interlinkages between the SDGs such as the links between health, eradication of poverty, and continued degradation of nature. A failure to meet one SDG will be to the detriment of the others and will affect us all. The COVID-19 crisis threatens to set back decades of progress made towards development across countries. The crisis magnified the 'scissors effect' of SDG financing in the following 2 ways:

- a. **Declining resources** – pre-crisis USD 2.5 trillion that were missing annually to achieve the SDGs by 2030 widened with the crisis with an estimated USD 1 trillion gap in COVID-19 emergency and response spending in developing countries compared to OECD countries. This, together with an estimated USD 700 billion loss of external private financing to developing countries, means the risk of a serious collapse of development finance.

- b. **Increasing needs** – The COVID-19 crisis, climate-related disasters, and famine are hitting the most vulnerable and worsening gender gaps (WEF, 2020). It is expected that poverty will rise for the first time since 1998 with about 100 million people expected to be pushed into extreme poverty and at least twice as many into poverty, and with hundreds of millions of jobs lost (WB, 2020). Inequality is rising across many groups as they are disproportionately affected (WEF, 2020). For example, people from low and middle-income countries are seven times more likely to die from natural disasters (UN, 2018), and the financial burden associated with rising debt levels in those climate-vulnerable countries is expected to double over the next decade (UNEP, 2018).

According to the OECD’s latest Global Outlook on Financing for Sustainable Development, developing countries are facing a shortfall of USD 1.7 trillion in the financing they would need in 2020 to keep them on track for the 2030 Sustainable Development Goals (SDGs), as governments and investors grapple with the health, economic and social impacts of the COVID-19 crisis (OECD & UNDP, 2020).

Adding up this projected USD 1.7 trillion shortfall to pre-pandemic gap of USD 2.5 trillion the total gap became USD 4.2 trillion in annual financing for developing countries towards achieving the 17 SDGs by 2030. Meanwhile, 90 of 122 developing countries are in economic recession as the virus hurts sectors like tourism, manufacturing, and commodities. The pandemic also risks putting pressure on flows of development aid from advanced to developing economies.

The international community committed to “leave no one behind”, as set out in the Addis Ababa Action Agenda (AAAA) on Financing for Development and the 2030 Agenda for Sustainable Development. For going beyond development aid, two discourses shifting “From billion to trillion” and “From funding to financing” were

declared where all resources called upon in the Addis Ababa Action Agenda – public, private, domestic, external – are required to fill the SDG financing gap. The trillions of dollars of assets are in the financial system. Total financial assets held by banks, institutional investors, or asset managers are valued at more than USD 378.9 trillion and have grown at 5.9% year on year since 2012, due to increased financial intermediation (International Development Finance Club, 2020). Shifting only 1.1% of global financial assets toward SDG financing needs in developing countries would be sufficient to fill the USD 4.2 trillion gaps. More specifically, in 2020, the assets of banks globally amounted to more than 180 trillion U.S. dollars, up from a value of 155.4 trillion U.S. dollars as of 2019, of which only 2.33% is enough to fill up the funding gap in implementing the SDGs (OECD & UNDP, 2020).

2.4 THE DISCONNECTION SYMBOLIZES THE BUSINESS MODEL GAP

The SDG financing gap, despite the presence of substantial global financial assets in the system, is, in fact, a symptom of the gap in the current sustainable banking business model (UNFP FI, 2018) that fails to bridge the connection between micro-level sustainable banking efforts and the desired macro-level sustainability outcomes. According to Weber and Feltmate (2016), the sustainable banking model can be categorized into two types. The first one is ‘the business case for sustainability’ which surrounds with financial bottom line and means that sustainable policies are only applied when they are favorable to the business in the form of minimizing financial risk or maximizing financial return. The second is ‘the sustainability case for banking model’, which states that banks start with the main sustainability issues and try to develop products and services that can address those issues and are financially attractive at the same time (Weber & Feltmate 2016). However, in reality, to date, most practice and research in the field of sustainable banking and finance has focused narrowly on the business case for sustainability, rather than on the financial industry’s potential contribution to sustainability (Jones. et al, 2017). Despite some isolated sustainability measures taken by most of the financial institutions and publicly shown sustainability dedication by the leading financial services, the industry’s prevailing understanding of sustainability predominantly moves around business imperatives, productivity, and cost efficiency rather than sincere consideration of social and environmental risks. Thus,

most of the prevailing practices and interpretations of sustainability within the financial service sector could be seen as following a business case for the sustainability model, offering ‘an important tool for finding ways to minimize costs, manage risks, develop new products, and drive necessary internal changes in culture and structure. To unleash the potential contribution to sustainable development, banks need to adopt the ‘sustainability case for banking’ model (Weber & Feltmate 2016) which is also supposed to be true for addressing the context of the funding gap in implementing the SDGs.

This business case for sustainability may better explain why several banks that were, and still are, heavily involved in the financial crisis and scandals are simultaneously considered “sustainability leaders.” Citigroup is one example; it was ranked as the top Green Bank in 2012 by Bloomberg on the one hand and accused of misleading investors during the financial crisis on the other (USEC, 2012)). Both incidents are closely connected to the principles of sustainable business respectively in negative and positive ways. How, then can these contradicting issues occur at the same time in the same organization? Here the crux of the problem can be viewed through the institutional logic perspective. Institutional logics are broadly defined as patterns of beliefs, practices, values, assumptions, and rules that determine what is meaningful and legitimate in a given field (Thornton & Ocasio, 1999). Those logics furnish entrepreneurial organizations with cognitive models, schemata, and other cultural material (Scott, 2003) to guide their formation and early development. Researchers have shown that competing logics can coexist in a single organizational field, giving rise to differences in strategies (Lounsbury, 2007; Marquis & Lounsbury, 2007) and in personal and professional collective identities (Lounsbury, 2007; Rao, Monin, & Durand, 2003). To adapt to the complex sustainability requirements, organizations often integrate competing logic (Battilana & Dorado, 2010). Previous research described a dualism between two logics—a business case logic and a sustainability case logic—as to why companies implement sustainable practices. Objectives that correspond to the business case (profitability) logic are cost and risk reduction, efficiency gain, brand building, and new market creation (Almandoz, 2012, Hockerts, 2015). In contrast, the sustainable logic implies that economic goals are instruments of sustainable development, as revenue can be used to fulfill social and ecological needs. Objectives that correspond to the sustainable logic include environmental protection, social justice

and equality, or the fight against poverty (Risi, 2018, Kok et al, 2017, Corbett, Webster, Jenkin, 2018, Dylick & Muff, 2016). The dynamics between these two logics and the sustainability performance of the current business model can be explained through a four-quadrant graph in Figure 2.1.

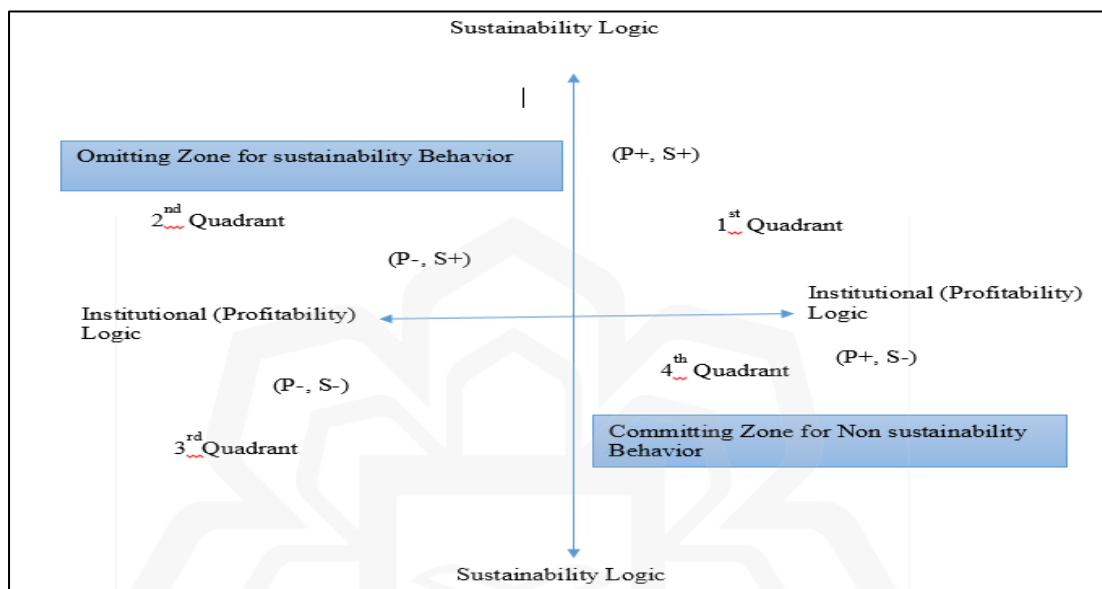


Figure 2.1 Sustainability Logic vs Profitability Logic

In the 1st quadrant, profitability and sustainability logic are positive whereas these two logics are negative in the 3rd quadrant. On the other hand, the 2nd quadrant is the zone of negative profitability and positive sustainability logic. In contrast, the 4th quadrant is where those logics are in vice-versa condition. According to this graph, the 1st and 3rd quadrants contain the operational areas of a bank where sustainability logic and profitability logic complement each other. Due to the dominant business case sustainability model, current sustainable banking strategies, practices, performances, tools, and policies are increasing in these areas of operation. On the other hand, the 2nd and the 4th quadrants contain the operational areas of a bank where the sustainability logic and the profitability logic contradict each other. The 2nd quadrant contains the prospective omitting zone of optimum sustainability behavior due to unattractive negative profitability logic even though there is strong positive sustainability logic, whereas the 4th quadrant contains the prospective committing zone for non-sustainability behavior due to attractive positive profitability logic even though there is

strong negative sustainability logic. These 2nd and 4th quadrants are the operational areas where no or less integrating efforts are seen between these two logics within the currently dominant business case sustainability model. This is the reason why the banking industry is meeting the sustainability challenges slowly (Jones, Hillier, and Daphne -2017), even though there is a strong consensus that the banking industry has a significant potential role to play in promoting the transition to a sustainable economy through utilizing its influence on capital flow across the global markets and an increasing response is also being seen from the banking industry.

Now the question may arise what are the reasons behind the case of quadrant 2 where the unattractive negative profitability logics become more powerful than attractive positive sustainability logics and the case of quadrant 4 where the attractive positive profitability logics become more powerful than unattractive negative sustainability logics? Here, the key issue is in the integration process between these two logics as according to Rocha (2008), there are three sustainability integration paradigms:

- I. **The great trade-off illusion paradigm:** This paradigm exhibits the conflicting relationship between corporate and social interests (issues) and suggests command and control type alignment among the conflicting interests.
- II. **The instrumental alignment paradigm:** This paradigm supposes that alignment between corporate and social interests (issues) will be possible when social interests (issues) become the means of the corporate's ends. Sustainability reasoning is used as a means of market reasoning.
- III. **The intrinsic alignment paradigm:** This paradigm assumes self-love instead of self-interest is the core of human motivation which drives an individual towards well-being and perfection. The pursuit of this well-being and perfection includes the spiritual and material welfare of both self and others as their ends. Here, the firm's interests (issues) and social interests (issues) are not conflicting, and hence, a trade-off is not required. If both a firm's interest and social interest (issues) walk hand in hand then, poverty, inequality, and

environmental damages caused by corporate action would not arise, which are the essence of sustainable development.

The current sustainable banking practices, policies procedures, and measurements that surround the business case sustainability model are predominantly of the 2nd paradigm where all the sustainability efforts are used as instruments for market reason and profit earning end. The 3rd paradigm is suitable for our desired sustainability case for a business model where sustainability impact optimizing logic will play as equally important as the profit-maximizing logic in sustainable banking discourse in terms of planning, implementation, and assessment of business processes. In the current business case sustainability model, banks' true potential for contributing to sustainable development remained unexplored in terms of policy, practice, strategies, and performance. To transform this model towards the "sustainability case for business model", the two logics are to be integrated into the decision-making process of the bank in a way so that it can adopt required strategies and practices especially when these two logics contradict each other. Hence, we need to know some relevant questions like when and how these two logics contradict each other, what strategies are being taken within the existing business model, what are the limitations of these adopted strategies in terms of true contribution to sustainable development, what types of strategies should be adopted within the proposed model to overcome the limitations of the existing one, how the new model will be applied through implementing those strategies, how to monitor and assess progress in adopting those strategies through implementing the model, etc. But before going deep into these questions we have to understand the features and implications of these two contradictory logics in the perspective of sustainable development principles.

2.5 CONTRADICTORY FEATURES OF PROFITABILITY LOGIC AND SUSTAINABILITY LOGIC

The contradiction between the profitability logic and the sustainability logic within the institutional domain is rooted in the inherent conflicts between the financial sector logic and the principles of sustainable development (Sachs et al. 2019, Orlitzky et al. 2016). Here, we will try to get an overview of these two phenomena to outline the contradicting

features between the profitability logic and the sustainability logic within the institutional domain of a bank.

2.5.1 The Logic Behind the Financial Sector:

The logic behind the financial sector is one-dimensional and mainly related to the maximization of financial profits and, especially, to the return on investment. Understood as the net profit over the investment made, the return on investment is the main concern for financial markets. This is also related to a very short time frame in which the pursuit of short-term profits – or immediate gain as close as possible to the present time – is also a crucial feature of financial sector logic.

2.5.2 Sustainable Development Principles:

Sustainable development has become a widely known and applied concept. The most commonly used definition goes back to the Brundtland Commission of 1987 which defined it as development that “meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987). Since a single and reasonably short definition cannot provide sufficient guidance for implementation, a set of normative principles of sustainable development is often used in addition to the Brundtland definition. The Rio Declaration, itself consisting of 27 principles and Agenda 21, the action plan to implement Rio, has often been used as a source and as a basis for the formulation of a process-related set of sustainable development principles ((UNCED, 1992; UN, 1992). There are six principles in Figure no 2.2 each of which is explained below:



Figure 2.2. Six Principles of Sustainable Development

2.5.2.1 Balancing Different Policy Dimensions

The first of these criteria is probably the most encompassing one because it comprises many aspects of sustainable development, and gives also an idea of how to operationalize the concept. Sustainable development is generally understood as a development that aims to balance different policy dimensions - mainly economic prosperity, environmental protection, and social justice. Balancing sustainable development dimensions means that a ‘holistic’ point of view should be followed and a balanced consideration of economic, environmental, and social aspects should be pursued in the process of development (Forum for the Future, 2004).

2.5.2.2 Long Timeframes and Intergenerational Equity

A second crucial issue is the idea of taking into account long timeframes. Sustainable development calls for the necessity of inter-generational equity, which refers to the equality of distribution of resources and risks between the current and future

generations. Principle 3 of the Rio Declaration states that “[t]he right to development must be fulfilled to equitably meet developmental and environmental needs of present and future generations” – in this statement, we can derive the principle of inter-generational equity.

2.5.2.3 Environment Preservation, Limits to Growth and Planetary Boundaries

Principle 3 of the Rio Declaration, the environment preservation aspect, is very central in the sustainable development discourse. Whilst sustainable development recognizes that the Earth has limits and planetary boundaries should be considered (Rockström et al., 2009), it also acknowledges that the economy is embedded in the Earth system, relying on its ecosystems to function, and in return producing waste, consuming resources, and impacting ecosystems back. The consequence of this line of thinking is that the economy also needs to recognize limits to growth (i.e. Meadows et al., 1972). Ecosystem conservation and enhancement is, therefore, a key aspect of sustainable development. Consideration of risks is also crucial, and a guiding principle in sustainable development. This consideration can be found in the so-called precautionary principle, as defined in the Rio Declaration: “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation” (UNCED, 1992, Principles 15).

2.5.2.4 Equal Opportunities, Access, and Intra-Generational Equity

As seen, sustainable development is not only about intergenerational equity, but it is also very much interested in intra-generational equity, which considers the fairness of distribution of resources and risks within the current generation. This fourth criterion calls for equal opportunities and the same possibilities in terms of access to resources as an important aspect of sustainable development. In sustainable development, several terms and concepts are therefore crucial, namely: distribution and re-distribution, well-being, fighting poverty, equal consideration of societies and humans around the world, an urge for democracy, and education propagation.

2.5.2.5. Inclusion and Participation

As the fifth criterion, essentially retrieved from the 10th Rio Declaration's Principle, sustainable development is very much based on inclusion and participation. Sustainable development issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redresses and remedy, shall be provided" (UNCED, 1992).

2.5.2.6 Governance for Sustainable Development

As addressed by several academics (Jordan, 2008; Baker and Eckerberg, 2008; Steurer, 2007; Lafferty, 2004) and international organizations (UN Johannesburg Plan of Implementation, 2002; OECD, 2002), a final key criterion that has acquired importance over time is the principle of 'governance for sustainable development'. The link between governance and sustainable development is fundamental and was already addressed by the Brundtland Commission in 1987. Governance mechanisms are generally crucial for achieving sustainable development. The goal of sustainable development involves a reform agenda that includes reforms in cross-sectoral governance structures and processes, vertical policy coordination, enhanced participation in policy-making, increased reflexivity (e.g. evidence-based policy-making), and long-term time frames (OECD, 2002). The first document to frame sustainable development as a governance reform agenda was Agenda 21. The governance aspects of the action plan were reiterated and complemented at the UN World Summit in Johannesburg in 2002 (Rio +10). The World Summit Report pointed out that "good governance is essential for sustainable development" (UN, 2002).

This concept is developed from the notion of 'good governance', which is a specifically normative idea that prescribes certain steering procedures and institutions – based on principles, values, and norms, i.e. participation, transparency, rule of law, etc. – that should be adopted to achieve the preferred outcomes. The origin of the

concept of good governance is associated with international organizations (UN, 2002) such as the World Bank and the OECD in the context of development policy. As well defined by the UN Economic and Social Commission for Asia and the Pacific (UNESCAP, 2018), good governance has eight key features: 1) participatory; 2) consensus-oriented; 3) accountable; 4) transparent; 5) responsive; 6) effective and efficient; 7) equitable and inclusive; and, 8) follows the rule of law. To show how good governance and sustainable development are interlinked in a policy document, the renewed European Union Sustainable Development Strategy (EU SDS) of 2006 is a good example, as it addresses good governance in various policy-guiding principles. To achieve its objectives, the EU SDS sets out an approach to better policy-making based on better regulation and integration of sustainable development criteria into policy-making at all government levels.

2.5.3 The Core Differences Between the Financial Sector Logic and the Principles of Sustainable Development

When it comes to considering the main differences between sustainable development and the financial markets, many seem to be outstanding, and they are sometimes even self-evident. Although there may be others, especially in categories that are not immediately related to finance (i.e. democracy), we will analyze in detail those differences that seem to us most prominent, and most related to the six sustainable development principles outlined in the previous chapter.

2.5.3.1 Balancing SD dimensions vs. one-dimensional goal

While sustainable development aims to increase the opportunities for all societies, present and future, the financial sector mainly strives for the short-term maximization of financial profits and the return on investment. Understood as the net profit over the investment made, the return on investment is the main concern for financial markets, which explains why the financial sector has as a largely one-dimensional goal that privileges only the economic dimension.

2.5.3.2 Long Timeframes and inter-generational Equity vs. Short-Term Profits

Secondly, a very self-evident difference concerns timeframes. The pursuit of short-term profits, or the search for immediate gain that is as close as possible to the present, largely defies the ideas of considering the long-term or caring for future generations, which are addressed as inter-generational equity in the sustainable development discourse.

According to Lydenberg (2007), there is a widespread debate within the financial and business community - including the CFA Institute, the Business Roundtable, the Conference Board, the United Nations, the World Economic Forum, and the Aspen Institute. Short-termism is claimed to have several detrimental effects on the financial market itself, the real economy, as well as the environment and society overall. Among the dangers for financial as well as corporate communities are (Tonello, 2006):

At the macro-economic level: short-term visions cause market volatility and the instability of financial institutions.

At the microeconomic level: short-term investment strategies drive short-term thinking in business through

- a. Undermining management continuity and exposing a public company to the risk of losing sight of its strategic business model, compromising its competitiveness.
- b. Giving pressure to meet short-term numbers may induce senior managers to externalize several business costs (i.e., the cost of a state-of-the-art pollution system), often to the detriment of the environment and future generations.

One of the main reasons for short-termism to persist as a stable factor in the system is that while investors can maximize financial return and their actions may have wider impacts on individual companies and the system as a whole, they may not directly be exposed to the consequences. Another important aspect to take into account when considering timeframes is the role of the practice called ‘discounting’ that plays an

important part in the financial sector. What the financial sector always provides is a so-called present value of investments, using discounting techniques that provide a value in the present of the gains that will occur in the future. As argued by Schmidheiny and Zorraquin (1996), financial markets discount the future routinely and heavily, while sustainable development is concerned with the importance of the future. Although we are talking about discounting financial flows, it is also true that these financial flows intervene in the real economy, and no consideration is taken over the future capital of future generations, but merely individual gain.

2.5.3.3 Environment Preservation, Limits to Growth and Planetary Boundaries

For what concerns the environmental pillar of sustainable development, there is no incentive for the financial sector to take this into account for two main reasons. First, as we just argued, the financial sector has a one-dimensional goal: it is only interested in the maximization of financial profits. This can be extended into the argument that the financial sector does not have a real concern about the quality of its investments as long as they are profitable investments. This means that there is no ethical consideration of investments or no consideration of 'bad' externalities in the calculation of profits. Whether a financial investment is made in a polluting company or a non-polluting company is no concern by the logic of the financial sector. Furthermore, the financial investment will probably be made in the polluting one since it will perhaps provide higher returns because of the fewer costs it has in comparison with the non-polluting company, which is likely spending more to take care of the environment.

Another interesting point can be made here in terms of the consideration of risks. For instance, Schmidheiny and Zorraquin (1996) assumed that accounting and reporting systems do not adequately convey potential environmental risks or opportunities. If this holds true, therefore, financial markets are compelled to make decisions based on biased information. In the sustainable development discourse, the precautionary principle had a crucial importance in our analysis. If it is true that the financial sector does not take into consideration the environmental dimension, then environmental risks can be created when investment decisions are taken. These risks could easily assume a real connotation that, starting from a 'bad' investment, has the potential of affecting

thousands or millions of people around the world.

2.5.3.4 Equal Opportunities, Access, and Intergenerational Equity

If we look at the precautionary principle from a broader perspective and, hence, consider the precautionary principle as a guiding attitude for societies, we see again a fundamental difference in the way financial markets deal with risk. Financial markets are supposed to help manage risks and deal with uncertainty, and this is an extremely important support that financial markets give to the real economy, ideally managing risks, avoiding high losses, and allowing smoother operations. However, in finance, it is also true that higher risks lead to higher profits, which could mean that if one is very attracted by financial profits and not averse to risk, the possibility of losing the investment for a larger return will be accepted.

This concerns very much the so-called ‘social’ dimension of sustainable development, where intra-generational equity, equal opportunities, access to resources, well-being, and distribution are key aspects of the discourse. Considering financial risks in a ‘precautionary’ mode could mean that the effects on the real economy and society are taken into account; for instance, in terms of job loss, company closures, or systemic problems to the whole economy. What role could the ‘precautionary principle play in the financial markets to ‘safeguard’ the society, the environment, and the economy? Is there a chance to develop a “Precautionary Financial Principle”? Interestingly again, the one-dimensional logic of the financial sector poses serious concerns over the possibility of considering a social dimension in its undertakings.

2.5.3.5 Inclusion and Participation

With regards to the ‘inclusion and participation’ principle that we underpinned for sustainable development, the first thing that can be noted when looking at differences is the complexity of the financial sector. This is a very technical sector where a high degree of specialty and financial knowledge is needed. Capacities for managing stress, the quantity and speed of information that needs to be taken into account, and the ability

to make investment decisions in a very short time and in a highly competitive environment are generally recognized as distinctive requirements for working in the financial sector. Furthermore, the high number of financial instruments that are constructed and the highly complex mathematical foundations of them are probably another distinctive aspect to be considered. All of these characteristics have, on the other hand, another connotation: because of this complexity, people feel generally excluded from the financial world and have difficulties understanding it. This could somehow go against and differ from what we defined as the criterion of ‘inclusion and participation’ in the sense that appropriate access to information and opportunities to participate in decision-making processes, as outlined in the 10th principle of the Rio Declaration, are in reality made to be very difficult, or are practically absent in the operation of the financial markets.

2.5.3.6 Governance for Sustainable Development

In terms of governance for sustainable development, the financial sector in many ways defies the features of what has been portrayed as good governance. We touched upon the participatory and inclusivity aspects already, and this goes largely against the logic of the financial sector. Being effective and efficient is most probably the one characteristic that is more addressed by the financial sector, in the sense that the financial sector should serve the economy by increasing its efficiency and productivity (hence its effectiveness). However, what is described in the ‘good governance’ framework as “effective and efficient” also covers the sustainable use of natural resources and the protection of the environment, and is a slightly different concept, in which processes and institutions produce results that meet the needs of society while making the best use of resources at their disposal.

Finally, transparency, accountability, and following the rule of law are very much linked, especially considering that accountability cannot be enforced without transparency and the rule of law. Transparency also means that information is freely available and directly accessible to those who will be affected by such decisions and their enforcement and that enough information is provided in an easily understandable way. This means, that to bring the financial sector more in line with good governance

procedures, it is necessary that it is transparent to the public and accountable to those who will be affected by its decisions or actions. This is a strong call for societies to decide how much and in what way they are affected by the financial sector, which also means that whenever strong impacts of the financial sector on the real economy, the environment, and/or society are expected, strong regulations, supervision, control, and public debate should hold a key role.

2.5.4 Conflicting Features between Profitability Logic and Sustainability Logic

From the above discussion of conflicts between the financial sector logic and the principles of sustainable development we can get an outline of conflicting features of the profitability logic and the sustainability logic within the institutional domain of a bank in the following table 2.1 below:

Table 2.1 Features of Profitability Logic vs Features of Sustainability Logic.

Features of Profitability logic (derived from the Financial Sector logic).	Features of Sustainability logic (derived from the principles of Sustainable Development).
One-dimensional logic; maximization of profits and return on investment	Balancing SD dimensions: environment preservation, social equity, economic development
Short-term perspective; discounting; present value calculation	Long timeframes and intergenerational equity
Little to no consideration of the environmental effects	Environment preservation, limits to growth, and planetary boundaries
Little to no consideration of the social effects	Equal opportunities, access, and intra-generational equity
Highly complex; not inclusive, nor open to participation	Inclusion and participation

Efficiency-oriented; shortage of transparency and accountability	Governance for SD
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2.6 THE LIMITATIONS IN THE DOMINANT PROFITABILITY LOGIC DRIVEN SUSTAINABLE BANKING MODEL

We have already mentioned that most of the prevailing practices and interpretations of sustainability within the financial and banking service sector could be seen as following a business case for a sustainability model that is predominantly driven by profitability logic, offering ‘an important tool for finding ways to minimize costs, manage risks, develop new products, and drive necessary internal changes in culture and structure. After finding the contradictory features of profitability logic and sustainability logic within the institutional domain we can understand why and how the currently dominant profitability logic-driven sustainable banking model fails to adequately address the context of the SDG funding gap, due to its primary focus on profitability logic instead of its contribution to sustainable development. The notion of ‘business sustainability’ can be seen from both business and societal perspectives (Dyllick & Rost, 2017). From a business perspective sustainability serves to keep companies competitive in times of changing consumer and public demands, asking for an improved sustainability performance of the products offered (e.g. Nielsen Company, 2015). It may either help companies to prevent or reduce product-related risks, or it may help to differentiate the products from those of their competitors. Here, companies try to seek sustainability in business focusing on profit first, instead of business in sustainability focusing on impact first. While the business success of sustainability can be measured easily by looking at economic success indicators like sales, market share, or customer satisfaction with sustainable products, its sustainability contribution remains vague at best. From a societal perspective, sustainability is seen to contribute to sustainable development, by reducing the ecological footprint or by improving the social condition. From a business perspective, any sustainability improvement relative to the previous product or compared to the prevailing products on the market may be seen as satisfactory, because the new product displays an improved sustainability performance. From a societal perspective, this is not so simple, as there are many different dimensions and degrees of sustainability improvements involved.

Conceptualizing these differences, we can understand that the model of business case sustainability is based on a business perspective whereas the sustainability case for business model is based on the societal perspective. During the last one and a half decades, however, the global financial crisis, its impacts, and the awareness and urgency of sustainable development have overridden the discussion about positive societal impacts of the financial and banking sector. But this discussion and narrative of sustainability, to a large extent, remained within the limit of the business perspective. Thus in spite of having a continuously increasing trend, the current sustainable banking model fails to support banks “in identifying and attaining goals that contribute significantly to sustainable development” (Baumgartner & Rauter 2017). It could not sufficiently focus on the indirect impact of banks, even though this form of impact is the result of such institution’s core business activities. It could not have successfully integrated the UN’s sustainable development goals framework as of yet (Henseler, 2017). Hence, in this perspective of contribution to sustainable development, we can identify at least three types of limitations in the existing sustainable banking business model. The first one is quantitative, realized through the fact that it could mobilize only a tiny percentage of banking assets towards sustainability direction. The second one is qualitative, realized through the fact that it could not align the impact of the existing sustainability-driven banking assets towards implementing SDGs very objectively or proactively. The third one is related to the sustainability process realized through the fact that the impact transmission path remains obscure in this model. We can term these three limitations of the existing model as the three gaps of significance, objectiveness, and effectiveness respectively. Different studies and reports support these three gaps. Here are some examples of research and reports as evidence.

a. Gap in Objectiveness:

There is a gap between the purpose of sustainability efforts by banks and the sustainability needs of the economy. Lagoarde-Segot (2019) described the observation of a discrepancy between the need to align financial institutions and market participants with the long-term decision-making required for financing sustainable economies and societies; and the absence of such topics from finance-related research and education (Lagoarde-Segot, 2019).

b. Gap in significance:

There is a gap between the expected level and actualized level of sustainability efforts by banks. Share-Action (2021), an organization that promotes responsible investment, found that despite progress made in recent years, the world's largest banks are still not doing enough to address climate change and other sustainability issues. The report assessed the 20 largest banks in Europe and found that none of them had fully aligned their business models with the goals of the Paris Agreement on climate change. The report also found that banks need to improve their climate risk management, increase their support for renewable energy, and phase out financing for fossil fuels. (ShareAction, 2021).

The Global Alliance for Banking on Values (GABV), a network of banks that prioritize social and environmental sustainability, has acknowledged that there is still much work to be done to align the banking sector with the goals of sustainable development. The GABV has called for a "systemic shift" in the banking sector towards a more sustainable and equitable economy. The GABV has also emphasized the need for banks to focus on long-term value creation, rather than short-term profit maximization (GABV, 2021).

c. Gap in effectiveness:

There is a gap between the intended and real outcomes of sustainability efforts by banks. A report by the International Institute for Sustainable Development (IISD) found that while sustainable finance is growing rapidly, there is a lack of standardization and transparency in sustainable finance practices, making it difficult to assess the impact of sustainable finance on sustainable development. The report states that "there is a need for a clearer definition of what sustainable finance is and what it aims to achieve." The report also found that while sustainable finance has the potential to accelerate the transition to a sustainable economy, more needs to be done to align financial flows with sustainable development goals. (IISD, 2021). The Principles for Responsible Banking, a framework developed by the United Nations Environment Programme Finance Initiative (UNEP FI), acknowledges that sustainable banking is still a work in progress and that there is much more to be done to align banking practices with sustainable

development. The framework sets out six principles for responsible banking, including aligning business strategies with sustainable development goals, taking a comprehensive approach to managing sustainability risks, and promoting transparency and accountability. (UNEP FI, 2019).

These three gaps are evident in different currently dominant sustainability models, indicators, and indexes some of which are discussed as follows:

- **The Sustainable Banking Index (2015):** The Sustainable Banking model developed by Rebai, Azaiez, and Saidane (2015) considered satisfying the utility functions of the stakeholders as the sustainability contribution. Here, the utility of the stakeholders is the end of targeted impact rather than a means of SDG implementation. It hampers the objectiveness and effectiveness of the bank's sustainability contribution.
- **The SDG Prototype System (2018):** Though the prototype systems introduced by Henseler B (2018) considered SDGs implementation as the sustainability contribution, it focused on merely the environmental dimension of sustainability derived from the financial sector. It doesn't consider the social and economic dimensions of sustainability and limits the bank's objectiveness, effectiveness, and significance of its contribution to sustainability.
- **The Social and Ethical Banking Index (2016):** The Social and Ethical Banking Index (SEBI) developed by Pérez (2016), focused on the social and ethical commitment of banks. It doesn't focus on sustainability performance in the context of SDGs objectively, effectively, and significantly.
- **The Sustainable Banking Framework (2018):** The sustainable banking framework developed by Kumar and Prakash ((2018) specifically focused on the environmental and social conduct of banks and lacks consideration of the sustainability needs of the real economy. It also lacks triple-bottom-line sustainability and doesn't aim to implement SDGs objectively, effectively, and significantly.
- **The RobecoSAM Index (2006):** RobecoSAM is a well-known investment group based in Switzerland that evaluates the sustainability performance of over 4,500 listed companies annually around the globe based on environmental, social, and governance (ESG) criteria. Robeco SAM approaches the

sustainability materiality from a single stakeholder's perspective: the investors as they are generally the owners of publicly traded companies. Investors are usually interested in sustainability issues that have long-term, financial benefits, and financial returns only follow sustainability issues that have a positive material impact on the company's business performance (RobecoSAM and Global Reporting Initiative- 2015). Hence, the SAM index in reality based on a kind of 'business case for sustainability' model. It doesn't focus on optimizing the objectiveness, effectiveness, and significance of the contribution to sustainability.

- **The GRI Index (2017):** The GRI index is prepared based on indicators in accordance with the internationally recognized standard for sustainability reporting, the GRI Standards: Core option (<https://www.globalreporting.org>). The materiality Principle of the GRI Guidelines defines materiality in the context of a sustainability report: The Report should cover aspects that reflect the organization's significant economic, environmental, and social impacts; or substantively influence the assessments and decisions of stakeholders (GRI-2013). Though this index considers a triple bottom line of sustainability it approaches sustainability from an 'inside-out' approach where sustainability efforts start and end within the organization isolated from the real economy's needs. The new context of funding SDGs demands a kind of 'outside-in' approach where sustainability efforts will be taken based on the sustainability needs of the real economy. Since, implementing SDGs is the most emergency need of the economy, society, and environment, and without targeting these goals properly the GRI index also fails to ensure the bank's contribution to sustainability in an objective, effective, and significant way.

Finally, the above three gaps (the gaps of objectiveness, effectiveness, and significance), in other words, can explain the features of the disconnection between sustainable banking efforts and the real need for sustainable development. Researchers in the field of strategic sustainability management argue that the reason for these gaps is the lack of strategic orientation of sustainability practices and the incompatibility between strategy content and societal needs (Baumgartner & Rauter 2017; Baumgartner & Korhonen 2010). They call for an improvement of the sustainability integration management and strategic relevance for it in the sense that both businesses and

sustainable development benefit. Based on reviewing these literatures now, we need to specify the required changes in sustainable banking strategies and practices to transform its business model into the proposed ‘sustainability case for business model’ that is suitable for ensuring a significant, objective, and effective contribution to sustainable development through addressing the context of SDGs funding gap.

2.7 CONNECTING THE SUSTAINABLE BANKING DISCOURSE TO THE SUSTAINABLE DEVELOPMENT IN THE CONTEXT OF SDG FUNDING GAP

From the discussion about the business model gap in the previous section, we can understand that though, the “business case for sustainability” may be considered the first step in the right direction, banks have to go further beyond it in actualizing their potential role of fulfilling the funding gap in implementing the SDGs. The three types of business model gaps also imply the necessity of a new business model to connect sustainable banking efforts to the real challenges of sustainable development in the real economy. Hence, we need to innovate a suitable business model that enables banks to contribute to implementing the SDGs significantly, effectively, and proactively or objectively overcoming the limitations of the existing model. For this purpose, we should be oriented with some relevant concepts related to business model innovation. Business models describe the way business is done (Magretta, 2002). It describes the design or architecture of how value is proposed, created delivered, and captured by business (Richardson, 2008; Teece, 2010). From this simple perspective, the sustainable business model can be seen as drawing on economic, environmental, and social aspects of sustainability in defining the above four aspects of the value in business. There are many manifestations and depictions of business models: focusing on activities, and values, providing a conceptual template of a business, or providing a process-oriented perspective. A business model can be described as an ‘activity system’ that describes the business model design or architecture: the content, structure, and governance of key business activities (Amit & Zott, 2012). It may also be described from a value-based perspective (e.g. value proposition and customer orientation) (Osterwalder et al., 2005). It can be described as a process, for example, of experimentation (Ries, 2011), effectuation (Sarasvathy, 2001), or organizational leadership (Chesbrough, 2010).

Finally, It can take the shape of a conceptual template, which contains different building blocks of a business model. Among these, the conceptual template such as business model canvas by Osterwalder & Pigneur (2010) is more suitable for business model innovation (Schutten, 2016) which contains nine different building blocks of a business: value proposition, resources, activities, partnerships, customer relations, segments, channels, cost structure, and revenue streams.

Business model innovation is about creating value for companies, customers, and wider society by replacing or modifying outdated business models (Osterwalder & Pigneur, 2010). This innovation can be more incremental (adjustment or adaption) or radical (improvement or full redesign) (Lüdeke-Freund et al., 2016). Change can take place to one or multiple building blocks of the business model simultaneously (Bocken et al., 2018), where the more radical changes focus on changing most building blocks at the same time (e.g. value proposition, targeted customers, channels, cost and revenue streams). Finally, business model innovation can be more defensive, accommodative, or proactive in nature (Schaltegger et al., 2012). Defensive strategies are often more incremental and are typically a reaction to business' (perceived) cost constraints to protect existing revenue streams. Accommodative strategies cautiously integrate environmental and social objectives (e.g. environmental production, or health and safety) not questioning revenue logics and core business yet, while the more proactive strategies are often more radical and integrate environmental or social objectives as part of the core business logic to contribute to sustainable development of the economy and society (Schaltegger et al., 2012).

In responding SDG funding gap, we need to customize all these ideas to develop a sustainable banking model that is consistent with the features of SDGs and fulfills the required features of the model. If we summarize the contents of the SDGs, in the context of business it will be seen that these goals in essence aim to accomplish a range of positive impacts while preventing a collection of negative ones. Hence, in contextualizing the business model to the context of SDGs, our proposal is to develop an impact-based business model where the delivery of positive impacts is no longer a nice-to-have, but a condition of success. The model will be articulated around two core principles working back from impacts to arrive at the correct investment and management decisions, and generating as many impacts as possible through each and every decision (UNEP FI-2018).

These two principles can be linked with the required conditions of the proposed model to overcome the limitations of the currently dominant profit-based sustainability model. The implied suggestions of the first principle may be correlated with the proactivity for impact to ensure contribution to sustainable development as an essential part of corporate objective. It means, merely measuring impacts after business operation is not enough; rather we have to plan for them from the very beginning. This principle also emphasizes the effectiveness of impact in ensuring contribution to sustainable development, which implies planning with suitable features and strategies that can create the right solution for the right people aiming for the right purposes. The implied suggestions of the second principle may be correlated with the necessity of ensuring a significant contribution to sustainable development, meaning to look for impact-optimized solutions in every possible aspect. Based on these two principles we have to design the whole sustainable banking discourse focusing on impact optimization (optimum contribution to sustainable development through implementing the SDGs) instead of considering it as merely an instrument for profit-maximizing goals (financial or profitability logic).

2.8 RESEARCH GAPS

We are already convinced that we should proceed to develop a sustainable banking business model prioritizing the sustainability logic rather than the financial logic. Here, we need to identify suitable strategies and features to develop an impact optimizing business model linking micro-level (institutional) sustainability efforts at banking operations to address the funding gap in ensuring sustainable development at macro level through implementing the SDGs, declared as a global development agenda by UNDP.

When ‘business sustainability’ is seen from the societal perspective the organizational commitments vary in terms of contents and degrees. Hence, in looking at the sustainability literature we quickly realize there are many types of sustainability improvements and many shades of green or sustainable products and practices. And as time goes on, the number of different approaches seems to be increasing. Summarizing existing different approaches Dyllick & Muff (2016) categorized the typology of

sustainable companies and outlined the transition process from a lower degree of sustainability towards a higher level of sustainability utilizing the three elements of the business process model; the relevant concerns considered (inputs), the values created (outputs), and the organizational perspectives applied (processes). These are presented in table 2.2 below.

Table 2.2 Typology of Business Sustainability and their key characteristics.

Business Sustainability typology (BST)	Concerns (What?)	Values (What for?)	Organizational perspective (How?)
Business as usual	Economic concerns	Shareholder value	Inside out
Business Sustainability Type (BST) 1.0	Three dimensional concerns	Refined shareholder value	Inside-out
Business Sustainability Type (BST) 2.0	Three dimensional concerns	Triple bottom line	Inside-out
Business Sustainability Type (BST) 3.0	Three dimensional concerns	Creating value for the common good	Outside-in
The key shift involved	1 st shift: broadening the business concern	2 nd shift: expanding the value created	3 rd shift: changing the perspective

Source: Dyllick & Muff, 2016.

Dyllick & Muff (2016) developed three increasingly relevant types of business sustainability using the “business as usual” as a starting point to clarify the differences. As we move up from BST 1.0 to BST 2.0 and BST 3.0, the relevance and the contribution to resolve sustainability issues increases, with Business Sustainability 3.0

representing what they consider to be “true business sustainability type (BST).” They propose four ways of classifying businesses in terms of their sustainability efforts as either (i) business as usual (ii) business sustainability 1.0 (iii) business sustainability 2.0 (iv) business sustainability 3.0. These are presented in the figure 2.3 below.

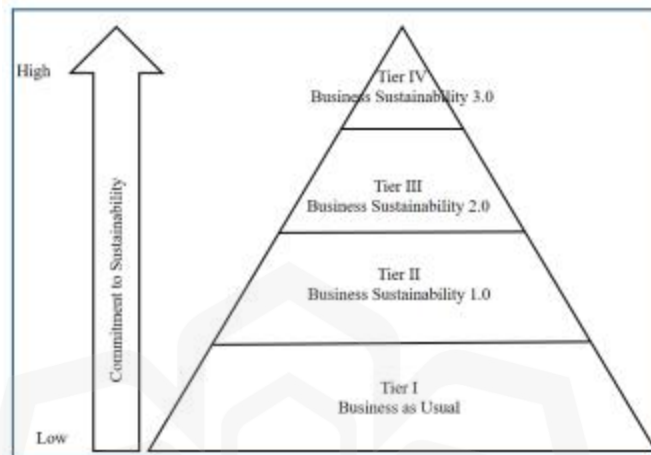


Figure 2.3 Daylick & Muff Business Sustainability Typology according to their commitment to Sustainability Efforts

If we imagine a sustainability pyramid with increasing sustainability commitment and effort as we move up the pyramid, the bottom layer is the business as usual layer and the top layer will be organizations prescribing to business sustainability 3.0. The four business sustainability typology (BST) are compared and differentiated along the following 3 parameters:

- a. Where the primary concern of the business lies
- b. For whom the business is primarily creating value for and
- c. The organizational perspective of each business i.e. how a company can help solving the sustainability issues using its competencies and resources.

By far the majority of the businesses in existence today belong in the ‘business as usual’ category. Such businesses are largely driven by economics i.e. profit motive. Their primary aim is to create shareholder wealth ‘complemented by value for the management and customers.’ Business activities of such entities results in significant ‘externalized costs that are neither understood, measured nor declared.’ Their

organizational perspective is inside-out ‘with the business and its objectives as the starting point and main reference for all planning and action.’ On the sustainability scale such entities ranks the lowest. As we progress up the sustainability scale business concerns, values, and perspective undergo significant changes. The most progressive of the companies belong to business sustainability 3.0 classification where there is a marked difference in organizational perspective from ‘inside out’ to ‘outside in.’ Rather than look towards the market these companies pursue opportunities presented by social challenges and environmental issues. Rather than focusing on reducing or offsetting the negative externalities, their aim is to create a positive impact on social and environmental dimensions and address the sustainability issues for the common good. Hence, these companies have been termed as ‘truly sustainable’ by Dyllick and Muf (2016). The limitation of this categorization and identification of true sustainability is that while describes different levels of sustainability, it does not provide clear guidance on specific actions that companies can take to move between categories. There is no clear guidance how a bank can align its competencies and resources towards implementing the SDGs.

Going further, after analyzing and summarizing the existing relevant literatures, Thomas Dyllick & Zoe Rost (2017) suggested a product sustainability (PS) typology, with 3 levels of development phases. The first phase is characterized by developments that move from selective improvements to holistic improvements of products, thereby going beyond specific improvements of products. The second phase is characterized by developments from “better products” to “good products”. Better products are defined in a relative way, typically by comparing them to existing products or alternative solutions on the market. Good products, however, are defined by comparing them to some absolute measure or given standard of sustainability performance. The third phase is characterized by developments from product value to societal value. On this highest level it is not sufficient any more to contribute to a sustainable product, but to contribute to a sustainable world. This categorization of product sustainability development phases provides a useful framework for guiding companies towards more environmental sustainability practices but lacks in consideration of broader societal, environmental and economic context in which products operates. It also fails emphasize the importance of stakeholder engagement in the development and evaluation of sustainable products. Moreover this typology places a strong emphasis on product-level improvements which

may not sufficient to address the business model or systematic challenges facing sustainable development and does not provide clear guidance on how to measure and evaluate progress towards sustainable development making difficult for companies to assess the effectiveness of their sustainability efforts and make improvement as necessary.

Following the business sustainability typology developed by Dyllick & Muff (2016) and Dyllick & Rost (2017) we can identify the current business case sustainability model of sustainable banking discourse as the BST 1.0 where sustainability is incorporated into bank's objective as refined shareholder value and as the primary phase of the product sustainability development where the emphasis is given to the incremental change rather than radical transformation. But, in the context of SDGs companies are not only asked to reduce the product footprint, but to contribute to the betterment of the world. Here, which result is "better" or "more sustainable" very often is a challenging question that is difficult to answer. Also, it is not clear at all, what "better" or "more sustainable" means in the first place, because there usually are very different meanings of the terms involved. Consequently, the contributions of sustainable banking to sustainable development remain a challenging question.

One of the major obstacles to achieve SDGs is managing of adequate finance. Due to scarcity of public fund and lesser opportunity of international aid, the issue of mobilizing private finance from banks and other intermediaries became crucial in implementing SDGs. Combining all these peculiarity, the context of SDGs funding gap brought a unique challenging situation where profit driving banking institutions are being called upon to align the whole business model towards implementing the global sustainability goals. In order to respond to this context of SDG implementation the specific topics and strategies need to be integrated into an effective business model that guides banks in putting their strategies into action to improve their status into a a kind of desired higher level of sustainability. Instead of applying sustainability to cherry-picked projects and businesses that are not connected to the core competencies, banks have to explore how to support sustainable development systematically through products, services and strategies that create financial returns at the same time. This approach benefits both the financial sector and society because the creation of financial value and social value are intertwined. Several scholars have studied sustainable

business models for banks in particular (Fisk, 2010; Lüdeke, 2010; Cowe, 2012; Daruvala et al., 2012; Polonskaya and Babenko, 2012; Stephens et al., 2012; Bocken et al., 2014). There is much literature that says banks should have a sustainable business model and how they can do it (Stephens et al, 2012; Polonskaya and Babenko, 2012; Fisk, 2010; Lüdeke, 2010; Daruvala et al., 2012; Bocken et al., 2014). Here we can review their models in order to identify the limitations of their thoughts and suggestions that are needed to be improved in the model that we are going to propose in order to address the context of SDGs funding gap.

Fisk (2010) in his book “People Planet Profit: How to Embrace Sustainability for Innovation and Business Growth” provides a framework for businesses to adopt sustainable practices and design sustainable business models that create value for all stakeholders. In the context of a bank, designing a sustainable business model involves incorporating sustainability principles into all aspects of the bank’s operations, from its lending practices to its investment decisions to corporate culture. Specific steps that a bank can take to design a sustainable business model include incorporating sustainability criteria into lending practices, investing in sustainable initiatives, embracing a culture of sustainability, engaging with stakeholders, and reporting on sustainability performance. Adopting such a model can help banks contribute to a more sustainable future create new business opportunities, enhance their brand reputation, and attract and retain customers and employees who value sustainability. Fisk’s model lacks specific and measurable goals for sustainable development and it does not provide clear guidance on how banks can effectively contribute to sustainability or address key challenges that are outlined in SDGs. Hence, although it provides a useful framework Fisk’s model could be improved by offering more specific guidance on proactive contributions to sustainable development goals and addressing industry-specific sustainability challenges.

Lüdeke-Freund (2010) proposes a framework for designing sustainable business models that create value for all stakeholders, including the environment. For a bank, adopting a sustainable business model would involve defining its purpose and values, identifying sustainability challenges and opportunities, co-creating value with stakeholders, measuring and reporting on sustainability performance, and continuously innovating for sustainability. By doing so, banks can strengthen their competitiveness enhance their brand reputation, and contribute to a more sustainable future. However,

this framework is mostly theoretical and does not provide practical guidance on how to implement sustainable business models in practice. Additionally, it does not address the role of stakeholders and how to effectively engage with them in the development and implementation of sustainable business models.

In his article “Banking on Sustainability: Is the Financial Sector Doing Enough?”, Cowe (2012), emphasizes the need for the banking sector to integrate sustainability into its business practices and prioritize long-term sustainability over short-term profits. Cowe proposes several steps for banks to design a sustainable business model, such as prioritizing sustainability in decision-making, adopting a long-term perspective, measuring sustainability performance, engaging with stakeholders, and innovating for sustainability. Overall this article highlights the importance of banks contributing to a more sustainable future by integrating sustainability principles into their core business practices. By integrating sustainability principles into core business practices, banks can not only contribute to a more sustainable future but also enhance their competitiveness, attract and retain customers and employees, and strengthen their brand reputation. However, one potential weakness of this article is that it focuses on what banks should do rather than how they can effectively implement these changes. While the proposed steps for designing a sustainable business model are useful, there is less discussion about the practical challenges and barriers that banks may face in implementing them. Additionally, the article does not address the potential conflicts that may arise between short-term financial goals and long-term sustainability objectives. It would be beneficial to provide more guidance on how banks can navigate these conflicts and effectively balance the competing demands of profitability and sustainability.

Daruvala et al’s (2012) article “The Triple Transformation: Achieving Sustainable Business Model” proposes a framework for banks to design a sustainable business model that takes into account social, environmental and economic aspects of sustainability. Banks should prioritize building trust and relationships with customers and communities, promoting environmental sustainability, and adopting a long-term perspective that considers social and environmental impacts. By transforming their business model along these dimensions, banks can create long-term value for all stakeholders while enhancing their competitiveness, attracting and retaining customers and employees, and strengthening their brand reputation. However, the authors did not provide any detailed framework or specific strategies for achieving this transformation.

The approach may also be limited by a lack of concrete examples and case studies that demonstrate the effectiveness of the proposed triple transformation. Additionally, the focus on financial performance and shareholder value may not fully align with the goals of sustainable development.

The Best Practice Guide on Sustainable Finance by Polonskaya & Babenko (2012) is a practical toolkit that provides guidance to Russian banks on how to integrate sustainability principles into their business practices. The authors propose a five-step approach that includes developing a sustainability strategy, establishing effective governance structures, identifying sustainability risks and opportunities, developing sustainable products and services, and reporting on sustainability performance. By following this approach, banks can manage risks, capitalize on opportunities, and contribute to a more sustainable future for all stakeholders. One weakness of this Best Practice Guide is that it is focused specifically on the Russian financial sector and does not provide a comprehensive analysis of sustainability challenges and opportunities specific to other regions, which may limit its usefulness for banks operating in those areas. Additionally, the guidelines were published in 2012, so some of the information and guidance may be outdated in the current sustainability landscape, especially in the context of SDGs.

Stephens et al.'s (2012) article, "Transformation of Banking: Forces, Implications, and Actions," analyzes the key drivers of change in the banking industry and proposes a framework for banks to design a sustainable business model. The authors argue that banks should focus on customer-centricity, operational efficiency, innovation and agility, and sustainability to remain competitive and create long-term value for stakeholders. They suggest that banks should adopt a customer-centric approach, optimize their operations, foster innovation and agility, and integrate sustainability principles into their business practices. By doing so, banks can respond to market forces, manage risks, capitalize on opportunities, and contribute to a more sustainable future. One weakness of Stephen et al.'s approach is that they focus on the business case for sustainability, rather than the ethical imperative. While creating long – term value for stakeholders is important, sustainability should also be viewed as a moral imperative to protect the environment and promote social justice. Additionally, the authors do not address the potential trade-offs between short-term profits and long-term sustainability goals, which could limit the effectiveness of their proposed framework. Finally, the

authors did not provide specific guidance on how banks can integrate sustainability principles into their business practices, which could make it difficult for banks to implement their framework in practice.

Bocken et al's article "A Literature and Practice Review to develop sustainable business model archetypes" provides a set of archetypes for sustainable business models that can be applied to various industries, including banking. The authors argue that a sustainable business model creates economic, environmental, and social value. They propose a framework and analyze literature and practice to identify patterns and develop four archetypes for sustainable banking business models. The archetypes are Collaborative, Inclusive, Resilient, and Digital banks. By adopting one or more of these archetypes, banks can create value for all stakeholders and contribute to a more sustainable future. However, this article lacks a clear and detailed plan for how banks can proactively and effectively contribute to sustainable development. While the article provides a useful framework for sustainable business model archetypes, it does not delve deeply into the specific actions and strategies that banks can take to promote sustainability. Additionally, the article primarily focuses on the environmental dimensions of sustainability and does not consider the multifaceted nature of sustainable development and the challenges faced by banks in achieving sustainability.

In summary, reviewing the available literature we can identify so many issues that should be improved in the sustainable banking business model. But in order to address the context of SDG funding gap, the business model should be eligible to contribute to implementing the SDGs proactively, effectively, and significantly. From this point of view, we can summarize the following research gaps that this thesis aims to address:

1. The currently dominant business case for sustainability model is more or less adopted as a tool for the objective of profit optimization such as enhancing competitiveness, attracting and retaining customers and employees, and strengthening the brand reputation, etc. In order to address the context of the SDG funding gap, banks should adopt a kind of sustainability case for business model where plan will be made for impact optimization, as a corporate objective, and on a proactive basis. But, which impact optimizing strategies and features should be incorporated into which component of the new model is clearly a research gap here that needs to be addressed.

2. The existing literature portrayed different business sustainability models suggesting different strategies and features. But, how those strategies and features are linked with the desired level of sustainability outcomes is rarely discussed. What is needed here is developing a theory of change. A Theory of change is actually a very simple concept: Throughout our work and personal lives we have aims, objectives, and ideas about how to achieve our goals. However, we rarely take the time to think these through, articulate and scrutinize them, and make explicit the underlying beliefs and biases that shaped our thinking. All a Theory of Change process does is to make these assumptions and beliefs explicit and more testable. In the case of sustainable banking efforts, in order to address the context of the SDG funding gap, an abstract conceptual model is not enough. Rather, apart from a suitable business model, a theory of change is needed, explaining how their sustainability model is aligned to contribute in implementing the SDGs proactively, effectively and significantly. This is another research gap that needs to be addressed.
3. All the strategies, business models, and the theory of change are in essence theories. These theories need to be implemented through effective frameworks that guide banks in putting the strategies, the business model, and the theory of change into action through ensuring proper planning, implementing, monitoring, and evaluating processes. Here, such types of application frameworks along with suitable theories are also research gaps that need to be addressed.
4. The application frameworks are also abstract until they cannot be applied to actions. Moreover, sustainability planning, monitoring, and evaluation without proper business models, theory of change, and application frameworks are not that much useful in addressing the context of the SDGs funding gap. Here, selecting the relevant SDGs and workable themes, sustainability planning, implementing, and evaluating those themes based on suitable impact optimizing model and theory of change are comprehensible research gaps that need to be addressed in order to ensure the bank's proactive, effective, and significant contribution to sustainable development.

CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION

Previous chapter discussed the importance of developing an impact optimizing sustainable banking business model within the intrinsic sustainability integration paradigm in order to address the context of the SDG funding gap. This chapter focuses on the methodologies for developing and implementing the sustainable banking business model. Regarding methodologies, a kind of mixed mood is followed. It begins by discussing the methods employed in creating the sustainable banking business model. Next, it explores how a theory of change is adopted by putting the proposed sustainable banking model into a Log frame matrix. Subsequently, it delves into the utilization of the theory of change and the theory of action to construct an application framework consisting of its four components ranging from planning, implementing, and monitoring to evaluation. Lastly, the chapter addresses the application of this framework in formulating a sustainable banking plan and evaluating its performances in the context of SDGs. The details of the methodologies are discussed below.

3.2 RESEARCH DESIGN

The thesis followed a mix mode. On the one hand, it reviewed and analyzed the existing literatures, reports and documents during developing the proposed model, crafting theory of change, formulating application framework, preparing sustainable banking plan and objectively verifiable indicators for relevant SDG themes. Hence, the study is partly qualitative. On the other hand, the study is partly quantitative, because, it used a key informant interview (KII) method to identify and weight indicators and different statistical tools are used to normalize, weigh and aggregate the bank data to find the index value. The nature of the data is both primary and secondary. The methodologies followed in exploring the four research objectives can be summarized in brief in the following table no 3.1:

Table 3.1 Summary of the Research Methodology.

NO	Research Objectives	Methodology
1	To design a sustainable banking business model with impact-optimizing strategies to address the funding gap for SDGs.	The existing materials are reviewed, summarized and analyzed in identifying suboptimal strategies of the existing model and in proposing the remedial strategies throughout the components of the BMC template. The proposed strategies are clustered into the four components of value framework and are analyzed to identify the patterned features in the perspective of impact optimization. Finally, all these components are portrayed into a diagram.
2	To adopt a theory of change outlining the concepts from the proposed sustainable banking business model to illustrate the linkage between sustainable banking initiatives and macro sustainability goals within the suggested model	The proposed model is translated into the six consecutive components of the intervention logic then underlying assumptions are identified for each component. The logical flow is outlined based on the aim of contributing to sustainable development in the real economy objectively, effectively and significantly.
3	To determine an application framework, encompassing planning, implementation, monitoring and evaluation components, to operationalize the proposed sustainable banking	The application framework is developed through four step approaches: planning, implementing, monitoring, and evaluation. The planning phase employs the theory of change and logical framework matrix to formulate guiding

	business model.	<p>questions, establishing an objective planning framework. The implementation step utilizes the theory of action, derived from the theory of change, guiding the bank's strategic actions aligned with sustainability objectives and fostering partnerships. In the monitoring phase, objectively verifiable indicators (OVIs) are selected from input and activity components using quality and non-biased objectivity protocols, facilitating progress monitoring and impact evaluation. The evaluation step constructs a composite sustainability index using the Simple Additive Weighting method, enabling the assessment and comparison of the bank's sustainability performance over time. This comprehensive framework provides a structured approach to enhance the bank's contribution to sustainable development.</p>
4	To utilize the application framework in aligning sustainable banking efforts towards addressing the context of SDGs.	<p>The planning process follows the planning step of the application framework, employing the logical framework approach to link the goals, impact, outcome, output, activity, and input components of the model.</p> <p>The implementing and monitoring steps of the application framework are utilized to identify the objectively verifiable indicators (OVI). The analysis is supported by ample references and literary sources to validate the findings and guide</p>

		<p>the development of the business model plan and OVI for effective implementation and evaluation.</p> <p>Finally, the index construction follows a five-step process based on the evaluation step of the application framework: categorizes indicators into three sustainability dimensions, collects and weights data, calculates sub-indices for detailed analysis, and compiles a composite index for comprehensive evaluation.</p>
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The details of the methodologies are given in the following sub-sections.

3.3 DETERMINATION OF A SUITABLE SUSTAINABLE BANKING BUSINESS MODEL

Here, we will proceed with three consecutive steps:

3.3.1 Identification of Appropriate Sustainable Banking Strategies to Address the Context of SDG Funding Gap

Here, we will adopt the conceptual template known as ‘the business model canvases as proposed by Osterwalder & Pigneur in their seminal work (2010). This template has been identified as particularly suitable for business model innovation in the banking sector, as acknowledged by Schutten (2016). By leveraging this established framework, we aim to comprehensively analyze and innovate solutions within the banking context. This choice is based on both the credibility of the original model and its successful adaptation for similar purposes in prior research, as demonstrated by Schtten’s work in 2016.

Firstly throughout the nine building blocks of the template we will try to identify some suboptimal sustainable banking strategies from the perspective of the objective, effective, and significant contribution to the sustainable development to the real economy. Then we will try to determine some strategies that are useful to overcome the limitations of the current model. Here, the existing materials will be reviewed, summarized, and analyzed to identify the relevant strategic contents, and, suitable tools, equations, graphs, tables, and frameworks will be utilized in explaining and presenting the strategies.

3.3.2 Identification of Distinguishing Features of the Proposed Business Model Based on the Identified Strategies

Here we will cluster the identified strategies into the four components of the value framework. The four components are 1. value proposition 2. value creation, 3. value delivery, 4. value capturing. The cluster analysis is the relevant tool here. Then the cluster items will be analyzed to identify the patterned features from the perspective of impact optimization.

3.3.3 Development of the Proposed Business Model

Here, the identified strategies and features will be synchronized into impact impact-optimized sustainable banking model showing the relationship among different impact-optimizing features and strategies with the consequences in value framework and the contribution to sustainable development. All these components are portrayed in a diagram.

3.4 ADOPTION OF THE THEORY OF CHANGE

After determining the sustainable banking business model with required sustainable banking strategies and practices in addressing the context of the SDG funding gap we

need to integrate all these isolated components into a complete and effective framework that guides banks in putting their strategies into action through ensuring proper planning, implementing, monitoring and evaluating process. Here, the process is as similar as a program/project development that is based on a program theory (theoretical impact chain). The program theory which was developed in the 1960s and onwards can be used for articulating the linkages among outcomes, intermediate goals, and activities. Program theory refers to the underlying logic or rationale behind a program or intervention. It involves identifying the cause-and-effect relationships between program activities, outputs, and intended outcomes. Program theory explains how and why an intervention (a project, a program, a policy, a strategy) is expected to work and provides a framework for planning, implementing, and evaluating the program. It consists of a set of statements that describe a particular program, explain why, how, and under what conditions the program effects occur, predict the outcomes of the program, and specify the requirements necessary to bring about the desired program effects (Sidani & Sechrest, 1999). Program theory modeling uses three components to describe the program: the program activities or inputs, the intended outcomes or outputs, and the mechanisms through which the intended outcomes are achieved (Reynolds, 1998; Rogers, 2000; Rogers et al, 2000; Sidani & Sechrest, 1999). In identifying and explaining these three components of the program theory during the planning, monitoring, and evaluation of any development program, there is a widely practiced tool named the Logical framework approach (LFA). The LFA was originally developed by the United States Department of Defense in the 1960s as a part of their program planning and evaluation process and also applied in science by NASA. Though it was primarily used for military planning and defense projects, later on gradually it was formally adopted as a planning tool for development activities by a large number of international agencies like USAID, DFID, OECD, ISNAR, etc.

The theory of change is a specific type of program theory that focuses on the desired long-term or ultimate outcomes of a program. It maps out the steps or pathways that are expected to lead to the desired outcomes, taking into account the context, assumptions, and strategies of the program. Moreover, the theory of change provides a visual representation of the LFA or logic model or theory underlying the program's intervention and helps stakeholders understand how the program will bring about the desired change.

In our context, we will adopt a theory of change from the proposed impact optimizing sustainable banking business model. Here, the LFA should be thought of as an ‘aid to thinking’. It allows information to be analyzed and organized in a structured way so that important questions can be asked, weaknesses are identified and decision-makers can make informed decisions based on their improved understanding of the project rationale, its intended objectives, and the means by which objectives will be achieved.

Moreover, here, it is useful to distinguish the Logical Framework Approach (LFA), which is an analytical process, from the Logical Framework Matrix (LFM), also called the Log frame matrix, which provides the documented product of the analytical process, a synthetic representation of the program/project design. The log frame matrix is composed of four columns and six rows summarizing the key elements of a program/project, namely: The project’s hierarchy of objectives (Project Description or Project Intervention Logic); The project environment, and key external factors critical to the project’s success (Assumptions); and How the project’s achievements will be monitored and evaluated (Indicators and Sources of Verification). The columns and rows of the matrix are in the following table 3.1:

Table 3.2. The Logical Framework Matrix.

Logic of intervention	Objectively verifiable indicators	Source of verification	Assumptions
Goal			
Impact			
Outcome			
Output			
Activity			
Input			

An overview of the four columns is given below:

3.4.1 The First Column: The Intervention Logic

The first column captures the project's development pathway or intervention logic. The intervention logic of the Log frame identifies what the project intends to do (strategy of intervention) and shows the causal relationship between the different levels of the objectives. This logic is tested and refined by the analysis of assumptions in the fourth column of the matrix (described below in sub - the section on assumptions). Once the project strategy has been chosen, the main project elements are derived from the objectives tree and transferred into the first vertical column of the Log frame matrix. Each objective or result should be explained by the objective or result immediately below. Thus, this first column summarizes the 'means-end' logic of the proposed project. Indicating the main project elements, it describes the intervention logic of the project.

3.4.2 The Fourth Column: The Assumptions

The final column lists the assumptions. Assumptions are external factors or conditions that have the potential to influence (or even determine) the success of a project, but lie outside the direct control of project managers. They are the answer to the question: "What external factors may impact project implementation and the long-term sustainability of benefits, but are outside project management's control?" The assumptions are part of the vertical logic in the log frame. Start either from the bottom of the matrix and work upwards or from the top of the matrix and work downwards. When the objective hierarchy is read from the bottom up, it can be expressed in terms of:

1. If adequate inputs/resources are provided, then activities can be undertaken;
2. If activities are undertaken, then results can be produced;
3. If results are produced, then the purpose will be achieved; and
4. If the purpose is achieved, then this should contribute toward the overall objective

When it is read in reverse we can say that:

1. If we wish to contribute to the overall objective then we must achieve the purpose;
2. If we wish to achieve the purpose, then we must deliver the specified results;
3. If we wish to deliver the results, then specified activities must be implemented; and
4. If we wish to implement the specified activities, then we must apply identified inputs/resources.

Due to focus on impact optimization we will follow a top-down vertical logic in the proposed sustainable banking model.

3.4.3 Second and Third Columns: Objectively Verifiable Indicators and Sources of Verification

Once the project description and assumptions have been drafted (columns 1 and 4 of the matrix), the next task is to identify indicators that might be used to measure and report on the achievement of objectives (column 2) and the sources of verification for those indicators (column 3). The second and third columns summarize how the project's achievements will be monitored and consists of the following two things:

- I. **Indicators-** a quantitative or qualitative measurement that provides a reliable way to measure changes connected to an intervention. In essence “a description of the project's objectives in terms of quantity, quality, target group(s), time and place”
- II. **Sources of verification-** Describes the information sources necessary for data compilation that would allow the calculation of indicators.

The combination of first column (the intervention logic) and the fourth column (the assumptions behind the intervention logic constitute the theory of change. The theory of Change emerged directly from the field of program theory in the mid-1990s and was developed by multiple scholars and practitioners in the field of evaluation and social science, approaches an initiative from a deeper reflective process: a mapping and

a dialogue-based analysis of values, worldviews and philosophies of change that make more explicit the underlying assumptions of how and why change might happen as an outcome of the initiative. While it is difficult to pinpoint a definitive origin some key figures have made significant contributions to the development of the Theory of Change approaches including Weiss, Patton, and Yin (Weiss, 1995; Patton, 2010; Yin, 2013). A Theory of Change is actually a very simple concept: Throughout our work and personal lives, we have aims, objectives, and ideas about how to achieve our goals. However, we rarely take the time to think these through, articulate and scrutinize them, and make explicit the underlying beliefs and biases that shaped our thinking. All a Theory of Change process does is to make these assumptions and beliefs explicit and more testable. Hence, a Theory of Change is more than a narrative or graphic account of a results chain.

In development program management, this theory gives a causal framework of how and why a change process will happen in a particular context. It expresses the thinking behind how a particular intervention will bring about results and outlines the causal linkages between the shorter-term, intermediate, and longer-term outcomes (the outcomes pathway) along with the underlying assumptions. The Theory of Change is a process as well as a product. A Theory of Change should take into consideration the priority changes the project wants to cause; various alternatives that the project could take to bring the desired changes; and, the justifications for why a particular strategy was chosen over other alternatives.

In comparison with the Logical Framework Approach (LFA), Logical Frameworks (log-frames) are an extension of the Theory of Change and both should be aligned with each other. Log frames typically provide a blueprint of the project that describes the 'If-Then' logic. It lists the project components and describes how it is going to work. It is essentially a project management tool. Theory of Change, on the other hand, is an explanation of 'why' a certain pathway of change has been chosen, providing a narrative of the critical thinking that has gone into designing the project (Clark & Anderson, 2004). Theory of Change helps in think systematically about how the change we want can happen in a complex external environment. It helps in organizing our thoughts, and prioritizing what can be done within the complexities of the real world and with the resources we have at hand. It enables us to detail whether that which has been proposed is necessary, sufficient, and the best possible strategy to

achieve the desired outcomes. The Theory of Change assists in clearly developing the results chain and helps explain which strategies have been selected; why this set of strategies and no other strategies; and, how they are expected to unfold. Theory of Change is not meant to be static. Based on lessons, opportunities, or significant changes in the project context, Theories of Change can and should be reviewed and changed (ILO, 2017).

As an input for evaluation, the Theory of Change is helpful in understanding the ‘why’ element at the design, planning, and monitoring stages (ILO, 2017). A clear expression of the implicit assumptions helps in testing their validity. The deviations from results can be explained with reference to a particular line of reasoning and/or assumptions that failed in the course of the project. No doubt, evaluations can be undertaken even when a project/ program doesn’t have any theory of change. However, in such cases, evaluations are limited in their scope since they have only activities, outcomes, and outcomes to validate but not the logic that was used to decide which activity, output, and outcome will give the desired results and why. This eventually limits the lessons on which assumptions and theories could or could not work and what should have been done differently in a given context.

In adopting the Theory of Change for the proposed impact-optimizing sustainable banking model first of all we will translate the proposed model into the first column of the log frame template. Here, we will map the main concepts and strategies of the proposed business model into the six consecutive components of the intervention logic of the log frame matrix (First column) from an impact optimization perspective. The next step in developing the theory of change is to identify the underlying assumptions (the fourth column of the logic model) behind each stage of the intervention logic (the first column of the logic model). Here, all the logic and assumptions will surround how banks can objectively, effectively, and significantly contribute to sustainable development in the real economy.

3.5 DEVELOPMENT OF AN APPLICATION FRAMEWORK

The description of the features and the development process of different application framework components is given below.

3.5.1 Application framework and its components

Once the logical framework has been established in the first column of the log frame matrix and the theory of change has been formulated using a combination of the first and fourth columns, it is necessary to delve into each of the four columns and rows of the Log Frame Matrix to identify the required application framework. When formulating the theory of change based on the proposed impact optimizing sustainable banking model, we previously emphasized as similarity to program/project development. In creating the application framework, we can incorporate various steps, such as planning, implementation, monitoring, and evaluation, which are extensively discussed in program/project management literature, as essential components of the application framework for the proposed impact-optimizing sustainable banking model. Here are four components of the application framework for the proposed model that are as follows:

3.5.1.1 Planning

Planning is a foundational component of sustainability-related project management, involving the creation of a comprehensive project management plan as per the guidelines of the Project Management Institute (PMI, 2017). This plan encompasses various aspects such as scope, schedule, resources, and risk management aiming to address environmental, social, or economic sustainability challenges. During this phase, the project goals, objectives, and strategies are defined along with a thorough assessment of the scope, stakeholders, risks, and opportunities. Additionally, a detailed roadmap is developed, outlining specific activities, timelines and resource requirements to achieve the desired sustainability outcomes. In the context of a sustainable banking model based on the theory of change, the planning phase entails defining the bank's mission and impact goals, identifying social or environmental challenges, and establishing a strategy and action plan aligned with the mission and impact goals.

In its sustainability plan, Triodos Bank outlines its strategic objectives, such as

financing the transition to a sustainable economy and promoting inclusive finance. The bank's planning process includes defining targets for renewable energy lending, responsible investment portfolios, and social impact management (Triodos Bank, 2020). Barclays, a leading global bank, developed a comprehensive sustainability strategy called Barclays' Citizenship Plan" which outlines their commitments and targets across various areas, including climate change, financial inclusion, and community investment. The plan sets specific goals and initiatives, such as increasing green financing and supporting renewable energy projects to drive their sustainability agenda (Barclays, 2020).

3.5.1.2 Implementation

Implementation in sustainability-related project management involves the vital process of executing the planned strategies and activities outlined in the project management plan. This phase is critical in transforming the theoretical ideas and goals from the planning stage into tangible actions that drive positive impact. For sustainable banking models, entail integrating sustainability considerations into core banking activities. Such as responsible lending, offering sustainable investment products and promoting green finance initiatives. A successful implementation often requires the establishment of sustainability committees or dedicated teams within the organization to lead and drive the process, ensuring that sustainability principles are deeply embedded across all aspects of the bank's operations. By putting these sustainable practices into action, banks actively contribute to addressing environmental, social and economic challenges while working towards achieving their overarching mission and impact goals.

Real world examples from leading banks, such as Bank Australia (n.d.) and Citi (2021), highlight how the implementation of sustainable banking models can make a significant difference. Bank Australia effectively integrates sustainability into its lending practices by offering loans specifically tailored for renewable energy projects, sustainable housing, and community-focused initiatives. Through such targeted lending products, Bank Australia actively supports the transition to a low-carbon and sustainable economy, aligning its actions with its sustainability objectives. Likewise, Citi, one of the largest banks globally, has implemented its sustainable banking model

through its sustainable progress strategy. This strategy encompasses integrating Environmental, Social, and Governance (ESG) factors into decision-making processes, developing sustainable finance solutions and fostering strategic partnerships to drive positive impact. Citi's implementation efforts include providing financing for sustainable infrastructure projects, supporting renewable energy development, and offering sustainable investment options, demonstrating its commitment to advancing sustainability. Effective implementation in sustainable banking requires collaboration among various stakeholders, including customers, employees, communities and regulatory bodies to build strong support and ensure a collective effort towards a sustainable future. By successfully executing the planned strategies and activities, sustainable banking models can effectively contribute to addressing global challenges and promoting long-term sustainable development.

3.5.1.3 Monitoring

In sustainability-related project management, monitoring is essential for assessing project performance and sustainability outcomes. By collecting relevant data and assessing key indicators, project managers can measure progress against predefined targets and identify potential issues that require corrective actions. The process involves tracking performance data and comparing actual progress with the planned targets to ensure project success. In sustainable banking, monitoring allows banks to measure the effectiveness of their impact optimization strategies and track the social and environmental impact of their financial products and services. Regular monitoring ensures that sustainability principles are embedded in core banking activities, supporting the transition towards a more sustainable economy. As a result, monitoring serves as a guiding tool in both project and banking contexts, enabling organizations to continuously improve their sustainability practice and contribute effectively to positive environmental and social outcomes.

For instance, Triodos Bank (2020) tracks its impact through indicators such as the total amount of sustainable finance provided and the renewable energy capacity supported. Danske Bank (2021), on the other hand, monitors its sustainability performance by measuring carbon emissions, water consumption and waste generation.

Monitoring enables organizations to identify areas for improvement, measure their impact, and make data-driven decisions. Moreover, monitoring helps ensure that projects and banking initiatives are on track to achieve their sustainability objectives and align with global sustainability frameworks like the United Nations Sustainable Development Goals (SDGs) and ISO 14031.

3.5.1.4 Evaluation

Evaluation is a crucial phase in sustainability-related project management, encompassing the assessment of a project's overall effectiveness and impact. It involves measuring the project's performance against predefined criteria, conducting impact assessments, and gathering feedback from stakeholders to determine if the project's objectives and intended sustainability outcomes have been achieved. The findings from evaluation process offer valuable insights into the project's strengths, weakness, lessons learned and opportunities for replication or scale-up. This feedback loop plays a vital role in continuous improvements and learning within sustainability projects, empowering stakeholders to make informed decisions and enhance the project's contributions to environmental, social and economic sustainability.

In the context of sustainable banking models, organizations like the Global Alliance for Banking on Values (GABV) emphasize the significance of evaluation. As an international network of banks committed to sustainable and responsible banking, GABV promotes comprehensive evaluations among its member banks (GABV, n.d.). By utilizing a robust reporting framework, member banks can assess and transparently report on their financial, social and environmental performance. Through such evaluation practices, GABV ensures accountability in the implementation of impact-optimizing strategies. Evaluation serves as an essential tool for sustainable banking institutions to demonstrate their commitment to sustainability, align their practices with global goals and drive positive change in the financial industry, thus contributing to a more sustainable and responsible future.

3.5.2 Developing the Planning Component:

According to Chen & Rossi (1987), the Theory of Change is able to address the following important program planning and evaluation issues:

- a. Definition of the problem it is attempting to address
- b. Quantification of the scope of the needs or assets that make the case for its selection of the problem it addresses.
- c. Acknowledgement of the factors that may influence its ability to create change in the community.
- d. Application of the best practice research that supports plausible solution strategies for the identified problem area.
- e. Description of the change strategy that the program supports.
- f. Statement of assumptions about why the selected strategies will work in the ways described.

The theory of change is a crucial tool for program planning, implementation, and evaluation. It helps to articulate the program's overall goals and objectives, the underlying assumptions, and the activities required to achieve the desired outcomes (Funnell & Rogers, 2011). Hence, through developing a theory of change combining the intervention logic (contents in the first column of the matrix) and the assumptions (contents in the fourth column) we can get a suitable planning framework for the proposed business model. From the theory of change we can develop a planning framework for the bank to prepare a suitable sustainability plan for each relevant SDGs. Here, we can identify some guiding questions from the assumptions made in the theory of change in the column 4 of the logical framework matrix. Responding to these questions will ultimately provide a suitable planning framework for the bank. The planning framework is based on the overarching concern about how a bank can contribute objectively, effectively, and significantly to ensure sustainable development in the real economy through implementing the SDGs. The framework is consistent in three parts. 1. The first part deals with the issue; how to select bank-relevant SDGs and workable themes. 2. The second part deals how to translate the SDGs into bank's strategic goals. 3. The third part deals with how to align bank's operation to those strategic goals.

3.5.3 Developing the Implementation Component

In developing the monitoring framework for the proposed business model we need have a theory of action apart from the theory of change. The concept of a “Theory of Action” has been used in various fields and contexts and it is difficult to attribute its introduction to a single person or entity. The term “Theory of Action” generally refers to the underlying assumptions and beliefs about how actions lead to desired outcomes. In practice, though the theory of action and the theory of change are frequently used interchangeably, there are subtle distinctions between the two.

A Theory of Action differs from a Theory of Change in that a Theory of Change identifies all the processes through which change is expected to occur, while a Theory of Action is more focused on a specific pathway and an organization’s role in achieving a particular change (AEC, 2012). To operationalize the program’s theory of change, the theory of action articulates the mechanisms through which the activities are being delivered, e.g. through which type of actors (for example, NGOs, government, or markets) and following what kind of processes (for example, grants to NGOs disbursed from a challenge fund, provision of technical assistance, advocacy activities, facilitation of or the establishment of partnerships). Moreover, the theory of action tells the story of how communities and conditions will change because of an organization’s work, as well as how progress will be tracked and measured. Hence it creates a basis in establishing the monitoring and evaluation indicators. To get a more clear picture the difference between these two theories can be outlined in the table 3.2.

A Theory of Change and a Theory of Action follow the same logical structure: sequential, with steps leading to the long-term goal and objectives of a program. When producing a Theory of Action, it is crucial to differentiate between the settings in which change will happen (the Theory of Action) from the change mechanisms themselves (the Theory of Change). But both remain interrelated: a Theory of Change and a Theory of Action are intertwined parts of the same logic.

Similarly to a Theory of Change, a Theory of Action has its own logic, processes and mechanisms. It also creates outcomes and impacts of its own. Hence, it is possible to operationalize the same Theory of Change in different ways, that is, through different Theory of Action. But, when a specific delivery model is chosen for a program, it

produces certain structures, linkages or partnerships which can have sustained effects in the long term.

Table 3.3 The Comparison between the Theory of Change and the Theory of Action.

Theory of Action	Theory of Change
In-ward looking (Program Focused)	Out-Ward looking (Context Focused)
Focuses on what the program will do to try and affect the change	Describe the process of change independent of what you or your program does or does not do
Confident about cause and effect (If we do “A”, then ”B” will result).	Assume no clear relationship between cause and effect i.e. if the program does “A”, then “B”, the “C” could happen.
Looks at what is inside a program control such as size, location, and spread of grants.	Largely looks at what is outside the program's control such as how norms form/change.
Assume program assumptions will be met.	Tests program assumptions.
Privileges the bottom half (inputs, outputs, activities).	Privileges the top half (relationships between outcomes and goals).

Source: DB (n.d).

Hence, in developing the Theory of Action we will focus on the first and fourth column of the log frame matrix and will follow specifically a vertical top-down logic from impact, outcome and output to activities and inputs as similar as we followed in developing the theory of change. But in developing the theory of change the logical flow was centered around the changes in results intended by the program whereas in developing the theory of action that logical flow is reframed around the organization’s strategic actions to realize the organizational objectives. In the context of our proposed impact optimizing sustainable banking model, while the Theory of Change will help us to develop a planning framework, the Theory of Action will be used as a tool to develop

implementation, monitoring, and evaluation frameworks. From this perspective, the Theory of Action paves the way to articulate the horizontal logic from the logic frame matrix to develop objectively verifiable indicators which eventually will create a guide for implementation and a foundation for monitoring and evaluation frameworks.

Due to following similar types of logic, this theory can be developed from the various components of the previous theory of change as outlined by the Action Evaluation Collaborative (AEC, 2012) in the following steps outlined in the figure 3.1.



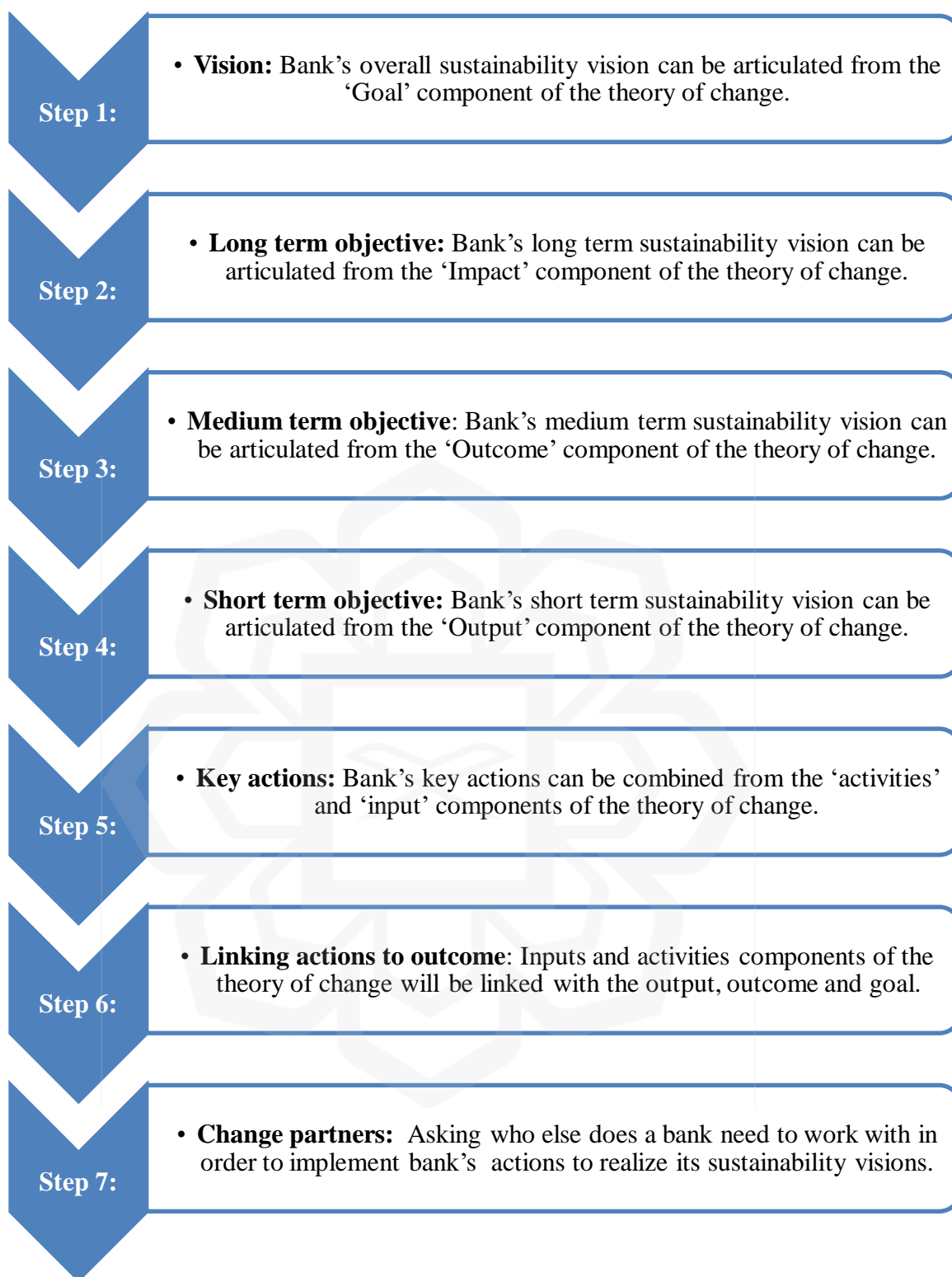


Figure 3.1 Steps in Developing Theory of Action

Thus determining the above issues this theory in turn serves as the implementation framework of the proposed sustainable banking model and creates a basis for suitable

horizontal logics to develop objectively verifiable indicators for monitoring as well as evaluation purposes.

3.5.4 Developing the Monitoring and Evaluation Components

After planning and implementing the business model we need to identify some objectively identifiable indicators for monitoring and evaluation purposes. Indicators are measurable evidence of meeting social change goals. Indicators can be counted (quantitative) or they can be something more descriptive (qualitative). Here, the indicators will be identified from the theory of actions focusing on the key actions as a response to some guiding questions based on the requirements of different organizational objectives. Answering these questions will help the organization to focus on what changes are most important to measure to know if it is making progress. To evaluate the overall performance of the bank within this model we need to develop a composite indicator or an assessment index. We have to develop a framework for how the indicators will be summarized, and weighted, and how data will be collected and analyzed to calculate the index value. Here we will follow the standard methods and procedures for constructing an index and use the suitable ones.

The key difference between the proposed sustainability case for the business model and the currently dominant business case sustainability model lies in the strategic focus on impact fullness. This key difference should be reflected in monitoring and evaluation. The impacts are related to intended changes and objectives in the theory of change and the theory of action respectively. But in many instances, these positive or negative impacts are externalities to business models and they fall outside of the economic and financial valuation of goods and services in our economy. Hence, the impacts usually cannot be measured since they are beyond the control of the bank. Indicators differ depending on their location in the log frame.

3.6 APPLICATION OF THE IMPACT OPTIMIZING SUSTAINABLE BANKING MODEL AND ITS APPLICATION FRAMEWORK

Here we will follow the following steps:

a. To determine the bank's relevant SDGs:

The SDG consists of 17 overarching goals, 169 targets, and 230 indicators aiming to address global challenges and achieve sustainable development. While the UN calls for all actors and sectors to contribute to this global agenda (United Nations, 2015), it's recognized that not every actor or sector can equally address all the goals. Instead, a more practical approach is for each actor and sector to focus on the SDGs where their efforts will have the most significant impact and yield effective results, ensuring efficient utilization of resources for sustainable development outcomes (Henseler, 2017). Agrawal et al. (2017) suggest that businesses ought not to attempt to tackle all SDGs simultaneously. Instead, they advocate prioritizing goals and concentrating efforts on areas where the potential for significant impact is the highest.

PwC's 'The SDG Selector' tool is designed to aid companies in assessing the most relevant SDGs for their business. This support helps businesses align their operations with the SDGs and contribute to sustainable development effectively. Since different banks operate in diverse contexts and have varying impacts on the SDGs, not all SDGs and targets are relevant for all banks. Hence, it becomes essential for banks to identify the specific SDGs and corresponding indicators that are pertinent to their operations, both in general and within the specific location where they operate. By focusing on the most relevant SDGs, banks can better direct their efforts towards making a meaningful contribution to sustainable development. **To determine the workable themes from the relevant SDGs:**

Upon closer examination of the SDGs, it becomes evident that these goals possess a global scope and are intricately interconnected and interdependent thematically (Nilsson et al. 2016). To navigate this complexity and enable businesses to contribute meaningfully to sustainable development, a mechanism is required to translate the global SDGs into actionable and relevant sustainability topics on a business level. This will allow companies to strategically address sustainability challenges in line with their

capabilities. By clarifying what sustainable development means for businesses and integrating it into their corporate strategies, companies can play a more effective role in achieving the SDGs (Bereuther & Stappmanns, 2017). Since the adoption of the SDGs, governmental institutions, NGOs, and different actors in the private sector developed several guidelines and tools to support businesses in fulfilling their responsibility (e.g. Corporate Citizenship 2015; GRI, UN Global Compact & WBCSD 2015; UN Global Compact, KPMG 2015). Besides, studies are showing the different relevance of global sustainability challenges and assessing the attainment of the SDGs on a national level (Muff, Kapalka, Dyllick 2017; Globescan & SustainAbility 2017). Understanding the varying relevance of global sustainability challenges and assessing the progress of the SDGs at a national level can further inform companies' strategic decision-making. Thus, by adopting a focused and company-specific approach to the SDGs, banks can align their efforts with the broader global sustainability agenda and work towards a more sustainable and responsible future.

A Sustainable Development Goal (SDG) may be relevant to the banking sector in general, but it can encompass numerous themes, not all of which may be directly workable by banks. The themes that are feasible for banks to address can also vary depending on the priorities of the country in which they operate. Selecting workable themes from relevant SDGs allows banks to strategically focus their efforts and resources on specific areas where they can make a tangible and meaningful impact. Hence, to enhance the strategic relevance of the SDGs for banks, it is essential to translate the global goals into concrete sustainability topics on a company level. This process helps banks find appropriate goals that align with their competencies while effectively addressing specific sustainability challenges. By making SDGs more specific and business-focused, banks can better contribute to sustainable development and integrate these goals into their corporate strategies.

c. To prepare a plan for each workable theme derived from relevant SDGs:

The prevailing business case sustainability model often prioritizes short-term profitability, leading companies to focus narrowly on immediate gains while disregarding long-term sustainability challenges. Typically adopting an inside-out perspective, businesses make incremental or traditional improvements to their existing practices or products in pursuit of sustainability. However, this approach limits their potential contributions to addressing broader societal and environmental issues. To

achieve true business sustainability, a fundamental shift to an outside-in approach is vital. Here, sustainability challenges serve as the foundation for defining how businesses can make meaningful contributions while still aligning with their core competencies and resources. By adopting this perspective, companies can uncover innovative solutions and develop diverse strategies, business models, products, and services that effectively address sustainability challenges, driving substantial and lasting progress while ensuring their continued success (Dylick & Muff, 2013). As a first step to operationalizing an outside-in perspective, Beruther & Stappman (2017) introduced the concept of Societal Value Contribution (SVC) as a means to translate the global SDGs into specific issues and themes that companies can effectively address. Strategically addressing the SVC and their corresponding themes can help to overcome the limitations of missing effectiveness and prevalent reductionism, as highlighted by Baumgartner & Korhonen (2010). To achieve this, complying with the “SDG Compass; The guide for business action on the SDGs” companies should adopt a comprehensive approach that considers the entire value chain, recognizing that their greatest social and environmental impact on the SDGs may extend beyond their direct assets and control. By allowing a five-step logic model process, companies can track the path from inputs through activities, outputs, outcomes, and impacts, gaining insights into how their business activities translate into economic, environmental, and social outcomes (WBCD, 2015). Here the relevant suggested strategy is to follow the established linkages among different levels ranging from the business, industry, regional, and national as well as a global sphere (Bardy et. al, 2021). Thus, embracing relevant sustainability challenges as a starting point for strategy and considering the entire impact value chain, the outside-in approach empowers companies to make significant contributions to sustainable development while avoiding reductionist thinking. This comprehensive and purpose-driven approach allows businesses to play a more impactful role in addressing broader societal and environmental issues.

In line with this outside-in perspective, the bank should develop dedicated plans for each feasible theme derived from the relevant SDGs aiming to pursue sustainable development outcomes effectively. Each plan should have specific objectives, strategies, and action steps aligned with its respective theme, providing a clear roadmap for the bank’s sustainability efforts. By adopting this comprehensive approach, the bank can prioritize actions and allocate resources more effectively maximizing the impact of

their sustainability initiatives. To further enhance its sustainable practices and contribute significantly to global sustainability challenges, the bank can leverage guidelines and tools provided by government institutions, NGOs, and private stakeholders that support businesses in fulfilling their sustainability responsibilities.

d. To identify objectively verifiable indicators based on the plan:

According to the “SDG Compass; The guide for business action on the SDGs” To have a maximum impact on sustainable development, companies should prioritize mapping high-impact areas and identifying relevant indicators to monitor their progress over time. This involves understanding how their business activities contribute to economic, environmental, social, and social outcomes, following a structured logic model with verifiable indicators (WBCD, 2015). Specifically, if financial services companies were to identify and pursue sustainability strategies integrated into the SDGs, they would also need to measure their achievements and integrate them into their sustainability reporting process (Jones et al., 2017). According to PwC (2015), the success of the SDGs heavily depends on data availability. Defining relevant indicators, aligning current business metrics with them, and possibly developing additional ones will require a significant investment of time and effort for businesses. This process involves figuring out how to measure success in relation to these indicators across their operations. It underscores the importance of data-driven approaches and highlights the considerable commitment required to effectively track and report on sustainable development achievements.

Hence, we need to develop some objectively verifiable indicators (OVI), by diligently tracking performance in these areas, companies can align their actions with SDGs, making substantial contributions to positive societal and environmental results. Such objectively verifiable indicators play a crucial role in promoting transparency and accountability in sustainable banking. They serve as a foundation for reporting on the bank’s sustainability performance, enabling stakeholders to assess the extent to which the bank upholds its stated goals and targets. Additionally, these indicators derived from the plan aid in guiding targeted actions and resource allocation, ensuring efficiency and effectiveness in the pursuit of sustainable development objectives.

Consequently, it becomes imperative to develop objectively verifiable indicators (OVIs) that enable diligent tracking of performance in these areas, following companies to align their actions with the SDGs and significantly contribute to positive societal and

environmental outcomes. These OVI play a pivotal role in fostering transparency and accountability in sustainable banking. They form the basis for reporting on the bank's sustainability performance, empowering stakeholders to assess how well the bank adheres to its stated goals and targets. Moreover, these indicators, derived from the plan, provide valuable guidance for targeted actions and resource allocation, ensuring efficiency and effectiveness in pursuing sustainable development objectives. By utilizing these OVIs, financial services Companies can effectively measure their progress and demonstrate their commitment to sustainability, thus playing an active role in advancing global sustainability efforts.

e. To prepare sub-indices for economic, environmental, and social dimensions of sustainability for a sample bank:

The Global Reporting Initiative (GRI) a well-known framework for sustainability reporting, provides guidelines encompassing indicators related to the economic, environmental, and social dimensions, also known as the triple bottom line (TBL) (GRI, 2013). In the work of Barbier and Burgess (2017), they explore the link between the TBL system approach to sustainability and the 17 SDGs. Each of the 17 SDGs is identified as a target primarily attributed to either the economic, environmental, or social system. Following this system approach, here, we can propose constructing three sub-indices (economic, social, and environmental) to gain valuable insights for targeted and informed decision-making. These sub-indices facilitate the bank in identifying strengths and weaknesses within each dimension, enabling better-informed decision-making regarding sustainability performance and risk mitigation. By utilizing these sub-indices, the bank can effectively prioritize its efforts and allocate resources to address key sustainability issues in the economic, environmental, and social realms.

f. To calculate an overall sustainable index for the sample bank:

In applying the proposed impact-optimizing sustainable banking model, we need to construct an overall sustainable banking index incorporating the relevant indicators and combining the three sub-indices as we discussed in previous steps. Calculating such an index allows for a comprehensive assessment of the bank's sustainability performance. It enables benchmarking the bank's performance against industry standards, best practices, or predefined targets, it helps the bank understand how it compares to peers and identify areas for improvement.

Here we can refer to some existing examples of indexes from which the index within the proposed impact-optimizing sustainable banking model differs in several significant ways. The proposed model focuses on implementing the SDGs as a sustainability contribution to the economy emphasizing the engagement of stakeholders. This sets it apart from the sustainable banking index developed by Rebai, Azaies, and Saidane (2015), which considers satisfying stakeholders' utility functions as a sustainability contribution. Additionally, the SEBI (Social and Ethical Banking Index) developed by Pérez (2016) emphasizes the social and ethical commitment of banks, whereas the proposed model prioritizes sustainability performance in the context of SDGs. Moreover, well-known sustainability assessments such as RobocoSAM primarily focus on materiality from the perspective of investors and long-term financial benefits (ROBECOSAM, 2015) while the proposed model emphasizes sustainability from the bank's perspective and its indirect impact on the macroeconomic agent and the overall economy, with a specific focus on long-term impacts.

Overall while the existing models and indices have their merit, the proposed model aims to shift towards a 'sustained inability case for business' aligning banking institutions' potential to maximize their contribution to implementing the SDGs. This new approach addresses the urgent need for funding SDGs and ensures sustainability efforts are aligned with the needs of the real economy and society.

The detailed methodologies for the above steps in this section are outlined in the fourth chapter.

CHAPTER FOUR

DEVELOPING THE BUSINESS MODEL AND APPLICATION FRAMEWORK

4.1 INTRODUCTION

This chat paper is about developing the proposed impact of optimizing a sustainable banking business model and its different application frameworks. Initially, required strategies are identified throughout different components of the business model canvas (BMC). Then business model is developed based on the identified strategies and distinguishing features. Finally, the planning, implementation, monitoring, and evaluation frameworks are developed for the proposed model utilizing the horizontal and vertical logic throughout the different components of the log frame matrix and outlining the program theory in the relevant Theory of Change and Theory of Action.

4.2 DEVELOPING THE IMPACT OPTIMIZING SUSTAINABLE BANKING BUSINESS MODEL

4.2.1 Impact Optimization in the Context of SDG Funding Gap

According to the discussion in the literature review chapter, the declining trend of international development aid flow, scarcity of public funds, budget deficit in the post-COVID situation, and failure to stimulate the private capital to the public purpose in the financial sector created the condition of SDG funding gap. In this situation, it is being argued that, since a large amount of the capital of the industries in most emerging markets comes from the banking sector, stimulating sustainable banking practices may be indispensable

for mobilizing private funds in achieving the SDGs. The funding gap in implementing the development goals and the Bank's potentiality to solve it creates a new context for sustainable banking practice, procedure, and measurement. Considering the implementation of SDG as the direction of all efforts, sustainable banking discourse can address this new context by ensuring the optimization of banks' sustainability impact on the real economy with maximum potential. The currently dominant profit-optimizing sustainable banking model could not address this new context since its sustainability concern moves only around optimizing different components of the profit equation such as business promotion through sales revenue maximization and cost minimization. Due to this profit orientation, the current sustainability model often itself to sub-optimal features and strategies in sustainability processes which compromise banks' potential in terms of contribution to sustainable development proactively, effectively, and significantly. This lagging in contribution actually implies that the existing sustainable banking efforts are disconnected from the macro sustainability goals in the context of the SDG funding gap. Hence, it is suggested that, in order to address the context of the SDGs funding gap, we have to develop an impact optimized sustainable banking business model which will be articulated around two core principles working back from impacts to arrive at the correct investment decision, and generating as many impacts as possible through each and every investment (UNEP FI-2018).

The impact is a change in an outcome caused by an organization. An impact can be positive or negative, intended or unintended. An outcome is the level of well-being experienced by a group of people, or the condition of the natural environment, as a result of an event or action. Impact management is the process of identifying the positive and negative impacts that an enterprise has on people and the planet, and then reducing the negative and increasing the positive (Impact Frontiers, n.d.). Optimization is a search process for a specific problem according to the special conditions of that problem. Optimization refers to finding a process of optimal values for a given network parameter using all feasible values for the minimization or maximization of network output. The goal of optimization is to discover the best feasible response with the consideration of the problem constraints (Sadollah. Et al, 2020).

Our primary objective is to address the disconnecting phenomena between micro-

sustainability efforts and macro-sustainability goals in the context of SDGs. To achieve this and design a suitable business model, it is necessary to grasp the discourse on impact optimization. This understanding should encompass both the general context of disconnection between micro and macro sustainability in current sustainable banking efforts and the specific context of addressing the funding gap for SDGs. The easy way to do this is to develop the proposed impact-optimizing business incorporating those features and strategies that are suitable to overcome the limitations of the current model and are relevant to the required impact-optimizing conditions at the same time. We have already mentioned that the currently dominant profit-optimizing model failed to contribute to sustainable development proactively, effectively, and significantly. Hence, the impact-optimizing features and strategies of the proposed model will be formulated to overcome these three gaps. There so many expert and research opinions are evident regarding this proposition some of which are as follows.

4.2.1.1 Proactive Contribution to Sustainable Development

“Banking on a better world” – A report by the United Nations Environmental Programme Finance Initiative (UNEP FI) and the Global Sustainable Finance Alliance (GSFFA), highlighting the role of the banking sector in implementing the SDGs. “The Finance for Tomorrow Initiative”- An initiative by the Paris EUROPLACE, aimed at promoting sustainable finance and the integration of sustainable considerations into financial products and services. "The Principles for Responsible Banking" - A set of principles developed by the United Nations Environment Programme Finance Initiative (UNEP FI) and the Global Banking Alliance for Women (GBA), outlining the role of banks in promoting sustainable development and the responsibilities of banks to integrate sustainable considerations into their operations and business strategies. "The 2030 Agenda for Sustainable Development" - The United Nations' framework for sustainable development, highlighting the importance of collaboration between the public and private sectors in achieving the SDGs. These references provide support for the idea that banks should aim at implementing the SDGs proactively by incorporating sustainability into their business features and strategies, demonstrating the

growing recognition of the role of the financial sector in promoting sustainable development and the need for banks to adopt sustainable practices to ensure long-term financial stability and success.

4.2.1.2 Effective Contribution to Sustainable Development

There have been numerous studies and reports that support the idea that banks should contribute to sustainable development by following an effective value transmission path. According to The Principle for Responsible Investment (PRI), a global network of investors working together to promote responsible investment and sustainable finance, banks can contribute to sustainable development by aligning their practices with the PRI's six principles. The Task Force on Climate-related Financial Disclosures (TCFD) is a group of financial institutions that has developed a set of recommendations for companies to disclose their exposure to climate-related risks and opportunities. According to them, banks can contribute to sustainable development by following the TCFD's recommendations and investing in companies that are transparent about their impact on the environment. The Equator Principles is a risk management framework for assessing and managing environmental and social risk in project finance. According to them, banks can contribute to sustainable development by adhering to the Equator Principles and ensuring that the projects they finance have a positive impact on the environment and local communities. The Sustainable Banking Network (SBN) is a global network of banks that promote sustainable finance and support the transition to a green and inclusive economy. Banks can join the SBN to collaborate with peers, access resources, and share best practices for contributing to sustainable development. The International Finance Corporation (IFC), a member of the World Bank Group, provides finance and expertise to support sustainable private sector development in developing countries. The IFC's Environmental and Social Performance Standards provide guidance for banks and other financial institutions on how to integrate environmental and social considerations into their operations. The Global Reporting Initiative (GRI) is a global organization that helps companies and organizations report their sustainability performance. According to them, banks can contribute to sustainable development by following the GRI's

sustainability reporting guidelines and transparently reporting on their environmental and social impact. The Alliance for Financial Inclusion (AFI) is a global network of central banks, financial regulators, and microfinance institutions committed to promoting financial inclusion. According to them, banks can contribute to sustainable development by promoting financial inclusion and providing access to financial services to under-served communities. These sources provide different or similar but clear guidelines on how banks can effectively contribute to sustainable development. Among their suggestions and recommendations one thing is highlighted that in order to ensure true contribution to sustainable development, banks should follow an effective value (impact) transmission path which is context-specific and depends on various factors such as market conditions, regulatory environment, stakeholders' expectations, and bank's strategy and culture. The 17 Sustainable Development Goals (SDGs) set by the United Nations require a shift in values towards sustainability to effectively address social, economic, and environmental challenges. This shift affects all industries, including banking, which has a crucial role to play in sustainable development. For example, The Principle for Responsible Banking" launched by the United Nations in 2019 provides a framework for aligning banking activities with the SDGs. These principles call for banks to assess and manage their impact on sustainability, prioritize stakeholder engagement, and measure and report on their progress towards sustainability goals (UNEP FI, 2019).

4.2.1.3 Significant Contribution to Sustainable Development:

There is evidence to suggest that banks have the potential to play a significant role in promoting sustainable development. However, many banks have been criticized for not doing enough to support sustainable initiatives and failing to fully utilize their resources and influence to drive positive change. For example, a 2019 report by the Global Alliance for Banking on Values (GABV) found that while some banks are taking steps to promote sustainability, many are still not doing enough to integrate sustainable practices into their operations and decision-making process (GABV, 2019). Additionally, a 2020 study by the United Nations Environment Programme (UNEP) and the Principles for Responsible

Investment (PRI) found that the financial sector has a crucial role to play in transitioning to a sustainable, low-carbon economy, but many financial institutions are still not doing enough to align their strategies and investments with sustainable development goals (UNEP & PRI, 2020). These studies highlight the need for banks to optimize their sustainability efforts and processes to maximize their impact and contribute more effectively to sustainable development.

4.2.2 Contextualized Impact Management:

Impact optimization should be seen as closely linked to impact management defined as: “The process by which impact investors can understand the effects of their investments on people and the planet and set goals to adapt processes and improve outcomes” (GIIN, 2019). The IMP (Impact Management Project) Network is a global collaboration of organizations and individuals dedicated to advancing impact management practices. The goal of the network is to create and share knowledge, tools, and standards for measuring, reporting, and improving the impact of investment activities. In 2017, the IMP brought together over 2000 organizations and stakeholders across more than 50 countries to define the norms of impact management. They agreed that impact can be managed across five dimensions including **what** the intended outcome is, **who** experiences it, **how much** of the outcome is experienced, the **contribution** of the business to that outcome, and the **risk** that the impact doesn’t happen as planned (impact management project). A short description of those dimensions is in the following table 4.1.

Here, our objective is to develop an impact-optimizing business model and apply the same in order to contribute to sustainable development objectively, effectively, very and significantly making a difference from the currently dominant business case sustainability model which can be linked with the fourth dimension of impact in the heading of ‘contribution’. The contribution to sustainable development will be realized through pro-actively and deliberate assistance in implementing the SDGs aligning with the first dimension of impact, which is ‘What’.

Table 4.1 Impact Dimensions and Corresponding Questions.

No	Impact Dimensions	Definition	Impact questions each dimension seeks to answer
1	What	This tells us what outcome the enterprise is contributing to, whether it is positive or negative, and how important the outcome is to stakeholders.	<ul style="list-style-type: none"> • What outcome is occurring in the period? • Is the outcome positive or negative? • How important is the outcome to the people (or planet) experiencing them?
2	Who	Who tells us which stakeholders are experiencing the outcome and how underserved they are in relation to the outcome?	<ul style="list-style-type: none"> • Who experiences the outcome? • How underserved are the affected stakeholders about the outcome?
3	How Much	How Much tells us how many stakeholders experienced the outcome, what degree of change they experienced, and how long they experienced the outcome.	<ul style="list-style-type: none"> • How much the outcome is occurring – across scale, depth, and duration
4	Contribution	Contribution tells us whether an enterprise's and/or investor's efforts resulted in outcomes that were likely better than what would	<ul style="list-style-type: none"> • Would this change likely have happened anyway?

		have occurred otherwise.	
5	Risk	Risk tells us the likelihood that the impact will be different than expected.	<ul style="list-style-type: none"> • What is the risk to people and the planet that impact does not occur as expected?

Source: Impact Frontiers (n.d)

The significance of contribution will be realized through the scaling up of impact which can be linked with the third dimension of impact under the heading of ‘How Much’. The effectiveness of contribution will be realized by touching on the relevant issues of the relevant stakeholders throughout in the way of addressing the particular sustainability issues mentioned in a particular SDG enhancing the depth of impact which can be linked with the second and third dimensions of impact as mentioned in the headings of ‘Who’ and ‘How Much’. The profit-optimizing model often constrains sub-optimal features and strategies in sustainability processes which compromise potential in terms of contribution to sustainable development proactively, effectively, and significantly. The proposed model will try to focus on improving the impact of sustainability efforts overcoming the limitations of the existing profit optimizing model which can be linked with the fifth dimension of impact as outlined under the heading of ‘Risk’.

Hence, in developing an impact-optimizing business model we have to incorporate those features and strategies that are suitable to overcome the limitations of the current model and are relevant to the required impact-optimizing conditions at the same time. Here, the first task is to identify the suitable impact-optimizing features and strategies that need to be incorporated within the proposed model. The easy way to identify suitable features and strategies is to look into the limitations of the currently dominant model in terms of contribution to sustainable development since it often constrains to sub-optimal features and strategies in sustainability processes due to its sole concentration on profit. Then the required features and strategies will be identified to overcome those limitations which will in turn be selected as the impact-optimizing features and strategies of the proposed

model. Then we will outline the theory of change to develop application frameworks for planning and assessment within the proposed model. And finally, we will apply the model following the developed application frameworks.

4.2.3 The Required Impact Optimizing Features:

The currently dominant business case sustainability model designs sustainability efforts targeting the maximization of the profit equation, understood as total revenue minus total cost. The proposed model will design its sustainability efforts targeting the optimization of impacts according to the requirements in making its contribution to sustainable development objectives, effective, and significant. The impact-optimizing features of the proposed model can be identified in the following ways:

4.2.3.1 Optimizing the Utility of Impact for Enhancing the Objectivity and Pro-Activeness in Contribution

To address the context of SDGs, the first principle of impact optimization is working backward from impact (UNEP FI, 2018). This principle in turn necessitates a kind of business model that looks at the output of the business process in the economy, society, and environment for defining its sustainability model, not on the input or process.

Business sustainability efforts are designed based on different approaches such as “Triple bottom line”, “integrating economic, ecological and social value creation”, “creating shared value” and the “reemergence of social purpose”. Elkington (1997) introduced the concept of the “triple bottom line” as a new business objective, which measures more adequately the multi-dimensional business contributions to sustainability. Although very suggestive at first sight, it has remained to a large degree unclear how the pressing sustainability issues and challenges in society will be reflected in the triple bottom line. Emerson (2003) introduced the concept of “blended value” which combines a company’s creation of revenue with the generation of social value. Porter and Kramer (2011) suggest that we need to redefine capitalism around “creating shared value”, not just profit, thereby elevating the discussion to a fundamental level of the purpose of business and the

economic system as a whole. Shared value creation is defined as creating economic value in a way that also creates value for society by addressing its needs and challenges.

These approaches may be a useful first step to put to rest the stalemate created by the opposing views of shareholder value management (Friedman, 1970; Rappaport, 1986) and stakeholder value management (Freeman, 1984). Reconnecting business to society would help to overcome the perspective where businesses view themselves as disconnected from society, as advocated by some economists like Milton Friedman, who emphasize shareholder primacy (Muff et al., 2013). However, these approaches are unlikely to be a sufficient approach for solving societal problems, as they are limited to those issues and concerns that promise economic value for business. (Crane, Palazzo, Spence & Matten, 2014; Financial Times, 2014).

Dyllick & Hockerts (2002) asked for businesses to look “beyond the business case” and go beyond Eco-efficiency or socio-efficiency to become eco-effective or socio-effective while developing effective solutions in addressing the real sustainability issues their societies are facing. The Sustainable Development Goals (SDGs) were conceived at the United Nations Conference on Sustainable Development, held in Rio de Janeiro in 2012 (Rio+20), and adopted by the United Nations General Assembly in September 2015. Since then, many countries around the world have been engaging in respect of their implementation. They are part of a larger framework, namely the UN 2030 Agenda for Sustainable Development representing a new coherent way of thinking about pressing ecological, social, and economic issues (UN, 2015). Considering the “transformative agenda”, the SDGs address all the critical and major global challenges that threaten the future, including those related to poverty, inequality, climate change, environmental degradation, peace, and justice, which necessarily entails an integrated approach (Leal Filho. et al, 2020).

Following the principle of working backward from impact, in essence, the proposed model reflects on questions relevant to the true sustainable business such as “How can business contribute with its products and services to resolve pressing sustainability issues in their societies?” Or: “How can a business use its resources, competencies, and experiences in such a way to make them useful for contributing to solving some of the big economic,

social, or environmental challenges societies are confronted with (Dyllick, & Muff, 2016). When a business model focuses on resolving these questions by assisting in implementing the pressing global sustainability needs, it enhances its impact utility also.

The utility of a thing depends on its usefulness. Sustainable banking impacts become useful when they can address the most important sustainability needs of the real economy. MDGs, SDGs, and other global goals are declared by UN-like bodies and are supposed to be targeted and achieved by all countries. Hence, these global goals can be an ideal way of identifying the most important sustainability needs of the real economy in contemporary times. Bank can enhance its contribution to sustainable development proactively and objectively by optimizing its impact utility. Thus the proposed model aims at optimizing the impact-utility in the value proposition component to enhance its contribution to sustainable development proactively and objectively through assisting in implementing the SDGs.

The possibility of impact utility and proactive as well as objective contribution will be enhanced when a bank can translate these global goals into the links among the core functions of banks, the role of macroeconomic agents, and the macroeconomic goals on one hand and the other hand, it will also be able to incorporate these goals into its regular business plan. Thus the proposed model aims at optimizing the impact-utility in the value proposition component to enhance its contribution to sustainable development proactively and objectively through assisting in implementing the SDGs.

4.2.3.2 Optimizing the Depth-ness of Impact for Enhancing the Effectiveness in Contribution

By working backward from impacts, we can identify impact value chains. These chains map relevant economic actors, factors, sectors, and their respective roles in the delivery of impacts via actions, reactions, interactions, and transactions of goods and services. Analysis of this impact value chain can help us understand the critical points in connecting micro-level sustainability efforts to the macro and global-level sustainable development goals (UNEP PI, 2018). To address the context of the SDG funding gap, it is necessary to align the

sustainability efforts to the right impact direction through the right impact stream very effectively. ‘Stream’ as a verb means run or flow in a continuous current in a specified direction. Effectiveness means to mobilize the flow and direction of a stream towards a desired destination. The greatest social and environmental impact that a company has on the SDGs may be beyond the scope of the assets it owns or controls, with the greatest business opportunities being potentially further upstream or downstream in the value chain. Hence, it is recommended that the company use its entire value chain to identify areas with a high likelihood of impacts on the issues that the SDG represents (SDG Compass, 2015).

In the proposed model the flow is related to sustainable banking efforts and effects and the destination is implementing the SDGs. The above alignment will help to enhance the effectiveness of the bank’s contribution to sustainable development by optimizing the depth of its sustainable banking impact. The depth of impact is understood as the degree of change in the outcome level experienced by the stakeholders (Impact Frontier, n.d). The easily found disclosure of this impact-depth is the expression of the sustainability process of the bank in its reporting. Though there are no concrete methods, SDG reporting has evolved in practice with five different levels of ambition (KFW, 2019; GRI, UNGC & WBCSD, 2015). Based on this classification of evolving reporting practices, we can categorize the sustainability value processing of banks into five successive higher levels of ambition throughout the intentionality spectrum between business-driven as well as value-driven approaches. The dynamics can be expressed in the following table 4.2.

The lower levels of ambition lack transparency and commitment but are sufficient for business promotion whereas the higher levels of ambition are more concrete in vision, strategies, and practices throughout the micro (individual), meso (e.g. business), and macro (institutional levels) level value chain between the financial as well as the real economy and suitable to more effective value creation. Though there is no inherent conflict between these two types of features, the associated costs actually make the difference. The former is cost-effective while the latter requires additional costs in terms of intellectual, social, human, and financial resources. The business case sustainability model has more focus on business promotion and cost-effectiveness rather than on impact-depthless and effective

contribution to sustainable development. Hence, it often constrains to lower-level sustainability process and compromises the impact effectiveness.

Table 4.2 Sustainability processed within the intentionality spectrum.
 (Business-driven sustainability process) ----- (Value-driven sustainability process).

Level 1	Level 2	Level 3	Level 4	Level 5
SDG Labeling	Flagging	Mapping	Impact indicator	KPI
General involvement with SDGs (e.g. specific example)	Qualitative mapping of business activity to individual SDGs	Mapping of input numbers (e.g. financing volume) to individual SDGs	Measuring output, or impact numbers and mapping regarding individual SDGs	Strategic target value with SDG mapping to measure the degree to which the indicator has been achieved and manage parts of the business activity

Source: Inspired from KFW Research (2019)

Our proposed model aims at overcoming this limitation and connecting the micro sustainability efforts at the level of banking operation to the macro sustainable development in the eye of global sustainable goals (SDGs). Here the relevant suggestion is to follow the established linkages among different levels ranging from the business, industry, regional, and national as well as global sphere (Bardy et. al, 2021). The established linkages will outline the impact value chain. The depth of impact will be experienced by the stakeholders and will be realized by analyzing the change that has occurred between the ‘outcome level at baseline’ (Who) and the ‘outcome level in period’ (What). An outcome refers to the level of an aspect

of social, environmental, or economic well-being that results from an action or event. Outcomes can be intended or unintended, and positive or negative with regard to thresholds that define acceptable or sustainable performance. To ensure an effective contribution to sustainable development a priority should be given to those outcomes that matter most to the stakeholders experiencing them (Impact Frontieres, n.d).

4.2.3.3 Optimizing the Scale of Impact for Enhancing the Significance in Contribution

The bank's contribution to sustainable development will be significant in quantity when the scale of sustainable banking impact is optimized to its potentiality. The scale means capturing the number of people who experience the outcome. Scale data provides insights into the significance of an outcome delivered by an enterprise (Impact FFrontier n.d.). The sustainable banking impact will be possible to be optimized when the impact is sourced and processed through larger contents and reach. Here, Capital management and customer management are two critical areas of intervention. Capital management refers to the management of a bank's financial resources including its investments and lending practices, to ensure that they align with sustainable goals. Customer management, on the other hand, refers to the management of a bank's relationships with its customers, including its efforts to promote sustainable banking practices among its customer base (Bouma, et al, 2017, Kohn, 2012).

Thus the proposed model aims at optimizing the impact scale in the value creation component to enhance its contribution to sustainable development significantly through mainstreaming sustainability into core banking operations and through giving sustainability on indirect impacts.

4.2.3.4 Optimizing the Value of Impact for Enhancing the Overall Contribution

It is suggested by UNEP FI (2018) that impact optimized business model will be articulated around two core principles:

- a. Working back from impacts to arrive at the correct investment decision.
- b. Generating as many impacts as possible through every investment

Both of these principles imply the positional enhancement of sustainability impact as a legal, ethical, and moral value in comparison to profitability as an economic value within the objectives of the bank's sustainability efforts.

Companies are increasingly integrating concepts such as the triple-bottom-line (TBL) (Elkington 1997), corporate social responsibility (CSR) (Chernev and Blair 2015; Devinney 2009) and sustainability (Kuhlman and Farrington 2010) into their business, and leading companies have recognized the need to proactively manage their social and environmental impacts to achieve business success (Epstein and Wisner 2001). The corresponding term corporate sustainability (CS) can be seen as integrating sustainability considerations from a profit perspective (Dyllick and Hockerts 2002; Baumgartner 2009). Profitability is viewed as the primary output and concern for business and its sustainability efforts (Kolstad 2007). While the financial benefits of some sustainability topics are clear, e.g., reduction of costs by limiting energy demand, the financial benefits of investments in green technology and processes are not as clear and underlie uncertainty (Ball 2011). As a result, managers are tasked with balancing trade-offs between profitability and sustainable value creation. Epstein et al. (2015) found that managers choose profitability over sustainability whenever they are in conflict (Epstein et al. 2015). Moreover, a study analyzing 400 companies found that managers readily forego long-term value creation to meet short-term targets (Graham et al. 2005). As such, short-term thinking in companies still has a big influence (Bansal and DesJardine 2014) and is in apparent conflict with sustainability of which benefits accrue over the long term (Aragon-Correa et al. 2017).

One of the most prominent topics in sustainability-related research is the existence of trade-offs in the practical application of sustainability. Hahn et al. (2010) for example state that “trade-offs are indeed the rule rather than the exception” (Hahn et al. 2010). Thus, achieving maximum performance in all three dimensions—social, environmental, and financial—is very difficult. There have been several research papers documenting the variety

of trade-offs found in an organization. On a higher level, companies have to decide between engaging in sustainable value along the three dimensions (Haffar and Searcy 2017) or private value (Porter and Kramer 2011). More specifically, there also exist trade-offs in the choice of which areas to engage in (Csutora 2011) and how to engage in them (Haffar and Searcy 2017). While the overarching trade-off plays a more fundamental role, trade-offs are convoluted and influence each other (Haffar and Searcy 2017). It is not only about reconciling profitability and sustainability anymore but rather which sustainability aspect to target (Winn et al. 2012) and how to achieve it (Hahn et al. 2012). Nonetheless, the primary trade-offs still lie in profitability versus sustainability conflicts where researchers found that managers tend to decide in favor of financial performance whenever sustainability and financial performance are at odds (Epstein et al. 2015). Moreover, this trade-off seems to be more pronounced over time (Lavery 1996), especially in connection to sustainability areas that are linked to long-time horizons (Berns et al. 2009).

Currently, three approaches exist explaining how the conflict between both targets can be seen. In a first model, integrating sustainability inevitably requires trade-offs and has to be dealt with (Alberti and Garrido 2017; Varenova et al. 2013). Other authors state that those trade-offs can be overcome under suitable conditions (Hahn et al. 2010; Beckmann et al. 2014) and lastly, changing the business model in a way that conforms to sustainability goals primarily (Alberti and Garrido 2017). Consequently, the three dimensions social, environmental, and financial are not perfectly aligned but also not opposed. In general, it is not possible for companies to find profitable sustainability opportunities without looking for them actively (Hart and Dowell 2011) and organizations can deal with this challenge in several ways (Morris and Su 1999). A good sustainability performance seems to a great degree to be a result of good organizational decision-making (Haffar and Searcy 2017) in the presence of trade-offs (Retief et al. 2013). However, organizations are still figuring out how to best balance these trade-offs, especially regarding short-term profitability and long-term sustainability in a dynamic business environment.

In resolving the conflict between profitability and sustainability, our proposed model will try to contextualize the sustainable banking business model to address the funding gap in implementing the SDGs following the third approach. It will try to overcome the trade-off

if it is possible or prioritize the sustainability goal over the profitability goal following the second and first approach respectively during the bank's sustainability efforts. Hence, the proposed model will optimize the importance of the impact of profit in sustainable banking efforts. This priority will help to avoid the risk of choosing sub-optimal strategies in the organization's proposing, creating, delivering, and capturing the sustainability value to connect the whole sustainable banking discourse including its planning, practice, and assessment to ensure significant, effective, and proactive contribution to sustainable development. Thus the proposed model will try to optimize the value of sustainability impact for enhancing overall contribution to sustainable development from many dimensions.

4.3 REQUIRED IMPACT OPTIMIZING STRATEGIES FOR THE DESIRED SUSTAINABLE BANKING BUSINESS MODEL

Business models and business strategies are considered as interdependent, closely related but distinct aspects of a company. On the one hand, it can be argued that the decision for a certain business model is a strategic one; on the other hand, this decision also influences the course of strategy a company pursues. Strategic decisions are often based on the core competencies of a firm, yet some of the building blocks of a business model, e.g. the key resources, or even the business model as a whole can be considered as such a strategic advantage. The specific topics and strategies need to be integrated into an effective business model that guides companies in putting their strategies into action (Bereuther & Stappmanns, 2017). One of the most well-known conceptual templates for conventional business models focusing on developing and capturing new ideas is the 'business model canvas' by Osterwalder & Pigneur (2010). This canvas maps the key activities associated with innovating the business model (Bocken, 2021). Hence, it gives us an analytical framework to identify different suitable impact-optimizing strategies for the proposed model throughout the nine components of the business model canvas. It is mentioned that the currently dominant business case sustainability model often selects sub-optimal strategies from the point of objective, effective, and significant contribution to sustainable development, due to its obsession with different components of the profit equation. Here, suitable impact-optimizing strategies are

explored as solutions to this limitation throughout different components of the business model canvas introduced by Osterwalder & Pigneur (2010) in the following headings:

4.3.1 Value Proposition

This component can be linked with how the proposed model differs from the existing one in terms of sustainability vision and approach. The currently dominant ‘business case sustainability model’ approaches sustainability from an inside-out perspective where banks usually begin with their existing business, strategy, or product lines and work towards making them more sustainable. This approach compromises the objectiveness and proactiveness in contributing to implementing the SDGs. The proposed model will follow the outside-in approach, where the sustainability plan starts from the outside of the company considering global and national sustainability challenges like SDGs as defined by the United Nations and measuring the contribution of the company in reaching these goals (Dyllick & Muff, 2013). In the current model, banks try to seek sustainability in business focusing on profit first whereas the proposed model tries to seek business in sustainability focusing on impact first. In the former case, sustainability is adopted for the primary goal of maximizing profit, leaving the impact as a secondary issue. Thus the existing model often picks cherries from sustainability issues and fails to address more important but proactively workable themes very objectively. However, in the proposed model, a sustainability plan is made proactively and objectively to optimize the impact in as many as possible ways in addressing the prime sustainability concern in the real economy. Since, MDGs, SDGs, and other global goals are declared by UN-like bodies which are supposed to be obeyed by all countries. Hence, these global goals can be an ideal way of identifying the most important sustainability needs of the real economy in contemporary times.

Usually, the sustainability impact is defined as a change in an important positive or negative outcome for people or the planet (<https://impactmanagementproject.com>). In the proposed model, we understand it as assisting in implementing the SDGs which can be achieved in three ways; 1. Access: the ability of people to obtain the needs underpinning the SDG, 2. Productivity/efficiency: improvements in the monetary cost, time, or resource

efficiency in which the need is met, 3. Quality: improvements in the effectiveness or reduction of adverse side-effects of a solution (DNB, 2017). However, all the 17 SDGs are not equally relevant to the banking industry. These goals are a global agenda and each of the goals has a separate list of achievable targets and indicators defined by the UN and many of them are of an abstract or ‘macro’ nature with diversified themes for use by governments and other stakeholders. Hence, a well-thought-out plan is needed to address the relevant themes.

Moreover, to address the SDG funding gap sustainable banking objective needs to shift its perspective from seeking to minimize its negative impacts to understanding how it can create a significant positive impact throughout its total value chain to ensure an effective contribution in implementing the SDGs. Hence the proposed model will focus on hand-printing (positive effect) instead of footprint (negative effect) overcoming the existing model’s gaps of significance and effectiveness in sustainability contribution. Dixon and Blackburn define the environmental handprint as “the good we do for the environment” (Biemer, Dixon & Blackburn, 2013). For them reducing footprint is insufficient as a strategy because it encourages us to stick with what is poorly designed – by being simply told to try to do less of it. But making it less bad simply is not good enough. We need to find ways to make it overtly good by focusing on increasing handprint.

4.3.2 Delivery Channels:

This component can be linked with how the proposed model differs in terms of the sustainability process. The dominant sustainability model is more focused on business promotion and cost-effectiveness rather than on sustainability value creation and effectiveness in sustainability contribution. Hence, it often constrains such sustainability processes that are sufficient for business promotion but fail to meet the criteria of proper transparency and true commitment to effective contribution to sustainable development. Hence, the sustainability process lacks in concrete vision of connecting the micro sustainability efforts to the macro and global sustainability goals through adopting optimally suitable policies, practices, strategies, and procedures. Our proposed model aims at overcoming this limitation and connecting the micro sustainability efforts at the level of

banking operation to the macro sustainable development in the eye of global sustainable goals (SDGs). Here the relevant suggested strategy is to follow the established linkages among different levels ranging from the business, industry, regional, and national as well as a global sphere (Bardy et. al, 2021). In following this suggestion, first of all, we need to understand the established relevant 'micro-macro linkages' between the bank and the real economy through which the bank's sustainability process is to be streamlined in connecting sustainable banking efforts to sustainable development goals very effectively.

The bank's impact can be processed towards the real economy through two established channels; the financial intermediation channel and the transmission channel. According to Mordi (2010), the link between the financial sector and the real economy can be explored from two perspectives, namely, the intermediation role of financial institutions and the monetary policy perspective - the transmission mechanism of monetary policy impulses.

From an intermediary role perspective, modern growth theory (Romer 1986; Lucas 1988; Rebelo 1991; Grossman and Helpman 1991; Pagano, 1993) identifies two main channels through which the financial sector might affect long-run growth in a country: through catalyzing the capital accumulation (including both human and physical capital) and by increasing the rate of technological progress.

From a monetary policy perspective, central banks try to influence the quantity of money and interest rates to achieve price stability, full employment, and economic growth. This implies that there must be some links between the functions of the financial sector and the goals of the real economy. Banks, like other financial institutions, perform five core functions in the economy: financial intermediation, maturity transformation, resource allocation, payment system, and risk management (Azizul Islam, 2011). According to Hoag & Hoag (2006), society (real economy) strives for a representative list of 7 possible macroeconomic economic goals; Economic growth, Full employment, Price stability, Economic freedom, Efficiency, Equitable distribution of income, and a Clean environment.

The links between these two types of variables can be understood in terms of the behavior of the macroeconomic agents, the bank's influence on their transaction behavior,

and its consequence in achieving the above macroeconomic objectives. There are four categories of macroeconomic agents, who transact with each other through showing demand and supply in five types of macroeconomic markets. The macroeconomic agents are: households, firms, government and foreigners whereas the macroeconomic markets are commodity market, labor market, money market, bond market and foreign exchange market (Taslim & Chowdhury, 1995). The transaction of these four macroeconomic agents in the above five macroeconomic markets ultimately bring effects in the above seven macroeconomic goals. Banks can intervene this process through their touch-points in the financial flows with those macroeconomic agents. From this perspective of macroeconomic agents, there are four financial flows between banks and the real economy: flow between bank and households, flow between bank and firms, flow between bank and government, Flow between bank and foreigners (Saylor Academy, 2022). Following these four channels banking sector is also linked to economic growth through several ways such as: (i) a fraction of saving goes to investment in the real sector (ii) Banks improve the marginal productivity of capital through efficient allocation of funds to projects with higher returns; (iii) Financial development facilitated by the banking sector, has potential to raise the saving rate among individuals. This can act as a form of financial insurance against economic shocks and provides families with opportunities to diversify their wealth, further contributing to economic growth (ESDN, 2012). Depending on the interactions with their touch-points banks can create opportunities and risks for ensuring macroeconomic sustainability goals associated with economic growth through their five core functions that occurred throughout above financial flows with four macroeconomic agents. In contextualizing the model with SDGs, we will translate the relevant SDG theme into a result chain making achievable targets at the level of macroeconomic goals, macroeconomic agents as well as bank's core functions throughout the above four financial flows to the real economy. Based on these three level targets bank's strategic contents regarding its resource and relationship management will be designed to align financial flows towards implementing the SDGs. Thus the macroeconomic goals, macroeconomic agents and core functions of banks are three key milestones and reference points in our proposed model. Strategic focus on the concretized sustainability transmission path throughout these three milestones will enhance sustainable banking impact in terms of direction and utility and reduce the possible scope of 'SDG washing'; the term

used when businesses acknowledge the existence of the SDGs and point out the ways in which they align with the SDGs without making a meaningful contribution to the achievement of the goals (Sullivan, 2018). It will optimize the sustainable banking impact enhancing its significance, effectiveness and direction at a time.

4.3.3 Key Stakeholders

All of the four categories of macroeconomic agents are linked with banks through the four financial flows as different stakeholders of a bank. According to the related literature, the concept of stakeholders goes back to the definition given by Freeman (1984). Stakeholders of a given company are defined as “any group or individual, who can affect or is affected by the achievement of organization’s objectives”. Avkiran and Morita (2010) specified five stakeholders of a financial institution; namely, shareholders, customers, managers, employees, and regulators. However, we conjecture that in order to ensure a significant and effective contribution to sustainable development, a given bank is required to consider; in addition to its traditional stakeholders, one more important stakeholder; namely, the community. One of the most compelling reasons to study sustainable banking is the present unsustainable state of the global financial market and the effect it has on communities in operational locations. Based on this literature we can customize these stakeholders in banking cases as described in the following table 4.3.

In determining which stakeholders are more important, we have to consider how banks create impacts on the real economy. Belonging to a type of service industry, from an organizational perspective, banks can process its sustainability impact on the economy both directly and indirectly. Direct impacts are generated from the production process and related activities. Banks have a direct impact on sustainable development through the use of their energy, water, and office supplies, and business traveling behavior. Therefore, increasing energy efficiency, decreasing paper use, video conferencing, and changing commuter behavior are some of the measures banks can employ to reduce these direct impacts.

Indirect impacts, in contrast, originate from processes that do not occur at the production site. As an informed intermediary, banks have an economic control and

channeling function, which means they are able to decide what businesses or projects they aspire to lend to or invest in. When loans or investments are used by a client to create products or services, the banks providing the liquidity have indirectly impacted the world, for better or worse.

Table 4.3 Different Stakeholders of Bank.

No	Stakeholders	Definition
1	Customers	They are the depositors and borrowers of the banks. They contribute to both procuring liabilities and distributing assets(credits) of a bank.
2	Community	The community is the direct and indirect beneficiary of banking operations. They are the members of the greater society. It is the community that receives all kinds of impacts emit from the bank through its stakeholders.
3	Shareholders:	Shareholders supply the capital to the bank. Hence, analyzing the shareholders' issues we can find that most of them are related to the financial performance of the bank.
4	Employees	Employees cover all the staff of a bank including the workforce, executives, and managers. Since employees operate the organization; they are the key players in influencing the bank's ability to create a sustainability impact throughout its operation.
5	Regulators	Regulators basically control the environments of business. They formulate and impose rules, regulations, and guidelines to protect the interests of different stakeholders at different times.

The current sustainable banking model often incorporates merely the direct impacts

due to their cost-effective features and ignores the indirect impacts since it involves additional efforts in terms of explicit and implicit costs. However, in the context of the financial sector, the direct sustainability impacts are relatively small compared to those of the industrial sectors, and the indirect impacts, especially through financed clients, are much more important than direct impacts (Thien, 2015). Hence, in reality, it is an indirect impact, through which banks can play a crucial role in promoting sustainable development as well as in financing SDG, and failure to consider it properly ultimately hampers the significance as well as effectiveness in contribution to sustainable development through compromising the scale and depth of sustainability impact. Hence, in order to contextualize the business model to the context of the SDGs funding gap, we need to focus on the bank's indirect impacts.

In processing sustainability impacts banks have to concentrate on customers as the bank's interaction points and community as the co-creator, carrier, and recipient of sustainability impact. In our proposed model, customers are those stakeholders who deposit, borrow, and make payments to each other through banking channels. Through the term "Community" we will understand the members of the society who have already categorized as four categories of macroeconomic agents transacting with each other by showing demand and supply in five types of macroeconomic markets (Taslim & Chowdhury, 1995). From a banking perspective, customers are touching points of the above four financial flows between the financial sector to process its indirect impacts on the community to realize the desired sustainability change in the conditions and behavior of the macroeconomic agents and to achieve the desired sustainability features in macroeconomic goals translated from the relevant SDG. This strategic focus in the proposed model will enable banks to leverage their optimum potential in ensuring a significant contribution to sustainable development by creating a larger scale of impacts in implementing the SDGs.

4.3.4 Customer Segments

When in the currently dominant sustainable banking model banks focus on their direct sustainability impact, the sustainability issues related to the customers may become less prioritized. Due to their focus on their direct sustainability impact, they often constrain

themselves on ensuring social impact through respecting the human rights aspects of the employees, considering the environmental aspects of their internal operation, and accounting for their contribution to the quantitative growth aspects of the economy. Thus customer engagement which is supposed to be the bank's main transaction point, is left out of sustainability consideration, showing the limitation of short-termism, inherently present in the profit-maximizing financial logic. It, in other words, hampers contributing to sustainable development significantly and effectively through compromising the scale and depth of sustainability impact. But in the proposed model the focus is on the bank's indirect impacts that are processed through different stakeholders among whom customers are larger in number, closer in connection with the real economy, and diverse in having potential impacts to the sustainable development. Hence, customers will be chosen based on their role as macroeconomic agents in achieving sustainability themes translated as macroeconomic goals derived from the relevant SDGs. Here, special focus should be given to unbanked and under-banked segments. This strategic choice will help to interact with the right people to realize the right solution for the sustainability vision throughout the value chain.

4.3.5 Customer relationship

In realizing the targeted sustainability theme, merely choosing the right people as customers is not sufficient, rather careful choice of customer interaction is also important. Hence, a special sustainability focus should be given to the type of engagements that are undertaken with the customers. Bank's sustainability engagement with customers can be with different contents such as maximizing customer satisfaction and loyalty, minimizing the cost, optimizing efficiency and effectiveness in service, and motivating and enabling them in optimum contribution towards sustainable development. The currently dominant sustainable banking model often concentrates on former items of this list that are highly related to profit maximizing goals which in turn hamper in contribution to sustainable development objectively, effectively, and significantly through compromising utility, scale, and utility of sustainability impact. Hence, we need to give an emphasis on the last one in our proposed business model, where the focus is changed from customer value to societal or public value.

Thus, in the proposed model, banks will not only generate value for the customers alone but also create value for the greater economy, community, and society. It will enhance both the scope and direction of impact in making a contribution to sustainable development. Here, we can employ the organizational identity orientation framework (Brickson, 2005) to understand and explain the required strategies regarding the bank's relationship with relevant stakeholders for this purpose. Scott and Lane (2000) described organizational identity as a set of beliefs shared between organizational members and stakeholders about the central, enduring, and distinctive features of an organization (Albert & Whetten, 1985). One of the most important aspects of identity is that it helps understand how entities relate to one another (Albert et al., 2000). Brewer & Gardner (1996) and Brickson (2000) suggested that stakeholder contexts could activate three distinct types of organizational identity orientations—individualistic, relational, and collectivistic—which would have various effects on corporate stakeholder relations and performance. Identity guides organizational actions allowing entities to establish coherent relations with stakeholders and helping stakeholders understand how to interact with organizations (Albert & Whetten, 1985). Building on this theorization, we can understand banks' required strategic interactions with their customers and community linking with the relevant type of organizational identity orientations.

From the individualistic perspective, the bank will adopt its customer engagement aiming at the realization of sustainability targets in its different functions to the real economy (community). From a relational identity perspective, the bank will adopt its customer engagement aiming at mobilizing its financial flows to the real economy in transforming the role of the macroeconomic agents (community members) towards sustainability directions. From a collectivistic identity orientation perspective, the bank will adopt its customer engagement aiming at realizing the real economy's sustainability goals (Community goals) derived from SDGs. Thus non-directed sustainability efforts and often incidental contributions to society as seen in the dominant sustainable banking model are being replaced by a more directed and deliberate contribution to solving relevant societal issues. It will enhance the impact effectiveness and objectivity also.

4.3.6 Core Activities

Due to the focus on the complementary ‘profitability – sustainability’ logic of the currently dominant business case sustainability model, banks often try to constrain their all sustainability efforts within their peripheral CSR and other charitable activities which certainly have social and environmental implications to some extent. But, due to its larger volume and main areas of competence a bank can contribute more to people and society through its core activities than its peripheral activities. Thus, a large volume of sustainable banking efforts are taken as profit earning ends and the larger source of sustainability impact remains unexplored. Hence, to contextualize the business model to the context of the SDGs funding gap, the sustainability goal should be integrated into core business activities even if it falls in the profitability-sustainability contradicting logical domains. The proposed model will try to follow this proposition with a sincere effort.

The ISO 26000 guidelines (2011) also clarified that regular activities constitute the most important behavior to be addressed, not special activities or projects. They should be an integral part of the core organizational strategy, with assigned responsibilities and accountability at all appropriate levels of the organization and they should be reflected not only in decision-making but also in implementation activities.

The core activities of a bank are financial intermediation between lenders and borrowers and providing efficient payment mechanisms for the whole economy (Mordi, 2010). These functions entail using resources from customers (liabilities) to offer financing to the same or other bank customers (assets). Banks together with other financial intermediaries play a major role in facilitating the overall funding of the economy: Banks are major suppliers of credit to finance productive investment and other debt-financed activities; The banking system of a country in its sacrosanct role as an intermediary performs the crucial task of channeling resources from savings to investment; and The greater the financialization of savings, the greater the potential for the channeling of savings to productive activities and the more efficient the system, the better the mobilization of resources.

4.3.7 Key resources and capabilities:

In the course of operating the core business activities, banks use different resources which are also termed capital as described by the International Integrated Reporting Council. In line with the framework developed by the International Integrated Reporting Commission (IIRC), it is useful to differentiate among six kinds of capital: human, social, intellectual financial, manufactured, and natural (IIRC, 2021). Based on this classification, here we want to reflect on these different types of capital or resources in the context of banking operations as demonstrated in the following table no 4.4.

Table 4.4 Types of capital in banking operation.

No	Types of capitals	Description
1	Human capital	It is input related to human effort and labor which may include the total no of employees, skills, and commitment of the employees.
2	Social capital	It is a kind of input related to networks, relationships, practices, and conditions that can help to channel a bank's sustainability impact towards the economy, society, and environment.
3	Intellectual capital	It is the technical know-how and operational procedure in the way of sustainability transition including sustainability commitment, knowledge, skills, exposure expertise, and experiences.
4	Financial capital	Banks make money out of money. Hence, financial capital is considered simultaneously as the prime input and the ultimate output in the banking business. The bank can maximize its sustainability impact by suitably managing all other capital (human, social, intellectual, manufactured, and natural) and formulating suitable strategies in the way of collection, utilization, and allocation of this financial capital in a sustainable manner.
5	Manufactured	Branches nationwide, No of ATMs, Business center, Investment

	capital	center, Service center, Passbook update machine
6	Natural Capital	The natural resources used to deliver the banking services.

All of these capitals have a contribution in producing flows of economically desirable outputs and the maintenance of them is also an important issue in business sustainability management. But, some types of capital are more important than others while an organization's use of its capital impacts (or depends on) various stakeholders respectively, and impacts of some capitals are so insignificant that are not reporting worthy (Ernst & Young, 2013).

Due to the focus on the direct impact the currently dominant sustainable banking model often considers manufactured capital' (such as tangible assets like buildings), natural capital (such as megawatt-hours energy use, million cubic meters water use), and human capital like employees seriously and consciously or unconsciously overlook the other three types of capital. It hampers the significance and effectiveness of sustainability contribution by compromising the scale and depth of sustainability impact. But, in our proposed model, the financial capital will get prime consideration in planning, implementing, and assessing sustainable banking operations due to its dire importance in core banking operations and crucial role in addressing the context of SDG funding. Financial capital can contribute to the sustainable development of the real economy in two ways: (i) reducing (increasing) the cost of capital for (un)sustainable activities; and (ii) increasing (reducing) access to capital for (un)sustainable activities (Caldecott, et al. 2022). In fact, financial capital is important across the board but mostly impacts four main areas of the SDGs, 1. Access 2. Investment 3. Risk 4. Transversal effects (UNGC & KPMG, 2017). A brief description of these four areas is as follows:

Access:

The core objectives of increasing financial inclusion, as outlined in the access area, are to

address the needs of individuals (SDG 1, 2, 3,4, 10), small and medium-sized enterprises (SDG 5, 8), and Governments (SDG 13). This is achieved by providing access to secure payment and remittance facilities as well as offering savings, credit, and insurance services. These core financial services play a crucial role in enabling secure payment for goods and services, supporting regional and international trade, smoothing cash flows and consumption patterns, offering financial protection, and facilitating more efficient allocation of capital, ultimately contributing to sustainable economic and social development.

Investment:

The investment aspect involves directing funds towards renewable energy (SDG 7, 13) and other infrastructure projects (SDG 6, 9). This encompasses various roles and activities, such as banks raising capital through debt and equity markets for both government and private sector investments, asset managers making investments to meet the demands of diversified portfolio and impact investors, international / development financial institutions and sovereign wealth funds helping to reduce investment risks for institutional investors and institutional investors with long-term horizons, such as pension funds and insurers, investing in infrastructures.

Risk:

The risk aspect involves leveraging risk expertise to influence customer behavior and build resilient nations. This is achieved by developing innovative pricing models that encourage sustainable living and production (SDG 12). Additionally, it includes sharing non-proprietary risk data, risk analysis and risk management expertise to inform public policy and practice (SDG 11). Insurers collaborate to create open-source risk models that contribute to disaster risk reduction policies, including land zoning, building codes and investments in resilient infrastructure.

Cross-Cutting:

The cross-cutting aspect involves adopting good practices, principles, and risk frameworks to guide business transactions and investments, particularly in sensitive sectors or on critical issues. This includes implementing pricing strategies that reflect environmental, social, and

governance (ESG) risks and opportunities. Additionally, active investor stewardship is employed to positively influence the ESG practices of corporate clients and investee companies, aligning with SDGs 13, 14, 15, and 16. This can be achieved through the adoption of good practice principles, policies, and risk frameworks to guide business transactions and investments – particularly on sensitive sectors or issues; Pricing which reflects ESG risks and opportunities; and Active investor stewardship.

Regarding financial capital management, the proposed business model will try to align the regular banking business towards implementing the SDGs by focusing on products, lending and investment standards, business drivers and barriers as well as public value creation.

Moreover, the proposed model will try to see the bank's functioning, the role of macroeconomic agents, and macroeconomic goals from an SDG perspective and focus on strategic practice, and processes to implement those things in reality. Here, intellectual and social capital will be the next important resources after financial capital due to their importance in innovative engagement with customers. Intellectual capital is relevant to managing sustainability-related knowledge like circular, guidelines, training, insight into customers' sustainability behavior, etc. Social capital is relevant to motivating customers toward desired sustainability directions.

The strategic management, interactions, and transactions will be determined based on the bank's capacity to make an impact on the SDGs themes through doing any of the following things: a. Access: the ability of people to obtain the needs underpinning the SDG b. Productivity/efficiency: improvements in the monetary cost, time, or resource efficiency in which the need is met c. Quality: improvements in the effectiveness or reduction of adverse side-effects of a solution (DNB, 2017).

4.3.8 Revenue Stream and Cost Structure

We have already mentioned that the proposed model aims to integrate sustainability efforts into the core business activities of a bank, aligning them with implementing the SDGs, while still maintaining the profit-earning goal. Like all businesses, banks seek to make a profit by earning more money than what they pay in expenses following the basic formula: the profit equals total revenue minus total cost where total revenue means the price of output multiplied by the quantity of output and total cost means unit cost multiplied by the number of units. In the banking context, total revenue is determined by the quantity of assets multiplied by their prices and total cost involves the quantity of inputs (including financial, social, and intellectual capital used for banking services provided) multiplied by their respective prices (unit expenditure).

Traditionally, the primary objective in banking is to maximize profit given a specific output (asset) price and input cost condition. However, relying solely on market prices to determine the socially optimal output can be problematic because it doesn't account for externalities. For example, the cost of investing in coal production doesn't consider the actual cost of air pollution and health issues caused by burning coal. Allowing maximum investment in coal production based on purely market price can be counterproductive and detrimental to social welfare. Similarly, revenue generated from investments in microcredit or agricultural loans may not fully reflect the actual benefits, such as poverty alleviation and improved food security. This can lead to an undersupply of socially desirable sustainable finance.

In order to address this externality in the traditional banking business, the business case sustainability model designs its sustainability efforts, in an instrumental paradigm of sustainability integration where sustainability logics are utilized as means for profitable end. Here is how it works:

Revenue: The model focuses on increasing revenue from sustainable assets and decreasing revenue from non-sustainable ones. Banks achieve this by implementing strategies that stimulate market expansion or price increases for sustainable products.

Conversely, they take measures to reduce the revenue generated from non-sustainable assets.

Costs: The model aims to lower costs associated with sustainable assets and increase the costs of non-sustainable assets. Banks do this by adopting sustainability strategies that reduce taxes, fees, advertising costs, and other operational expenses while enhancing overall efficiency and effectiveness. Conversely, they take measures to increase the costs of non-sustainable products.

However, there are limitations to these policies. In some cases, unsustainable assets may offer higher returns than sustainable ones, while sustainable assets may yield in suboptimal level of return, potentially favoring unsustainable assets. Thus, contribution to sustainable development is hampered through compromised impact optimization. To overcome this limitation we need to focus on the third category of policy which is rare and underexplored but may be a low-cost and highly effective sustainability strategy. This policy involves **increasing the weight of ‘social responsibility for sustainability impact’** in the corporate objective function of the bank in relation to the weight given to its profitability goal. The impact-optimizing strategies, till now, that we adopted in the proposed sustainability case for a business model, are of this third category. Here, the proposed impact optimizing model follows an intrinsic paradigm of sustainability integration, considering sustainability as a corporate objective to the same extent as profitability.

As a policy option, weighting to sustainability logic within the bank’s objective function is crucial to harmonize between sustainability logic and profitability logic when they contradict each other. In other words, understanding and managing factors influencing the relative weights between sustainability logic and profitability logic within the decision-making process of a bank is one of the key points in realizing better sustainable banking performance within the proposed impact-optimizing sustainability case for a business model.

Hence, knowledge about how this logical weighting system works can pave the way to the high sustainability performance of a bank and the adoption of more specific policies

towards the sustainability journey of the financial industry and the country as a whole. Here, the relevant issue is the motive behind sustainability efforts. Extensive work was carried out on companies' motivations for social and environmental behavior (Bansal, Roth-2000, Baumgartner, Ebner-2010, Brønn, Cohen- 2009, Font, Garay, Jones-2016, Paulraj-2009, Shnayder, Rijnsoever, Hekkert-2016, Wright, Nyberg- 2017). Such motives are often labeled differently, but it is possible to identify two categories termed extrinsic and intrinsic (Zimmermann, 2019). Due to the focus on complementary profitability-sustainability logic, existing sustainable banking business models often follow the extrinsic motives that are concerned with the possible enhancement of reputation, profitability, innovativeness, competitiveness, and efficiency that a bank seeks to achieve through a particular sustainable action. In order to address the context of the SDG funding gap, banks should follow intrinsic motives that are altruistic, ethically stimulated, value-driven, and really inspired by concern for environmental and social problems.

4.4 THE PROPOSED IMPACT OPTIMIZING SUSTAINABLE BANKING MODEL

We have mentioned that there are many manifestations and depictions of business models: focusing on activities, and values, providing a conceptual template of a business, or providing a process-oriented perspective (Bocken et al, 2019). The business model canvas that we used as a template for strategic innovation is a tool to describe and visualize the key elements of a business model. After specifying the required features and strategies we have to integrate those features and strategies into an effective business model that guides banks in putting their strategies into action. The building blocks of the business model canvas by Osterwalder & Pigneur (2010) can be amalgamated into the four components of the basic understanding of the business model focusing on the value proposition at the core (product-service offering); value creation and delivery (resources, activities, partnerships, customer relations, segments, channels) and value capture (cost structure and revenue streams) (Richardson, 2008; Bocken et al., 2014). The strategies again were adapted aiming to ensure the required impact optimizing features of the model.

Hence, we can use these four integral and interrelated concepts of the basic business model ranging from value proposition, value creation, and value delivery to value capture model to amalgamate the required impact-optimizing features and strategies into the proposed impact-optimizing model as depicted in the following figure 4.1.

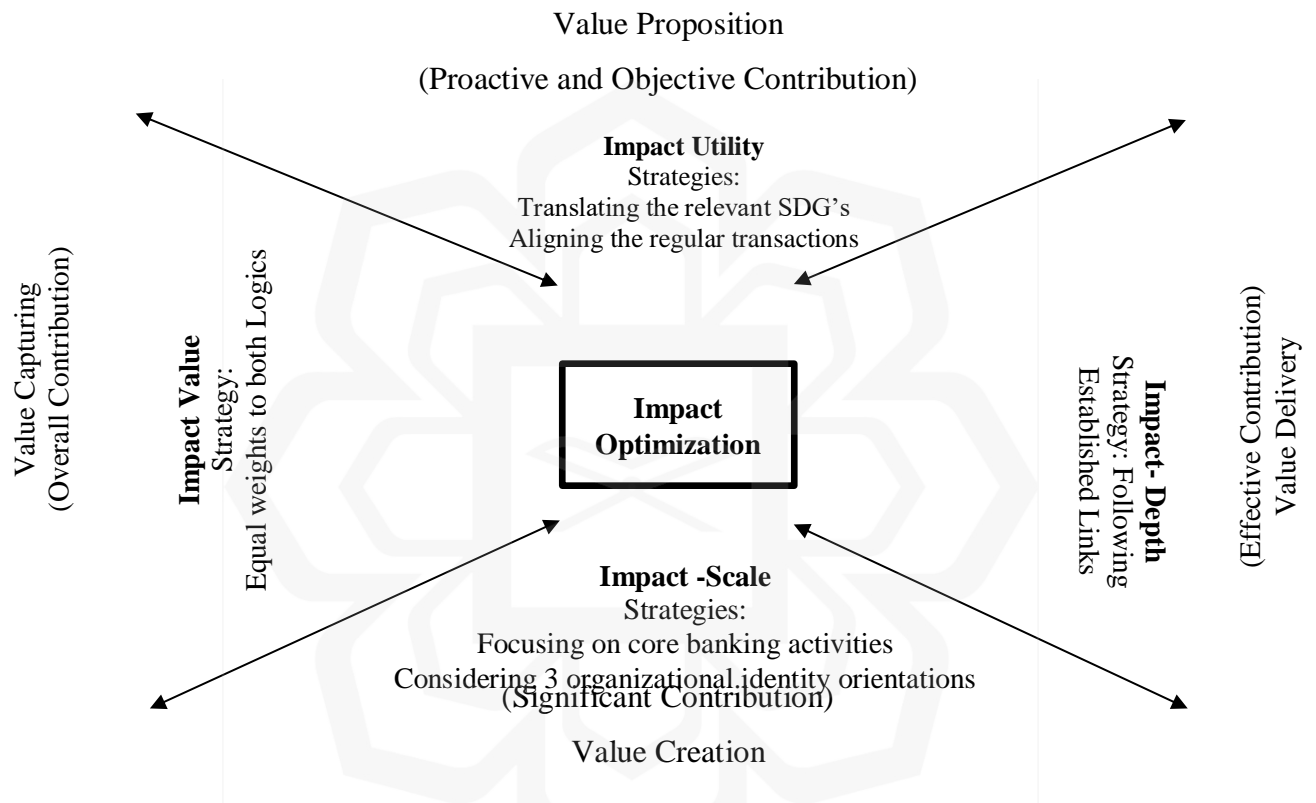


Figure 4.1 Impact Optimizing Sustainable Banking Model

The explanation of these four elements is given below:

4.4.1 Value Proposition

"Value Proposition" refers to the unique benefit or combination of benefits a company offers

to its customers. It answers the question, "What value do we deliver to the customer (Osterwalder & Pigneur, 2010). In our context, this component will address the proactive intentionality behind the bank's sustainability efforts. Here, the impact is an ex-ante issue, where, sustainability impacts are planned as achievable at micro, meso, and macro level targets through making positive contributions in implementing the relevant SDGs. It contrasts with the currently dominant profit-optimizing model where impact is an ex-post issue and sustainability programs are adopted as instruments for profit-making goals. The plan is made for profit-earning goals and sustainability impact by-products. The planning for such impacts that assist in implementing the SDGs is not possible unless these global goals are not translated into the links among the core functions of banks, the role of macroeconomic agents, and the macroeconomic goals and the regular business activities are not aligned to realize those translated themes. By preparing such a concrete plan for a particular SDG, the model will facilitate enhancing the relevance of impact. Thus the proposed model aims at optimizing the impact-utility in the value proposition component to enhance its contribution to sustainable development proactively and objectively through assisting in implementing the SDGs. The relevant strategies are a. translating the SDGs to the banking context and b. aligning the regular banking activities towards achieving those translated SDG themes.

4.4.2 Value Creation

"Value Creation" refers to the processes and activities a company uses to deliver its value proposition to customers. It answers the question, "How do we create value for our customers?" (Osterwalder & Pigneur, 2010). In our context, this component will address the issue of mainstreaming sustainability efforts in banking. Here, impact is considered a core value where sustainability efforts will be given throughout the bank's main business activities and focus is given on the management of the relevant resources and relationships for it. It contrasts with the currently dominant profit optimizing model where impact is merely a reporting item or a tool of marketing and branding or at best an issue of involuntary compliance and there is no difference in strategic focus between core banking activities or peripheral activities during sustainability efforts. This component can be linked with the

significance of contribution. The bank's contribution to sustainable development will be significant in quantity when the scale of sustainable banking impact is optimized to its potentiality. The scale of sustainable banking impact will be possible to be optimized when the impact is sourced and processed through larger contents and reach. Here, the main Intervention is needed in capital and customer management to align achievable sustainability milestones both by the bank and customers to implement the SDGs as per three organizational identity orientations, considering the consequences in the financial flows between the bank and macroeconomic agents, the relationship between the desired role and conditions of the macroeconomic and the macroeconomic sustainability goals derived from the relevant SDGs. Key strategies are focusing on core banking activities to enhance impact-source and focusing on indirect impact to enhance the impact-reach. Thus the proposed model aims at optimizing the impact scale in the value creation component to enhance its contribution to sustainable development significantly through mainstreaming sustainability into core banking operations and through giving sustainability on indirect impacts.

4.4.3 Value Delivery

"Value Delivery" is the method by which a company delivers its value proposition to customers. It answers the question, "How do we get our value proposition to the customer?" (Osterwalder & Pigneur, 2010). In our context, this component will address the issue of efficiency and effectiveness of sustainable banking efforts. Here, impact transmission paths are concretely outlined and clearly mapped through which it is expected that the bank's impact will be transmitted to the real economy indirectly through customers, using established links and channels between banks and the real economy. Focus is given to the bank's function and relation among the macroeconomic agents that are concretely relevant for realizing the economy's sustainability goals translated from SDGs. It contrasts with the currently dominant profit optimizing model where the impact transmission path is not concretely defined and there is no focus on whether the impacts flow directly or indirectly.

This component can be linked with the effectiveness of contribution. In order to ensure an effective contribution to sustainable development, the relevant stakeholders should

be conditioned with the relevant sustainability issues through the relevant value transmission path. Here, the relevant stakeholders are targeted for relevant sustainability issues in a particular SDG. Both of them will be translated in the context of macroeconomic goals and macroeconomic agents. The relevant transmission path is found throughout the established links between the bank and those targeted macroeconomic agents to realize the macroeconomic goals in the real economy. The whole process enhances the depth of impact. The depth of impact will be experienced by the stakeholders and will be realized by analyzing the change that has occurred between the impact dimension of 'Who' (Outcome level at baseline) and the impact dimension of 'What' (Outcome level in period) as outline in the impact management system. Thus, the proposed model aims at optimizing the impact depth through streaming the sustainability efforts and process towards effective contribution to sustainable development through implementing the SDGs. The key strategy is to harmonize the impact stream (relevance of sustainability, effort, process, and effect) for the desired outcome throughout the established links and channels. Here, 'stream' as a verb means run or flow in a continuous current in a specified direction. Effectiveness means to mobilize the flow and direction of a stream towards a desired destination. Here the flow is related to sustainable banking efforts and effects and the destination is implementing the SDGs.

4.4.4 Value Capture

"Value Capture" refers to the ways a company generates revenue from its value proposition. It answers the question, "How do we make money from our value proposition?" (Osterwalder & Pigneur, 2010). In our context, this component will address the issue of priority and relativity between profitability and sustainability when they contradict each other. Here it is tried to make a profit on impact where focus is given to impact optimization securing at least risk-adjusted financial return while compromising the competitive financial return in a particular context. It contrasts with the currently dominant profit optimizing model where sustainability efforts are designed targeting the maximization of the profit equation: Profit equals total revenue minus total cost. Hence, complete financial return is to be secured even at the cost of compromised sustainability impact in terms of quantity, quality, direction, and

utility. The proposed model will design its sustainability efforts targeting the optimization of impacts according to the necessary requirements in making its contribution to sustainable development proactive (objective), effective, and significant. The key strategy is to follow the intrinsic sustainability integration paradigm where both the sustainability logic and profitability logic will be given at least equal weights in the bank's objective function. This component can be linked with optimizing the overall contribution to sustainable development from all aspects including significance, effectiveness, and objectivity due to the presence of contradicting points between the profitability logic and sustainability logic.

4.5 THEORY OF CHANGE (ToCs)

4.5.1 Theory of Change: What It Is and Why It Is Important to Our Proposed Model

The fundamental distinguishing point of the proposed model from the current one lies in its focus on impact optimization rather than profit optimization. Impact optimization in essence is a kind of constrained optimization of social and environmental interests throughout the business operation subject to the organization's minimum risk-adjusted financial return. This focused approach on impact sets the proposed model apart, as it resembles a social program that requires more than just a conventional business model – it necessitates a concrete Theory of Change to effectively implement it. Smith (2003) explains that a theory of change in the social sector is roughly equivalent to a combination of the business model and strategy in the for-profit world. We need to identify a change and have a hypothesis about how to make it happen, she says. This is more complex in the social sector because, in addition to market forces, we have to deal with regulatory forces, emotional forces, social forces, and political forces, she adds. A set of core beliefs is usually taken for granted in the business world, but in the social sector, they need to be established. She believes the core beliefs are the basis of the theory of change and help us decide what to do--otherwise, we could end up trying to change too much. Though there is always a need elsewhere, a social venture can only take

on what falls into its focused mission (Kim Smith, 2003).

Theories of Change (ToCs) are defined as the mental representations and theoretical assumptions that explain how and why activities of an initiative (e.g., projects, programs, organizations) generate particular changes (Mason and Barnes 2007). While the precise methods and processes of constructing and using ToCs vary across initiatives (Mason and Barnes 2007), they generally trigger debate among stakeholders and/or evaluators of an initiative regarding the hypothesized and observed effects of actions as well as regarding underlying assumptions about how change happens (Blamey and Mackenzie 2007). These assumptions can be critically reflected on over time, and project activities can be adapted according to the actual experiences of implementation. Thus, ToCs are not only theories but also modes of knowledge production among stakeholders and/or evaluators of an initiative to scrutinize, plan, monitor, and reflect on whether, how, and why particular activities of an initiative trigger particular changes. The ToC concept originated in the 1990s as a theory-driven approach to evaluate the impacts of social programs (Bickmann 1987, Connell et al. 1995, Weiss 1997). While ToC thinking arose in and is now widespread among, development organizations (sometimes in the guise of “impact monitoring”, Herweg and Steiner 2002), it has rarely been applied in universities and other research organizations to date (Paina et al. 2017). However, ToCs constitute tools that can and should be applied more extensively to strengthen the relevance, reflexivity, learning ability, and effectiveness of sustainability science. Hence, ToCs should be understood in the sustainability science to illustrate their diversity (Oberlack. et. al, 2019).

The Theory of Change (ToC) is a tool introduced as a causal framework of how and why a change process will happen in a particular context. It expresses the thinking behind how a particular intervention will bring about results and outlines the causal linkages between the shorter-term, intermediate, and longer-term results (the results pathway) along with the underlying assumptions. To get acquainted with what the name means, let’s look at both words: “Change” in the term “Theory of Change” is the ultimate vision of the social impact that your organization wishes to create in the world. A “theory” is simply your idea of how you believe you can make that happen. The Theory of Change is a process as well as a product and is sometimes known as the impact value chain because it shows how impact flows

through a company's resources and activities to get the results it is after. This theory should take into consideration the priority changes the project wants to cause; various alternatives that the project could take to bring the desired changes; and, the justifications for why a particular strategy was chosen over other alternatives. A ToC thus shows what, how, and why something happened, and in which context. This tool is important for us to use on an ongoing basis to conceptualize, plan, and run our business model with purpose and profits blend effectively. There are lots of ideas regarding the problem to be addressed, the required change, the path of change, and the result of a change program. Hence, without a clear picture of these issues a plan of activities and a way to measure if those working and the improvement over time are not possible.

Our proposed impact-optimizing model aims to contribute to sustainable development proactively, effectively, and significantly by optimizing the utility, depth, and scale of impact. There are many subjective opinions regarding the nature and process of the significance, effectiveness activeness, and overall of contribution and the notion of optimizing the utility, depth, scale, and value of impacts. Hence, besides the business model and strategies, in the proposed model, we need to establish core beliefs regarding how and why the model components are linked together to the goal of impact optimization or how we manage the impact to ensure a proactive, effective, and significant contribution to sustainable development through implementing the SDGs. Here, we need to know what is the change we are trying to create in the world to address the context of SDGs and we need to have a clear hypothesis about how the change is going to take place. It sounds simple but it is very complex due to the presence of diverse subjectivity in thoughts and opinions. Hence, if we are going to get into impact optimization, we better have a clear theory of change following different impact or purpose-driven programs and projects in the social sector.

Many expert groups and international organizations give suggestions like this. The Sustainable Banking Network (SBN, 2021), a global network of banking regulators and associations that aims to promote sustainable finance, has developed a framework for sustainable banking that emphasizes the importance of a theory of change in driving impact. The United Nations Environment Programme Finance Initiative (UNEP FI, 2016) has also emphasized the importance of a theory of change in sustainable banking and provides

resources and guidance for banks looking to develop a theory of change. A case study of the Dutch sustainable bank, Triodos Bank (2021), highlights the importance of a theory of change in guiding the bank's activities and ensuring that it effectively contributes to sustainability. The European Banking Federation (EBF, 2021) has published a report on the role of banks in achieving the SDGs. The report emphasizes the importance of aligning bank strategies with the SDGs and using a theory of change to guide their initiatives.

The fact is that some actors in the impact investing field have already been using the theory of change to good effect. These cases illustrate the value of applying this approach at various levels of the industry. More specifically, in the impact investing field, the Theory of Change (ToC) has proven effective at various levels. Notably, the Rockefeller Foundation applied ToC in evaluating its global impact investing initiative (2011-2012), employing it to articulate and test the field-building strategy (Thornley et al. 2011). Nexii, a South African social stock exchange, mandates that companies seeking listing clarify their impact intent and ToC. This approach, Nexii contends, enhances impact due diligence, installing investor confidence, ensuring accountability, and ultimately maximizing the impact of investment (Nexii, 2012). Individual organizations within the impact-investing sector, such as Root Capital, a US-based non-profit, utilize ToC. Root Capital, functioning as an intermediary connects asset owners and managers with small businesses in Africa and America employing ToC to guide their initiatives (Root Capital, 2012). At the level of individual investments, Rockefeller Philanthropy Advisors published a handbook on impact investment, employing a logic model to delineate the 'impact value chain'. This model distinguishes between outputs and outcomes aiding in the design, implementation, and evaluation of impact investment (Jackson, 2013). Last but not least, in the banking and financial sector, the German state-owned investment and development bank, KfW, exemplifies the ToC application. In 2019, KfW prepared an SDG mapping guide for banks, advocating the use of ToC as a methodology for sustainable finance planning aligned with the Sustainable Development Goals (SDGs) (KfW, 2019).

Jackson (2013) underscores the importance of incorporating the theory of change (ToC) approach in impact investing for several reasons: Firstly, the intricate cause-and-effect relationships in impact investing demand a systematic and continuous analysis, making the

theory of change a cost-effective tool for this purpose. Secondly, constructing and refining a theory of change helps investors gain a clear understanding of the change they aim to create, fostering purposeful strategies and adaptive learning. Thirdly, publicly communicating the theory of change engages key stakeholders, such as partner investors, social enterprises, and local organizations, in the implementation and learning process. This engagement builds commitment to the interventions financed by the investment. Fourthly, an explicit theory of change serves as a mechanism for holding investors accountable for their stated intentions, which is particularly vital in an unregulated and emerging industry. Lastly, for impact investing service providers and evaluation professionals, the theory of change can be creatively blended with other evaluation methods to generate more insightful findings. This integrated approach can be applied at various levels, enhancing the overall effectiveness of evaluation processes in the impact investing industry (Jackson, 2013).

Based on the above discussion, it can be said that being a part of the impact investing industry, a bank can use the theory of change as a framework to describe how its sustainability initiative is expected to lead to its desired impact or outcomes. More specifically, in the context of sustainable banking, a theory of change can be a powerful tool for optimizing impact and aligning its sustainability efforts towards a significant, effective, and proactive contribution to sustainable development. It can help to develop a planning, implementing, monitoring, and evaluation framework for this process. Here are some ways that a theory of change can help achieve this goal:

1. Clarity of goals: A theory of change provides a clear understanding of the goals and objectives of a sustainable banking model, which can help to align the efforts of stakeholders towards achieving these goals. This can help the bank to be more focused on its efforts and ensure that all initiatives are aligned with its overall mission.
2. Aligning with global sustainability goals: A theory of change can help sustainable banks align their initiatives with global sustainability goals, such as the United Nations Sustainable Development Goals (SDGs). By focusing their efforts on initiatives that contribute to the achievement of these goals, banks can ensure that they are making a significant and proactive contribution to sustainable development.

This can help to build the bank's reputation as a responsible and impactful organization and enhance its competitiveness in the market.

3. Identification of key drivers of change: A theory of change can help identify the key drivers of change that are critical to achieving the desired impact. This can help the bank to focus its efforts on initiatives that are most likely to have a meaningful impact on sustainability, rather than spreading its resources too thin.
4. Identifying impact pathways: A theory of change can help sustainable banks identify the pathways through which they can achieve their desired impact. By mapping out the causal relationships between inputs, activities, outputs, and outcomes, banks can gain a better understanding of how their initiatives can contribute to sustainable development. This can help banks to target their efforts towards the most effective and impactful initiatives.
5. Mapping of activities: A theory of change can help to map out the activities and interventions that the bank will undertake to achieve its desired impact. This can help the bank to plan and budget its activities more effectively, and to ensure that its efforts are aligned with the overall goals of the organization.
6. Engaging stakeholders: A theory of change can help sustainable banks engage stakeholders in the development and implementation of their initiatives. By involving stakeholders in the design of the bank's theory of change, banks can build support for their initiatives and ensure that they are responsive to the needs and perspectives of the communities they serve. This can help to build trust and legitimacy for the bank and enhance its reputation as a responsible and impactful organization.
7. Monitoring and evaluation: A theory of change can help sustainable banks establish clear indicators and metrics for measuring their progress toward their desired impact. By monitoring and evaluating their initiatives, banks can learn from their successes and failures, and make adjustments as necessary to optimize impact. This can help to

ensure that the bank is making a significant, effective, and proactive contribution to sustainable development.

4.5.2 Putting the business model features and strategies into the logical Framework

In developing the theories of change for the proposed impact-optimizing business model, first of all, we will combine isolated features and strategies that are identified throughout the analysis in previous sections to shape them into an integrated logic model framework, introduced in the 1970s as a program design methodology, approaches any initiative from a technical perspective as a tool and methodology to map out the logical sequence from activities through to the changes it seeks to influence. This basic logic model with underlying assumptions will help in developing a theory of change to prepare a planning framework within the proposed business model. Then the theory of change based on this logic model will help in developing a suitable theory of action for the bank to identify indicators and collect data needed to implement, monitor, evaluate, and improve the program.

The word logic has many definitions. As a branch of philosophy, scholars devote entire careers to its practice. As a structured method of reasoning, mathematicians depend on it for proofs. In the world of machines, the only language a computer understands is the logic of its programmer. There, is, however, another meaning that lies closer to the heart of community change: the logic of how things work. Like a road map, a logic model shows the route traveled (or steps taken) to reach a certain destination. A detailed model indicates precisely how each activity will lead to desired changes. Alternatively, a broader plan sketches out the chosen routes and how far you will go.

Hence, the most basic logic model presents a picture of how an effort or initiative is supposed to work. It uses words and/or pictures to describe the sequence of activities thought to bring about change and how these activities are linked to the results the program is expected to achieve. Logic in this sense refers to “the changing relationship between elements and between an element and the whole.” In this perspective, we will follow two types of logic

1. Vertical logic 2. Horizontal logic (Guide to Logical Framework Approach, 2011). In the context of our proposed sustainable banking model, all the vertical, as well as horizontal logic, will be based on an overarching impact-optimizing logic that is concerned with how a bank can contribute objectively, effectively, and significantly to ensure sustainable development in the real economy through optimizing the utility, depth, scale and value of impact. The model is of six-step processes showing the relationships between the intended changes within the results chain such as goal, impact, and outcome, with the required changes in input, activities, and output. The following table 4.5 explains these components of the framework in the context of the proposed sustainable banking model.

Table 4.5 The proposed Business model as a Logical framework.

Components of the log frame	Definition	The proposed sustainable banking model is translated into the log frame.	Relevant Components of the Business Model
Goal	The overall objective is the higher-order objective that the program will contribute to. The program will partially achieve this overall objective (WK Kellogg Foundation, 2004).	Contribution to the relevant SDG Contribution in achieving a particular SDG through implementing its themes relevant to the bank.	Impact utility will be optimized through addressing the current sustainability which is linked with the value proposition component of the proposed business model.
Impact	Central specific objective(s) of the program in terms of sustainable benefits to	Desired macroeconomic sustainability goal: Realizing the SDG	Impact direction will be rightly streamlined to align the economy

	<p>be delivered to the organizations, system, or communities. It may describe how the world will be changed as a result of producing the program's Results (WK Kellogg Foundation, 2004).</p>	<p>impact themes as sustainability goals of the economy which may relate to the economy, society, or environment.</p>	<p>towards sustainability which is also linked with the value proposition component of the proposed business model.</p>
Outcome	<p>Outcomes are the specific changes in program participants' behavior, knowledge, skills, status, and level of functioning (WK Kellogg Foundation, 2004).</p>	<p>Desired interactions among the macroeconomic agents: Transforming the conditions, behaviors, transactions, and interactions of the relevant macro-economic agents in different relevant macroeconomic markets in a consistent way that assists in realizing the sustainability goals of the economy translated from particular SDG themes, positively.</p>	<p>Impact effectiveness will be optimized through mobilizing the role of macroeconomic agents towards sustainability direction which is linked with the value delivery component of the business model.</p>
Output	<p>Outputs are the direct products of program activities and may include types, levels,</p>	<p>Consistent sustainable banking impact on the real economy: The bank's functioning</p>	<p>The impact process will be optimized through a concretely established</p>

	and targets of services to be delivered by the program (WK Kellogg Foundation, 2004).	in the real economy will have to be guided in a direction that will steer the bank’s financial flows with different macroeconomic agents that will create conditions required to realize the economy’s sustainability goals derived from SDGs.	transmission path which is linked with the value delivery component of the business model.
Activities	Activities are the processes, tools, events, technology, and actions that are an intentional part of the program implementation. These interventions are used to bring about the intended program changes or results (WK Kellogg Foundation, 2004).	Strategic customer engagement for wider impact: Here, the bank will design its strategic interaction with its customers in an enabling way so that the bank’s indirect impact will be optimized through different financial flows between the bank and different macroeconomic agents, and the bank’s functioning to the real economy moves towards the desired stream.	Impact scale will be optimized through mobilizing customers’ sustainability role in the real economy which can be linked with both the value creation and value capturing component of the business model.
Input	Inputs include the human, financial,	Strategic capital management for wider	Impact source is optimized through

	organizational, and community resources a program has available to direct toward doing the work (WK Kellogg Foundation, 2004).	source of impact and innovations: Focusing on Financial, social, and intellectual capital as relevant ones for bringing sustainability concerns into core banking activities and the scope of banks can realize its potential as much as possible in contribution to ensure sustainable development in the real economy.	making sustainability efforts mainstream in banking operations which can be linked with the value creation and value capturing components of the business model.
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4.5.3 Adopting the Theory of Change

When researching the Theory of Change one will quickly realize how complex it is. Mapping out the long-term path a bank intends to take in such a way that it surfaces the hidden assumptions is no easy task. There are hundreds of different examples of ToCs to build from along with thoughtfully constructed templates. Some organizations get creative in how they visualize their ToC. However our approach, it's important to remember that, the ToC serves an important purpose: to help keep us on the right track of contributing to sustainable development objectively, effectively, and significantly and safe away from making harmful mistakes in this process.

Here, in adopting such a theory of change, we have to dig into the logic model to identify the underlying assumptions between its different components that we have already outlined according to the identified strategies and features of the proposed business model. Assumptions are external factors that have the potential to influence (or even determine) the

success of a project, but lie outside the direct control of project managers. They are the answer to the question: “What external factors may impact project implementation and the long-term sustainability of benefits, but are outside project management’s control?” The assumptions are part of the vertical logic in the log frame. Start from the bottom of the matrix and work upwards. According to the book “Guide to the Logical Framework Approach” by Delevic (2011), four types of assumptions are discussed. Here’s a brief explanation of each:

1. Assumptions about the causal links between outcomes at different levels: Example: By offering competitive interest rates for green investments, sustainable banking institutions can attract more customers, leading to increased financing for eco-friendly projects and ultimately contributing to environmental preservation.
2. World view assumptions about drivers behind a change: Example: Sustainable banking institutions believe that integrating environmental, social, and governance (ESG) factors into their decision-making processes is not only responsible but also leads to long-term financial stability and resilience.
3. Assumptions about the belief systems in a society, which inform judgments about what is appropriate and feasible in a specific context. Example: People in the target community believe in the importance of saving money for the future and trust banking institutions to safeguard their funds.
4. Assumptions about the context in which the project will operate. Example: The regulatory environment is supportive of sustainable banking practices and there are incentives for banks to adopt such practices.

In the case of our proposed model, here, we will choose a suitable form of assumption from the above list, considering the context of the component of the log frame. Now we will try to identify the assumptions related to different components of the Logic Model. The explanation of these assumptions with relevant literary support is given below.

4.5.3.1 Assumption Related to The Goal

- **The Goal: Contribution to the relevant SDG**

Contribution to achieving particular SDG through implementing its themes that are relevant to the bank.

- **Assumption related to Goal:**

Bank-relevant SDGs and workable themes are rightly identified.

- **Explanation with literary support:**

- a. Identification of the Bank Relevant SDGs:**

The SDG framework includes 17 Sustainable Development Goals, 169 supporting targets, and 230 development reflecting indicators. The goals are broad and varied, and responsibility for achieving them will be shared between states, the private sector, the scientific community, civil society, and most importantly the financing sector. Agarwal et al. (2018) conclude that businesses should not aim to address all SDGs but prioritize goals and focus on those areas where the greatest impact is possible. At the same time, they need to take their resources and capabilities respectively, their core competencies, as well as the country and sector in which the business is operating into account. Prioritizing is important as companies have limited resources, different abilities, and relative advantages or disadvantages for problem-solving so it becomes necessary to address global sustainability challenges most efficiently. Hence, banks should identify and target the most relevant goals and workable themes for their operation. By prioritizing SDG themes, banks can focus their efforts and resources where they can have the greatest impact and contribute to the broader sustainability agenda (PRB, 2020). Hence, where proactive participation is important in the finance and banking sector, under the framework of SDGS, it is not possible to ensure an effective and significant contribution to sustainable development, without the proper target-oriented participation from this sector. In a report published by the European Banking Federation (EBF) titled

“Sustainable Development Goals: A Practical Guide for the Banking Community,” it is recommended that banks prioritize SDGs that are most relevant to their business and operation. The report states that “ it is important to select those SDGs that are most relevant to the bank’s business, customers and stakeholders, and where the bank can have the most impact” (EBF, 2019). Prioritization based on relevance enhances the utility of sustainability efforts and impact which is a component of impact optimization in the proposed model.

b. Identification of the workable themes from SDGs:

As the SDGs are a global agenda and each of the goals has a separate list of achievable targets and indicators defined by the UN and many of them are abstract (high-level, overarching statements that express broad ambitions without specific measurement details) or ‘macro’ nature with diversified themes for use by governments and other stakeholders. Also, many of the UN indicators and targets have context-specific attributes such as ‘safe’, ‘equitable’, ‘fair’, ‘inclusive’ etc. We have to prioritize and select some goals, target indicators, and aspects that are relevant to the macroeconomic and banking context and those are to be (re)defined in some workable themes that better suit the context of macroeconomic goals and bank’s indirect impact on achieving those goals through its functional as well as relational channels to the real economy and economic agents. The selection of the SDG targets, indicators, and workable themes will be based on how the bank’s operation and its functions in the real economy can contribute to any of the following three kinds of indirect impacts a. Access: the ability of people to obtain the needs underpinning the SDG, b. Productivity/efficiency: improvements in the monetary cost, time, or resource efficiency in which the need is met, c. Quality: improvements in the effectiveness or reduction of adverse side-effects of a solution (DNB, 2017). In a nutshell, when selecting workable themes from a particular SDG, banks should consider the relevance and feasibility of each theme, their unique capabilities and resources, and their overall sustainability strategy and values (UNGC, 2018). By selecting the most relevant themes and aligning them with their broader sustainability strategy, banks can enhance their impact utility in ensuring proactive, significant, and effective contributions to sustainable development.

4.5.3.2 Assumption Related to The Impact

- **The Impact: Desired macroeconomic sustainability goal:**

Realizing the SDG impact themes as sustainability goals of the economy which may relate to the economy, society, or environment.

- **Assumption related to Impact:**

The workable themes are rightly translated as macroeconomic sustainability goals.

- **Explanation with literary support:**

The economy can be divided into financial as well as real sectors. Similar to other financial institutions, the job of a bank is to facilitate the production and transactions in the real economy. All the productive activities and transactions in the economy are surrounded by the management of four types of resources such as natural resources (land), human resources (labor), financial resources (capital), and entrepreneurial efforts (organization). These resources are scarce compared to human nature of unlimited wants. Therefore, unlimited wants competing for limited resources creates the basic economic problem of scarcity. To address this problem, the whole economy must choose how to use or allocate its scarce resources. This choice is related to the three basic economic questions such as 1. which goods will be produced in what quantities, 2. How will resources be combined to produce the goods, and 3. For whom are the goods produced or how much of each good will each consumer get? Here, we see, the real economy chooses how to use land, labor, and entrepreneurship. In the same way, the financial and banking sector chooses how to use capital as we do not have enough capital goods to assist in the production of all the goods and services to satisfy our unlimited wants.

In answering the three basic economic questions, there are so many processes to be followed both in the real and financial sectors. But which one is best? According to Hoag & Hoag (2006) the best use of resources will be evaluated by how well a process helps to achieve society' desired goals. According to them, society strives for a representative list of seven possible economic goals namely 1. Economic growth 2. Full employment 3. Price stability 4. efficiency 5. Economic freedom 6. Equitable distribution of income 7. Clean

environment (Hoag & Hoag, 2016). The first five goals are related to the allocation of resources for the economic development of the current generation whereas the last two goals are related to distributional justice of resource allocation and development among current and future generations which is the essence of sustainable development. Even though all the above seven goals might be desirable, they may not all be achievable simultaneously. We may be able to achieve full employment but only by trading off price stability. If we have efficiency, we may not have an equitable distribution of income. When goods are produced as cheaply as possible, labor may be paid starvation wages. Economic freedom may conflict with a clean environment. Thus even though all the goals might be desirable, they may not all be achievable at the same time. Different societies may value different goals. Societies that prefer economic freedom will choose to allocate resources by methods that stress freedom. Societies that place the highest value on economic growth will choose methods that ensure economic growth. Societies that emphasize on environment and equitable distribution will choose practices, process, and that contribute to sustainable development. Hence, society must make choices on how to allocate resources among these mutually exclusive but simultaneously desired goals. The UN development goals like MDGs and SDGs can be seen as the globally agreed manifesto on a set of achievable priority aspects about the above seven goals from the sustainable development perspective in the context of scarcity of global resources. Hence, the SDGs, to one extent, can be seen as a global call for putting sustainability lenses to all the above seven macroeconomic goals.

The focuses of traditional real economic and financial processes can be identified as moving around in achieving the first five goals related to growth, employment, efficiency, stability, and freedom. However, the level of sustainability awareness, demand, and practices is increasing gradually both in the real and financial sectors due to the continuous call of the global sustainability movement. Banks' strategies and practices regarding their day-to-day operation create risks and scopes for sustainable development in an economy through their fund flow channels and functions among different macroeconomic agents actively interacting in the macroeconomy. Sustainable banking efforts in the financial sector can be seen as a conscious response to the increased sustainability awareness and demand in the real economy. Here, the dominant business case sustainability model uses an instrumental perspective of sustainability integration where the left out two goals (environment and equity)

are used as the means to the end of the first five macroeconomic goals. Sustainability effects come from such type of sustainable banking model as a result of some isolated sustainability strategies and practices or a sort of sustainability compliant profitmaking process. Our proposed model adopts a type of intrinsic perspective of sustainability integration where sustainable banking effects are planned in a proactive process and banking strategies and practices are designed accordingly as it is done in the case of the bank's profitmaking goal. This proposed approach is termed as outside-in-approach whereas the former is called as the inside-out-approach. As a step of this process, we have to translate the workable themes found from a particular SDG to the context of macroeconomic sustainability goals.

Various studies and reports support the idea that translating SDG themes into macroeconomic goals can optimize the impact of sustainable banking. Here are a few examples. The United Nations Environment Programme Finance Initiative (UNEP FI, 2017) has emphasized the importance of aligning sustainable banking practices with broader economic objectives. In their report "Positive Impact Finance: A Sustainable Transition," they argue that "financial institutions need to integrate environmental and social considerations into their business models to help achieve broader macroeconomic objectives, such as job creation, economic growth, and poverty reduction" (UNEP FI, 2017). The International Finance Corporation (IFC) has also emphasized the need for sustainable banking practices to align with broader economic goals. In their report "Creating Markets for Climate Business," they argue that "climate-smart investments can help spur economic growth, create jobs, and promote sustainable development, while also helping to mitigate climate change" (IFC, 2016). These reports provide evidence that translating SDG themes into the context of macroeconomic goals can optimize the impact of sustainable banking. By aligning sustainable banking practices with broader economic objectives, we can maximize the positive impact of sustainable banking on society, the environment, and the economy.

4.5.3.3 Assumption Related to Outcome

- **The Outcome: Desired interactions among the macroeconomic agents:**

Transforming the conditions, behaviors, transactions, and interactions of the relevant macro-

economic agents in different relevant macroeconomic markets in a consistent way that assists in realizing the sustainability goals of the economy translated from particular SDG themes, positively.

- **Assumption related to Outcome:**

The roles and impacts of relevant macroeconomic agents in different macroeconomic markets are identified and motivated to achieve the desired macroeconomic sustainability goals.

- **Explanation with literary support:**

The macroeconomic goals are achieved or missed as the output of transactions and interaction occurs among the macroeconomic agents. Taslim & Chowdhury (1995) categorized all the functioning entities in the real economy into four macroeconomic agents (households, firms, government, and foreigners) and identified their two types of transactions (demand and Supply) that occur across five macroeconomic markets (labor, commodity, money, bond, and foreign exchange markets). It is already mentioned that the economy can be divided into two sectors: the financial sector and the real sector. The real sector consists of labor and commodity markets where firms, households, and other macroeconomic agents engage in the production and exchange of goods and services which can either be consumed now or put to use with a view to producing more in the future. Economic activity is conceptualized as ‘real’ because real resources are applied to produce something that people can buy and use. The financial sector consists of money, bonds, and foreign exchange markets which are mainly concerned either with moving funds around so that those who wish to buy can do so or helping people to exchange ownership of the productive resources. Hence, the job of the financial sector is to facilitate production and transactions in the real economy by making sure that funds are available when and where they are wanted. Banking activities fall within the domain of the financial sector which assists the operation and growth of the real economy through intermediate between lenders and borrowers and providing an efficient payment mechanism for all the economic agents. The realization of each of the seven macroeconomic goals depends on some key roles to be played by specific macroeconomic agents in specific markets. Here, financial institutions play a crucial role in creating a sustainable future.

Through their interactions with clients and the allocation of financial resources, banks, in particular, are key actors in driving economic and social progress in a sustainable manner (G20 Sustainable Finance Study Group, 2018). According to UNEP FI, "Banks have the potential to become powerful agents of change by aligning their lending and investment practices with the SDGs and by actively engaging with their clients to support their transition to sustainable business models" (UNEP FI, 2018). Generally, sustainable development is an abstract issue and is understood in aggregation as a composite result of sustainability behaviors of all four macroeconomic agents in all five markets. But, when sustainable development is understood as specific macroeconomic goals derived from a particular SDG, we need to identify and plan for the required role to be played by the relevant macroeconomic agents in the relevant market.

4.5.3.4 Assumption Related to Output

- **The Output: Consistent sustainable banking impact on the real economy:**

The Bank's functioning in the real economy should be directed towards aligning financial flows with relevant macroeconomic agents, fostering the necessary conditions to achieve the economy's sustainability goals based on the SDGs.

- **Assumption related to Output:**

The impact relevant function of the bank to the real economy is identified and realized to motivate the relevant macroeconomic agents.

- **Explanation with literary support:**

In understanding and planning for sustainable banking, one of the important aspects is how the financial sector allocates capital in the real economy and which investments are preferred. The word investment can have different facets, but interestingly two of these can give us the idea of how the financial sector perspective is actually very different from the real economy where governments, cities, households, and people are embedded. On the one hand, an investment can be understood as the action or process of investing money for profit or

material result. A second meaning sees an investment as something that is worth buying because it may be profitable or useful in the future. It seems that the first definition perfectly addresses the financial sector perspective where a financial gain is pursued: in fact, in finance, an investment is a monetary asset purchased with the idea that the asset will provide income in the future or appreciate and be sold at a higher price. On the other hand, the second side of the definition addresses what usually is meant in the real economy where money is used ‘to do something’, i.e. a city decides to invest in building a road. In other words, the investment here refers to the resulting production and consumption in the real economy i. e. bank’s functions in the real economy due to investments to it.

The basic functions of the financial sector are: (i) to provide an efficient payment mechanism for the whole economy; and (ii) intermediate between lenders and borrowers. These basic functions are the domain of banking institutions. Levine (2004) and Zhuang, et al. (2009) identified and summarized five key functions that a financial system provides: mobilizing and pooling savings, producing information ex-ante about possible investments and allocating capital, monitoring investments and exerting corporate governance, facilitating the trading, diversification, and management of risks, and facilitating the exchange of goods and services. Like other financial institutions, banks also perform five core functions in the economy: financial intermediation, resource allocation, maturity transformation, payment system, and risk management (M. Azizul Islam, 2011). Through these functions, banks can play a vital role in influencing the role of various macroeconomic agents in different markets and helping achieve different macroeconomic goals. Here’s how these functions contribute to the economic goals and their impact on the macroeconomic agents and different markets:

a. Financial Intermediation:

Banks facilitate the flow of funds from savers (households) to borrowers (firms) through lending and borrowing activities. This supports economic growth by providing capital for investment and entrepreneurship. Banks allocate financial resources efficiently by assessing the creditworthiness of borrowers and directing funds toward productive activities, thus promoting efficient resource allocation.

b. Resource Allocation:

Banks play a crucial role in allocating resources by channeling funds to sectors and projects with higher potential for economic growth and development. This function helps in achieving full employment by providing financing to businesses, leading to job creation and increased labor market participation.

c. Maturity Transformation:

Banks provide the crucial function of transforming short-term deposits into long-term loans, enabling businesses and individuals to access funding for longer-term investment projects. This function contributes to economic stability by matching the maturity preferences of savers and borrowers, reducing liquidity risk, and ensuring the availability of funds for productive purposes.

d. Payment System :

Banks facilitate the efficient and secure transfer of funds through various payment mechanisms such as electronic transfers, checks, and debit/credit cards. A well-functioning payment system ensures smooth transactions, supports price stability by facilitating timely payments, and enhances economic freedom by enabling seamless financial transactions.

e. Risk Management:

Banks play a critical role in managing risks associated with financial transactions and economic activities. Effective risk management by banks promotes financial stability, which contributes to overall economic stability and price stability. Banks also play a role in promoting an equitable distribution of income by providing financial services to individuals and businesses across different income levels.

The influence of banks on macroeconomic agents and different macroeconomic markets is indirect but significant. By providing financial services, banks can affect the behavior and decision-making of these agents and contribute to the functioning and efficiency of these markets, thereby influencing economic goals and outcomes. This relationship between bank's functions in the real economy and macroeconomic goals indicates that, due to the facilitating role, apart from its own role, banks can stimulate the roles, conditions, and

behaviors of the macroeconomic agents in the real economy toward sustainability direction through molding its own functions among them in the real sector. The UNEPFI highlights that banks have a distinct chance to support sustainable development by aligning their primary business activities with the SDGs. UNEPFI emphasizes the importance of incorporating sustainability factors into bank's lending and investment choices, as well as their risk management strategies, with the aim of fostering sustainable economic growth (UNEPFI, 2018). Hence in order to ensure optimum contribution to sustainable development banks should plan to modify their own functions that are cited in the table to motivate the relevant roles of the relevant macroeconomic agents to realize the macroeconomic sustainability goals derived from a particular SDG.

4.5.3.5 Assumption Related to Activity

- **The Activities: Strategic customer engagement for wider impact:**

Here, the bank will design its strategic interaction with its customers in an enabling way so that the bank's indirect impact will be optimized through different financial flows between the bank and different macroeconomic agents, and the bank's functioning to the real economy moves towards the desired stream.

- **Assumption related to Activities:**

1. The impact of relevant macroeconomic agents and their link with the bank are identified.
2. They are brought into the bank's customer network
3. They are properly managed and encouraged to play the right role in the economy required for the desired impact.

- **Explanation with literary support:**

The proposed model will focus on strategic interaction and transactions with customers to optimize the bank's indirect sustainability impacts on the economy by motivating and enabling macroeconomic agents to realize society's sustainability goals derived from relevant

SDGs. Here strategic sustainability interactions with customers mean two things:

- 1. Customer screening:** According to a report by UNEP FI (2018), customer screening is an essential tool for sustainable banking as it allows banks to mitigate negative impacts and enhance positive contributions to sustainable development (UNEP FI, 2018). Actually, banks can reallocate their credit and other financial flow to more sustainable sectors of the economy and reduce the likelihood of a negative on the real economy through bringing macro-economic agents into and avoiding them from banking services on the basis of their potential as well as actual role as macroeconomic agent in SDGs implementation. SDG implementation may require giving priority to different customers based on gender, vulnerability, income group location, etc.
- 2. Influencing over customer behavior:** Banks can play an important role in supporting the broader economy's adaptation to environmental and social changes through encouraging, incentivizing, or enabling customers through lending conditions, campaigns, counseling, collaborative engagement in company management, signaling effects of publicized engagement with, and/or divestment from, companies that do not adequately alter, or commit to altering corporate practices. In its report "Sustainability Reporting by Banks: A Guide to Getting Started," the Global Reporting Initiative (GRI) recommends that banks engage with their corporate customers on sustainability by setting sustainability expectations, providing guidance on sustainability reporting, and collaborating on sustainability initiatives (GRI, 2019)

The realization of macroeconomic goals becomes possible through bringing required changes in the behavior, conditions, and role of the macroeconomic agents, and again these changes are also possible only due to having financial institutions' cliental relationships with different macroeconomic agents. Considering this feature we can term these transmission channels as relational channels. In this perspective, modern banking can be seen as a dynamic network of a large number of individual private financial contracts. From this perspective, we can understand how the four categories of macroeconomic agents are linked with the banking sector and how regulatory authorities use these links to achieve the above different

economic goals by influencing the behavior of these macroeconomic agents. Here, we can look at a very familiar macroeconomic circular flow model where the financial sector of an economy summarizes the behavior of banks and other financial institutions. Keeping the financial and banking sector at the heart of the circular flow we can find the four monetary flows into and from the financial sector which are frequently used by the central banks to try to influence the quantity of money and/or interest rates with a view to achieving some of the above economic goals like price stability, full employment, and economic growth. Combining all these aspects we can summarize how monetary flows between banks and the economic agents create a policy transmission channel for the monetary authorities to achieve society's different economic goals in the following table 4.6.

Table 4.6 Policy Transmission Channels between Bank and Economic Goals of the Society.

No	Channels	Description	Realized Society's Goals
1	Between banks and households	Households divide their after-tax income between consumption and savings. Thus any income that they receive today but wish to put aside for the future is sent to the financial markets. The household sector as a whole saves so, on the net, there is a flow of dollars from the household sector into the financial markets.	Price stability: A rise in inflation is a primary indicator of an unstable economy which is considered as the result of increased money supply. To address this, the central bank may implement a contractionary monetary policy, aiming to reduce the money supply. One way to achieve this is by increasing the cost of short-term debt through raising short-term interest rates. Commercial banks, in turn, borrow this debt from the central bank to meet short-term liquidity shortages. The increased

			<p>interest rates affect consumers and businesses in the economy, as commercial banks adjust the interest rates they charge and offer to their clients accordingly. Thus, by manipulating interest rates and influencing borrowing and lending behavior through the financial markets, the central bank can control the money supply, impacting the spending and saving patterns of households and consumers. This, in turn, plays a pivotal role in maintaining price stability and ensuring a stable economic environment.</p>
2	Between banks and firms	<p>The flow of money from the financial sector into the firm sector provides the funds that are available to firms for investment purposes.</p>	<p>Full employment: When the economy experiences a recessionary gap, meaning it is operating below its potential and producing fewer goods and services with deflating prices, the monetary authority may choose an expansionary monetary policy. This involves decreasing interest rates to inject money into the economy with the aim of stimulating economic activity and lifting the economy out of the recession. A decrease in real interest rates reduces the cost of</p>

			<p>capital, leading to an increase in investment spending (both business investment and consumer spending on residential housing and durable goods). This, in turn, boosts aggregate demand and results in higher output levels. This growth in economic activity fosters the creation of more job opportunities, helping the economy progress toward full employment.</p>
3	Between banks and the government	<p>The flow of money between the financial sector and the government sector reflects the borrowing (or lending) of governments. The flow can go in either direction. When government expenditures exceed government revenues, the government must borrow from the private sector, and there is a flow of dollars from the financial sector to the government. This is the case of a government deficit. When the government's revenues are greater than its expenditures, by contrast, there is a government surplus and a flow of dollars into the financial sector.</p>	<p>Medium-term Economic growth (stimulated through government fiscal policy):</p> <p>There are two concepts related to budget deficit finance. One is the crowding-out effect when higher government spending financed by borrowing leads to a fall in private sector savings and investments. Another is crowding in effect which relates to how higher government spending encourages firms to invest more. Although the literature tends to highlight the crowding out of private investment and consumption due to fiscal expansion, fiscal expansion can also crowd in private demand.</p>

			<p>For example, government investment in physical infrastructure such as roads, railways, and ports raises the productivity of investments for all firms and industries and thereby stimulates private investments. Likewise, government provision of stronger social safety nets such as unemployment benefits may reduce the risk and uncertainty facing households and thus encourage them to consume more and save less. This type of confidence-reviving effect is especially relevant for severe shocks such as the global financial crisis when the public desperately looks for signs that the government is doing something to revive the economy. The larger the crowding in effect, the larger the positive effect of fiscal expansion on aggregate demand and output. The net effect of moderate medium-term fiscal expansion on the region's economic activity thus depends on the extent to which the expansion crowds in or crowds</p>
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			out private domestic demand.
4	Between banks and foreigners	The flow of dollars between the financial sector and the foreign sector can also go in either direction. An economy with positive net exports is lending to other countries: there is a flow of money from an economy. An economy with negative net exports (a trade deficit) is borrowing from other countries.	Economic Growth through Net Export: With globalization and the advent of flexible exchange, more attention has been paid to how monetary policy affects exchange rates, which in turn affect net exports and aggregate output. This channel also involves interest rate effects because when domestic interest rates fall, domestic currency deposits (assets) become less attractive relative to deposits (assets) denominated in foreign currencies. As a result, the value of domestic currency deposits (assets) relative to other currency deposits (assets) falls, and the domestic currency depreciates. The lower value of domestic currency makes domestic goods cheaper than foreign goods, thereby causing a rise in net exports and, hence, in aggregate output and growth.

Source of four channels: Github (2012)

Moreover, the proposed impact-optimizing sustainable banking model will interact with customers from three organizational identity orientations as suggested by Brewer & Gardner

(1996), and Brickson (2000). The three organizational identity orientations are as follows:

a. Individualistic organizational identity orientation

Individualistic identity orientation reflects an organization's self-perception as an atomized individualistic actor majorly disconnected from other entities. From an individualistic perspective, stakeholder groups are salient (important) to the extent that they could assist or constrain an organization in achieving its goals. The current individualistic standing of the sustainable banking process would generally be associated with an instrumental approach to stakeholder management aimed at enhancing organizational performance toward its goals such as brand leadership, financial returns, or market share (Freeman & Philips 2002). In order to address the context of the SDGs funding gap, here, we need an intrinsic approach where their profit-making goals are balanced with simultaneous aspirations to solve social problems by benefitting their direct partners (relational) or larger causes (collectivistic; Fauchart & Gruber, 2011; Thompson & Doherty, 2006). Even though in some cases sustainable finance organizations might be involved in profit-generating activities that reflect an individualistic orientation, such operations would still enhance the achievement of their community development mission in the long term (Pache & Santos, 2013).

b. Relational organizational identity orientation

Relational identity orientation is used to describe an organization's self-definition as an actor-oriented toward a selected number of relationships with particular stakeholders that are subjectively assigned high significance in organizational activities. Relational identity orientation organizations tend to prioritize relationships with areas and people that are most salient to their organizational identity and support causes that are most closely related to their stakeholders' interests (Bingham et al., 2011; Frooman, 1999). As opposed to individualistic identity organizations that involve stakeholder relations to advance their financially motivated goals, relational identity organizations perceive relationships with stakeholders as ends in themselves. Previous literature suggested that sustainable banks as organizations with high corporate responsibility credentials might possess a relational identity orientation (Brickson, 2005, 2007; Thompson & Doherty, 2006). Guided by their community development logic, these banks aim to support self-selected, underprivileged, or

disadvantaged customers (Austin & Leonard, 2008). Therefore, the establishment of strong and lasting ties with these stakeholders becomes a central objective of sustainable finance institutions, which might not always collide with increased profitability or enhanced well-being of a broader community. But, in our proposed model, banks should see their relationship with customers as a strategic enabler in ensuring a significant and effective contribution to sustainable development. Therefore, banks aim to select suitable customers and establish relationships based on clear operational, functional, and impact goals in their efforts to implement the SDGs, rather than relying on self-selected disadvantaged individuals.

c. Collectivistic organizational identity orientation

Collectivistic identity orientation refers to an organizational self-concept of a member of a broader community connected to all members of a social group. This type of identity orientation is more system-centered, emphasizing relationships based on service alliances, strong coalition-based ties, and cooperative approaches (Brickson, 2007). Collectivistic identity organizations are focused on fostering broad social welfare without targeting any particular community, for example, by “promoting the ecological sustainability of the earth” (Brickson, 2005, p. 577). Organizations with a collectivistic identity orientation further view stakeholders as collaborators, who experience the effects of their corporate behavior (Greenwood et al., 2014). Collectivistic identity orientation organizations establish their stakeholder relationships driven by a common purpose, but similar to individualistic identity orientation organizations they view these relationships as a means to an end. Nonetheless, the shared agenda is focused on the well-being of a larger community and, therefore, is driven by motivations that are vastly different from the self-interested goals of individualistic identity-orientation organizations (Brickson, 2007). Previous studies claimed that the collectivistic identity orientation is adopted by many socially oriented organizations (Thompson & Doherty, 2006). This type of organizational orientation is actually the essence of the SDG 17th about “partnership for goal” where the official wording is: "Strengthen the means of implementation and revitalize the global partnership for sustainable development". No doubt, this organizational identity orientation should be incorporated into the proposed model.

These three organizational identity orientations will guide banks' strategic engagement with their customers to align banking operations towards desired sustainability results as outlined within its result chain framework. In an individualistic identity orientation, a bank will utilize its customer relationship towards the realization of sustainability in its different functions in the real economy (Output). In relational identity orientation, a bank will utilize its customer relationship in guiding economic agents' roles toward ensuring a sustainable economy (Outcome). In a collectivist identity orientation bank will utilize its customer relationship in realizing the real economy's sustainability goals derived from SDGs (Impact).

Here, it is essential to clarify that the three aforementioned organizational identity orientations do not pertain to different types of customers encountered by banks; instead, they represent distinct approaches that banks can adopt in shaping their self-perception and engagement with stakeholders, including customers. These orientations reflect how banks view their identities and guide their strategic interactions to align banking operations with sustainability goals. The individualistic orientation involves a self-focused perspective, while the relational orientation prioritizes building meaningful relationships with specific stakeholders. On the other hand, the collectivistic orientation emphasizes a sense of community and cooperative approaches. By understanding and adopting these different orientations, banks can effectively optimize their impact and contribute to sustainable development.

The proposed model focused on indirect impact in implementing the SDGs where the indirect impacts can be categorized into three types to make the basic distinction among different ways in which impact is achieved which are also supposed to have practical implications in the bank's resource and relationship management.

- a. Access: the ability of customers to play roles, change their behavior, and create the conditions to obtain the needs underpinning the SDG
- b. Productivity/efficiency: improvements in the monetary cost, time, or resource efficiency in which the need is met

- c. Quality: improvements in the effectiveness or reduction of adverse side-effects of a solution.

(DNB, 2017).

4.5.3.6 Assumption related to Input

- **The Input: Strategic capital management for the wider source of impact and innovations:**

Focusing on financial, social, and intellectual capital as relevant ones for bringing sustainability concerns into core banking activities and the scope of banks can realize its potential as much as possible in contribution to ensure sustainable development in the real economy.

- **Assumption related to Activities:**

1. Bank identified the impact of relevant capital management.
2. The bank managed its relevant regular services for impact.

- **Explanation with literary support:**

According to the proposed impact-optimizing model, the key relevant resources are financial capital, social capital, and intellectual capital. Among these the financial capital will get prime consideration in planning, implementing, and assessing sustainable banking operations due to its dire importance in core banking operations and crucial role in addressing the context of the SDG funding gap. In fact, financial capital is important across the board but mostly impacts four main areas of the SDGs (United Nations Global Compact/KPMG International, 2015):

1. Access: Increase the financial inclusion of individuals (impacting SDGs 1, 2, 3, 4, 10), small and medium-sized enterprises (SDGs 5, 8) and governments (SDG 13). This includes access to secure services in payment systems, remittances, savings, credit, and insurance. These crucial financial services: i) facilitate secure payments of goods and services, including

regional and international trade; ii) make it possible to smooth cash flows and consumption over time; iii) offer financial protection and iv) support more efficient capital allocation.

2. Investment: Investing in, financing, and securing renewable energy (SDGs 7, 13) and other infrastructure projects (SDGs 6, 9). This includes various types of financial management like raising capital through debt and capital markets for private and government investment, investing in diversified portfolios to meet the needs of impact investors; helping to reduce the investment risk for institutional investors; and longer-term investment for investing in infrastructure.

3. Risk: Leveraging risk experience to directly influence customer behavior and create more resilient nations through i) developing innovative pricing models that promote more sustainable lifestyles and production (SDG 12) and ii) the sharing of non-proprietary risk data, risk analysis, and risk governance to improve public policies and practices (SDG 11). This includes developing suitable risk models that can inform disaster risk reduction policies and actions such as land zoning, building codes, and investments in resilient infrastructures.

4. Transversal effects: positively impacting the environmental, social, and governance (ESG) practices of customers and investee enterprises (SDGs 13, 14, 15, 16). This can be achieved by: i) adopting the principles of good practices, policies, and risk frameworks to drive business transactions and investments – especially on sensitive sectors or issues; ii) pricing reflecting ESG risks and opportunities; and iii) a guide to active investment.

To a specific SDG theme, as we mentioned before, the Bank's capital management can also contribute to any of the following three kinds of indirect impacts a. Access: the ability of people to obtain the needs underpinning the SDG, b. Productivity/efficiency: improvements in the monetary cost, time, or resource efficiency in which the need is met, c. Quality: improvements in the effectiveness or reduction of adverse side-effects of a solution (DNB, 2017). Here, the core banking operation should be strategically streamlined across the established links between banks and different macroeconomic agents so that the fund flows in the right direction to realize the desired goals stated in the result part of the Theory of Change.

The United Nations Environment Programme Finance Initiative (UNEP FI) emphasizes the importance of banks incorporating sustainability into their capital management practices. They recommend that banks integrate environmental, social, and governance (ESG) factors into their risk assessments and capital allocation decisions (UNEP FI, 2019). Similarly, the International Finance Corporation (IFC) stresses the need for banks to adopt a long-term perspective in their capital management practices to support sustainable development. The IFC suggests that banks align their capital management practices with the SDGs and pursue long-term value creation" (IFC, 2017). Furthermore, a study published in the *Journal of Sustainable Finance and Investment* proposes that banks improve their sustainability performance by integrating sustainability criteria into capital allocation, adopting a long-term view, and engaging with stakeholders to understand their sustainability needs and expectations (Korhonen et al., 2017). The Global Alliance for Banking on Values (GABV) also advocates for a values-based approach, where banks align their capital management practices with their core values and purpose to achieve sustainable development outcomes (GABV, 2017).

The model takes into account the significance of intellectual and social capital to effectively manage financial capital with the goal of engaging the right customers and relevant macroeconomic agents to achieve specific macroeconomic sustainability objectives derived from the SDGs. The International Finance Corporation (IFC) emphasizes the role of intellectual capital in supporting sustainable development and suggests that banks should develop new knowledge and expertise related to sustainability sharing it with stakeholders to promote the market for sustainable finance (IFC, 2017). The United Nations Environment Programme Finance Initiative (UNEP FI) highlights the importance of social capital in supporting sustainable development, urging banks to engage with stakeholders to understand their sustainability needs and expectations and build partnerships to address these needs" (UNEP FI, 2019). A study published in the *Journal of Sustainable Finance and Investment* recommends a stakeholder engagement approach to managing intellectual and social capital, suggesting that banks can enhance their sustainability performance by understanding stakeholders' sustainability needs, forming partnerships with them, and developing and sharing new knowledge and expertise related to sustainability (Korhonen et al., 2017). In line with this, the Global Alliance for Banking on Values (GABV) advocates for a values-based

approach to managing intellectual and social capital, suggesting that banks should build social capital through community engagement, stakeholder dialogues, and partnerships to achieve sustainable development outcomes" (GABV, 2017).

Again, in the case of financial capital and other resource management, the proposed business model will try to align the regular banking operation towards implementing the SDGs. It does so by focusing on three organizational identity orientations and maximizing impact in terms of access, efficiency, and quality to meet the needs that underpin the SDGs, as outlined in the discussion of customer management.

4.5.4 The Theory of Change for the Proposed Impact Optimizing Sustainable Banking Business Model

From the point of the log frame matrix, the ToC is composed of the six-step components of the logic model and their underlying assumptions. Summarizing all these components and assumptions we can find a theory of change describing the what, why, and how should a bank design its sustainability efforts to ensure a proactive, effective, and significant contribution to sustainable development through optimizing the utility, depth, scale, and value of impact. The theory is outlined in the following table 4.7.

Table 4.7 Theory of Change (TOC) as Logical Framework in the Context of the Proposed Sustainable Banking Model.

Components of a log frame	What (intervention points)	Why (Impact optimizing rationality)	How (Assumptions)
Goal: Bank’s vision regarding contribution to	Contribution to the relevant SDG Contribution in	Impact utility will be optimized by	Bank-relevant SDGs and workable themes are rightly identified.

SDG.	achieving a particular SDG through implementing its themes relevant to the bank.	addressing the current sustainability challenges.	
Impact: The Bank's sustainability vision is to be realized at the level of the Macroeconomy.	Desired macroeconomic sustainability goal: Realizing the SDG impact themes as sustainability goals of the economy which may relate to the economy, society, or environment.	Impact direction will be rightly streamlined to align the economy towards sustainability.	The workable themes are rightly translated as macroeconomic sustainability goals.
Outcome: The Bank's sustainability vision to be realized at the level of macroeconomic agents	Desired interactions among the macroeconomic agents: Transforming the conditions, behaviors, transactions, and interactions of the relevant macro-economic agents in different relevant macroeconomic markets in a	Impact effectiveness will be optimized by mobilizing the role of macroeconomic agents towards sustainability direction.	The impact-relevant role of the relevant macroeconomic agents in the relevant market is identified and motivated to realize the desired macroeconomic sustainability goals.

	consistent way that assists in realizing the sustainability goals of the economy translated from particular SDG themes, positively.		
Output: The Bank's sustainability target in value creation to the real economy.	Consistent sustainable banking impact on the real economy: The bank's functioning in the real economy will have to be guided in a direction that will steer the bank's financial flows with different macroeconomic agents that will create conditions required to realize the economy's sustainability goals derived from SDGs.	The impact process will be optimized through a concretely established transmission path.	The impact and relevant function of the bank in the real economy are identified and realized to motivate the relevant macroeconomic agents.
Activity: Bank's target in the business process.	Strategic customer engagement for wider impact: Here, the bank will design its strategic	The impact scale will be optimized by mobilizing customers'	1. The impact of relevant macroeconomic agents and their

	<p>interaction with its customers from three organizational identity orientation perspectives in an enabling way so that the bank's indirect impact will be optimized through different financial flows between the bank and different macroeconomic agents and the bank's functioning to the real economy moves towards the desired stream.</p>	<p>sustainability role in the real economy.</p>	<p>link with the bank are identified.</p> <ol style="list-style-type: none"> 2. They are brought into the bank's customer network 3. They are properly dealt with and transformed to play the right role in the economy required for the impact.
<p>Input: Bank's target in resource management.</p>	<p>Strategic capital management for the wider source of impact and innovations:</p> <p>Focusing on financial, social, and intellectual capital as relevant ones for bringing sustainability concerns into core banking operations.</p>	<p>Impact source is optimized by making sustainability efforts mainstream in core banking operations.</p>	<ol style="list-style-type: none"> 1. Bank identified the impact of relevant capital management. 2. The bank managed its relevant regular services for impact. <p>Focusing on financial, social, and intellectual capitals as relevant ones for bringing sustainability</p>

	<p>Capital should be mobilized and disbursed in a manner that aligns with the conditions and roles of the relevant stakeholders to implement the SDGs through three primary approaches: enhancing access to essential resources that support the SDGs, optimizing the utilization of cost and resources, and elevating the quality and effectiveness of solutions.</p>		<p>concerns into core banking activities and the scope of banks can realize its potential as much as possible in any of the three ways: a. enhancing access to SDG-supporting essentials, improving cost and resource efficiency, and elevating the quality and effectiveness of solutions.</p>
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The essence of a Theory of Change lies in its capacity to elucidate how the activities initiated through an intervention contribute to a sequence of outcomes that ultimately yield the intended or observed impact (Better Evaluation, n.d.). From this vantage point, the six components within the aforementioned Theory of Change can be dissected into two distinct spheres: the intervention part and the result part. This deconstruction serves to furnish a comprehensive understanding of how interventions unfold into desired results, as underscored from the outset of this thesis, which aims to delineate how micro-sustainability initiatives within banking operations can be expertly devised to ensure a pro-active, effective,

and significant contribution in advancing the implementation of SDGs.

The result part encompasses four pivotal aspects: firstly, the identification of SDGs pertinent to the banking sector and actionable themes (Goal); second, the translation of these themes into macroeconomic sustainability goals for a given country (Impact); thirdly, the identification and stimulation of the pertinent conditions and roles of macroeconomic agents to drive the realization of these sustainability objectives (Objective); and fourthly, the identification and activation of the bank's pertinent function within the real economy to motivate these macroeconomic agents to actively pursue the achievement of sustainability aligned with specific SDGs (Output).

On the other hand, the intervention segment elucidates the prudent and strategic management of customers and capital to attain desired results through established policy channels, which facilitate fund flow between the bank and diverse macroeconomic agents. In customer selection and interaction, the bank should approach customers from three organizational identity orientation perspectives aiming to realize the consequences at impact, outcome, and output level in the result segment of the ToC. From a collectivist perspective, banks should aim to achieve the economy's sustainability goals derived from particular SDGs (Impact). From a relational perspective, banks should aim to stimulate the conditions and roles of macroeconomic agents that are relevant for realizing those macroeconomic sustainability goals (Outcome). From an individualistic perspective, the bank should aim to streamline the bank's functions to the real economy to mobilize the relevant conditions and roles of macroeconomic agents for achieving the macroeconomic sustainability goals (Output).

Regarding capital management bank should strategically mobilize and disburse financial resources aiming to enable the customers to realize the required consequences as outlined in customer management in any of the following three kinds of ways a. Access, denoting people's ability to ability to acquire the essentials supporting the SDGs; b. productivity/ efficiency, signifying improvements in the cost, time, or resource efficiency of meeting these needs; c. quality, encompassing enhancement in effectiveness or the reduction of adverse side-effects with a solution.

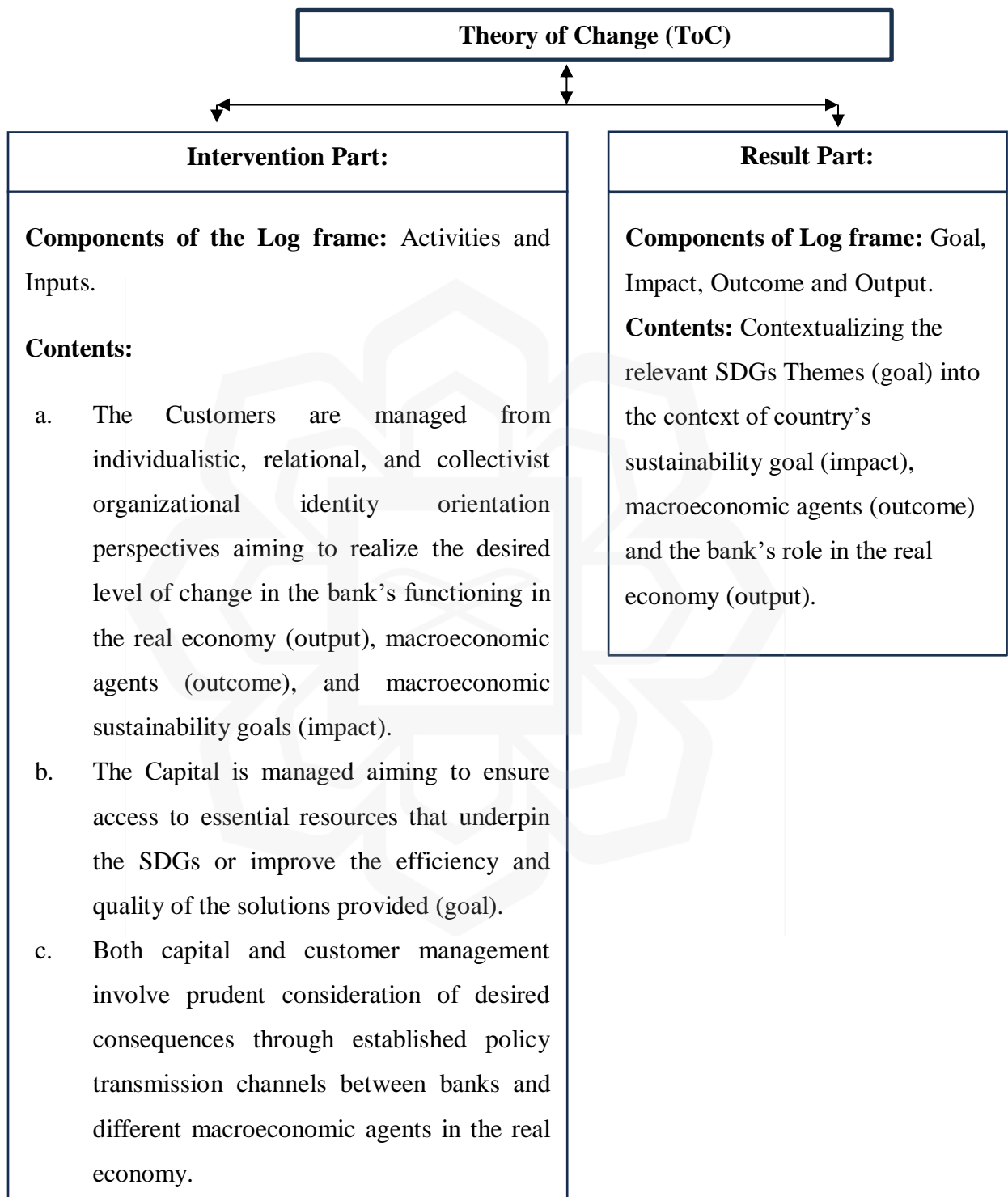


Figure 4.2 Theory of Change

In a nutshell, our adopted Theory of Change focuses on how banking's micro-sustainability initiatives can play a proactive, effective, and significant role in advancing SDG implementation. The two segments of this Theory of Change (ToC) can be portrayed in above Figure 4.2.

The resulting segment of the theory involves identifying relevant SDGs and themes, translating them into country-specific sustainability goals, stimulating macroeconomic agents, and activating the bank's role in the real economy. Conversely, the intervention phase of the theory involves astute customers and capital management empowers customers to achieve SDG-related goals. Customers are approached from individualistic, relational, and collectivist organizational identity orientation perspectives aiming to realize the desired level of change in the bank's functioning in the real economy, macroeconomic agents, and macroeconomic sustainability goals. Whereas the capital is mobilized and disbursed aiming to ensure access to essential resources that underpin the SDGs or improve the efficiency and quality of the solutions provided.

Smith (2003) explains that a Theory of Change (ToC) in the social sector is roughly equivalent to a combination of the business model and strategy in the for-profit world. We need a ToC that helps to identify a desired change and formulates a hypothesis about how that change. ToC, in this perspective, explains the business model that we have already developed in the previous section. The goal, impact, outcome, output, and assumptions regarding these components explain the value proposition component of the business model where the sustainability vision is supposed to be planned proactively. 'The goal' explains that to contribute to sustainable development proactively, banks should aim at relevant SDGs and relevant themes through which impact utility is supposed to be optimized. 'The impact' explains that the workable theme should be translated into a macroeconomic goal context whereas 'the outcome' explains that the macroeconomic sustainability goal, translated from the relevant SDG, should be planned to be implemented by the relevant macroeconomic agents. 'The output' explains that banks should aim to contribute to SDGs through the links among their functions to the real economy, the transactions of the macroeconomic agents, and the macroeconomic sustainability goals. Apart from the 'value proposition' component, these three (impact, outcome, and output) combined explain the 'value delivery' components of the business model where the proposition is adopted that the bank should follow the

established links between the bank and the real economy during its sustainability value transmission process. Thus this component will try to ensure an effective contribution to sustainable development by optimizing the impact depth. Here the depth of impact will be realized by transforming the roles and conditions of the macroeconomic agents in realizing the macroeconomic sustainability goals. 'The activities' and 'The input' explain how the bank should manage its customers and capital so that indirect impact can be targeted through core banking activities which is proposed in 'the value creation' component of the business model. This component is supposed to scale up the sustainable banking impact to ensure a significant contribution to sustainable development. Finally, this theory of change also explains the value-capturing component of the business model by providing uncompromising conditions throughout the log frame (six steps) to profit profit-optimizing goal. Thus this component enhances the overall contribution to sustainable development through uplifting the position of sustainability logic about profitability logic which can also be called optimizing the value of impact.

4.6. APPLICATION FRAMEWORK:

The application framework for the proposed impact-optimizing sustainable banking model comprises four crucial components: Planning involves formulating a project management plan in alignment with the bank's mission and impact goal; implementation translates planned strategies into tangible actions, integrating sustainability across various banking activities; Monitoring evaluates progress by collecting data and measuring impact against predefined targets, exemplifies by tracking indicators such as sustainable finance and environmental metrics; Evaluation critically assess project effectiveness and impact, gathering stakeholder feedback to facilitate continuous improvements. This comprehensive framework emphasizes meticulous planning, effective implementation, vigilant monitoring, and rigorous evaluation as essential components for successfully applying the proposed impact-optimizing sustainable banking model. The details of each component are given below:

4.6.1 The Planning Component:

We can develop the planning component of the application framework by analyzing the adopted Theory of Change. Here, we can identify some guiding questions from the assumptions made in the ToC in column 4 of the log frame matrix. Responding to these questions will ultimately give a suitable planning framework for the bank in the context of the SDG funding gap. Taylor Powell and Renner (2003) emphasized the importance of asking questions during the planning process. They highlighted the role of questioning to explore assumptions, clarify objectives, and identify potential barriers or challenges (Renner & Taylor, 2003). Patron (2008) emphasized the value of questioning as a means to ensure that the planning framework aligns with the Theory of Change and meets the needs of key stakeholders (Patron, 2008). The planning component of the application framework for the proposed impact optimizing sustainable banking business model is based on the overarching concern about how a bank can contribute objectively, effectively, and significantly to ensure sustainable development in the real economy through implementing the SDGs. This (planning) component of the application framework consists of three parts. The first part deals with selecting the bank's relevant SDGs and workable themes. The second part focuses on translating the SDGs into the bank's strategic goals. Lastly, the third part deals with aligning the bank's operations with those strategic goals. The relevant questions and corresponding planning steps are outlined in the following table 4.8.

Table 4.8 The Relevant Questions and Planning Steps.

Planning Framework	Assumptions related to different components of the logical framework.	Question No	Questions	Planning Steps
First Part	Assumptions related to The Goal:	Q. 1	Which SDGs are relevant for	To identify the bank's relevant

	Bank-relevant SDGs and workable themes are rightly identified.		banks?	SDGs.
		Q. 2	Which themes are relevant for a bank from a particular relevant SDG?	To identify the bank-relevant theme from the particular SDG.
Second Part	Assumption related to The Impact: The workable themes are rightly translated as macroeconomic sustainability goals.	Q. 3	What are the workable themes translated at the level of macroeconomic goals from a particular SDG?	To customize the relevant theme into a workable/targetable macroeconomic sustainability goal
	Assumption related to The Outcome: The impact relevant role of the relevant macroeconomic agents in the relevant market is identified and motivated for realizing the desired macroeconomic sustainability goals.	Q. 4	What type of role is to be played by which macroeconomic agent to realize the macroeconomic sustainability goal?	To identify the relevant macroeconomic agent and their required role/condition.
	Assumption related to The Output: The impact relevant function of the bank on the real economy is identified and realized to motivate the relevant	Q. 5	What type of bank's function is needed to stimulate the required role among the required	To identify the relevant type of functions from the bank to stimulate the required condition among

	macroeconomic agents.		macroeconomic agents to realize the macroeconomic sustainability goals?	the relevant macroeconomic agent.
Third Part	Assumption related to The Activities: <ol style="list-style-type: none"> 1. The impact of relevant macroeconomic agents and their link with the bank are identified. 2. They are brought into the bank's customer network 3. They are properly dealt with and transformed to play the right role in the economy required for the impact 	Q. 6	What type of intervention is needed during the dealings with customers to motivate the desired role of the targeted macroeconomic agents?	To identify the relevant type of engagement with the relevant customers to stimulate the condition of a macroeconomic agent towards the relevant direction.
	Assumptions related to Input:	Q. 7	What type of change is needed in the	To identify the relevant type of capital

	<ol style="list-style-type: none"> 1. Bank identified the impact of relevant capital management. 2. The bank managed its relevant regular services for impact. 		bank's capital management?	management to mobilize the bank's function in the relevant direction.
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The rationale for each step and required methodologies are outlined across the six components of the basic logic model, as presented in Table 4.9.

Table 4.9 Planning Template in the Logical Framework.

Components of the Logic Model	Description of the steps	Impact optimizing rationality of the step	Methodologies (derived from the top-down vertical logic)	Step No
Goal	Overall program goal: To identify the bank's relevant SDGs.	Impact utility will be optimized by addressing the current sustainability challenges.	The guidelines and priorities suggested by the concerned reputed organizations will be followed.	1st step
	The goal for a particular SDG: To identify the	Impact scope will be optimized by	Sustainability themes underlying the selected SDG and key stakeholders	2nd step

	bank-relevant theme from the particular SDG.	pinpointing the target to relevant sustainability issues and corresponding stakeholders.	to be targeted in achieving those themes will be identified through a content analysis tool. The bank-relevant themes and stakeholders will be selected from different SDG targets and indicators based on whether the realization of the sustainability theme by the corresponding key stakeholders can be linked with the bank's functions in the real economy. The link can be established through three factors: access, productivity/efficiency, and quality.	
Impact	To customize the relevant theme into a workable macro-economic sustainability goal	Impact direction will be rightly streamlined to align the economy towards sustainability.	The selected sustainability themes will be translated into macroeconomic sustainability goals based on which of the seven macroeconomic goals can be conceptually mapped with it.	3rd step
Outcome	To identify the relevant macroeconomic	Impact effectiveness will be	The selected key stakeholders in achieving the selected sustainability	4th step

	agent and their required role/condition	optimized by mobilizing the role of macroeconomic agents towards sustainability direction.	theme will be translated into the macroeconomic sustainability agents based on which of the four macroeconomic agents is relevant to achieving the translated macroeconomic sustainability goals.	
Output	To identify the relevant type of functions from the bank to stimulate the required condition among the relevant macroeconomic agent.	The impact process will be optimized through a concretely established transmission path.	The selected sustainability themes and the key stakeholders will be translated into the banking context based on which of the five functions of banks in the real economy are relevant to stimulate the relevant role of relevant agents to realize the desired macroeconomic sustainability goals.	5th step
Activity	To identify the relevant type of engagement with the relevant customers to stimulate the condition of a macroeconomic agent towards the relevant direction.	The impact scale will be optimized by mobilizing customers' sustainability role in the real economy.	The bank's activity will be aligned to the desired sustainability functions in the real economy through customer screening based on relevant one of the financial flows with the relevant macroeconomic agents in the real economy. The customer interaction will be	6th step

			conducted based on different organizational identity orientations to realize the macroeconomic sustainability goals.	
Input	To identify the relevant type of financial capital management to mobilize the bank's function to the relevant direction and mobilize the social and intellectual capital towards this purpose.	Impact source is optimized by making sustainability efforts mainstream in banking operations.	The bank's resource management will be aligned towards the desired sustainability functions in the real economy through the management of financial capital throughout the relevant customers aiming to enable them to stimulate the required roles, behaviors, and conditions among the relevant macroeconomic agents in realizing the intended macroeconomic sustainability goals. To ensure this alignment, the bank's knowledge and network will be mobilized.	7th step

Thus planning component of the application framework follows result or change-based logic throughout the logic model since it is derived from the Theory of Change.

4.6.2 The Implementation Component

In preparing the implementation and monitoring framework we will adopt the Theory of Action which is based on the previously adopted Theory of Change discussed in the preceding section. The Theory of Action is an organization's "theory", or story of how it will make a change in the world. It is a program's implementation approach/framework that illustrates how a program is constructed to 'activate' the Theory of Change. Hence, it is the delivery model for a Theory of Change that describes the processes through which change comes about for individuals, groups, or communities. In other words, this Theory of Action outlines how to implement the planning framework that has already been framed as a theory of change throughout the intervention logic (1st column of the log frame) and the assumptions (4th column of the log frame). It tells the story of how the communities and conditions will change because of an organization's work, as well as how progress will be tracked and measured. Hence it creates a basis for establishing the implementing framework as well as monitoring and evaluation indicators. Similar to the planning component of the framework (based on the Theory of Change), in developing the implementation component of the framework (based on the Theory of Action), we will focus on the logic model components and their underlying assumptions about how an organization can progress from its present condition to its intended future state. This ToA in essence is a collection of ideas that form a logical chain of reasoning that explains how change leads to enhanced practices.

Regarding methodology, in developing the planning framework the features and flows of logical sequence (assumptions in the 4th column of the log frame matrix) were centered on the change or results whereas in developing the implementation framework we will reframe all the logical assumptions surrounding the organizational actions (the intervention part of ToC). According to the guideline provided by Action Evaluation Collaborative (AEC, 2012), an international consultancy firm supporting organizations that are working to advance social justice and social change, here we will proceed with the following steps in adopting the theory of action as outlined in Table 4.10.

Table 4.10 Theory of Action as Implementation Component of the Application Framework for the Proposed Impact Optimizing Sustainable Banking Business Model.

Steps	Description of the steps	Customization in the context of the proposed model	Methodology (logical sequence from the planning framework).
1st step	Vision: How organization’s clients are different – how will they change as a result of the bank’s work?	Bank’s vision regarding contribution to SDG: Contribution in achieving particular SDG through implementing bank-relevant themes.	Rephrasing the ‘Goal’ component of the planning framework from the perspective of the overall sustainability vision of the bank.
2nd step	Long-term objective: Changed conditions or states – economic, social, environmental, or physical changes in a system that your organization will contribute to.	Bank’s sustainability vision to be realized at the level of macroeconomic goals: Contribution to the realization of the workable sustainability themes around different macroeconomic goals that are derived from the relevant SDGs.	Rephrasing the ‘Impact’ component of the planning framework from the perspective of the long-term sustainability vision of the bank.
3rd step	Medium-term objective: Changed skills and practices – changed behaviors to accomplish results, or capabilities that the organization’s	Bank’s sustainability vision to be realized at the level of macroeconomic agents: Transforming the conditions, behaviors, transactions, and interactions of the relevant macro-economic agents in	Rephrasing the ‘Outcome’ component of the planning framework from the perspective of the medium-term sustainability vision

	customers will bring into the community.	different relevant macroeconomic markets to realize the SDG impact themes as macroeconomic sustainability goals	of the bank.
4th step	Short-term objective: What changes does the organization expect need to happen NOW to reach its medium and long-term objectives?	Bank’s sustainability vision to be realized at the level of its functioning in the real economy: The Bank’s functioning in the real economy will be guided in a direction that will steer the bank’s financial flows with different macroeconomic agents that will create some necessary and sufficient conditions in realizing the macroeconomic sustainability goals derived from the SDGs.	Rephrasing the ‘Output’ component of the planning framework from the perspective of the short-term sustainability vision of the bank.
5th step	Key actions: How does your organization contribute to the changes you want to see?	Resource and relationship management in a strategic manner: Here, the bank will manage its capital and customers in an enabling way so that the bank’s indirect impact will be optimized through different financial flows between the bank and different macroeconomic agents and the bank’s functioning to the real economy moves towards the	Combining the ‘Activity’ and ‘Input’ components of the planning framework and rephrasing them into core banking activities.

		desired stream	
6th step	Linking actions to objectives: How actions are linked to specific objectives and why?	Banks' functions, financial flow, macroeconomic agent, macroeconomic goal, workable SDG theme, particular SDG: Strategic management of capital and customers will align the bank's functions in a way that enhances the customers' ability to play roles, change behavior as the macroeconomic agents which will create favorable conditions that are consistent in realizing the macroeconomic sustainability goals translated from SDGs.	One-to-one mapping of the key actions with the short, medium, and long-term- objectives that we have developed up to now.
7th step	Change partners: Who else do you need to work with to reach your organization's outcomes?	Committed and capable employees: Strategic sustainability behavior in capital and customer management largely depends on well-trained and committed service-providing executives.	Asking who else a bank needs to work with to implement the bank's actions to realize its sustainability visions.

Thus determining the above issues based on the Theory of Action (ToA) will serve as a guiding structure for the implementation phase within the proposed sustainable banking model's application framework. This implementation phase in the application framework adopts the intervention-based approach whereas the planning phase adheres to the result-

based approach. The planning phase employs a top-down vertical logic across the log-frame matrix, beginning with a focus on the long-term goal and impact. Designers outline the goals and impacts and then determine the desired outcomes and subsequent outputs, activities, and inputs. Conversely, during implementation, a bottom-up vertical logic is employed throughout the log-frame matrix. Once the long-term goal and impact, medium-term outcomes, and short-term outputs and activities are established, implementation initiates at the input and activity level. Progressing through outputs, outcomes, and impacts and ultimately aligning with the goals, the implementation process unfolds in a synchronized manner (Rubio, 2015). These distinctions between the two components of the application framework essentially highlight the contrast between the Theory of Change (ToC) and the Theory of Action (ToA), as they are rooted in these two theoretical tools.

4.6.3 Monitoring Component

After planning and implementing the impact-optimizing sustainable banking model, a regular monitoring and learning mechanism is required to track the progress. Here, the primary but significant question is for which component of the log frame matrix, the monitoring indicators should be developed? The monitoring may be result (goal, impact, outcome, output components of the log frame of the log frame) based or intervention (activities and input components of the log frame) based on the Theory of Change (ToC). The monitoring system of the proposed model should reflect the result-ness due to its focus on impactful-ness.

But in many instances, the results or impacts are externalities to business models and they fall outside the domain of the economic and financial valuation. Moreover, in the context of the proposed model, result-based monitoring is difficult since SDG implementation is a result of the multi-sectorial process and it is not possible to measure to what extent the SDG implementation gets support from a particular bank or the whole banking industry in a country. Hence, in the case of our proposed model, we will go for intervention-based monitoring focusing on the ‘key actions’ and ‘linking actions to the objectives’ component of the theory of action.

In the Theory of Action (ToA), the key actions can be further decomposed into the ‘input’ and ‘activities’ components of the log frame matrix. In the context of our proposed sustainable banking model, the primary focus of these elements revolves around customer and capital management. By adopting a customer-centric approach, banks can customize their products and services to promote sustainability, support green initiatives, and cater to socially and environmentally responsible customers (Nidumlu et al. 2009). Additionally, prudent capital management incorporates ESG factors and empowers banks to invest in projects aligned with the SDGs, fostering social welfare and environmental well-being (IFC, 2019).

As discussed in the Theory of Change and planning framework, the management of customer and capital aspects should consider the concern for results (impact, outcome, output) through the framework of three organizational identity orientations (individualistic, relational, and collectivist). Developing an action-based monitoring framework should focus on effectively managing both customer and capital aspects. The monitoring mechanism should be designed to assess and report on the achievements of the actions and objectives. To achieve this, we aim to develop Objectively Verifiable Indicators (OVIs) that describe the organization’s sustainability objectives in operationally measurable terms for customer and capital management. These OVIs will specify the performance standards required to attain short-term, medium-term, and long-term sustainability objectives effectively.

Indicators are simple and reliable measures used to track progress, reflect change, or assess project performance. Indicators are first selected or created when building the project log frame; ideally, before project implementation begins. Then, indicators are actively used when teams are monitoring and evaluating project implementation. Since the proposed impact optimizing sustainable banking business model is developed aiming at significant, effective, and objective contribution to sustainable development, here the indicators should be objectively verifiable in two senses. Firstly, while being derived from the input and activity components of the log frame, they must align with the short-, medium-, and long-term sustainability objectives outlined in the Theory of Action. Secondly, even if there may be more than one indicator for input and activities components of the log frame, the key information collected should be the same if collected by different people (in other words, it

is not open to the subjective opinion/bias of one person).

Thus from the log frame matrix perspective, these indicators will define in measurable detail the performance levels required by objectives in the intervention logic and check the feasibility of objectives and the basis of the project's monitoring and evaluation system.

It is often necessary to establish more than one indicator for each objective statement. For example, one indicator may provide good quantitative information, which needs to be complemented by another indicator focused on qualitative matters (such as the opinions of target groups). However, more is not necessarily better! Collecting data to track indicators takes time and money. The key to a good set of indicators is their quality and usefulness. We will use only the number of indicators required to clarify what must be accomplished to satisfy the objective. Sometimes, we can identify a proxy indicator when any direct indicator for a particular concept that needs to be monitored is difficult or too expensive to measure. In contrast to a direct indicator, which tracks change by directly examining the change, proxy indicators track change by examining markers that are generally accepted as substitutes (or proxies) for what you are trying to measure (MDS, 2022).

The process of analyzing and developing indicators is referred to as 'horizontal logic' because it involves reading across the log frame matrix horizontally. In the development of indicators, we will weave the horizontal logic through two lines of thinking, stemming from two senses of objectivity. These two lines of thinking are as follows:

4.5.3.1 Logic from Result-based Objectivity

This line of thinking will move around the links between the key actions component and the short-medium- long-term objectives components in the theory of action. Here we can use the QQTTP protocol to identify the required key content components of the indicator as suggested in the book titled Guide to the Logical Framework Approach (Delevic, 2011). The protocol includes the following items of specifications:

- 1. Quality** - The kind (or nature) of the action, (how well)

2. **Quantity** - The scope/extent of the action, (how much, how many)
3. **Timing** - When the action should have taken place. (by when)
4. **Target group** - (for whom)
5. **Place** - Location (where)

In the process of developing the horizontal logic throughout the capital and customer management, the above protocol will help to specify the required content components of the desired indicator to be relevant to the achievement of the long-medium and short-term objectives of the program. The process may go through asking different relevant questions and finding particular forms of answers. The protocol is outlined in the following table 4.11.

Table 4.11 Required content components in QQTTP Protocol.

Three terms Sustainability objectives of the bank	Long-term sustainability objective of the bank. It is the bank's vision to contribute changes at the level of macroeconomic goals.	
	Medium-term sustainability objective of the bank. It is the bank's vision to contribute to changes in conditions, behavior, and interaction at the level of macroeconomic agents.	
	Short-term sustainability objective of bank. It is the bank's vision to contribute the changes at the level of the bank's functioning to the real economy.	
Some guiding questions to design Key actions to be reflected in the possible indicator in order to confirm the realization of the above long-medium and short-term objectives are given below.		
	Customer management	Capital management
Quality	Q.1. What qualitative changes in customer management should the proposed indicator reflect in order to achieve the three terms sustainability objectives?	Q.2. What qualitative changes in capital management should be incorporated into the proposed indicator to validate the achievement of the three terms'

	<p>Possible form and source of the answer: It is the qualitative change in customer management that is required to realize a particular SDG at the level of macroeconomic goal. It will come from the reflection of sustainability issues stated in the long-term objective.</p>	<p>sustainability objectives?</p> <p>Possible form and source of the answer: It is the required bank's offerings in deposit, investments, and payment services to realize the particular SDG at the level of macroeconomic agents. It may come from the reflection of the changes in conditions, behavior, and interaction of the macroeconomic agents stated in the medium-term objective.</p>
Quantity	<p>Q.3. What quantitative changes in customer management should be reflected in the proposed indicator to confirm the realization of short-medium and long-term objectives?</p> <p>Possible form and source of Answer: It is the change in the category of customers and their number to realize a particular SDG at the level of the bank's functioning to the real economy. It will come from the reflection of the requirements stated in the short-term objective.</p>	<p>Q.4. What quantitative changes in capital management should be reflected in the proposed indicator to confirm the realization of short-medium and long-term objectives?</p> <p>Possible form and source of Answer: It is the quantitative change in the required direction of the bank's financial capital flows to realize a particular SDG at the level bank's functioning to the real economy. It will come as the change in deposit, disbursement, and payment services through reflecting the requirements stated in the short-term objective.</p>
Target group	Q.5. Which group of targeted	Q.6. Which group of targeted

	<p>people in customer management should be reflected in the proposed indicator to confirm the realization of short-medium and long-term objectives?</p> <p>Possible form and source of Answer: It is the purpose of sustainability interaction with the customers to motivate the required sustainability role, conditions, and behavior among the macroeconomic agents in realizing the particular SDG. It will come from the reflection of the requirements stated in the medium-term objective.</p>	<p>people in capital management should be reflected in the proposed indicator to confirm the realization of short-medium and long-term objectives?</p> <p>Possible form and source of Answer: It is the required direction of financial flow between banks and macroeconomic agents to realize the particular SDG at the level of macroeconomic agents. It will come from the reflection of the requirement stated in the medium-term objective.</p>
<p>Timing</p>	<p>Q.7. What information related to the time of changes in customer management should be reflected in the proposed indicator to confirm the realization of the short-term and long-term objectives?</p> <p>Possible form and source of Answer: it is the time factor of the effectiveness of the intervention from the targeted customer’s point of view. It may come from the findings in the above qualitative,</p>	<p>Q.8. What information related to the time of changes in capital management should be reflected in the proposed indicator to confirm the realization of the short-term and long-term objectives?</p> <p>Possible form and source of Answer: It is a time factor of the efficiency and effectiveness of the intervention from the operational point of view. It may come from the findings in the above</p>

	quantitative, or target dimensions of the key actions.	qualitative, quantitative, or target dimensions of the key actions.
Place	<p>Q.9. Which targeted location in customer management should be reflected in the proposed indicator to confirm the realization of short-medium and long-term objectives?</p> <p>A possible form of Answer: It is the time factor of the effectiveness of the intervention from the targeted customer's point of view. It may come from the findings in the above qualitative, quantitative, or target dimensions of the key actions.</p>	<p>Q.10. Which targeted location in capital management should be reflected in the proposed indicator to confirm the realization of short-medium and long-term objectives?</p> <p>A possible form of Answer: It is a place factor of the efficiency and effectiveness of the intervention from the operational point of view. It may come from the findings in the above qualitative, quantitative, or target dimensions of the key actions.</p>

4.6.3.2 Logic from Non-biased Objectivity

This line of thinking will revolve around the whole-parts relationship within the relevantly desired indicator. Here, we can use the SMART protocol to reduce subjective bias and to enhance the credibility of the proposed indicator as suggested by Delevic (2011). SMART, a goal-planning framework developed by George Doran in the early 1980s (Doran, 1981), has gained widespread popularity in setting effective goals and objectives for leadership, project management, and personal development. The acronym represents five essential criteria that each project goal should meet for effectiveness. The description of these criteria, along with corresponding guiding questions are presented in Table 4.12.

Table 4.12 Required features components of the desired indicators in SMART Protocol.

Components	Description	Guiding Questions
Specific	Specific to the objectives. Indicators are supposed to be very closely related to the desired areas of improvement expressed in the objective statements that they represent and should include the following characteristics: quantity, quality, location, and who is expected to make/experience the anticipated change.	Q.1 What are the key items found under the QQTTP protocol that need to be measured to assess roughly the desired areas of improvement expressed in the objective statements
Measurable	Measurable either quantitatively or qualitatively in a factual way: Indicators should be written in a way that promotes an accurate assessment of progress. Each indicator should reflect fact rather than a subjective impression. It should have the same meaning for project supporters and informed skeptics.	<p>Q.2. Which one is qualitative and which one is quantitative in nature among the key measurable items?</p> <p>Q.3. Which unit of measurement should be used to describe the change in the measurable items (a number or percentage)?</p> <p>Q.4. What will be the size, magnitude, or dimension of the change (decrease, increase, or specific target number)?</p> <p>Q.5. How many indicators should be used to measure</p>

		the change?
Availability	Indicators should draw upon data that is readily available or that can be collected with reasonable extra effort as part of the administration of the project.	<p>Q.6. Are the measurable items readily available or can be collected with reasonable extra effort as part of the administration of the project?</p> <p>Q.7. Is there any necessity of using a proxy indicator?</p>
Realistic	Indicators should be attainable given the budget, time, and resources available. Hence, they should be based on realistic targets that will motivate and inspire the people who will have to reach them. Performance improvements are asked in areas that the employees can influence.	Q.8. Is the measurable item plausible to accomplish by the people who will have to reach them?
Time bounded	Indicators should identify the timeframe in sequence, point, and duration within which the changes in actions or objectives are expected to occur.	Q.9. For which time frame will the item have to be measured?

The application of the SMART protocol to address standardizing issues aids in identifying the necessary features for the proposed indicator. This approach, known as horizontal logic, involves analyzing indicators and means of verification by reading across the log frame matrix (Delevic, 2011). To reduce individualistic opinion-based subjectivity and enhance fact-based objectivity, we can follow a handful of guiding questions in the light of the above protocol in the process of developing the proposed indicators. Some of such

guiding questions are prepared in above table 4.11. The list of such guiding questions may be increased or reduced depending on the real contexts. Summarizing all the above discussions, here we will follow three consecutive steps in developing the objectively verifiable indicators (OVI) as it is outlined in the following table 4.13.

Table 4.13 Steps in Developing the Objectively Verifiable Indicators (OVI).

Steps	Issues	Methodology
Step 1	To prepare the long, medium, and short-term sustainability objectives (vision) of the bank.	Rephrasing the ‘impact’, ‘outcome’, and ‘output’ components of the planning framework from the perspective of the long-medium-short term sustainability vision of the bank, as it is outlined in the theory of action.
Step 2	To determine the specifications of the capital and customer management based on the short-medium and long-term sustainability visions.	Following some relevant questions and answer formats throughout the QQTTP protocol.
Step 3	To combine the specifications into objectively verifiable indicators (OVI).	Following are some relevant guiding questions based on SMART protocol.

4.6.4 Evaluation Component

After determining the monitoring indicators within the proposed impact-optimizing sustainable banking model, we need to develop an evaluation component of the application framework so that the bank’s progress can be tracked and performance can be analyzed and reported within the proposed model. However, sustainability evaluation is very different from evaluating other business performance dimensions. First, the practice is comparatively new

and thus is lacking in the number of established standards (Darby and Jenkins, 2006). Second, the notion of sustainability is a complex issue and multidimensional in nature, covering a wide range of issues from social and environmental facets to financial issues (Morse et al., 2001). Finally, measuring sustainability falls outside the boundaries of any one company and includes the activities of many stakeholders who directly or indirectly are affected by or affect the company's business (Isaksson and Garvare, 2003). Such complications demand treating the sustainability performance measurement as a systematic process rather than an isolated approach so that it can evaluate its implementation in a company's planning and operations (Morse et al. 2001). Hence, It is recommended to evaluate various measurable areas using suitable Indicators (SDIs) individually and assess the overall performance in contribution to sustainable development by aggregating those individual indicators concerning their respective dimensions (Singh, Murty, Gupta, and Dikshit, 2009). Here, what we have to do is prepare composite indicators apart from the individual indicators. A composite indicator is formed when individual indicators are compiled into a single index based on an underlying model. The composite indicator should ideally measure multi-dimensional concepts that cannot be captured by a single indicator. Saisana and Tarantola (2002) highlighted many benefits of developing an index. Firstly, it can effectively summarize complex, multi-dimensional realities to support decision-makers. Secondly, it offers easier interpretability compared to a collection of many separate indicators. Thirdly, it facilitates the assessment of companies' progress over time. Lastly, it reduces the apparent size of a set of indicators without losing the underlying information.

In constructing the sustainable banking assessment index within the proposed model, we have to follow several step processes as suggested by OECD, 2008. The relevant steps and corresponding methodologies are as follows:

4.6.4.1 Selection of Suitable Indicators for Index

In constructing a composite sustainability index the primary requirement is to identify and select the suitable criteria and indicators. We have already discussed determining the indicators within our proposed impact optimizing sustainable banking model. The assessment

index is nothing but a composite or synthetic measure of those indicators. The construction of composite indicators does not follow the universally accepted scientific rules that much. Rather, they are more dependent on the craftsmanship of the modeler. For models, the rationale for a composite indicator lies in its suitability for the intended intent and peer acceptance (Rosen, 1991). The proposed model aims at ensuring significant, effective, and objective contributions to sustainable development through implementing the SDGs. We have developed the planning, implementation, and monitoring components of the application framework based on this purpose. The same will be pursued during the construction of the assessment index. However, it is crucial to keep in mind that the index has to be prepared from available reliable data that is easier to quantify and understand. Moreover, it should focus on the aspects of clarity and practicality (Rivas & Magadán, 2007). So therefore, though we have to determine the indicators in detail for the model considering the significance, effectiveness, and objectivity of contribution, here, we will also have to consider the above factors related to availability, clarity, and reliability. Hence, the number and content of the indicators, used in the assessment of the performance within the proposed model may slightly vary with the determination of the same, in terms of practicality, clarity, quantifiable attributes, availability and accessibility of data, etc.

4.6.4.2 Weighting to the Performance Indicators

In assessing multiple criteria, it is important to determine the weights of the indicators. So, in constructing the assessment index, after choosing the suitable bank's performance indicators, we need to weigh them within three sustainability dimensions according to their relative contribution in determining that particular sustainability dimension. The process of weight determination often involves the widely used subjective assessment method which is based on expert opinion and to get the subjective judgments, the analyst presents the decision-makers a set of questions in the process. The methods for weighting the criteria involve decision-makers directly expressing how they feel about the relative importance of the criteria (Yusop et al., 2015; Odu, 2019).

To adopt the subjective assessment method, we will utilize the Ranking method which

was successfully employed in the human vulnerability index in Maldives by De Kruijk and Rutten (2007). The ranking method requires the decision makers to directly order the criteria based on their perceived importance. The ranks assigned to each criterion will then be transformed into weights using one of the three methods: rank sum, rank reciprocal, or rank exponent (Raszkowska, 2013).

In our specific context of impact optimizing sustainable banking, following the steps by De Kruijk and Rutten (2007), we will employ a survey method, where sustainable banking practitioners will be asked to rank the list of identified indicators within the sub-index of triple (Economic, Social, and Environmental) bottom lines based on their perceived relative trade-offs between profitability and sustainability. The indicators with higher trade-offs will receive higher ranks, reflecting the model's commitment to impact. The ranking may be in ascending or descending order. In the ascending order, the most important indicator is assigned rank 1, followed by the second indicator with rank 2, and so on. Conversely, in descending order, the least important indicator is given rank 1, followed by rank 2 for the second least important indicator, and so on. In our case, we will follow an ascending order ranking. To convert the ranks into numerical weights, we will observe the central tendency among the practitioners' rankings and calculate the arithmetic mean by summing the ranks and dividing by the number of terms.

4.6.4.3 Data Collection

Data will be collected from all the publicly accessible sources, such as annual reports, sustainability and CSR reports, and revealed sustainability and financial information on banks' official websites. Furthermore, since all the banks are supposed to report their financial and non-financial data to the central bank, the published central bank data is also a major source of data. The data collection focus will be on overall sustainability performance based on the triple bottom line introduced by John Elkington (1998). Our approach involves a comprehensive review and analysis of data gathered from diverse sources, such as banks' annual financial reports, non-financial reports, and official websites. This method, as outlined by Pérez (2017) in developing the Social and Ethical Banking Index (SEBI) and Rebai et al.

(2014) in developing a multi-attribute utility-based sustainable banking index, offers insights into both financial and non-financial aspects of banks' operations, enabling a holistic understanding of their sustainability practices. Following this strategy, we will meticulously tailor the collected data to align with our impact-optimizing sustainable banking model's indicators, ensuring consistency with the study's objectives. This facilitates meaningful comparisons across different banks and at different times. In this thesis, the intention behind the construction of the index is merely to apply the proposed impact-optimizing model framework. One year of data of any one bank', irrespective of geographical location is sufficient for this purpose. It will provide initial insights into the broad trends or patterns. The European Innovation Scoreboard (EIS) is an example of a composite indicator that measures the innovation performance of EU countries. It utilized data from multiple sources, including one-year data, to construct the index. The report provides insights into the methodology used and the specific indicators considered, which can offer insights into the construction of composite indicators with one-year data (Hollanders. et al, 2001). Additionally, Eslami, Lezoche, Panetto, and Dassisti (2023) examined the applicability and effectiveness of their proposed indicator-based sustainability assessment model for a single real organization case even without explicitly mentioning its name due to data privacy concerns (Eslami, et. al, 2023). However, if the aim is to establish robust relationships, validate assumptions, or conduct a more detailed analysis, a longer time series and cross-sectional or additional data sources may be necessary. In this thesis, data spanning two years, specifically for 2018 and 2022 will be collected from a reputable Bangladeshi bank for the sake of convenience and practicality in analysis and comparison.

4.6.4.4 Normalization and Aggregation

Since indicators are usually expressed in different units; the next step is normalization. Possible methods of normalization are the minimum maximum, the distance to a reference, and the percentage of annual differences over consecutive years. Since our objective is to compare within the data set, we should integrate all the possible values of the complete data set. In this case, we can use distance as a reference method. When applying this method, the

normalized value is calculated as the ratio between the indicator and an external benchmark. The external benchmark can be defined by norms and standards set for regulation or any other relevant documents. Here the sum value of all variables found may be used due to the absence of these things as suggested by OECD (2008). The formula is:

$$\text{Indicator score} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

The indicators have no dimension after normalization and are between 0 and 1, with 0 being the worst and 1 being the best.

The final step is aggregation. At this point, an aggregate index will be developed which is called a composite sustainability index. It is a scalar value. Aggregation will proceed in two steps. First, the normalized variables (indicators) will be aggregated for each dimension and then aggregated across the three (economic, social, and environmental) dimensions of the sustainable banking index. Arithmetic means will be used to aggregate the normalized indicators into each dimension sub-index and to emphasize that all three dimensions are equally important and that banks are expected to perform well on each dimension. Then we will use a geometric mean to aggregate the three-dimensional sub-indices into the overall sustainable banking index for each bank.

4.6.4.5 Composite Sustainability Index Value

Simple Additive Weighting (SAW) is very commonly used since it is transparent and easier to use and understand. Simple additive weight, also known as the weighted linear combination or scoring system, is a popular multi-attribute decision-making technique that is often used. The method is based on the weighted average. An evaluation score is calculated for each alternative by multiplying the scaled value given to the alternative of that attribute with the weights of relative importance directly assigned by the decision maker followed by summing the products for all criteria. The advantage of this method is that it is a proportional linear transformation of the raw data, which means that the relative order of magnitude of the standardized scores remains equal. (Afshari. et al, 2010).

While the SAW method is commonly used for attribute-level aggregation, it is noteworthy that the geometric mean is often employed for aggregating heterogeneous variables with limited substitutability. This approach penalizes unequal achievements across dimensions acknowledging that some indicators cannot fully compensate for others. In contrast, the arithmetic mean would allow for perfect substitutability across dimensions, where a high score on one indicator could fully compensate for a low score on another. Given the broadly complementary nature of the indicators, the arithmetic mean will be used to aggregate indicator scores within each dimension, maintaining a balance between the indicators.

To ensure an integrated and balanced composite index that aligns with the Sustainable Development Goals (SDGs) principles of being ‘integrated and indivisible’, equal weight will be given to each of the three dimensions in the calculation of the sustainable banking index. This approach respects the holistic nature of the SDGs and their equal importance across dimensions. Considering these factors and following the outlined steps, a composite sustainability index of a bank will be calculated using both arithmetic and geometric mean, resulting in a comprehensive assessment of the bank’s sustainability performance. This is a composite value that will allow the decision-makers to track a bank’s sustainability progress over time and compare a Bank’s contribution to the Sustainable Development of the Economy with the same type of value as any other Bank within the Industry.

4.6.5 The Overall Application Framework

The application framework outlined above encapsulates a holistic and structured approach to achieving SDGs within the context of banking operations. By seamlessly integrating the principles of the Theory of Change and Theory of Action, developing objectively verifiable indicators, and constructing an index this framework guides the journey from initial thematic selection to the ultimate evaluation of composite indicators. Through its meticulous planning, dynamic implementation, vigilant monitoring, and comprehensive evaluation, this framework empowers banks to apply the proposed impact optimizing sustainable banking model with purpose and efficacy. The four components of the application framework can be

summarized in the following Figure 4.3.

This application framework approaches its planning component across three distinct thematic domains: the selection of relevant SDGs and themes, the translation of these themes into strategic objectives, and the alignment of banking operations with these strategic objectives. This component is grounded in the Theory of Change and is outlined within a log-frame template following top-down vertical logic throughout the log-frame matrix.

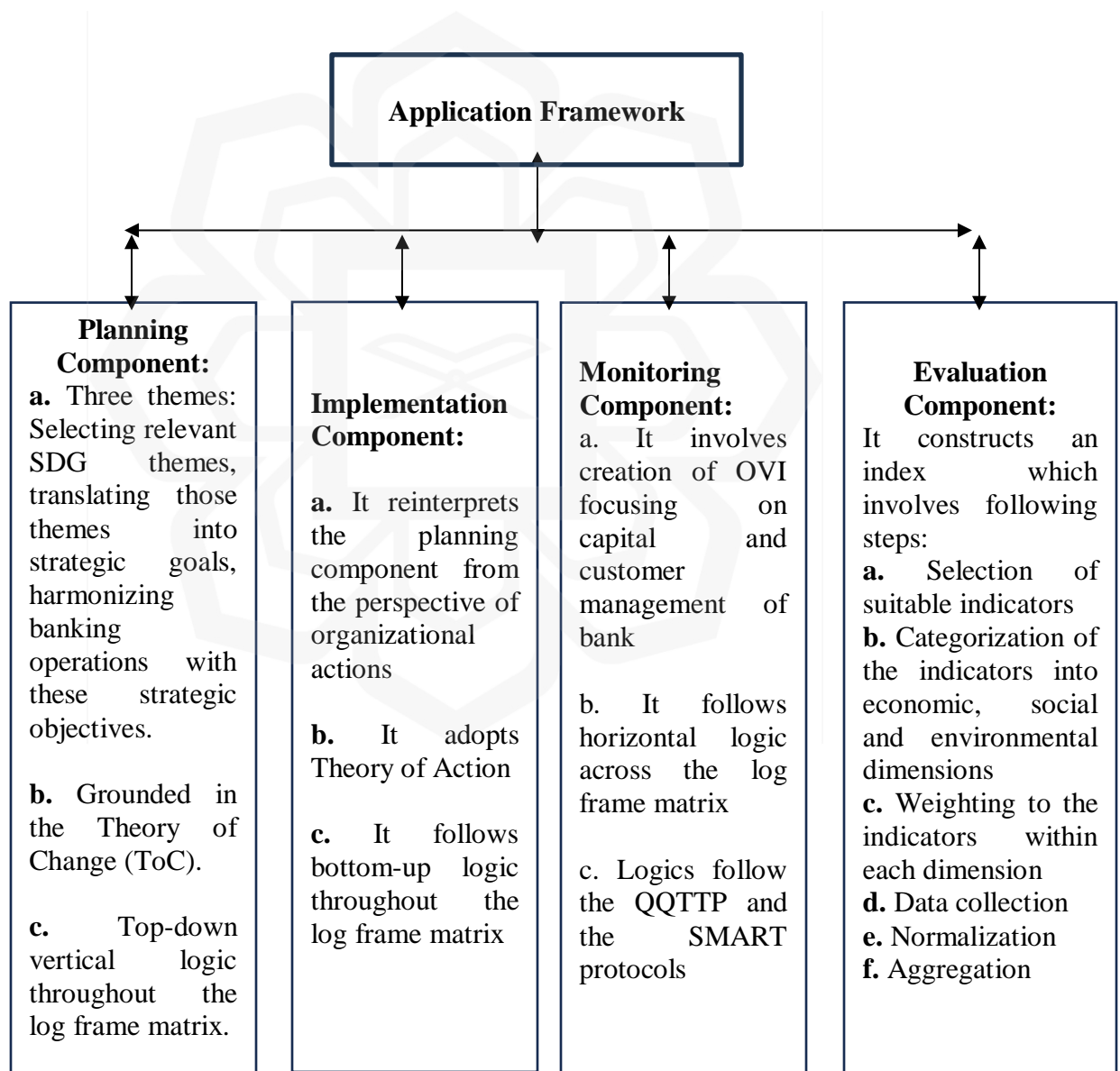


Figure 4.3 Four Components of the Application Framework

The implementation component of the application framework is developed by scrutinizing the planning component and underlying assumptions from the perspective of organizational actions. This phase adopts the Theory of Action, offering a reinterpretation of the previously established Theory of Change where the result part transforms into long-medium – short-term objectives and the intervention part reshapes into Key Actions. These two segments are intricately interwoven using a bottom-up vertical logic across the logical framework matrix, thereby shaping the implementation component cohesively within the application framework.

The development of the monitoring component within the application framework involves the creation of objectively verifiable indicators (OVIs), with a specific focus on key actions and their alignment with the objectives in the Theory of Action. The formulation of OVI follows a systematic three-step process; the delineation of sustainability objectives, the specification of capital and customer management, and synthesizing these elements into comprehensive OVI. This process involves a horizontal logic spanning the log frame matrix and adheres to the QQTTP protocol to ensure result-based objectivity as well as the SMART protocol to ensure non-biased objectivity.

The evaluation facet of the application framework involves establishing an assessment index that combines the selected indicators into a composite measure. This index construction involves several steps beginning with the selection of suitable indicators based on significance, effectiveness, objectivity, clarity, and practicality. Weight assignment to indicators within three sustainability dimensions is essential, often employing a ranking method to convert subjective judgments into numerical value. Data collection is drawn from publicly accessible sources, including the bank's annual reports, sustainability and CSR reports, and official financial information. Collected data is normalized, utilizing methods like distance to a reference point. Aggregation occurs initially within each dimension through arithmetic means, followed by a cross-dimension fusion using the geometric mean. This results in a composite indicator, offering advantages such as encapsulating complex variables, facilitating interpretation, enabling progress tracking, and simplifying data.

CHAPTER FIVE

APPLICATION OF THE IMPACT OPTIMIZING SUSTAINABLE BANKING MODEL UTILIZING ITS APPLICATION FRAMEWORKS

5.1 INTRODUCTION:

This chapter is about the application of the impact of optimizing a sustainable banking business model and its application frameworks. Initially, sustainable banking plans are made for some themes derived from the relevant SDGs in the light of the theory of change and planning framework. Then objectively verified indicators (OVI) are selected in the light of the Theory of Action (ToC) and implementation and monitoring frameworks. Finally, the overall sustainable banking index is calculated for two selected banks as an example.

5.2 APPLICATION OF THE MODEL IN THE CASE OF BANGLADESH:

Though bank serves the same financial intermediation worldwide and all countries are in preparation to adopt sustainability into their economic and financial policies, this study focused on the Banking Industry of Bangladesh. Because, due to the mounting population pressure over scarce natural resources, Bangladesh is facing a huge problem as a less developed country (LDC). The country's geographical location also contributes to the susceptibility to natural disasters. Numerous efforts have been reflected in Bangladesh's national policies and plans to achieve sustainable development. Hence, the banking industry of Bangladesh may be a good example case for the application of the model. Here, we need to work with those SDGs that are relevant to the Bangladesh banking industry.

5.3 SELECTION OF THE BANK RELEVANT SDGs:

SDGs are a global development agenda for which all countries and all sectors are supposed

to work. However, the priorities may vary in terms of geographical location and core functional activities. After the declaration of SDGs, PricewaterhouseCoopers (PwC) introduced an SDG selector app to identify the relevant SDGs based on industry impacts and opportunities, geographical territory, and sustainability themes. In developing the proposed business model, our concern is about the sustainability of the banking industry. According to this SDG selector, the financial industry is one of the most relevant industries with its greatest impact on SDGs 4, 5, 8, 9 & 13 and the greatest potential opportunities on SDGs 1, 8, 9, 11 & 13. Since banking is an important part of the financial sector, the SDGs for the financial industry are applicable to the banking industry also.

In 2021, The European Banking Federation (EBF) together with KPMG Spain Today published a report which outlines European bank practices in supporting and implementing the UN Sustainable Development Goals (SDGs). According to this study, while all SDGs receive some attention, the SDGs that receive the greatest bank focus are those related to economic growth and decent work (SDG 8), climate action (SDG 13), clean energy (SDG 7), sustainable cities and communities (SDG 11) and responsible consumption and production (SDG 12).

A research monograph titled “Achieving SDGs in Bangladesh: The Role of the Banking Sector” published by the Bangladesh Institute of Bank Management in 2021, identified that six out of 17 SDGs are directly related to the activities of the banking sector in Bangladesh. These specific SDGs are 1, 2, 4, 5, 8 and 10.

By integrating the recommendations from three sources mentioned above, within the framework of our proposed sustainable banking business model for the banking industry, we have identified 11 primary SDGs for broader coverage. These SDGs, namely 1, 2, 4, 7, 8, 9, 10, 11, 12, 13 are listed in Table 5.1.

Table 5.1 Selected SDGs Relevant for Banking Industry.

No	SDGs	Commitment	Recommendation Source
1	SDG 1: End Poverty	End poverty in all its forms everywhere	BIBM, PWC
2	SDG 2: Zero (No) Hunger	End hunger, achieve food security improve nutrition, and promote sustainable agriculture	BIBM
3	SDG 4: Quality Education	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	PWC, BIBM
4	SDG 5: Gender Equality	Achieve gender equality and empower all women and girls	PWC, BIBM
5	SDG 7: Affordable and Clean Energy	Ensure access to affordable, reliable, sustainable, and modern energy for all	EBF
6	SDG 8: Decent work and Economic growth	Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all	PWC, EBF, BIBM
7	SDG 9: Industry innovation and infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation	PWC
8	SDG 10: Reduced inequality	Reduce income inequality within and among countries.	BIBM
9	SDG 11: Sustainable cities and communities	Make cities and human settlements inclusive, safe, resilient, and sustainable	EBF
10	SDG 12: Responsible	Ensure sustainable consumption and production patterns	EBF

	Consumption and Production		
11	SDG 13: Climate Action	Take urgent action to combat climate change and its impacts by regulating emissions and promoting developments in renewable energy	PWC, EBF

5.4 BUSINESS MODEL PLANS AND OBJECTIVELY VERIFIABLE INDICATOR (OVI) FOR THE ABOVE SDGs:

Here, we will proceed with the above SDGs one by one sequentially. For each SDG we will try to prepare a sustainable business plan which is composed of three parts. The first part deals with the issue; of how to select the bank-relevant and nationally relevant SDGs and workable themes. The second part deals with how to translate the SDGs into a bank's strategic sustainability objectives. The third part deals with how to align the bank's operation to those strategic objectives. The strategic sustainability objectives can be linked with the 'goal', 'impact', 'outcome', and the 'output' component of the logical framework whereas the bank's alignment towards those strategic objectives can be linked with the 'activity' and 'input' of that framework. Finally, we will try to identify objectively verifiable indicators for each SDG based on the business model plan. Hence, for each SDG, we will try to do three things.

a. Selection of Workable Themes:

We will begin by identifying nationally relevant themes for each specific SDG, drawing insights from the Bangladesh government's plan and initiatives related to SDG targets and indicators. Since the very inception of SDGs, the Planning Commission of Bangladesh tried to integrate the relevant SDGs into its 7th five years adopted in 2015 (PCB, 2015). Moreover, in order to track Bangladesh's progress towards the attainment of nationally prioritized targets (NPT) from SDGs, a web-based information repository is created on a website called SDG Tracker (<https://sdg.gov.bd/#1>). Based on these two documents (7th 5 years plan and

SDG Tracker) we can find out the nationally relevant theme for a particular SDG by analyzing its targets and indicators as outlined in the document titled “Global Indicator Framework for the Sustainable Development Goals and Targets of the 2030 Agenda for Sustainable Development” (UNDP, 2015). Then we will determine the bank’s relevant workable theme by employing the ‘concept mapping’ tool in the analysis between the themes of the nationally relevant SDGs and the bank’s functioning in the real economy. We have discussed in Chapter Four how a bank’s five functions (financial intermediation, resource allocation, maturity transformation, payment system, and risk management) influence the macroeconomic goals by influencing the macroeconomic agents. Here, a particular SDG will be decomposed into targeted themes and targeted people/places to map the concept with the bank’s functioning to the real economy and literary supports for the links between the particular SDG theme and banking (bank’s activities, operation, values and its functions to the real economy) will be provided to validate the analysis. Thus the workable SDG theme will be identified as the first part of the business model plan in the areas where banks can make a meaningful impact.

b. Development of Logical Framework:

For the selected theme, we will construct a logical framework as the second and third parts of the business model plan. We will provide ample literary support and establish best practices to underpin this framework, ensuring it aligns with the specific SDG and reflects the banking sector’s strategic sustainability objectives.

c. Identification of Objectively Verifiable Indicators (OVIs):

To implement and evaluate the business plan effectively, we will identify objectively verifiable indicators (OVIs) specific to each SDGs. We will provide practical guidance, established exercises, and literature supporting the chosen OVIs to ensure they are robust and reliable metrics.

Now, we will proceed to systematically work through each SDG, following these three steps. We will select national and banking-relevant themes develop a logical framework and identify OVI to apply the proposed impact optimizing sustainable banking model for each relevant SDG.

5.4.1 SDG 1: End Poverty: End poverty in all its forms everywhere

5.4.1.1 *Selecting the Workable Themes from SDG 1:*

The SDG 1 aims to ensure that everyone has the opportunity to live a dignified life, free from poverty and deprivation. This SDG has seven targets and 12 indicators to measure progress towards achieving it. We have to analyze the above targets and indicators to choose some workable themes that are relevant to the national priority of Bangladesh and its banking industry. In pursuit of this, we shall proceed as follows:

5.4.1.1.1 Summary of the SDG 1 and Relevant National Targets of Bangladesh:

The United Nations (UN) has outlined specific targets and indicators Under SDG 1. Bangladesh as a member country, has made efforts to align its national priorities with the relevant issues identified in these targets. In its 7th Five-Years plan and list of National Priority Targets (NPT), Bangladesh Has incorporated key areas that reflect the essence of these targets. The following Table 5.2 provides a summary of the specified targets and priority issues identified by Bangladesh in its pursuit of SDG 1.

Table 5.2 Summary of the SDG 1 targets and priority issues for Bangladesh.

Summary of the SDG targets	1.1 Extreme poverty 1.2 Halving the people below the National poverty line 1.3 Protection system for poor and vulnerable
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	<p>1.4 Right, access, ownership and control over economic and productive resources</p> <p>1.5 Building resilience and reducing exposure and vulnerability of the poor to different shocks and disasters.</p> <p>1. a Resource mobilization from different sources to end poverty in all dimensions.</p> <p>1. b. Pro-poor development strategies and accelerated investment in poverty eradication actions.</p>
<p>Relevant 7th 5 years Plan of Bangladesh</p>	<p>i. Reduction in the head-count poverty ratio by about 6.2 percentage points (from 24.8% to 18.6%)</p> <p>ii. Reduction in extreme poverty by about 4.0 percentage points (i.e. 8.9 % in 2020)</p> <p>iii. Spending on Social Protection as a share of GDP to be increased to 2.3%.</p> <p>iv. Creation of a Lagging Region Fund (Fund for the development of the underdeveloped regions in Bangladesh).</p>
<p>Relevant National Priority Target of Bangladesh for SDGs.</p>	<p>NPT 1 - Reduce the proportion of the population living below the extreme poverty line below 3% (SDG Indicator 1.2.1)</p> <p>NPT 2 - Reduce the proportion of the population living below the national poverty line below 10% (SDG Indicator 1.2.</p>

5.4.1.1.2 Selecting nationally relevant SDG Targets (Optimizing the Utility of Impact):

The statement of the 7th five-year plan and the NPT 1 and NPT 2 specified the level and the type of poverty that should be targeted as per the development priority of Bangladesh. Hence, analyzing the contents and mapping the concepts of the mentioned documents, we can choose the following four SDG targets that are nationally relevant for Bangladesh as demonstrated in Table no 5.3.

Table 5.3 Nationally relevant targets from SDG 1.

No	Details of the selected targets	Relevant SDG Indicators	Analysis (National Relevance)
1	Target No: 1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 (USD) a day	1.1.1 Proportion of the population living below the international poverty line by sex, age, employment status, and geographic location (urban/rural)	This target is about reducing the proportion of people below extreme poverty which is relevant to the NPT 1 and 7 th 5 years plan.
2	Target No: 1.2 By 2030, reduce at least half the proportion of men, women, and children of all ages living in poverty in all its dimensions according to national definitions	1.2.1 Proportion of population living below the national poverty line, by sex and age 1.2.2 Proportion of men, women, and children of all ages living in poverty in	This target tells about reducing the proportion of people below the national poverty line which is relevant to NPT 2 and 7 th 5 years plan.

		all its dimensions according to national definitions	
3	Target No: 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology, and financial services, including microfinance	1.4.1 Proportion of the population living in households with access to basic services	This target tells about equal access to economic resources and basic services including financial services for poor people which is highly relevant to the banking sector.
4	Target No: 1. b Create sound policy frameworks at the national, regional, and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions	1.b.1 Pro-poor public social spending	This target tells about regional policy pro-poor social spending which is relevant with the 7 th 5-year plan.

5.4.1.1.3 Selecting the Bank relevant SDG impact optimizing themes:

Once the nationally relevant SDG targets have been identified for SDG 1, the next step is to choose workable themes that are relevant to the bank's operations. The bank's relevance is assessed by examining how its functioning within the real economy, as previously explained, relates to the specific sustainability themes embedded within the SDGs. The analysis is

outlined in the following table no 5.4.

Table 5.4 Bank-relevant themes derived from the nationally relevant targets associated with SDG 1

SDGs Targets	Targeted Themes	Targeted people/place	Bank Relevance
1.1 and 1.2	Reducing Poverty (Extreme and head-count national poverty)	Poor households	The Bank's function of financial intermediation and resource allocation plays a crucial role in poverty reduction by facilitating employment opportunities and income generation activities for poor people.
1. b	Making Funds available for low-income regions.	The lower-income region in the country.	
1.4	Equal access to financial services	Poor people	

Literary Support for Bank Relevance:

Many studies find a significant impact of financial development on poverty in different ways.

Way at Micro level:

Facilitating access to formal financial services empowers individuals living in poverty to launch microenterprises, engaging them in higher-income employment opportunities and ultimately contributing to poverty reduction.

Financial development can improve opportunities for the poor to get access to formal finance by addressing the causes of financial market failures, such as information asymmetry and the high fixed cost of lending to small borrowers (Stiglitz, 1998; Jalilian and Kirkpatrick, 2001). Later on, Beck, Demiruc and Honohan's (2009) study explores the importance of access to formal financial services in developing countries to reduce income inequality and promote economic growth and discusses how improved financial system can benefit the poor (Beck, et al. 2009).

Financial sector development enables the poor to withdraw accumulated savings or to borrow money to start microenterprises, which eventually leads to wider access to financial services; higher employment, and higher incomes; and thereby reduce poverty (DFID 2004).

Way at Macro-level:

The poverty of a particular area may be reduced through the trickle-down process of economic growth in that area generated by financial development.

Financial development may trickle down to the poor through its influence on economic growth. The trickle-down theory has been widely supported by studies such as Ravallion and Datt (2002), Mellor (1999), Dollar and Kraay (2002), and Fan et al. (2000). While it doesn't explicitly use the term 'trickle-down theory', the study by Beck, Demirguc, and Levine investigates how financial development can impact poverty and inequality levels through economic growth (Beck, et al. 2004). As depicted by Burgess and Pande (2005) also find that state-led bank expansion in India's rural unbanked locations significantly reduced those in rural poverty by 14 to 17 percentage points.

In summary, poverty reduction is related to employment opportunities and income generation activities which in turn are related to the bank's functioning of financial intermediation and resource allocation.

The workable theme under SDG 1:

Hence, we can identify that the Bank's relevant SDG impact theme of this target is the bank can contribute to reducing extreme poverty by modifying its operation in a way that enhances

access to financial services for the poor and economic growth through employment opportunities and income generation. This theme matches with the SDG target no 1.1, 1.2, 1.4, and 1. b.

5.4.1.2 Sustainable Banking Plan for SDG 1:

In addressing the workable theme from SDG 1, found in the previous sub-section, the bank can prepare a plan based on the planning framework developed for the proposed impact optimizing sustainable banking plan and put it in the log-frame template as presented in the following table no 5.5.

Table 5.5 Sustainable banking plan for SDG 1 in the log frame template.

Chain of Log Frame	Description	Analysis
Goal: Bank’s vision regarding contribution to SDG 1.	Poverty alleviation: Eradicating extreme poverty through employment, income generation, and economic growth	Workable theme derived from SDG 1: Economic growth enhances employment and employment raises income. As a result of this process income inequality is reduced and poverty is alleviated.
Impact: The Bank’s sustainability vision is to be realized at the level of the	Inclusive and pro-poor growth. Equity and growth.	Theme translated into the desired macroeconomic goal: Sometimes growth creates inequality when the distribution is unequal. The goal of

<p>Macroeconomy.</p>		<p>inclusive and pro-poor growth is actually a mix of two macroeconomic goals a. economic growth and b. equitable distribution. Equitable distribution is required in the productive process, output, and income.</p>
<p>Outcome: The Bank's sustainability vision is to be realized at the level of macroeconomic agents.</p>	<p>Economic participation of the poor: Poor people will be engaged income-generating activities both as self-employment or paid employment forms to cross the extreme poverty line.</p>	<p>Theme translated into the desired conditions of macroeconomic agents: For reducing poverty it is important to ensure the economic participation of the poor. That means poor households will supply the labor market and will be involved in both the demand and supply of the commodity market.</p>
<p>Output: The Bank's sustainability target in value creation to the real economy.</p>	<p>Capital flow to the economic activities for the poor: Fund channeled to poor people's businesses or businesses that employ the poor people and a smooth payment system for them.</p>	<p>Required strategic management in the bank's functioning with the real economy: The Bank's intermediary role can mobilize and allocate financial resources from rich people to poor people so that they can be self-employed with adequate capital or paid employed with the required skills. The bank's payment service will allow poor people to smooth transactions in the labor and</p>

		commodity market. Moreover, Banks can drive fund flow towards such industries that offer more employment to the poor.
Activity : (Bank’s target in business process).	Financial services for the poor: The Bank will extend its services towards businesses owned by the poor or businesses where poor people get more employment.	Required strategic engagement with customers: If the bank can bring poor people into its customer network then it will be able to align its functioning and fund flow towards poverty alleviation through providing capital to their own business or acquiring the required skills for getting wage employment. Similarly, pooling labor-intensive industries in rural areas will enhance the employment opportunity for the poor.
Input: (Bank’s target in resource management)	Financial product offering for the poor: Deposit, Loan, and payment service to businesses owned by the poor or businesses that employ the poor.	Required strategic capital management: Small deposits will come from and small loans will go to the poor people at reasonable prices. Bank will facilitate their financial transaction, receipts, and payments at lower prices. The bank will increase loans to labor-intensive industries and rural areas.

Literary Support:

In aligning the banking activities towards supporting the above SDG targets, Bangladesh Bank (The central bank of Bangladesh) mapped its following existing programs and policies towards supporting the above-discussed SDG targets:

SDG Target 1.1	1. Pro-poor, Inclusive & Sustainable Monetary Policies, 2. Agricultural credit policies & programs for poor farmers, 3. SME credit policies for poor 4. Banking services for the poor and underserved 5. Pro-poor credit policies & programs 6. Financial Inclusion Policies & Programs
1.b	Pro-poor and gender-sensitive policies and regulations formulation.
1.4	1. Inclusive finance, 2. No-frill account 3. Rural branch, Mobile financial services, Agent banking 4. Strengthening consumer protection in banking.

Source: SDG Target Mapping by Bangladesh Bank, 2018.

Sen (2010) argues that the more relevant dimension of financial development that is important for the achievement of the MDGs (previous global development goal by UNDP before SDGs) is the inclusiveness of the financial system. Inclusive financial sector development makes two complementary contributions to poverty alleviation: financial sector development is a driver of economic growth which indirectly reduces poverty and inequality; and appropriate, affordable, financial services for poor people can improve their welfare (Emirguc-Kunt et al. 2008). Nowadays, inclusive finance, or specifically access to finance is generally perceived as a right of the poor and it has been recognized that financial inclusion efforts do have multiplier effects on the economy as a whole through higher savings pooled

from the vast segment of the bottom of the pyramid population by providing access to formal savings arrangements resulting in an expansion in credit and investment by banks (Khan 2012). The study adds financial inclusion creates enabling conditions for growth when there is access to safe, easy, and timely availability of the required amount of credit and other financial services at an affordable rate by the poor, disadvantaged, and unbanked groups in society recognized as a precondition for accelerating growth and reducing poverty and income disparities. It can be said that financial exclusion forms part of a much wider social exclusion faced by some groups who lack access to housing, education, or health care as well as employment (European Commission 2009).

5.4.1.3 Developing OVI (Objectively Verifiable Indicator) for SDG 1:

In order to implement the plan for SDG 1, as outlined in the previous sub-section, and track institutional progress on it, the bank can identify objectively verifiable indicator/indicators based on the implementing and monitoring frameworks devised for the proposed impact optimizing sustainable banking plan and present the whole process through linking the OVI and the theory of action (ToA) as demonstrated in the following table no 5.6.

Table 5.6 OVI linked with ToA for SDG 1.

First Step: Three terms Sustainability objectives of the bank	Long-term objective: Contribution to equitable distribution in the productive process, output, and income.
	Medium-term objective: Enabling the poor in income-generating activities.
	Short-term objective: Providing Capital for self-

	employment, facilitating employment creating sector, actor, and factor. Smooth and cost-effective payment service for the poor and poverty-prone areas.	
Second Step: Key Actions based on objectives:		
	Customer management	Capital management
Quality	Realization of long-term vision: Consideration of distributive justice in customer dealings.	The bank's offerings for the realization of the medium-term vision are microcredit, SME, small deposits, loans to labor-intensive sectors, factors, and actors.
Quantity	Category of customers to realize the short-term vision: Poor customers will be increased.	The direction of service to realize the short-term vision: Deposit from the poor, disbursement to the poor, and regular payment by the poor will be increased.
Target group	The purpose of sustainability interaction is to realize the medium-term vision: Poor people, their small firms, and those who are able to provide jobs to the poor.	Direction of financial flow to realize the medium-term vision: Financial flow will be mobilized towards poverty alleviation.

Timing	Time effectiveness from a customer point of view: Poor people should be bankable before falling into the trap of unfair loans in the informal sector.	Time effectiveness from an operational point of view: Long-term relationship with poor customers so that he gets enough time to cross the poverty line.
Place	Place effectiveness from a customer point of view: Customers will be reached in rural areas or poverty-prone geographic locations.	Place effectiveness from an operational point of view: Banking service will be spread to remote areas through mobile and agent banking.

Third Step: Finding Objectively Verifiable Indicators:

Specific	Measurable	Available	Realistic	Time bounded
<p>The issue to be expressed: Providing financial services to the poor.</p>	<p>Measurable units and dimension: Whether the number is Increasing throughout the following ratios: a. Percentage of microcredit to</p>	<p>The denominator and the nominator terms of the ratios are supposed to be available in the annual reports.</p>	<p>The progress throughout the ratios is not impossible if a. Both the sustainability logic and profitability are equally weighted in</p>	<p>The progress should be tracked on a regular basis and at least once a year.</p>

	total investment.		the bank's objective function.	
	b. Percentage of SME to the total investment		b. The executives are well trained in identifying and targeting poor people and managing capital aiming to address their needs to be related to finance.	
	c. Percentage of loan to labor-intensive sector to total disbursement.			
	d. Percentage of small deposits to total deposits			

Literary Support:

To evaluate inclusion (I) Rebai (2014) suggests using microfinance and philanthropy (MP). MP indicates the degree of access to all banking services to all and illustrates charities and good causes accomplished by the bank. MP is expressed as a proportion of total loans.

In their publication, “Guide to Banking and Sustainability” UNEP FI states that supporting SMEs is one of the six core sustainable banking practices. They note that SMEs face challenges in accessing financing and sustainable banks can help bridge this gap by providing financing and other support.

In a report titled “Sustainable Banking Network: progress and Outcomes,” the IFC and SBN (2019) highlight the importance of sustainable finance practices that support labor-

intensive sectors. The report notes that these sectors are critical for job creation and inclusive economic growth and that sustainable banking practices can help unlock financing for SMEs in these sectors.

A study by the World Bank found that financial inclusion, including access to savings accounts and other financial services, is a critical element of poverty reduction and inclusive economic growth. The study also found that sustainable banking practices that prioritize financial inclusion can help reduce inequality and promote social and environmental sustainability (World Bank, 2015)

5.4.2 SDG 2: Zero (No) Hunger: End hunger, achieve food security improve nutrition, and promote sustainable agriculture

5.4.2.1 Selecting the workable theme from SDG 2:

SDG 2 aims to ensure that everyone has access to sufficient and nutritious food and that agriculture is sustainable and resilient in the face of environmental and economic challenges. This SDG has eight targets and 14 indicators to measure progress towards achieving it. We have to choose some workable themes for this SDG analyzing their national and banking relevance. Here, we shall select the workable theme from SDG 2 targets that are relevant to the banking industry in Bangladesh as described in the steps below:

5.4.2.1.1 Summary of the SDG 2 and Relevant National Targets of Bangladesh:

The following table provides a summary of the specified targets and priority issues identified by Bangladesh in its pursuit of SDG 2.

Table 5.7 Summary of the SDG 2 targets and priority issues for Bangladesh.

<p>Summary of SDG Targets</p>	<p>2.1. Ending hunger and access to food</p> <p>2.2. Ending malnutrition to reduce over and underweight and height.</p> <p>2.3. Doubling agricultural productivity and income of the poor farmers through equal access to land and other productive resources including financial services, markets, and opportunities for value addition and non-farm employment.</p> <p>2.4. Sustainable and resilient agricultural practices.</p> <p>2.5. Conservation of local and diversified genetic resources for food and agriculture.</p> <p>2.a. Investment in agricultural and rural development.</p> <p>2. b. Freeing the international agricultural market through the elimination of export subsidies and other restrictions.</p> <p>2. c. Proper functioning of the food market and stable food prices.</p>
<p>7th 5 years plan of Bangladesh</p>	<p>i. Consolidation of the Food Transfer Program as suggested by the National Social Security Programme.</p> <p>ii. Reduce the proportion of stunting among under-five children from 36.1% to 25%.</p> <p>iii. Reduce the proportion of underweight children among under-five children from 32.6% to 20%</p>
<p>National Priority Target of Bangladesh for SDGs.</p>	<p>NPT 3 - Reduce the prevalence of stunting among children under 5 years of age to 12%.</p> <p>NPT 4: Ensure the proportion of cultivable land at a minimum of 55% of the total land area.</p>

5.4.2.1.2 Selecting Nationally Relevant SDG Targets :

By examining the contents of the 7th 5-year plan and the National Priority Targets (NPT), we can determine the specific sustainability themes that should be prioritized in line with Bangladesh’s development agenda for SDG 2. Through careful analysis and mapping of the concepts outlined in these documents, the following SDG targets emerge as nationally relevant for Bangladesh as demonstrated in Table 5.8.

Table 5.8 Nationally relevant targets from SDG 2.

No	Details of the selected targets	Relevant SDG Indicators	Analysis
1	<p>Target No: 2.1</p> <p>2.1 By 2030, end hunger and ensure access by all people, in particular, the poor and people in vulnerable situations, including infants, to safe, nutritious, and sufficient food all year round.</p>	<p>2.1.1 Prevalence of undernourishment</p> <p>2.1.2 Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)</p>	<p>7th 5 years plan and NPT 3 mentioned malnutrition, stunting i.e. over and under weight and height. NPT 4 talked about increasing the proportion of cultivable land.</p> <p>SDG target 2.1 tells about access to safe, nutritious, and sufficient food for all.</p> <p>SDG target 2.2 tells about ending</p>
2	<p>Target No: 2.2</p> <p>2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed</p>	<p>2.2.1 Prevalence of stunting (height for age <-2 standard deviations from the median of the World Health Organization (WHO) Child Growth</p>	<p>SDG target 2.1 tells about access to safe, nutritious, and sufficient food for all.</p> <p>SDG target 2.2 tells about ending</p>

	<p>targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons.</p>	<p>Standards) among children under 5 years of age</p> <p>2.2.2 Prevalence of malnutrition (weight for height $>+2$ or <-2 standard deviations from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight)</p>	<p>malnutrition to reduce over and underweight and height.</p> <p>These 2 targets are relevant to our 7th 5-year plan and NPT 3.</p>
<p>3</p>	<p>Target No: 2.3</p> <p>2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists, and fishers, including through secure and equal access to land, other productive resources, and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment.</p>	<p>2.3.1 Volume of production per labor unit by classes of farming/pastoral/forestry enterprise size</p> <p>2.3.2 Average Income of small-scale food producers, by Sex and Indigenous Status</p>	<p>SDG target no 2.3 mentioned increasing agricultural productivity, access to land, and other inputs including financial services to increase productivity.</p> <p>This target is relevant to NPT 4 and shows a link with the financial and banking industry.</p>

5.4.2.1.3 Selecting the Bank relevant SDG impact optimizing themes:

Once the nationally relevant SDG targets have been identified for SDG2, the next step is to choose workable themes that are relevant to the bank’s operations. The bank’s relevance is assessed by examining how its functioning within the real economy, as previously explained, relates to the specific sustainability themes embedded within the SDGs. The analysis is outlined in the following table no 5.9.

Table 5.9 Bank-relevant themes derived from the nationally relevant targets associated with SDG 2.

SDGs Targets	Targeted Themes	Targeted people/place	Bank Relevance
Target no 2.1	Reducing hunger and increasing access to food	People vulnerable to food insecurity who often face challenges in accessing an adequate and consistent supply chain of nutritious food.	The bank’s efforts to provide farmers with credit and promote digital payments aim at poverty reduction and financial inclusion but can indirectly combat hunger and malnutrition. These initiatives enable farmers to adopt modern techniques, boost income, and enhance
Target No 2.2	Ending malnutrition to reduce over and underweight and height.	People at risk of malnutrition	agricultural productivity, aiding those facing food insecurity. Digital payments reduce costs, making food
Target	Doubling agricultural	Poor Farmers and	more affordable for

No 2.3	productivity and income of the poor farmers through equal access to land and other productive resources including financial services, markets, and opportunities for value addition and non-farm employment.	firms in the food supply chain.	vulnerable populations. Meanwhile, food processing firms play a crucial role in food security by preserving and enhancing food's nutritional value, improving supply chains, and aiding small-scale farmers' market access, all contributing to the goal of achieving zero hunger. Formal financial support from banks further enhances the overall quality and efficiency of this process.

Literary Support:

The above themes can be linked with the banking sector in two ways:

Production line: Supply side

Financial services that facilitate investment in agriculture play a pivotal role in boosting agricultural productivity and expanding cultivable land. Access to credit enables farmers to purchase modern equipment, quality seeds, and fertilizers and adopt advanced farming techniques. As a result, they can increase their yield and produce more food. This not only contributes to food availability but also enhances the income security of farmers. A study by Barrett (2008) shows that access to credit significantly improves the income and overall well-being of smallholder farmers, which in turn can reduce national malnutrition. Improved income for farmers means they can afford better food for their families and invest in their

children's nutrition and education which are crucial for long-term food security and nutrition outcomes. Apart from these, formal financial support from banks can enhance the operations of food processing firms in several ways. It enables them to invest in modern processing equipment, expand their production capacity, and meet quality and safety standards. This financial support can lead to higher efficiency, increased output, and better product quality, all of which benefit consumers and contribute to food security. The study by Reardon, Timmer, and Minen (2012) discusses the supermarket revolution in Asia and how access to finance and financial support for small farmers and food processors can integrate them into the modern value chain improving efficiency and food security Reardon, et al. 2012).

Access line: Demand side

On the demand side, financial services that help individuals engage in income-earning activities are essential. Access to credit and financial inclusion empower people to start or expand businesses, which can lead to increased income. Higher income levels, as supported by evidence from the World Bank (2020), directly correlate with reduced malnutrition and stunting rates. When individuals and households have more purchasing capacity, they can access a diverse and nutritious diet, improving their overall nutritional status. This approach addresses the immediate needs of vulnerable populations and helps break the cycle of poverty and malnutrition.

The workable theme under SDG 2:

Increasing agricultural productivity and income of the poor farmers and reducing hunger and malnutrition through access to financial services match highly with SDG targets no 2.1, 2.2, and 2.3.

5.4.2.2 Sustainable Banking Plan for SDG 2

In addressing the workable theme from SDG 2, found in the previous sub-section, the bank can prepare a plan based on the planning framework developed for the proposed impact optimizing sustainable banking plan and put it in the log-frame template as presented in the

following table no 5.10.

Table 5.10 Sustainable banking plan for SDG 2 in the log frame template.

Chain of Log Frame	Description	Analysis
Goal: Bank's vision regarding contribution to SDG 2.	Reducing hunger and malnutrition through agricultural productivity: Increasing agricultural productivity and income of the poor farmers and reducing hunger and malnutrition through access to financial services.	Workable theme derived from SDG 2: Enhanced agricultural productivity will strengthen national food security which in turn will reduce national hunger and malnutrition.
Impact: The Bank's vision is to be realized at the level of macro economy.	Price stability through Productivity: Productivity and efficiency in the agricultural sector for price stability and access to food for all.	Theme translated into the desired macroeconomic goal: High agricultural productivity is closely linked to the macroeconomic goal of reducing inflation. Productivity in the agricultural sector leads to a greater food supply, which stabilizes prices. Thus everyone gets access to an adequate amount of nutritious food at affordable prices.
Outcome: The Bank's vision is to be realized at the	Access to food: Enhanced productivity in the agricultural sector	Theme translated into the desired conditions of macroeconomic agents: Enhanced agricultural

<p>level of macroeconomic agents.</p>	<p>will increase access to food for poor households.</p>	<p>productivity has a twofold outcome on improving food access food for households (one of four macroeconomic agents), especially the poor. Firstly, it increases the income of poor farmers, enabling them to afford a more varied and nutritious diet. Secondly, it stabilizes food prices across the market, ensuring that essential food items remain affordable for all. This combined effect addresses both income constraints and affordability challenges, contributing significantly to improved food access and reduced food insecurity among households.</p>
<p>Output: Bank's target in value creation to the real economy.</p>	<p>Access to financial services for the poor farmers: Poor farmers will get access to financial services and adequate funds will be channeled to them.</p>	<p>Required strategic management in the bank's functioning with the real economy: The Bank's intermediary role can mobilize and allocate adequate financial resources from the non-farming sector to the farming sector and the poor farmer will be able to avoid the risk of not getting the required agricultural inputs to ensure desired level of productivity. Moreover, the Bank's payment service will allow farmers to smooth transactions for both agricultural inputs and outputs. All these functions will drive fund flow toward the poor</p>

		farmers which are expected to enhance their productivity, efficiency, and income.
Activity : (Bank's target in business process).	Banking among the poor farmers: The Bank will extend its services to the rural and agricultural sectors and especially to the poor farmers.	Required strategic engagement with customers: If the bank can bring the poor farmers into its customer network then it will be able to align its functioning and fund flow towards achieving national food security through enhancing agricultural productivity and income of the poor farmers.
Input: (Bank's target in resource management)	Fund flow from and to the poor farmers: Offering suitable deposits, investment, and payment products to the poor farmers. Increasing agricultural loans and rural banking.	Required strategic capital management: Small deposits will come from and small loans will go to the poor farmers at reasonable prices. Bank will facilitate their financial transaction, receipts, and payments at lower prices. The bank will increase agricultural and rural loans.

Literary Support:

A study by the International Food Policy Research Institute (IFPRI) conducted in Ethiopia found that farmers who had access to credit had higher yields of cereals and pulses than those who did not have access. The study also found that access to credit allowed farmers to purchase better-quality inputs such as fertilizers and seeds, which further contributed to higher yields (Asfaw et al., 2012). Similarly, a study conducted in Bangladesh found that

access to credit significantly increased agricultural productivity and income among small-scale farmers. The study also found that farmers who had access to credit were more likely to adopt improved farming practices, such as using high-yielding varieties and applying fertilizers (Islam, 2017). Another study conducted in India found that access to credit significantly increased agricultural productivity and income among small and marginal farmers. The study also found that credit was particularly beneficial for those farmers who lacked access to other resources such as land and irrigation (Yadav and Rao, 2022).

In aligning the banking activities towards supporting the above SDG targets, Bangladesh Bank (The central bank of Bangladesh) mapped its following existing programs and policies towards supporting the above-discussed SDG targets (as in the following table):

SDG Target No	Relevant policies and programs
2.3	Agricultural credit policies and programs
2.4	1. Agricultural credit policies and programs 2. Green finance and climate finance policies and programs

Source: SDG Target Mapping by Bangladesh Bank, 2018.

5.4.2.3 Developing OVI (Objectively Verifiable Indicator) for SDG 2

In order to implement the plan for SDG 2, as outlined in the previous sub-section, and track institutional progress on it, the bank can identify objectively verifiable indicator/indicators based on the implementing and monitoring frameworks devised for the proposed impact optimizing sustainable banking plan and present the whole process through linking the OVI and the theory of action (ToA) as demonstrated in the following table no 5.11.

Table 5.11 OVI linked with ToA for SDG 2.

First Step: Three terms Sustainability objectives of the bank	Long-term objective (SDG vision at the level of macroeconomic goal): Contribution to productivity and efficiency in the agricultural sector.	
	Medium-term objective (SDG vision at the level of macroeconomic agents): Enabling the farmers to higher income through enhancing agricultural output- efficiency.	
	Short-term objective (SDG vision at the level of the Bank's functions to the real economy): Providing financial service to the poor farmers.	
Second Step: Key Actions based on objectives:		
	Customer management	Capital management
Quality	Realization of long-term vision: Consideration of agricultural productivity, income of the farmers, and food security	Bank's offerings for realization of the medium-term vision: Offering service products for the farmer.
Quantity	Category of customers to realize the short-term vision: Customers in the category of poor farmers will be increased.	The direction of service to realize the short-term vision: Deposit from farmers, disbursement to the poor farmers, and regular payment by the farmers will be increased.

<p>Target group</p>	<p>Purpose of sustainability interaction to realize the medium-term vision: Poor farmers, and firms in forward and backward linkages of the agricultural and food sector.</p>	<p>The direction of financial flow to realize the medium-term vision: Financial flow will be mobilized towards the supply chain of the agricultural sector and the field-level poor farmers.</p>
<p>Timing</p>	<p>Time effectiveness from a customer point of view: Poor farmers should be bankable before falling into the vicious cycle of unfair loans within the informal sector. By making these farmers bankable, they can access fair and transparent financial services, avoiding the risks associated with informal lending practices.</p>	<p>Time effectiveness from an operational point of view: Long-term customer relation with poor farmers is needed so that they get support for enough time to reach the optimum level of efficiency.</p>
<p>Place</p>	<p>Place effectiveness from a customer point of view: Customers will be reached in rural areas or poverty-prone geographic locations.</p>	<p>Place effectiveness from an operational point of view: Banking service will be spread to remote areas through mobile and agent banking.</p>

Third Step: Finding Objectively Verifiable Indicators:

Specific	Measurable	Available	Realistic	Time bounded
<p>Issue to be expressed: Providing financial services to the poor farmers and agricultural sector.</p>	<p>Measurable units and dimension: Whether the number is increasing or decreasing throughout the following ratios:</p> <ul style="list-style-type: none"> a. Percentage of credit to the agricultural sector to the total credit. b. Percentage of the number of farmers' accounts to the total number of deposit accounts. 	<p>The denominator and the numerator terms of the ratios are supposed to be available in the annual reports.</p>	<p>The progress throughout the ratios is possible if</p> <ul style="list-style-type: none"> c. Both the sustainability logic and profitability are equally weighted in the bank's objective function. d. The executives are well trained in identifying and targeting the farmers and the firms linked to the agricultural sector and manage 	<p>The progress should be tracked regularly and at least once a year.</p>

			capital aiming to address their needs related to finance.	
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Literary Support:

The International Finance Corporation (IFC) has developed a set of Environmental and Social Performance Standards, which include standards for sustainable agriculture and rural development. The IFC’s standards aim to ensure that the banks it works with are promoting sustainable practices in the agricultural sector, including the protection of biodiversity, the promotion of sustainable land use practices, and the support of smallholder farmers (IFC, 2012).

The Alliance for Financial Inclusion (AFI) has developed a set of indicators for measuring financial inclusion, including indicators related to the provision of financial services to the agricultural sector. The AFI indicators aim to ensure that financial services are accessible and affordable to smallholder farmers and other underserved populations (AFI, 2018).

5.4.3 SDG 4: Quality Education: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

5.4.3.1 Selecting the workable theme from SDG 4

SDG 4 aims to ensure that everyone has access to quality education for all and continuous learning for development. By achieving it we can help to create a world where everyone has the opportunity to reach their potential and contribute to their communities. This SDG has 10

targets and 12 indicators to measure progress towards achieving it. We have to choose some workable themes from these targets and indicators analyzing their national and banking relevance. Here, we go through the following way:

5.4.31.1 Summary of the SDG 4 and Relevant National Targets of Bangladesh:

The following Table 5.12 provides a summary of the specified targets and priority issues identified by Bangladesh in its pursuit of SDG 4.

Table 5.12: Summary of the SDG 4 targets and priority issues for Bangladesh.

<p>Summary of SDG Targets</p>	<p>4.1 Completion of primary and secondary education.</p> <p>4.2. Child care and pre-primary education.</p> <p>4.3. Equal access for men and technical, vocational, and university education.</p> <p>4.4 Technical and vocational skills for employment (ICT skill)</p> <p>4.5. Eliminating gender, race, and class disparities in getting access to all levels of education.</p> <p>4.6: Increased functional literacy and numeracy</p> <p>4.7. Global citizenship education and education for sustainable development among the learners.</p> <p>4.a. Inclusive and effective learning environment in educational institutes.</p> <p>4.b. Scholarships for higher education to the students who lag behind.</p> <p>4. c. Increasing the number of qualified teachers with required education and skills.</p>
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<p>7th 5 years plan of Bangladesh</p>	<p>i. Achieving a 100% net enrollment rate for primary and secondary education.</p> <p>ii. Ensure quality education in primary, secondary, and tertiary education.</p> <p>iii. The percentage of the cohort reaching grade 5 is to be increased to 100% from the current 80%.</p>
<p>National Priority Target of Bangladesh for SDG 4.</p>	<p>NPT 9: Ensure 100% completion rate of primary education</p> <p>NPT 10: Ensure 100% completion rate of junior secondary education</p> <p>NPT 11: Ensure the proportion of students in the technical level above 20% of the total students passed every year in secondary education (SSC, Dakhil, and Vocational)</p> <p>NPT 12: Ensure the proportion of schools by 100% with access to the following: A. Electricity B. Internet C. Basic drinking water D. Single-sex basic sanitation facilities.</p> <p>NPT 13: Ensure the proportion of schools by 100% with access to adapted infrastructure and materials for the children/ students with disability.</p>

5.4.31.2 Selecting Nationally Relevant SDG Targets:

By examining the contents of the 7th 5-year plan and the National Priority Targets (NPT), we can determine the specific sustainability themes that should be prioritized in line with Bangladesh’s development agenda for SDG 4. Through careful analysis and mapping of the concepts outlined in these documents, we can choose the following SDG targets that are nationally relevant for Bangladesh as demonstrated in Table no 5.13.

Table 5.13 Nationally relevant targets from SDG 4.

No	Details of the selected targets	Relevant SDG Indicators	Analysis
	<p>4.1 By 2030, ensure that all girls and boys complete free, equitable, and quality primary and secondary education leading to relevant and effective learning outcomes</p> <p>4.1 Completion of primary and secondary education</p>	<p>4.1.1 Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex.</p> <p>4.1.2 Completion rate (primary education, lower secondary education, upper secondary education).</p>	<p>Target 4.1 tells about the completion of primary and secondary education which is relevant with NPT 9 and 10 and 7th 5 years plan.</p>
	<p>4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs, and entrepreneurship</p> <p>4.4 Technical and vocational skills for employment (ICT skill)</p>	<p>4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill.</p>	<p>4.4 tells about technical and vocational skills for employment (ICT skills) which is relevant to NPT 11.</p>

	<p>4.a. Build and upgrade education facilities that are child, disability, and gender sensitive and provide safe, non-violent, inclusive, and effective learning environments for all.</p>	<p>4.a.1 Proportion of schools offering basic services, by type of service. Here the basic services mean essential facilities and resources such as clean water, safe classrooms, sanitation, qualified teachers, and other fundamental components necessary to create a conducive and effective learning environment for students.</p>	<p>4. a tells about an effective learning environment that is relevant to NPT 12 and 13.</p>
	<p>4. c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States</p> <p>Increasing the number of qualified teachers with required education and skills.</p>	<p>4.c.1 Proportion of teachers with the minimum required qualifications, by education level.</p>	<p>4. c tells about quality teachers for enhancement of quality in education which is exclusively relevant to the 7th 5-year plan.</p>

5.4.3.1.3 Selecting the Bank relevant SDG impact optimizing themes:

Once the nationally relevant SDG targets have been identified for SDG4, the next step is to choose workable themes that are relevant to the bank’s operations. The bank’s relevance is assessed by examining how it's functioning within the real economy, as previously explained (financial intermediation, resource allocation, maturity transformation, payment system, and risk management), relates to the specific sustainability themes embedded within the SDGs. The analysis is outlined below in the following table no 5.14.

Table 5.14 Bank-relevant themes derived from the nationally relevant targets associated with SDG 4.

SDGs Targets	Targeted Themes	Targeted people/place	Bank Relevance
Target no 4.1	Completion of primary and secondary education.	Students who are at risk of dropping out of school due to poverty.	The Bank’s functioning of financial intermediation role can provide student loans to individuals to finance their education, including primary education and the development of technical and vocational skills training. Moreover, Banks have the ability to allocate financial resources to educational initiatives that support the completion of primary education and the development of technical and vocational skills for employment.
Target No 4.4	SDG 4.4: Technical and vocational skill for employment (ICT skill)	Unemployed Youth.	
Linkage with the banking	Savings products help families to plan and manage their kids’ education expenses. Prina (2013) found in his study a 20 percent increase in spending		

sector	<p>on education among households that opened free bank accounts in Nepal.</p> <p>Another study by Ashraf (et, al. 2006) in the Philippines examines the effects of a program that promoted savings through the use of savings collectors who visited households, collected small savings deposits, and provided access to savings accounts. The study found positive impacts on savings accounts. The study found positive impacts on savings and suggested that such programs can be effective in helping families plan for future expenses, including education.</p> <p>Hence, Savings help to enhance education and skills.</p>
Workable Theme	Enrollment, quality, and completion of general, technical, and vocational education at all levels which matches with the SDG targets 4.1 and 4.4

5.4.3.2 Sustainable Banking Plan for SDG 4

In addressing the workable theme from SDG 4, found in the previous sub-section, the bank can prepare a plan based on the planning framework developed for the proposed impact-optimizing sustainable banking plan and put it in the log-frame template as is presented in the following table no 5.15.

Table 5.15 Sustainable banking plan for SDG 4 in the log frame template.

Chain of Log Frame	Description	Analysis
Goal: Bank's vision regarding contribution to SDG	Quality Education: Enrollment, quality, and completion of general,	Workable theme derived from SDG 4: In ensuring educational inclusion,

4.	technical, and vocational education at all levels.	barriers are to be removed from three areas; enrollment, quality, and completion.
<p>Impact: The Bank’s sustainability vision is to be realized at the level of the Macroeconomy.</p>	<p>Full employment through efficiency of labor: Efficient human capital for ensuring full employment.</p>	<p>Theme translated into the desired macroeconomic goal: General, technical, and vocational education enhances the human capital suitable for employment.</p>
<p>Outcome: The Bank’s sustainability vision is to be realized at the level of macroeconomic agents.</p>	<p>Supply of skilled labor force: Educated and Skilled labor force through enhanced literacy, education, and skills at all levels.</p>	<p>Theme translated into the desired conditions of macroeconomic agents: Here, the relevant macroeconomic agent is households who exert influence over the supply side of the labor market. Education plays a pivotal role in shaping skill development. Through acquiring both education and skills the labor force can significantly boost its efficiency and productivity.</p>
<p>Output: Bank’s target in value creation to the real economy.</p>	<p>Increased savings for educational enhancement: Marginal propensity to save (MPS) will be increased among vulnerable and lower-income groups, and the people living in</p>	<p>Required strategic management in bank’s functioning with the real economy: Futuristic people save money by cutting current consumption and take education investing time for future prosperity. Due to a common mindset, one paves the way for the other. People from vulnerable and lower-income groups</p>

	disadvantaged locations.	and those living in disadvantaged locations are always in a struggle for livelihood activities. Savings will help to be futuristic enough to enhance education and skill.
Activity : (Bank's target in business process).	Increased bank accounts among the targeted group: Bringing unserved people from vulnerable and lower-income groups into the customer network encourages them to save and promotes financial literacy.	Required strategic engagement with customers: Bank account will facilitate savings which will bring financial stability to the vulnerable group to enable them to acquire adequate education and skills.
Input: (Bank's target in resource management)	Deposit mobilization from the targeted group: Offering depository products to the targeted people at affordable prices.	Required strategic capital management: Offering affordable and suitable products to people of lower income groups from vulnerable professions and locations will encourage them to save and plan for future development by acquiring education and skills.

Literary Support:

The stakes in achieving universal access to high-quality education are high, yet many children

remain out of school. The financial challenges associated with paying school fees and covering the other costs of education contribute to this problem. There is emerging evidence on the role financial services can play in expanding low-income families' access to education finance and removing barriers to education.

Access to credit can help families cover the costs of education, including fees, uniforms, and textbooks. For example, a study in Mexico found that access to microcredit led to an increase in school enrollment, particularly for girls (Skoufias et. al, 2001). Prina (2013) found in his study a 20 percent increase in spending on education among households that opened free bank accounts in Nepal.

In aligning the banking activities towards supporting the above SDG targets, Bangladesh Bank (The Central Bank of Bangladesh) mapped its following existing programs and policies towards supporting the above-discussed SDG targets:

SDG Target No	Relevant policies and programs
4.1	Financial education
4.4	Skill development programs under different credit programs and financial inclusion programs.

Source: SDG Target Mapping by Bangladesh Bank, 2018.

5.4.3.3 Developing OVI (Objectively Verifiable Indicator) for SDG 4

In order to implement the plan for SDG 4, as outlined in the previous sub-section, and track institutional progress on it, the bank can identify objectively verifiable indicator/indicators

based on the implementing and monitoring frameworks devised for the proposed impact optimizing sustainable banking plan in the following way:

In order to implement the plan for SDG 4, as outlined in the previous sub-section, and track institutional progress on it, the bank can identify objectively verifiable indicator/indicators based on the implementing and monitoring frameworks devised for the proposed impact optimizing sustainable banking plan and present the whole process through linking the OVI and the theory of action (ToA) as demonstrated in the following table no 5.16.

Table 5.16 OVI linked with ToA for SDG 1.

First Step: Three terms Sustainability objectives of the bank	Long-term objective: Contribution to human capital development and employability.	
	Medium-term objective: Contribution to enabling poor people to enhance their skills and education.	
	Short-term objective: Contribution in ensuring marginal propensity to save (MPS) to increase especially among the poor.	
Second Step: Key Actions based on objectives:		
	Customer management	Capital management
Quality	Realization of long-term vision: Consideration of human capital	Bank's offerings for the realization of the medium-term vision: Savings products to the

	development of the country.	poor and their children to remove the financial barriers to education.
Quantity	Category of customers to realize the short-term vision: Poor customers as depositors will be increased so that they can securely save money to make better plans and invest in their children.	The direction of service to realize the short-term vision: Deposit from the poor will be increased to ensure the necessary resources to send their children to school and access quality learning opportunities.
Target group	Purpose of sustainability interaction to realize the medium-term vision: Households will have adequate savings to avail education and skills for their family member in an uninterrupted way.	Direction of financial flow to realize the medium-term vision: Financial flow will be mobilized between poor households and banks to enhance their ability to afford educational expenses, such as school fees, textbooks, and educational materials, leading to improved access to quality education for themselves and their children.
Timing	Time effectiveness from the customer's point of view: Savings should begin from the early age of life in developing financial literacy skills and fostering a sense of	Time effectiveness from an operational point of view: Long-term savings relationship with poor customers so that they accumulate enough funds to avail skills and education for the family members.

	responsibility, discipline, and long-term planning among the children which are essential for educational success.	
Place	Place effectiveness from a customer point of view: Customers will be reached in rural areas or poverty-prone geographic locations to empower individuals in underserved communities to invest in education for themselves and their children.	Place effectiveness from an operational point of view: Banking service will be spread to remote areas through online, mobile, and agent banking.

Third Step: Finding Objectively Verifiable Indicators:

Specific	Measurable	Available	Realistic	Time bounded
Issue to be expressed: Providing deposit service to poor families whose members are unable to access or	Measurable units and dimension: Whether the number is increasing throughout the following	The denominator and the numerator terms of the ratios are supposed to be available in the annual reports.	Progress throughout the ratios is possible if a. Both the sustainability logic and profitability are equally	The progress should be tracked on a regular basis and at least

<p>vulnerable to dropping out from institutional education.</p>	<p>ratio: Percentage of small deposit accounts from the poverty-stricken families to the total number of deposit accounts in the bank.</p>		<p>weighted in the bank's objective function.</p> <p>b. Collaboration is possible with the government to identify and target the families lacking in the ability to access education and vulnerable drop out from general or vocational at primary, secondary, and tertiary levels.</p> <p>c. Collaboration is made with local NGOs working for education.</p>	<p>once a year.</p>
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Literary Support:

According to the United Nations Global Compact (UNGC) percentage of loans made to students or parents to finance education is an indicator that can help to assess the bank's contribution to promoting education as a means of improving social mobility and reducing inequality (UNGC, 2019).

5.4.4 SDG 5: Gender Equality: Achieve gender equality and empower all women and girls.

5.4.4.1 Selecting the workable theme from SDG 5

SDG 5 aims to create a world where women and girls have the same opportunities, rights, and freedom as men and boys. By achieving SDG 5, we can help to create a more just, equitable, and prosperous world for everyone. This SDG has 9 targets and 14 indicators to measure progress towards achieving it. We have to choose some workable themes from these targets and indicators analyzing their national and banking relevance. Here, we go through the following way:

5.4.4.1.1 Summary of the SDG 5 and Relevant National Targets of Bangladesh:

The United Nations (UN) has outlined specific targets and indicators Under SDG 5. Bangladesh as a member country has made efforts to align its national priorities with the relevant issues identified in these targets. In its 7th Five-Year plan and list of National Priority Targets (NPT), Bangladesh Has incorporated key areas that reflect the essence of these targets. The following provides a summary of the specified targets and priority issues identified by Bangladesh in its pursuit of SDG 5.

Table 5.17: Summary of the SDG 5 targets and priority issues for Bangladesh.

Summary of SDG Targets	5.1. Ending discrimination on the basis of sex. 5.2: Eliminating physical, sexual, or psychological violence
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	<p>against women in the private and public sphere.</p> <p>5.3. Eradication of harmful practices like child and forced marriage and female genital cutting.</p> <p>5.4. Recognize and value the time spent on unpaid domestic and care work.</p> <p>5.5 Ensuring Effective female participation and increasing their leadership in public offices and private corporations.</p> <p>5.6. Ensuring the right to make own informed decisions regarding sexual relations and access to sexual and reproductive health care.</p> <p>5. a. Ensuring equal rights for women in access, ownership, and control over productive resources (including financial services) and inheritance.</p> <p>5. b. Enhance the use of ICT to promote the empowerment of women.</p> <p>5. c. Policies for promoting gender equality and women’s empowerment.</p>
<p>7th 5 years plan of Bangladesh</p>	<p>i. Gender Parity Index in tertiary education to be raised from current 0.70 to 1.0.</p> <p>ii. The ratio of the literacy rate of females to that of males for age group 20-24 to be raised to 100% from the current 86%.</p> <p>iii. Increase the share of female officers (Grade 9 and above) in the public sector to 25% by 2020.</p>
<p>National Priority Target</p>	<p>NPT 14: Reduce the proportion of women aged 20-24 years</p>

of Bangladesh for SDGs.	<p>who were married before age 15 to zero</p> <p>NPT 15: Reduce the proportion of women aged 20-24 years who were married before age 18 to 10%.</p> <p>NPT 16: Increase the female labor force participation rate to 50%</p>
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5.4.4.1.2 Selecting Nationally Relevant SDG Targets :

By examining the contents of the 7th 5-year plan and the National Priority Targets (NPT), we can determine the specific sustainability themes that should be prioritized in line with Bangladesh’s development agenda for SDG 5. Through careful analysis and mapping of the concepts outlined in these documents, we can choose the following SDG targets that emerge as nationally relevant for Bangladesh as demonstrated in Table no 5.18.

Table 5.18 Nationally relevant targets from SDG 5.

No	Details of the selected targets	Relevant SDG Indicators	Analysis
1.	5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial	5.a.1 (a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of	Equal rights for women in access, ownership, control over productive resources (including financial services), and inheritance which is

	services, inheritance, and natural resources, in accordance with national laws.	women among owners or rights-bearers of agricultural land, by type of tenure.	relevant to the 7 th 5-year plan.
2.	5.3 Eliminate all harmful practices, such as child, early and forced marriage, and female genital mutilation.	5.3.1 Proportion of women aged 20–24 years who were married or in a union before age 15 and before age 18.	SDG 5.3 tells about reducing early marriage which is relevant to NPT 14 and 15
3.	5.5 Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	5.5.2 Proportion of women in managerial positions.	SDG 5.5 is about women’s full and effective participation and equal opportunity of leadership in economic and public life which is relevant with the 7 th 5-year plan.

5.4.4.1.3 Selecting the Bank relevant SDG impact optimizing themes:

Once the nationally relevant SDG targets have been identified for SDG5, the next step is to choose workable themes that are relevant to the bank’s operations. The bank’s relevance is assessed by examining how it's functioning within the real economy, as previously explained (financial intermediation, resource allocation, maturity transformation, payment system, and

risk management), relates to the specific sustainability themes embedded within the SDGs. The analysis is outlined in the following table no 5.19.

Table 5.19 Bank-relevant themes derived from the nationally relevant targets associated with SDG 5.

SDGs Targets	Targeted Themes	Targeted people/place	Bank Relevance
Target no 5. a	5. a. Equal rights for women in access, ownership, and control over productive resources (including financial services) and inheritance.	Women’s participation in economic life	Banks can help women entrepreneurs by offering them financial support for their businesses. Moreover, banks facilitate efficient and secure payment systems that enable transaction and economic activities which are particularly relevant for women who are engaged in informal sectors or work as small-scale entrepreneurs.
Target no 5.3	5.3. Eradication of harmful practices like child and forced marriage and female genital mutilation.	Social tradition that is harmful to women.	
Target No 5.5	5.5 Women’s full and effective participation and equal opportunity of	Economic participation and leadership	

	leadership in economic and public life.	of women.	
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Linkage with the Banking Sector:

Analyzing the above targets we found some issues of women empowerment such as a. Tertiary level education b. A higher position in public office, c. Reducing Early marriage, d. Labor force participation. The question arises of how this issue is linked to the banking sector:

Financial service and labor force participation:

To promote gender equality it is key to help women assert their economic power through financial services. More than half of women worldwide are unemployed and not looking for work (World Bank, 2015). Women are more likely than men to be self-employed in developing countries and thus are in greater need of access to formal financial services (Demirguc-Kunt, Klapper, and Singer, 2013). On the other hand, because of poor credit history or lack of collateral, women are more likely to be denied bank loans than men and often pay higher interest rates than men on formal bank loans (IFC, 2011). Financial inclusion of women can create gender equality by giving them greater control over their finances (Ashraf et al. 2010). It is evident from Dupas and Robinson (2009) that, when Kenyan market women were given access to a savings account with no opening fees, they increased private expenditures by 38 percent.

Savings and education:

Female-controlled finances are more likely spent on necessities, such as food and water, as well as child welfare, including school fees and healthcare (Duflo, 2012).

Summary of the workable theme:

Women's equal access to productive resources and strong economic participation. This theme matches with the SDG target no 5. a and 5.5.

5.4.4.2 Sustainable Banking Plan for SDG 5

In addressing the workable theme from SDG 5, found in the previous sub-section, the bank can prepare a plan based on the planning framework developed for the proposed impact-optimizing sustainable banking plan and put it in the log-frame template as is presented in the following table no 5.20.

Table 5.20 Sustainable banking plan for SDG 5 in the log frame template.

Chain of Log Frame	Description	Analysis
Goal: Bank's vision regarding contribution to SDG 5.	Economic empowerment of women: Women's equal access to productive resources and strong economic participation.	Workable theme derived from SDG 5: Economic empowerment will strengthen women's role in the decision-making process both in the private and public sphere which will pave the way to reduce gender inequality.
Impact: The Bank's vision is to be realized at the level of	Inclusive growth through women's participation:	Theme translated into the desired macroeconomic goal: For reducing gender inequality,

the Macroeconomy.	Gender equality in economic resources and productive processes.	inequality in participation for growth is to be reduced. Hence, women's share in national growth should be increased, since they are half of the population.
Outcome: The Bank's vision is to be realized at the level of macroeconomic agents.	Women's strong economic participation: Women's effective participation and opportunity of leadership in economic life.	Theme translated into the desired conditions of macroeconomic agents: Women's economic participation and increased leadership positions both in the private and public sector will enhance growth and its inclusiveness and national gender parity.
Output: Bank's target in value creation to the real economy.	Women's access to financial resources and services: The bank will allocate financial resources to economic initiatives taken by women and facilitate savings and payments.	Required strategic management in bank's functioning with the real economy: Savings to banks and loans from banks enhance women's empowerment in the family, social, and economic spheres.
Activity : (Bank's target in business process).	Banking services to the women: Bringing women to customer network in both urban and rural areas. Motivating for savings and	Required strategic engagement with customers: Being customers both as depositors and borrowers will bring borrowed or saved funds into women's hands

	promoting entrepreneurship among them.	which will enhance their position in the decision-making process in the private and public sphere.
Input: (Bank's target in resource management)	Fund and knowledge management for women: Collecting deposit, Providing loans, facilitating payment, and promoting financial literacy among them.	Required strategic capital management: Offering suitable savings and investment products and marketing those products to unbanked women will increase their overall access to financial services.

Literary Support

Bhatia, S., & Singh, S. (2019) conducted a study among the beneficiaries of financial inclusion adopted by the Indian government and found that there are positive influences on social, political, and economic dimensions of women empowerment.

A study by the Asian Development Bank (ADB) (2015) found that women who have access to financial services are more likely to participate in the formal economy and have greater bargaining power in household decision-making. The study also noted that women who have access to financial services are more likely to invest in education and health, which can have positive effects on their families and communities.

In aligning the banking activities towards supporting the above SDG targets, Bangladesh Bank (The central bank of Bangladesh) mapped its following existing programs and policies towards supporting the above-discussed SDG targets:

SDG Target No	Relevant policies and programs
5.1 and 5. A	Gender-sensitive policy formulation

Source: SDG Target Mapping by Bangladesh Bank, 2018.

5.4.4.3 Developing OVI (Objectively Verifiable Indicator) for SDG 5

To implement the plan for SDG 5, as outlined in the previous sub-section, and track institutional progress on it, the bank can identify objectively verifiable indicator/indicators based on the implementing and monitoring frameworks devised for the proposed impact-optimizing sustainable banking plan and present the whole process through linking the OVI and the theory of action (ToA) as demonstrated in the following table no 5.21.

Table 5.21 OVI linked with ToA for SDG 5.

First Step: Three terms Sustainability objectives of the bank	Long-term objective: Contribution to gender equality in terms of access to economic resources (which include assets like land, financial capital, and other resources) and in the processes related to production (which could involve activities like manufacturing, agriculture, or service provision).
	Medium-term objective: Contribution to enabling women’s effective participation and opportunity of leadership in economic life. (Note: Here, ‘leadership in economic life’ refers to women having equal opportunities to hold leadership positions, make

	<p>decisions and actively participate in various aspects of the economic sphere, including businesses, organizations, and policymaking. It does not necessarily imply women taking over men in leadership positions, but rather striving for gender balance and equal representation in leadership roles).</p>	
	<p>Short-term objective: Providing financial resources and payment services to the initiatives taken by women.</p>	
<p>Second Step: Key Actions based on objectives:</p>		
	<p>Customer management</p>	<p>Capital management</p>
<p>Quality</p>	<p>Realization of long-term vision: The Bank will take into consideration gender equality in the productive process during its customer dealings. (Note: The term “Productive processes” typically refers to the various activities and procedures involved in producing goods or services within a business or industry. It encompasses everything from the initial stages of production to the final delivery of products or</p>	<p>Bank’s offerings for the realization of the medium-term vision: Providing banking services designed to support women in strong economic participation. (Note: “Economic participation” refers to the active involvement of individuals, in this case, women, in various economic activities. It includes their participation in the workforce, entrepreneurship, financial transactions, and other aspects of the economy).</p>

	services to customers).	
Quantity	Category of customers to realize the short-term vision: Female customers will be increased.	The direction of service to realize the short-term vision: Deposits from women, disbursement of loans to women, and women's regular financial transactions through banking channels will be increased.
Target group	Purpose of sustainability interaction to realize the medium-term vision: In the sustainability effort, the bank will target women in general, as well as female entrepreneurs and initiatives led by women in the economic sphere.	Direction of financial flow to realize the medium-term vision: Financial flow will be directed and channeled to support the economic empowerment of women.
Timing	Time effectiveness from a customer point of view: Women should get loans and other services in initiating new start-ups, management, and expansion of business.	Time effectiveness from an operational point of view: Long-term diverse relations with underprivileged female customers so that they get enough financial capital and business counseling to initiate and run the business successfully.
Place	Place effectiveness from a customer point of	Place effectiveness from an operational point of view:

	<p>view: Female customers should receive comprehensive one-stop services and, when needed, have the option of convenient on-site assistance, whether it's at their home, business, or the bank's location.</p>	<p>Banking service should be spread to women both in rural urban and remote areas through online, mobile, and agent banking.</p>
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Third Step: Finding Objectively Verifiable Indicators:

Specific	Measurable	Available	Realistic	Time bounded
<p>The issue to be expressed: Providing financial services to women.</p>	<p>Measurable units and dimension: Whether the number is increasing or decreasing throughout the following ratio: Percentage of deposit by of deposit accounts by</p>	<p>The denominator and the numerator terms of the ratios are supposed to be available in the annual reports.</p>	<p>The progress throughout the ratios is not impossible if a. Both the sustainability logic and profitability are equally weighted in the bank's objective function.</p>	<p>The progress should be tracked regularly and at least once a year.</p>

	<p>women to the total deposit accounts</p> <p>Percentage of loan disbursement to women to the total investments</p>		<p>b. The executives are well trained and motivated to include women in the banking network and to prioritize women entrepreneurs in loan advancement.</p> <p>c. Collaboration is made with local NGOs working for women.</p>	
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Literary Support:

To assess whether a bank serves women, the Global Banking Alliance for Women (GBA) used three indicators which are a. the growth of female customers b. the increase in credit volume extended to women, and c. the rise in deposit volume contributed by women. The study revealed that women’s representation was lower both in customer numbers and financial volumes (GBA, 2017).

5.4.5 SDG 7: Affordable and Clean Energy: Ensure access to affordable, reliable, sustainable, and modern energy for all:

5.4.5.1 Selecting the workable theme from SDG 7

SDG 7 aims to address the challenges related to energy access, including the lack of access to electricity and modern energy services in many parts of the world, the heavy reliance on fossil fuels, and the resulting environmental impacts, such as climate change and air pollution. This SDG has 5 targets and 6 indicators to measure progress towards achieving it. We have to choose some workable themes from these targets and indicators analyzing their national and banking relevance. Here, we go through the following way:

5.4.5.1.1 Summary of the SDG 5 and Relevant National Targets of Bangladesh:

The United Nations (UN) has outlined specific targets and indicators Under SDG 7. Bangladesh as a member country has made efforts to align its national priorities with the relevant issues identified in these targets. In its 7th Five-Year plan and list of National Priority Targets (NPT), Bangladesh Has incorporated key areas that reflect the essence of these targets. The following Table 5.22 provides a summary of the specified targets and priority issues identified by Bangladesh in its pursuit of SDG 7.

Table 5.22 Summary of the SDG 7 targets and priority issues for Bangladesh.

Summary of 8 SDG Targets	7.1. Electricity, clean fuels and technology 7.2. Use of renewable energy 7.3 Energy efficiency
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	<p>7.a. Clean energy research and, energy infrastructure and clean energy technology.</p> <p>7. b. Installed renewable energy-generating capacity</p>
7th 5 years plan of Bangladesh	<p>i. Generation of electricity to be increased to 23,000 MW.</p> <p>ii. Electricity coverage to be increased to 96%.</p> <p>iii. Increase energy efficiency by 10%</p>
National Priority Target of Bangladesh for SDGs.	<p>NPT 19 - Ensure access to electricity for 100% population.</p> <p>NPT 20 - Increase renewable energy share in total final energy consumption to 10%.</p>

5.4.5.1.2 Selecting Nationally Relevant SDG Targets :

By examining the contents of the 7th 5-year plan and the National Priority Targets (NPT), we can determine the specific sustainability themes that should be prioritized in line with Bangladesh's development agenda for SDG 7. Hence, analyzing the contents and mapping the concepts of the mentioned documents, we can choose the following four SDG targets that are nationally relevant for Bangladesh as demonstrated in Table no 5.23.

Table 5.23 Nationally relevant targets from SDG 7.

No	Details of the selected targets	Relevant Indicators	SDG	Analysis
1.	7.1 By 2030, ensure universal access to affordable, reliable, and modern energy services	7.1.1 Proportion of the population with access to electricity. 7.1.2 Proportion of population with primary reliance on clean fuels and technology		7.1 Increasing access to electricity, clean fuels, and technology which is relevant to NPT 19.
2.	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.	7.2.1 Renewable energy share in the total final energy consumption		7.2 – Increasing use of renewable energy which is relevant to NPT 20.
3.	7.3 By 2030, double the global rate of improvement in energy efficiency	7.3.1 Energy intensity measured in terms of primary energy and GDP		7.3. Increasing energy efficiency which is relevant to the 7 th 5-year plan.

5.4.5.1.3 Selecting the Bank relevant SDG impact optimizing themes:

Once the nationally relevant SDG targets have been identified for SDG7, the next step is to choose workable themes that are relevant to the bank’s operations. The bank’s relevance is assessed by examining how it's functioning within the real economy, as previously explained (financial intermediation, resource allocation, maturity transformation, payment system, and

risk management), relates to the specific sustainability themes embedded within the SDGs. The analysis is outlined in the following table no 5.24.

Table 5.24 Bank-relevant themes derived from the nationally relevant targets associated with SDG 7.

SDGs Targets	Targeted Themes	Targeted people/place	Bank Relevance
Target no 7.1	Ensure access to Electricity, Clean fuels and technology	People in remote areas	The Bank's functioning of resource allocation can provide financial support to renewable energy developers and companies which will help them to overcome high upfront costs associated with such projects. Banks can also support energy efficiency initiatives by allocating resources to projects aimed at reducing energy consumption and improving efficiency in various sectors.
Target 7.2	Use of renewable energy and avoiding greenhouse gas emissions.	Industry and business	
Target 7.3	Energy efficient economy	Energy production and consumption and behavior of the people	

Literary Support:

UNEP FI (2019) Sustainable Banking Network Global Progress Report (2019) provides insights into the global progress of sustainable banking including initiatives related to renewable energy and energy efficiency. It discusses the role of banks in mobilizing finance for sustainable development, including support for renewable energy projects (SBN, 2019).

Workable Theme:

Promoting a green economy through the production and use of clean and renewable energy and avoiding gas emissions which match SDG targets no 7.1, 7.2, and 7.3.

5.4.5.2 Sustainable Banking Plan for SDG 7

In addressing the workable theme from SDG 7, found in the previous sub-section, the bank can prepare a plan based on the planning framework developed for the proposed impact-optimizing sustainable banking plan and put it in the log-frame template as is presented in the following table no 5.25.

Table 5.25 Sustainable banking plan for SDG 1 in the log frame template.

Chain of Log Frame	Description	Analysis
Goal: Bank's vision regarding contribution to SDG 7.	Adoption of Green Energy: Increasing production, access, and use of clean and renewable	Workable theme derived from SDG 7: To achieve universal access to sustainable energy, we must amplify the production and utilization of

	energy and avoiding gas emissions.	renewable energy sources while concurrently mitigating greenhouse gas emissions.
Impact: The Bank's vision is to be realized at the level of the Macroeconomy.	Clean environment and efficient economy: Green economy through Energy efficiency and avoided emissions.	Theme translated into the desired macroeconomic goal: Energy efficiency promotes an efficient economy whereas avoided emissions promote a clean environment.
Outcome: The Bank's vision is to be realized at the level of macroeconomic agents.	Responsible energy use: Production and consumption of clean and renewable energy.	Theme translated into the desired conditions of macroeconomic agents: Consumption of clean and renewable energy depends on production and availability of the same. Both are required for energy efficiency and environmental cleanliness.
Output: Bank's target in value creation to the real economy.	Access to green finance for green energy: Increased access to finance for the production and use of clean and renewable energy.	Required strategic management in the bank's functioning with the real economy: The availability of the bank's fund for green energy will promote entrepreneurship and consumption tendency for clean and renewable energy.
Activity: Bank's target in the business	Financing energy efficiency:	Required strategic engagement with customers:

process.	Selecting the project and proposal related to the production and adoption of green energy and avoided gas emissions.	Banks should allocate resources through relational channels with households, firms, government, and foreigners for green and clean energy. For this reason, the bank has to select private, and public foreign initiatives for loans dedicated to this cause.
Input: Bank's target in resource management.	Investment products for green energy: Offering the products for generating and use of green energy and avoiding gas emissions.	Required strategic capital management: Products should be offered suitable for private, public, social, and foreign initiatives related to energy efficiency and a clean environment in domestic areas.

Literary Support:

In aligning the banking activities towards supporting the above SDG targets, Bangladesh Bank (The Central Bank of Bangladesh) mapped its following existing programs and policies towards supporting the above-discussed SDG targets:

SDG Target No Relevant policies and programs

7.2	Green finance for renewable energy
7.3	Green finance for energy efficiency.

Source: SDG Target Mapping by Bangladesh Bank, 2018 (Internal Document).

5.4.5.3 Developing OVI (Objectively Verifiable Indicator) for SDG 7:

To implement the plan for SDG 7, as outlined in the previous sub-section, and track institutional progress on it, the bank can identify objectively verifiable indicator/indicators based on the implementing and monitoring frameworks devised for the proposed impact-optimizing sustainable banking plan and present the whole process through linking the OVI and the theory of action (ToA) as demonstrated in the following table no 5.26.

Table 5.26 OVI linked with ToA for SDG 7.

First Step: Three terms Sustainability objectives of the bank	Long-term objective: Contribution in transforming towards a green economy through ensuring enhanced energy efficiency and avoided emissions.
	Medium-term objective: Enabling households, firms, and government in the production and consumption of clean and renewable energies.
	Short-term objective: Providing finance for the production and use of clean and renewable energy (It involves allocating funds to various stakeholders, such as renewable energy companies, research institutions, and projects that focus on clean energy initiatives).
Second Step: Key Actions based on objectives:	

	Customer management	Capital management
Quality	Realization of long-term vision: Consideration of the issues of green economy, energy efficiency and avoiding emission in customer dealings.	Bank's offerings for the realization of the medium-term vision: Offering financial products for the cause of the green economy, energy efficiency, and avoidance of emissions.
Quantity	Category of customers to realize the short-term vision: The number of customers in green finance is expected to grow.	The direction of service to realize the short-term vision: Fund disbursement in the areas of green economy, energy efficiency and reduction of emissions will be increased.
Target group	Purpose of sustainability interaction to realize the medium-term vision: The targeted group comprises individuals and initiatives dedicated to environmentally sustainable practices. This group actively promotes the development of a green economy, advocates for the increased utilization of renewable energy sources,	The direction of financial flow to realize the medium-term vision: Financial flow will be mobilized towards a green economy, energy efficiency, and reduction of emissions.

	<p>champions energy efficiency measures, and works towards substantial emission reductions.</p>	
<p>Timing</p>	<p>Time effectiveness from a customer point of view: Immediate support should be provided for energy efficiency and clean energy initiatives right after the application process.</p>	<p>Time effectiveness from an operational point of view: Both long-term and short-term relations should be maintained with environmentally concerned customers and projects so that they get enough resources and time to transform the economy towards greenness, efficiency, and cleanliness.</p>
<p>Place</p>	<p>Place effectiveness from a customer point of view: Customer will be reached both at the bank's premises and at the locations where the environmental project is undertaken.</p>	<p>Place effectiveness from an operational point of view: Banking service will be extended to remote areas where environmental projects are in progress using online, mobile, and agent banking methods. The remote areas in Bangladesh are coastal areas that are vulnerable to environmental hazards including sea-level rise and cyclones. Moreover, these regions often lack access to clean energy sources and</p>

		<p>financial services, making it crucial to introduce sustainable technologies and extended banking services. Hence, the focus on remote areas particularly coastal regions is pivotal for advancing the goal of the green economy and clean energy initiatives in Bangladesh.</p>
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Third Step: Finding Objectively Verifiable Indicators:

Specific	Measurable	Available	Realistic	Time bounded
<p>The issue to be expressed: Providing resources to support a green economy, energy efficiency, and avoiding emissions in customer dealings.</p>	<p>Measurable units and dimension: Whether the number is increasing throughout the following ratio: Percentage of loan disbursement for the projects related to a</p>	<p>The denominator and the numerator terms of the ratios are supposed to be available in the annual reports.</p>	<p>The progress throughout the ratios is not impossible if</p> <p>a. Both the sustainability logic and profitability are equally weighted in the bank's objective function.</p> <p>b. The executives are</p>	<p>The progress should be tracked regularly and at least once a year.</p>

	<p>green economy, energy efficiency, and reduced emission to the amount of total investments by the bank.</p> <p>Percentage of no of accounts using Internet banking services to the total no of accounts (Note: Digital banking and Internet access can indirectly contribute to reduced non-renewable energy consumption through decreased transportation needs, paper usage, and</p>		<p>well trained and motivated to identify and target suitable projects for the green economy, energy efficiency, and reduced or avoided emissions.</p> <p>c. Collaboration is made with local NGOs working for the environment.</p>	
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	optimized energy efficiency in banking operations).			
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Literary Support:

A publication titled Banking on Climate Change Bank’s contribution to the green economy can be assessed by the percentage of loan disbursement to the relevant projects (Banktrack & Other Organizations, 2018).

5.4.6 SDG 8: Decent work and Economic growth: Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.

5.4.6.1 Selecting the workable theme

SDG 8 aims to create a world where everyone has access to decent work, and economic growth is sustainable and inclusive. By achieving SDG 8, we can help to reduce poverty, and inequality and promote social and economic development. This SDG has 12 targets and 17 indicators to measure progress towards achieving it. We have to choose some workable themes from these targets and indicators analyzing their national and banking relevance. Here, we go through the following way:

5.4.6.1.1 Summary of the SDG 8 and Relevant National Targets of Bangladesh:

The United Nations (UN) has outlined specific targets and indicators Under SDG 8. Bangladesh as a member country has made efforts to align its national priorities with the relevant issues identified in these targets. In its 7th Five-Year plan and list of National Priority Targets (NPT), Bangladesh Has incorporated key areas that reflect the essence of these targets. The following Table 5.27 provides a summary of the specified targets and priority issues identified by Bangladesh in its pursuit of SDG 8.

Table 5.27 Summary of the SDG 8 targets and priority issues for Bangladesh.

Summary of 8 SDG Targets	8.1. 7% per capita economic growth. 8.2. Higher economic productivity through diversification (Technology, innovation, labor-intensive sectors). 8.3. To develop policies that support productive activities and foster economic growth, while also facilitating the formalization and growth of micro and small to medium-sized enterprises (SMEs) through improved access to financial services. 8.4. Improving resource efficiency in production and consumption as well as promoting sustainable practices that simultaneously foster economic growth while reducing environmental degradation. 8.5. To promote productive employment and decent work for all by creating opportunities with fair working conditions and ensuring equal pay for work of equal value, thereby advancing gender equality and fair remuneration practices.
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	<p>8.6. Reducing youth not engaged in employment or training.</p> <p>8.7. Eradicate forced labor, child labor, modern slavery.</p> <p>8.8. Protect labor rights and promote safe and safe and secure working environments.</p> <p>8.9. Sustainable tourism and promoting local culture and products.</p> <p>8.10. Strengthen the capacity of domestic financial institutions for expanding access to banking, insurance, and other financial services.</p> <p>8.a. Increase aid for trade commitments and disbursement.</p> <p>8.b. Policy and strategy for youth employment.</p>
<p>7th 5 years plan of Bangladesh</p>	<p>i. Attaining an average real GDP growth rate of 7.4% per year over the plan period.</p> <p>ii. Total revenue to be raised from 10.7% of GDP to 16.1% by FY20.</p> <p>iii. 12.9 million additional jobs will be available during the 7th FYP including some 2 million jobs abroad.</p> <p>iv. FDI (Foreign Direct Investment) to be increased substantially to \$9.6 billion by FY20 from the present \$1.57 billion.</p>
<p>National Priority Target of Bangladesh for SDGs.</p>	<p>NPT 21 - Increase the annual growth rate of GDP to 10%.</p> <p>NPT 22: Reduce unemployment rate below 3%.</p> <p>NPT 23: Reduce the proportion of the youth population (15-29 years) not in education, employment or training to 10%.</p>

5.4.6.1.2 Selecting Nationally Relevant SDG Targets :

By examining the contents of the 7th 5-year plan and the National Priority Targets (NPT), we can determine the specific sustainability themes that should be prioritized in line with Bangladesh’s development agenda for SDG 8. Through careful analysis and mapping of the concepts outlined in these documents, we can choose the following SDG targets that are nationally relevant for Bangladesh as demonstrated in Table no 5.28.

Table 5.28 Nationally relevant targets from SDG 8.

No	Details of the selected targets	Relevant Indicators	SDG	Analysis
1.	8.1 Sustain per capita economic growth by national circumstances and, in particular, at least 7 percent gross domestic product growth per annum in the least developed countries.	8.1.1 Annual growth rate of real GDP per capita		SDG 8.1 tells about GDP growth which is relevant to 7 th 5 years plan and NPT 21
2.	8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavor to decouple economic growth from environmental degradation, by the 10-Year Framework of	8.4.1 Material footprint, material footprint per capita, and material footprint per GDP 8.4.2 Domestic		SDG 8.4 tells about decoupling economic growth from environmental degradation which is relevant to NPT 31 (Ensure 100% of

	Programs on Sustainable Consumption and Production, with developed countries taking the lead.	material consumption, domestic material consumption per capita, and domestic material consumption per GDP.	industries install and operate waste management systems).
3.	8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	8.5.1 Average hourly earnings of employees, by sex, age, occupation, and persons with disabilities. 8.5.2 Unemployment rate, by sex, age, and persons with disabilities.	SDG 8.5 tells about ensuring productive employment and decent work which is relevant with NPT 22 and 7 th 5 years plan.
4.	8.6 By 2020, substantially reduce the proportion of youth not in employment, education, or training	8.6.1 Proportion of youth (aged 15–24 years) not in education, employment, or training.	SDG 8.6 tells about Reducing youth not engaged in employment or training which is relevant to NPT 23.
Additional (Bank relevant SDG target): In addition to the above targets related to SDG 8, we can pinpoint SDG targets 8.3 and 8.10 as particularly relevant to the banking sector.			
5.	8.3 Promote development-oriented policies that support	8.3.1 Proportion of informal employment	SDG 8.3 tells about supporting productive

	productive activities, decent job creation, entrepreneurship, creativity, and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services	in total employment, by sector and sex.	activities, job creation, and formalization of Micro and SMEs through ensuring their access to finance.
6.	8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance, and financial services for all	8.10.1 (a) Number of commercial bank branches per 100,000 adults and (b) number of automated teller machines (ATMs) per 100,000 adults. 8.10.2 Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile money service provider	SDG 8.10 tells about strengthening the capacity of domestic financial institutions to expand access to banking, insurance, and other financial services which is exclusively relevant to the banking and financial industry.

5.4.6.1.3 Selecting the Bank relevant SDG impact optimizing themes:

Once the nationally relevant SDG targets have been identified for SDG8, the next step is to choose workable themes that are relevant to the bank's operations. The bank's relevance is assessed by examining how it's functioning within the real economy, as previously explained

(financial intermediation, resource allocation, maturity transformation, payment system, and risk management), relates to the specific sustainability themes embedded within the SDGs. The analysis is outlined in the following table no 5.29.

Table 5.29 Bank-relevant themes derived from the nationally relevant targets associated with SDG 8.

SDGs Targets	Targeted Themes	Targeted people/place	Bank Relevance
Target no 8.1	GDP growth	Overall Economy	By efficiently allocating financial resources, banks contribute to economic growth and GDP expansion. By offering secure and accessible payment systems such as electronic transfers, mobile banking, and digital wallets banks can contribute to financial inclusion, allowing individuals, especially those in underserved communities, to participate in the formal financial system, make transactions, and access various financial products and services. The Bank's functioning of maturity transformation provides long-term financing to businesses, infrastructure projects, and SMEs and enables them expansion,
Target no 8.3	Promotion of micro and small-medium enterprises through access to financial services.	Small and medium enterprises.	
Target no 8.4	a. improve Resource efficiency in consumption and production, b. decouple economic growth from environmental degradation.	Production and consumption behavior of the economy.	
Target	Productive	More	

No 8.5	employment and decent work.	Economic participation in the country.	innovation, and employment generation. Banks can contribute to decoupling economic growth from environmental degradation by incorporating sustainability principles into their operations.
Target No 8.6	Decreasing the number of young people who are neither employed nor in training.	Productive Youth	
Target No 8.10	Strengthening the capacity of domestic financial institutions for expanding access to banking, insurance, and other financial services	Banking and Financial Institutions.	
8. a	8. a Support and technical assistance for trade	Exports and Imports of the country.	

Literary Support:

Dunford (2006) found that microfinance (and its attendant services, such as group formation, training, and social capital-building) offers opportunities to contribute to the achievement of MDGs, primarily through its direct impact on poverty, which can support improvements in

schooling, gender equity, health, and even resource conservation. Comprehensive impact studies (Mahbub 1988; Dunford 2006; DFID 2004; Khandker 1998 and 2005) have demonstrated that microfinance helps very poor households meet basic needs. The use of financial services by low-income households is associated with improvements in household economic welfare and enterprise stability or growth.

In the context of Bangladesh, the study by Mahbub (1988) showed that within 27 months borrowers of microfinance tripled their business capital on average and their livestock increased by 26 percent per year. It is observed that about one-third of the unemployed became self-employed after joining the microcredit programs.

Rosner (2010) performs a comprehensive study considering variables related to private credit, deposits, and money supply. While Becket al. (2004) found that financial development reduces poverty in countries by increasing the availability of private credit in the economy, Rosner (2010) showed that financial development helps the poor in other ways. Specifically, increasing the availability of money and deposit opportunities, rather than private credit, reduces poverty. As explained in Rosner (2010), financial development can reduce poverty in three ways: one, it can enable more people to access credit and may help the poor by reducing market imperfections that constrain credit; two, financial development can reduce transaction costs in the economy by increasing the amount of money in the economy; three, financial development can enable more people to deposit their savings.

In summary, SDG 8 encompasses comprehensive themes that directly correlate with the banking sector's role in fostering sustainable economic development. These multifaceted themes include driving GDP growth, creating productive employment, reducing youth unemployment and untrained populations, expanding access to banking services, and promoting microcredit and SME financing. The linkages of banking services with these themes are supported by research findings that highlight the direct impact of microfinance on poverty reduction, its subsequent positive education, gender equity, health, and sustainable resource management. Additionally, studies suggest that microcredit programs can significantly boost business capital and self-employment rates among participants as exemplified in the context of Bangladesh. Furthermore, financial development, encompassing increased access to credit, money supply, and deposit opportunities, emerges

as a pivotal factor in reducing poverty. Collectively, these insights reinforce the interconnected and mutually reinforcing nature of these themes, underlining the banking sector’s indispensable contribution to advancing sustainable economic development and aligning seamlessly with the objectives of SDG 8.

Workable Themes: GDP Growth, reduced unemployment, new jobs, expanding access to banking and financial services, promotion of micro and small medium enterprises, decoupling economic growth from environmental degradation.

5.4.6.2 Sustainable Banking Plan for SDG 8

In addressing the workable theme from SDG 8, found in the previous sub-section, the bank can prepare a plan based on the planning framework developed for the proposed impact optimizing sustainable banking plan and put it in the log-frame template as presented in the following table no 5.30.

Table 5.30 Sustainable banking plan for SDG 8 in the log frame template.

Chain of Log Frame	Description	Analysis
<p>Goal: Bank’s vision regarding contribution to SDG 8.</p>	<p>Sustainable economic growth: GDP Growth, reduced unemployment, new jobs, expanding access to banking and financial services, promotion of micro and small medium enterprises, decoupling economic</p>	<p>Workable theme derived from SDG 8:</p> <p>GDP growth, expanded trade, and reduced unemployment will enhance economic</p>

	growth from environmental degradation.	sustainability, expanded financial services and promoted SMEs will enhance social sustainability, and economic growth decoupled from environmental degradation will enhance environmental sustainability.
Impact: The Bank's vision is to be realized at the level of the Macroeconomy.	Economic Growth and its sustainability: Sustainable growth through expanding trade and finance, reduced unemployment, and increased resource efficiency and inclusiveness, environmental cleanliness.	Theme translated into the desired macroeconomic goal: Here growth is targeted both as an end and means. The sustainability of growth is ensured through incorporating distributional and environmental aspects in the productive process.
Outcome: The Bank's vision is to be realized at the level of macroeconomic agents.	Enabling sustainable economic development: Economic agents will be able to play a crucial role in ensuring sustainable economic development through ensuring the following issues: a. Per capita GDP will be increased. b. Employment rate will increase	Theme translated into the desired conditions of macroeconomic agents: More employment to households, finance to SMEs, and environmental concern among productive agents will enhance the inclusiveness and cleanliness of the growth whereas support to trade and increased financial access will

	<p>c. Small and medium firms will get financial services.</p> <p>d. Trade will get support and technical assistance (trade financing, documentation, foreign exchange services, advisory support, digital trade platform and capacity building efforts, etc.)</p> <p>e. Financial institutions will expand access to their services</p> <p>f. Economic agents including households, firms, government, and foreigners will be encouraged to prioritize environmental concern and sustainability.</p>	<p>enhance the growth itself. Increasing employment opportunities for households, providing financial support to small and medium-sized enterprises (SMEs), fostering environmental consciousness among productive agents, and ensuring a cleaner growth trajectory are all essential for promoting inclusivity and sustainability in economic development.</p> <p>Simultaneously, facilitating trade and expanding financial access play pivotal roles in enhancing overall economic growth.</p>
<p>Output: Bank's target in value creation to the real economy.</p>	<p>More capital flow, mass customer network, and focus on prioritized areas in resource allocation :</p> <p>More capital formation for the economy. Larger customer network. Access to banking services for SMEs, labor-intensive industries, eco-friendly businesses, and export-</p>	<p>Required strategic management in the bank's functioning with the real economy:</p> <p>Increased customer engagement in the banking sector leads to greater flow of capital between the financial</p>

	import businesses.	sector and the real economy whereas resource allocation to the prioritized areas promotes the aspect of sustainability.
Activity : (Bank's target in business process).	Increasing general as well as special customers: To grow the bank's customer base, it is essential to prioritize expanding into SMEs, labor-intensive industries, eco-friendly sectors, and overseas markets while also paying special attention to customer attraction and retention. However, substantial growth necessitates combining this focus with customized marketing, outreach strategies, and product/service enhancements tailored to each of these groups.	Required strategic engagement with customers: Focusing on customer satisfaction and reaching service to un-bankable households will increase customers. Service to un-bankable production units and labor-intensive industries will bring more and more people to the productive process. Environmental concerns will ensure resource efficiency and sustainability.
Input: (Bank's target in	More capital mobilization and allocating resources to priority sector: Increasing deposits and	Required strategic capital management:

resource management)	extending loans, particularly to SMEs, labor-intensive industries, eco-friendly enterprises, and international businesses.	Offering suitable products for different segmented customer groups will help to more capital formation. Offering need-based products for special sectors will flow adequate capital to those sectors.
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Literary Support

Ayyagari, et al. (2021) investigate the effect of access to finance on job growth in 50,000 firms across 70 developing countries. Using the introduction of credit bureaus as an exogenous shock to the supply of credit, they found that increased access to finance results in higher employment growth, particularly among micro, small, and medium enterprises. The United Nations Environment Programme Finance Initiative (UNEP FI) (2018) emphasized the importance of banks in promoting sustainable finance globally by providing financial services to businesses that operate sustainably overseas. This can include supporting sustainable supply chains, promoting renewable energy projects, and investing in environmentally sustainable companies.

McKinnon's 'conduit effect' (1973) states that financial development may reduce poverty by enabling people to save their income in deposit accounts and thus help the accumulation of wealth to invest in profitable projects. Claessens and Erik (2006) observed that financial development and financial services can play a large role in attaining the UN development goals, due to three reasons. Firstly, finance facilitates transactions and reduces vulnerability to shocks. Financial sector development that facilitates better and cheaper payments and savings services can help firms and households cope with economic shocks and reduce their vulnerability to adverse situations, thus mitigating the risk of falling into

poverty. Secondly, Financial development helps pull investment and productivity, which leads to higher economic growth and higher per capita income. Thirdly, more sophisticated financial markets discriminate less and reduce inequality as they broaden opportunities (Classens and Erik 2006).

In aligning the banking activities towards supporting the above SDG targets, Bangladesh Bank (The central bank of Bangladesh) mapped its following existing programs and policies towards supporting the above-discussed SDG targets:

SDG Target No	Relevant policies and programs
8.1	Monetary policy and inclusive credit policies, financial inclusion policies
8.3	Monetary policy and inclusive credit policies, financial inclusion policies
8.4	Green finance for resource efficiency
8.5	Monetary policy and inclusive credit policies, financial inclusion policies
8.10	Policies regarding Financial Stability, Financial Inclusion, and Sustainable Financial Systems

Source: SDG Target Mapping by Bangladesh Bank, 2018.

5.4.6.3 Developing OVI (Objectively Verifiable Indicator) for SDG 8

In order to implement the plan for SDG 8, as outlined in the previous sub-section, and track institutional progress on it, the bank can identify objectively verifiable indicator/indicators based on the implementing and monitoring frameworks devised for the proposed impact optimizing sustainable banking plan and present the whole process through linking the OVI and the theory of action (ToA) as demonstrated in the following table no 5.31.

Table 5.31 OVI linked with ToA for SDG 8.

First Step: Three terms Sustainability objectives of the bank	Long term objective: Contribution to sustainable growth through promoting trade, finance, employment, efficiency, inclusiveness, and cleanliness.
	Medium-term objective: Contribution in enabling the macroeconomic agent to ensure the following issues related to sustainable economic development: <ol style="list-style-type: none"> a. Per capita GDP will be increased. b. Households will get more employment c. Small and medium firms will get financial services. d. Trade will get support and technical assistance e. Financial institutions will expand access to their services

	f. Environmental concern among the economic agents.	
	<p>Short-term objective: Aligning all the functions that resulted in the economy from banking operations towards ensuring sustainable economic development through the formation of more capital for the economy, providing larger financial service networks, and promoting SMEs, labor-intensive industries, eco-friendly businesses, and export-import businesses.</p>	
<p>Second Step: Key Actions based on objectives:</p>		
	<p>Customer management</p>	<p>Capital management</p>
<p>Quality</p>	<p>Realization of long-term vision: Consideration sustainable economic growth.</p>	<p>Bank's offerings for the realization of the medium-term vision: Financial service products supporting more capital accumulation, more employment, trade, entrepreneurship, and environmental stewardship.</p>
<p>Quantity</p>	<p>Category of customers to realize the short-term vision: The bank aims to attract more customers, with a specific focus on local and international traders, small</p>	<p>The direction of service to realize the short-term vision: The bank aims to increase people's financial transactions, with a special focus on providing more</p>

	and medium entrepreneurs, as well as environmentally and socially compliant companies.	financial support and services to international trade, small economic units, as well as projects, programs, and companies that enhance employment and adhere to environmental compliance.
Target group	<p>Purpose of sustainability interaction to realize the medium-term vision: People operating small and medium economic units, Labor-intensive industries, local and international traders, and all the economic agents who practice environmental stewardship. (Note: In the context of Bangladesh, a small enterprise is defined as a business that does not exceed a specified limit in terms of fixed assets excluding land (tk 1-20 million) and employed manpower (10-50 workers), with varying limits for different sectors. A medium enterprise, on the other hand, is a similar type</p>	<p>Direction of financial flow to realize the medium-term vision: Financial flow will be purposefully directed to empower economic agents in advancing sustainable economic development. This entails raising per capita GDP, enhancing household employment prospects, providing vital financial services to small and medium-sized enterprises, facilitating trade with support and technical assistance, expanding financial institution access, and fostering environmental awareness among</p>

	of business but with higher limits for fixed assets (BDT 20 million to 500 million) and employees manpower (51-300 workers) compared to small enterprises	economic stakeholders.
Timing	<p>Time effectiveness from a customer point of view: Economic units and agents should receive assistance promptly when they require it. Additionally, when there's a risk of crowding out effect, priority should be given to the private sector over the public sector. (Note: The crowding-out effect refers to a situation where increased government spending leads to a reduction in private sector investment due to competition for available resources and higher interest rates).</p>	<p>Time effectiveness from an operational point of view: Both long and short-term relations with the targeted economic units and agents where it is needed.</p>
Place	<p>Place effectiveness from a customer point of view: From a customer perspective, the banking sector's effectiveness will be</p>	<p>Place effectiveness from an operational point of view: From an operational standpoint, the effectiveness of banking</p>

	evident as it reaches customers in both rural and urban areas, with a particular emphasis on underdeveloped regions and environmentally challenged regions.	services will be enhanced by extending their reach to remote rural and vulnerable areas not only within the country but also to customers and markets located abroad, using online, mobile, and agent banking channels.
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Third Step: Finding Objectively Verifiable Indicators:

Specific	Measurable	Available	Realistic	Time bounded
The issue to be expressed: The bank should provide specialized services tailored to support and foster sustainability within economic growth. This includes focusing on attracting customers, especially local and international traders, small and	Measurable units and dimension: Whether the number is increasing throughout the following ratio: Percentage of new deposits to the total deposit of the bank. Percentage of new investment to the total	The denominator and the numerator terms of the ratios are supposed to be available in the annual reports.	If the bank aligns its objective function to equally prioritize sustainability and profitability and commits to it, as reflected in the measured ratios, it can effectively foster	The progress should be tracked on a regular basis and at least once a year.

<p>medium entrepreneurs, as well as environmentally and socially compliant companies, to enable them to thrive while contributing to sustainable development.</p>	<p>investment of the bank.</p> <p>Percentage of investment by the bank to the total deposit collected by the bank.</p> <p>The bank's percentage contribution to the total remittance flow in the market (It reflects the bank's share of remittance transactions facilitated, showcasing the bank's impact on the remittance market).</p> <p>The bank's Percentage of export flow by the bank to the total export in the market (It</p>		<p>economic growth while promoting decent work practices, SDG 8.</p> <p>Furthermore, this commitment needs to be bolstered by well-trained and highly motivated executives who tirelessly work to advance the issues in the measurable ratios.</p>	
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	<p>signifies the bank's share of export transactions handled, demonstrating the bank's role in facilitating and supporting the export sector)</p> <p>The bank's percentage contribution to the total import flow in the market (It highlights the bank's share of import transactions processed, underscoring the bank's role in facilitating and supporting the import sector)</p> <p>The ratio of accounts opened through mobile banking to the</p>		
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	<p>total accounts held by the bank.</p> <p>(Note: Mobile banking refers to the use of mobile devices, such as smartphones or tablets, to conduct various banking activities, including account management, fund transfers, bill payments, and mobile-based financial transactions)</p> <p>Accounts are opened by the agent banking to the total accounts in the bank. (Note: Agent banking refers to a model where authorized agents, typically</p>		
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	<p>located in under-banked or remote areas, act on behalf of a financial institution to provide basic banking services to customers, including deposits, withdrawals, money transfers, and other financial transactions).</p> <p>Percentage of loans extended to businesses that promote decent work practices to the total loan disbursed.</p>			
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Literary Support:

In order to assess the immediate contribution of the bank to the country’s overall economic growth Rebai (2014) suggests to account loans as a percent of total assets, its market share,

and how much it reinvested its profit as the bank's capital.

Reviewing different literature Kumar, & Prakash (2019) identified a list of sustainable banking indicators among which access points for financial services in low-populated or remote areas of the Country are one of the important ones.

A report by the World Bank (2017) found that remittance flows can contribute to financial inclusion, which is a key component of sustainable banking. The report notes that remittances can help increase access to financial services and reduce poverty, which in turn can promote economic growth and stability. However, the report also highlights the importance of ensuring that remittance flows are transparent and regulated to prevent money laundering and other illegal activities.

The percentage of export or import flows handled by a bank to the total export or import flow in the market can be considered as one of many indicators of a bank's sustainability. A study by the Asian Development Bank (2016) found that banks with a larger market share in trade finance tend to have higher profitability, asset quality, and liquidity compared to banks with a smaller market share. In addition, this study found that banks that are more active in trade finance tend to have a lower default rate and a lower risk profile, which can contribute to their long-term sustainability.

A study by Demircuc-Kent et al. (2018) found that mobile and agent banking can increase access to financial services, especially for individuals living in remote or underserved areas. The study also noted that mobile banking and agent banking can help reduce poverty and promote economic growth.

5.4.7 SDG 9: Industry innovation and infrastructure: Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.

5.4.7.1 Selecting the workable theme

SDG 9 aims to build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation. This SDG has 8 targets and 12 indicators to measure progress towards achieving it. We have to choose some workable themes from these targets and indicators analyzing their national and banking relevance. Here, we go through the following way:

5.4.7.1.1 Summary of the SDG 9 and Relevant National Targets of Bangladesh:

The United Nations (UN) has outlined specific targets and indicators Under SDG 9. Bangladesh as a member country has made efforts to align its national priorities with the relevant issues identified in these targets. In its 7th Five-Year plan and list of National Priority Targets (NPT), Bangladesh Has incorporated key areas that reflect the essence of these targets. The following Table 5.32 provides a summary of the specified targets and priority issues identified by Bangladesh in its pursuit of SDG 9.

Table 5.32 Summary of the SDG 9 targets and priority issues for Bangladesh.

Summary of SDG Targets	Summary Of the Targets: 9.1 Developing Infrastructure, road, and transport.
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	<p>9.2. Increasing the share of the manufacturing sector in employment and GDP.</p> <p>9.3. Access of small-scale industries to financial services.</p> <p>9.4. Technological adoption for resource efficiency and clean environment.</p> <p>9.5 Enhancing Research and development in the industrial sector.</p> <p>9.a. Facilitating communication Infrastructure for less accessible regions.</p> <p>9. b. Industrial diversification, Growth of medium and high-tech industry.</p> <p>9. c. Access to ICT.</p>
<p>7th 5 years plan of Bangladesh</p>	<p>i. Focus on fast-tracking a number of transformational infrastructure projects.</p> <p>ii. Increase the contribution of the manufacturing sector to 21.5% of GDP by FY20 from 17.8% in FY15.</p>
<p>National Priority Target of Bangladesh for SDGs.</p>	<p>NPT 24: Ensure 100 percent pucca roads (suitable for all seasons) (SDG Indicator 9.1.1)</p> <p>NPT 25: Increase Industry (manufacturing) value added as a proportion of GDP to 35% (SDG Indicator 9.2.1)</p> <p>NPT 27: Increase the number of entrepreneurs ten times in the Information and Communication Technology sector.</p>

5.4.7.1.2 Selecting Nationally Relevant SDG Targets :

By examining the contents of the 7th 5-year plan and the National Priority Targets (NPT), we can determine the specific sustainability themes that should be prioritized in line with Bangladesh’s development agenda for SDG 9. Through careful analysis and mapping of the concepts outlined in these documents, we can choose the following SDG targets that are nationally relevant for Bangladesh as demonstrated in Table no 5.33.

Table 5.33 Nationally relevant targets from SDG 9.

No	Details of the selected targets	Relevant SDG Indicators	Analysis
1.	9.1 Develop quality, reliable, sustainable, and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.	9.1.1 Proportion of the rural population who live within 2 km of an all-season road. 9.1.2 Passenger and freight volumes, by mode of transport.	SDG 9.1 tells about developing Infrastructure, roads, and transport which is consistent with the 7 th 5-year plan and NPT 24.
2.	9.2 Promote inclusive and	9.2.1 Manufacturing	SDG 9.2 tells about

	sustainable industrialization and, by 2030, significantly raise the industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries.	value added as a proportion of GDP and per capita. 9.2.2 Manufacturing employment as a proportion of total employment.	increasing the share of the manufacturing sector in employment and GDP which is relevant with NPT 26.
3.	9. c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least-developed countries by 2020.	9. c.1 Proportion of the population covered by a mobile network, by technology.	It tells about access to IT and promoting ICT industries.
<p>Additional (Bank relevant SDG target): Beyond the above targets under SDG 9, we can identify SDG target no 9.3 as the relevant one for the banking sector as it clearly mentions the role of financial service.</p>			
	9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.	9.3.1 Proportion of small-scale industries in total industry value added. 9.3.2 Proportion of small-scale industries with a loan or line of credit.	SDG 9.3 tells about the access of small-scale industries to financial services.

5.4.7.1.3 Selecting the Bank relevant SDG impact optimizing themes:

Once the nationally relevant SDG targets have been identified for SDG 9, the next step is to choose workable themes that are relevant to the bank’s operations. The bank’s relevance is assessed by examining how it's functioning within the real economy, as previously explained (financial intermediation, resource allocation, maturity transformation, payment system, and risk management), relates to the specific sustainability themes embedded within the SDGs. The analysis is outlined in the following table no 5.34.

Table 5.34 Bank-relevant themes derived from the nationally relevant targets associated with SDG 9.

SDGs Targets	Targeted Themes	Targeted people/place	Bank Relevance
9.1	9.1. Developing Infrastructure, road, transport.	Government, municipalities, and underserved regions.	Banks can establish partnerships with government authorities and municipalities to ensure the successful financing and execution of crucial infrastructure projects, such as roads and transportation networks, thereby delivering tangible benefits to communities and fostering regional development.
9.2	SDG 9.2: Increasing the share of the manufacturing sector in national	Manufacturing Industries.	The bank’s functioning of resource allocation supports industrial growth and diversification by providing loans,

	employment and GDP and ensuring sustainability in the industrial sector.		credit facilities, and investment capital to the manufacturing sector to fund their operations, expand production capacities, and invest in research and development. Moreover, banks can support small-scale industries and entrepreneurs in the ICT sector through financing start-ups, early-stage companies, and small businesses operating in these sectors.
9.3	9.3. Access of small-scale industries to financial services.	Small-scale industries.	
9.4	9.4 and 9.c. Technological adoption through increasing the number of entrepreneurs in the ICT sector	ICT Sector	
9.b	9.b. Industrial diversification, Growth of medium and high-tech industry.	Medium and high-tech industries.	

Literary Support:

The combination of short-termism and high-interest rates in bank loans is particularly problematic for infrastructure investments and underlines the need for continued development of a stable banking system. In spite of these, in the region of Eastern Partners (EaP) countries, where institutional investors hold less than 5% of GDP in assets and capital markets are underdeveloped, banks serve as primary financial intermediaries, providing critical funding for infrastructure projects. They facilitate syndicated loans, project finance, spreading risk, and attracting international investments, as exemplified by Ukraine’s wind

firm project (OECD,2020). Moreover, banks' expertise and stable lending practices contribute to the financial sector's resilience during economic shocks, like the Global Financial Crisis and recent crises (World Bank, 2019). By participating in Public-Private Partnerships (PPPs) and promoting financing instruments such as infrastructure project bonds, banks aid in creating an enabling environment for infrastructure investment while complementing public funding (World Bank. 2019).

The study conducted by Li, Mao, Zhang, and Zheng examines how banks can actively participate in and provide support to innovative fintech companies, many of which are situated within the high-tech and ICT sectors (Li. et al, 2023). This study offers substantiation of banks' involvement in fostering the growth and prosperity of fin-tech ventures, underscoring their role in nurturing these firms.

A study in India showed that, when offered credit, new businesses are more likely to be created and that these firms are more likely to spend on business durables. Increased access to credit enables the wealthiest 5 percent to 10 percent of entrepreneurs to increase profits substantially (Banerjee *et al.* 2015). According to a report by the Asian Development Bank (ADB), the manufacturing sector in Asia faces significant challenges in accessing finance, including working capital financing. The report suggests that banks can help address this challenge by providing working capital financing to manufacturers. (ADB, 2018).

Workable Theme:

Developing critical resilient infrastructures through public-private partnerships and industrial growth and diversification through promoting the manufacturing sector, small-scale industry entrepreneurs in the ICT sector, and medium and high tech industry.

5.4.7.2 Sustainable Banking Plan for SDG 9

In addressing the workable theme from SDG 9, found in the previous sub-section, the bank

can prepare a plan based on the planning framework developed for the proposed impact-optimizing sustainable banking plan and put it in the log-frame template as is presented in the following table no 5.35.

Table 5.35 Sustainable banking plan for SDG 9 in the log frame template.

Chain of Log Frame	Description	Analysis
<p>Goal: Bank’s vision regarding contribution to SDG 9.</p>	<p>Inclusive industrialization: Developing critical resilient infrastructures through public-private partnerships and industrial growth and diversification through promoting the manufacturing sector, small-scale industry entrepreneurs in the ICT sector, and medium and high tech industry.</p>	<p>Workable theme derived from SDG 9: The private-public partnership will ease direct private capital towards social mega projects and inclusiveness will enhance growth, diversity, and innovations in industrialization.</p>
<p>Impact: The Bank’s vision is to be realized at the level of the Macroeconomy.</p>	<p>Inclusive Growth through infrastructural development and industrialization: Infrastructural development, inclusiveness, digitalization, and diversification in</p>	<p>Theme translated into the desired macroeconomic goal: Infrastructural development and industrialization enhance growth; inclusive industrialization enhances inclusiveness in growth.</p>

	industrialization.	
<p>Outcome: The Bank's vision is to be realized at the level of macroeconomic agents.</p>	<p>Inclusive development in the manufacturing sector and connectivity: Promoting infrastructure development with a particular emphasis on enhancing connectivity among various macroeconomic agents and facilitating the growth of small, medium, high-tech, and ICT industries.</p>	<p>Theme translated into the desired conditions of macroeconomic agents:</p> <p>Improved infrastructure connectivity accelerates economic activities, ensuring widespread development benefits. High-tech and ICT industry growth fosters innovation, while small and medium-sized industries drive economic diversification and inclusivity, advancing overall prosperity.</p>
<p>Output: Bank's target in value creation to the real economy.</p>	<p>Enhancing access to banking services for infrastructure development manufacturing sector with special focus:</p> <p>Banking services to the government's infrastructural development projects, small, manufacturing, and ICT sectors.</p>	<p>Required strategic management in the bank's functioning with the real economy:</p> <p>Access to financial resources, payment services, and keeping of capital will enhance the development of the targeted sector.</p>
<p>Activity :</p>	<p>Service focus to the targeted</p>	<p>Required strategic</p>

<p>(Bank's target in business process).</p>	<p>group: Promoting manufacturing, small, and ICT sectors by giving banking services like long-term finance, deposit and payment services, etc.</p>	<p>engagement with customers: Offering priority status and incentives in banking services to both government infrastructure projects and enterprises within designated sectors like manufacturing, ICT, and small, medium, and high-tech industries can stimulate industrial expansion and encourage economic diversification.</p>
<p>Input: (Bank's target in resource management)</p>	<p>Product offerings: Investment in infrastructural development projects. Offering tailored deposits, investment, and payment products for the targeted firms in the manufacturing sector, ICT sector, and medium/high-tech industry which are supposed to facilitate industrial growth, encourage diversification, and provide necessary support to small-scale industry entrepreneurs in these sectors.</p>	<p>Required strategic capital management: Government infrastructure development initiatives can secure funding via public-private partnerships (PPPs) or syndicate loans. Furthermore, tailored investment options in terms of scale and duration should be extended to specific sectors. For instance, such as manufacturing and high-tech industries may benefit from long-term investments, while the ICT sector might find medium-term loans more suitable. Small industries could</p>

		be accommodated with small, short or medium-term loans.
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Literary Support:

ICT and technological development are other areas through which financial services may contribute to growth, financial inclusion, and poverty. The financial system affects resource allocation by altering the savings rate or reallocating savings among different capital-producing technologies. For technological innovation, the functions performed by the financial system affect economic growth by altering the rate of technological innovation. The explanations by Levine (1997) on growth channels hold up the above statement. It identifies two channels through which each financial function may affect the growth of capital accumulation and technological innovation (Barro and Sala-i-Martin 1995; Barro 1997). Experiences show that the scope for further market-based extension and broadening of access to financial services is still considerable in many developing countries, especially when considering the new technology that has become available.

In aligning the banking activities towards supporting the above SDG targets, Bangladesh Bank (The central bank of Bangladesh) mapped its following existing programs and policies towards supporting the above-discussed SDG targets:

SDG Target No	Relevant policies and programs
9.2	Green finance for the green industry
9.3	SME finance
9.4	Green finance for green technology in industries

Source: SDG Target Mapping by Bangladesh Bank, 2018.

Swedfund, the Swedish development finance institution, has entered into a unique cooperation with H&M to create a domestic textile industry in Ethiopia that is both sustainable and responsible. This collaboration aligns with the goals of industrial growth and diversification by promoting the manufacturing sector. By investing in the textile industry, the project aims to create jobs and improve working conditions, particularly for women, contributing to poverty reduction and economic development. This initiative supports small-scale industry entrepreneurs in the ICT sector and medium/high-tech industry by fostering a sustainable and responsible supply chain that involves local market expertise, expansion investments, and adherence to sustainable production standards. The development of the textile industry also retains the added value within the country, contributing to economic and industrial diversification in Ethiopia (UN and KPMG, 2015).

5.4.7.3 Developing OVI (Objectively Verifiable Indicator) for SDG 9

In order to implement the plan for SDG 9, as outlined in the previous sub-section, and track institutional progress on it, the bank can identify objectively verifiable indicator/indicators based on the implementing and monitoring frameworks devised for the proposed impact optimizing sustainable banking plan and present the whole process through linking the OVI and the theory of action (ToA) as demonstrated in the following table no 5.36.

Table 5.36 OVI linked with ToA for SDG 9.

First Step: Three terms Sustainability objectives of the bank	Long-term objective: Contribution to infrastructural development and industrialization with diversification and innovation.
	Medium-term objective: Contribution to enabling

	<p>infrastructural and industrial development with a special focus on Small, medium, high-tech, and ICT industries.</p>	
	<p>Short-term objective: Providing financial services government's infrastructure development projects, small, manufacturing, and ICT sectors.</p>	
<p>Second Step: Key Actions based on objectives:</p>		
	<p>Customer management</p>	<p>Capital management</p>
<p>Quality</p>	<p>Realization of long-term vision: Consideration of innovative and diversified industrialization and infrastructural development.</p>	<p>Bank's offerings for the realization of the medium-term vision: Offering financial products for infrastructural development projects, SME, manufacturing, ICT, and high-tech industries.</p>
<p>Quantity</p>	<p>Category of customers to realize the short-term vision: The number of customers will rise across SMEs, ICT, manufacturing, infrastructure development, and the high-tech industry.</p>	<p>The direction of service to realize the short-term vision: Deposit from, disbursement to, and regular payment by the SME, infrastructure development projects, manufacturing, ICT, and high tech industries and investment to those.</p>

<p>Target group</p>	<p>Purpose of sustainability interaction to realize the medium-term vision: Supporting infrastructural development projects, SME, ICT, manufacturing, and high-tech industries.</p>	<p>The direction of financial flow to realize the medium-term vision: Financial flow will be mobilized towards industrial diversification, innovation, and infrastructure development.</p>
<p>Timing</p>	<p>Time effectiveness from a customer point of view: The targeted group should be given financial support and services during the startup period and before falling under the trap of unfair loan trap in the informal sector.</p>	<p>Time effectiveness from an operational point of view: Long-term relation with the targeted economic agents and units.</p>
<p>Place</p>	<p>Place effectiveness from a customer point of view: The effectiveness of a bank's services can be gauged by its ability to facilitate seamless access to financial resources and</p>	<p>Place effectiveness from an operational point of view: The effectiveness of a banking institution's operations can be assessed by its ability to reach and serve the targeted group, including those engaged in infrastructure development projects,</p>

	specialized support at the operational location of its customers, especially within infrastructure development projects, manufacturing, SMEs, ICT and high-tech industries.	manufacturing, SMEs, ICT, and high-tech industries in remote and rural areas through online, mobile and agent banking solutions.
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Third Step: Finding Objectively Verifiable Indicators:

Specific	Measurable	Available	Realistic	Time bounded
<p>The issue to be expressed: Providing financial services to infrastructural development projects, small, manufacturing, and ICT sectors.</p>	<p>Measurable units and dimension: Whether the number is increasing throughout the following ratio: Percentage of SME Loan to total loan disbursement. Percentage of loan to ICT sector to the</p>	<p>The denominator and the numerator terms of the ratios are supposed to be available in the annual reports.</p>	<p>The progress throughout the ratios is not impossible if</p> <p>a. Both the sustainability logic and profitability logic are equally weighted in the bank's objective function with a specific focus on the issue of providing financial services to</p>	<p>The progress should be tracked on a regular basis and at least once a year.</p>

	<p>total loan disbursed by the bank.</p> <p>Percentage of loan to the manufacturing sector to the total loan disbursed by the bank.</p> <p>Percentage of loan to infrastructure development projects by the government to the total loan disbursed by the bank.</p>		<p>infrastructural development projects, small, manufacturing, and ICT sectors.</p> <p>b. The bank's executives are well-trained and motivated to actively drive progress in these identified measurable issues. This includes understanding the significance of these ratios in promoting inclusive and sustainable industrialization, innovation, and infrastructure development. When executives are equipped with the necessary knowledge and</p>	
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			<p>motivation, they can effectively steer the bank's operations toward increasing these ratios, thereby contributing to the bank's alignment with SDG 9 and its role in fostering economic growth in these specific sectors.</p>	
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Supporting Literatures:

A report published by the UNEPFI (2011) suggests that the allocation of loans to the manufacturing sector can be seen as an indicator of the bank's contribution to sustainable development due to its role in fostering industrial growth, job creation, and economic transformation, the vital aspects of sustainable development. The study also highlights that financial institutions can play a crucial role in supporting the growth of the manufacturing sector by providing loans and other financial services.

The World Economic Forum (WEF) highlights the need for sustainable investment in the ICT sector to support the achievement of the SDGs. The WEF states that “digital technologies, especially in the context of the fourth industrial revolution, have the potential to support the achievement of the SDGs, including poverty reduction, health, education, and gender equity (WEF, 2017).

The Industrial Commercial Bank of China (ICBC) has demonstrated a multifaceted approach to contribute significantly to technical innovation, and the development of ICT, high-tech, and infrastructures. By providing substantial funds for equipment and international collaboration in production capacity in 2015 and intensifying financial support for high-tech sectors and infrastructure in 2020, ICBC has played a pivotal role in financing and fostering technological advancements. Its global presence has facilitated international collaboration across various sectors, while its accelerated digital transformation efforts, innovative digital services, and support for senior-friendly technology underscore its commitment to advancing ICT accessibility and inclusiveness. Moreover, ICBC's initiatives in rural development and provision of intelligent financial solutions to diverse partners demonstrate its comprehensive role in promoting technological innovation and infrastructure development across different sectors, highlighting the profound impact a bank can have on advancing technology and infrastructure (ICBC, 2021, Jianqing, 2016).

5.4.8 SDG 10: Reduced inequality: Reduce income inequality within and among countries.

5.4.8.1 Selecting the workable theme

SDG 10 aims to create a world where everyone has equal opportunities and is able to participate fully in social, economic, and political life. Achieving SDG 10 can help to create more peaceful, just, and sustainable societies, and to reduce poverty and other forms of disadvantages. This SDG has 10 targets and 11 indicators to measure progress towards achieving it. We have to choose some workable themes from these targets and indicators analyzing their national and banking relevance. Here, we go through the following way:

5.4.8.1.1 Summary of the SDG 10 and Relevant National Targets of Bangladesh:

The United Nations (UN) has outlined specific targets and indicators Under SDG 10. Bangladesh as a member country has made efforts to align its national priorities with the relevant issues identified in these targets. In its 7th Five-Year plan and list of National Priority Targets (NPT), Bangladesh Has incorporated key areas that reflect the essence of these targets. Table no 5.37 provides a summary of the specified targets and priority issues identified by Bangladesh in its pursuit of SDG 10.

Table 5.37 Summary of the SDG 1 targets and priority issues for Bangladesh.

Summary of SDG Targets	10.1. Per capita income among the bottom 40 percent will grow at a rate higher than the national average. 10.2. Social, economic, and political inclusion of people living below 50 percent median income by sex, age, and persons with disabilities. 10.3. Ensure equal opportunity and reduce inequalities by restructuring the laws, policies, and practices. Adopt special policies like fiscal, wage, and social protection policies to achieve greater equality. 10.5. Improved regulation for soundness of financial markets and institutions. 10.6. Enhanced representation and voice of the developing countries in international organizations. 10.7. Facilitating orderly, safe, regular, and responsible
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	<p>migration and mobility of people with well-planned management.</p> <p>10.a. Special and differential treatment for developing countries in international trade.</p> <p>10.b. Encouraging ODA, FDI, and other financial flow to LDC and developing countries.</p> <p>10.c. Reducing remittance costs.</p>
7th 5 years plan of Bangladesh	<p>i. Spending on Social Protection as a share of GDP to be increased to 2.3% of GDP.</p> <p>ii. Reduce Income Inequality from 0.458 to downward.</p>
National Priority Target of Bangladesh for SDGs.	<p>NPT 28: Reduce the ratio of income of the top 10% population and the bottom 10% population to 20</p> <p>NPT 29: Reduce the recruitment cost borne by employees as a proportion of yearly income earned in a country of destination to 10% (SDG Indicator 10.7.1)</p>
Summary of the national priorities:	<p>7th 5-year plan tells about spending on social protection and reducing income inequality.</p> <p>NPT 28 tells about reducing the income gap and NPT 29 tells about reducing international labor migration.</p>

5.4.8.1.2 Selecting Nationally Relevant SDG Targets :

By examining the contents of the 7th 5-year plan and the National Priority Targets (NPT), we can determine the specific sustainability themes that should be prioritized in line with Bangladesh’s development agenda for SDG 10. Through careful analysis and mapping of the concepts outlined in these documents, we can choose the following SDG targets that are nationally relevant for Bangladesh as demonstrated in Table no 5.38.

Table 5.38 Nationally relevant targets from SDG 10.

No	Details of the selected targets	Relevant SDG Indicators	Analysis
1.	10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 percent of the population at a rate higher than the national average	10.1.1 Growth rates of household expenditure or income per capita among the bottom 40 percent of the population and the total population	SDG 10.1 tells about the growth of per capita income among the bottom 40 percent at a rate higher than the national average which is relevant to NPT 28 and 7 th 5 years plan.
2.	10. b Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African	10.b.1 Total resource flows for development, by recipient and donor countries and type of flow (e.g. official development	SDG 10. b tells about encouraging financial flows to Least Developed Countries (LDCs) and developing nations which is relevant to Bangladesh’s 7 th Five-Year plan’s aim to reduce income

	countries, small island developing States, and landlocked developing countries, in accordance with their national plans and programs.	assistance, foreign direct investment, and other flows)	inequality from 0.458 to a lower level. By encouraging Official Development Assistance (ODA), Foreign Direct Investment (FDI), and other financial resources, SDG 10. b provides a vital framework for achieving this goal. Bangladesh can utilize these resources to invest in education, healthcare, rural development, and infrastructure, thereby creating a more equitable society where economic growth benefits all citizens.
3.	10. c By 2030, reduce to less than 3 percent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 percent.	10.c.1 Remittance costs as a proportion of the amount remitted	SDG 10. c tells about reducing remittance costs which is relevant to NPT 29.
<p>Additional (Bank Relevant Target): Apart from the above targets SDG target no 10.5 is relevant to the banking sector since it directly mentions the issue of financial market and institution).</p>			
4.	10.5 Improve the regulation and monitoring of global financial markets and	10.5.1 Financial Soundness	SDG 10.5 Improve the regulation and monitoring of global financial markets and

	institutions and strengthen the implementation of such regulations.	Indicators	institutions and strengthen the implementation of such regulations
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5.4.8.1.3 Selecting the Bank relevant SDG impact optimizing themes:

Once the nationally relevant SDG targets have been identified for SDG10, the next step is to choose workable themes that are relevant to the bank’s operations. The bank’s relevance is assessed by examining how it's functioning within the real economy, as previously explained (financial intermediation, resource allocation, maturity transformation, payment system, and risk management), relates to the specific sustainability themes embedded within the SDGs. The analysis is outlined in the following table no 5.39.

Table 5.39 Bank-relevant themes derived from the nationally relevant targets associated with SDG 10.

SDGs Targets	Targeted Themes	Targeted people/place	Bank Relevance
Target No 10.1	Growth of per capita income among the bottom 40 percent.	Poor people	Through targeted resource allocation, banks contribute to per capita income growth among the poor, empowering them to improve their livelihoods and break the cycle of poverty. Banks provide safe, reliable, and efficient payment systems that facilitate domestic and international monetary flows. This is
Target No 10.5	Regulation and monitoring of global financial market and	Financial Institutions	

	institutions		particularly relevant for reducing remittance costs, as banks can offer competitive exchange rates, lower transfer fees, and convenient remittance services, enhancing the flow of funds to families and communities and ultimately supporting poverty reduction efforts.
Target No 10.c	Reducing remittance costs	Expatriate people	
Target No 10.b	Encouraging ODA, FDI, and other financial flow to LDC and developing countries.	International financial flow.	

Literary Support:

Beck, Demiguc-Kunt, and Levine (2007) asserted that financial development causes the incomes of the poor to increase faster than average per capita GDP, reducing income inequality as a result.

Through an empirical study, Beck et al. (2004) of the World Bank have studied the relationship between financial development and poverty and inequality. The study found that more private credit (the selected indicator for financial development) in the economy is related to larger decreases in poverty and income inequality.

Workable Themes:

Per capita income growth among the poor, sustainable industrialization, reducing remittance cost, safe, responsible, inclusive, and increased international monetary flow.

5.4.8.2 Sustainable Banking Plan for SDG 10

In addressing the workable theme from SDG 10, found in the previous sub-section, the bank can prepare a plan based on the planning framework developed for the proposed impact optimizing sustainable banking plan and put it in the log-frame template as presented in the following table no 5.40.

Table 5.40 Sustainable banking plan for SDG 10 in the log frame template.

Chain of Log Frame	Description	Analysis
<p>Goal: Bank’s vision regarding contribution to SDG 10.</p>	<p>Increased income and overseas financial flow among the poor: Per capita income growth among the poor and safe, responsible, inclusive, and increased international monetary flow.</p>	<p>Workable theme derived from SDG 10: Per capita income growth among the poor will reduce income inequality within the country whereas international monetary flow to the LDCs and developing countries will reduce international inequality.</p>
<p>Impact: The Bank’s vision is to be realized at the level of the Macroeconomy.</p>	<p>Equitable distribution and international balance of payments: Reduced income inequality and increased safe foreign financial flow especially</p>	<p>Theme translated into the desired macroeconomic goal: National inequality can be reduced through equitable distribution whereas international payment balance improves a country’s position in</p>

	among the poor.	global inequality conditions. Moreover, if this balanced payment flows in favor of the poor it ultimately improves the domestic inequality conditions also.
Outcome: The Bank's vision is to be realized at the level of macroeconomic agents.	Increased Income and overseas financial transactions among the poor households: Per capita income and foreign financial transactions through economic participation will be increased among the poor.	Theme translated into the desired conditions of macroeconomic agents: Poor's domestic economic participation will enhance equitable distribution whereas their participation in the international labor market will increase the financial flow to the LDCs and especially to the poverty-prone areas and groups.
Output: Bank's target in value creation to the real economy.	Increased access to bank financial and payment services by the poor: Poor people will get adequate loans for domestic economic activities and a safe, affordable payment system for cross-border economic activities.	Required strategic management in the bank's functioning with the real economy: The bank's financing to the poor households and poor entrepreneurs will enable them to be involved in more income-generating activities and facilitating remittance flow in a safe, convenient, and affordable way will assist in ensuring both internal and external balance of the country through increasing foreign reserve and uplifting the income status of the

		poor.
<p>Activity :</p> <p>(Bank’s target in business process).</p>	<p>Banking to the poor:</p> <p>Special focus will be given to providing loans to the poor and facilitating remittance flow among them, as a significant portion of remittance earners in the country belong to the economically disadvantaged population.</p>	<p>Required strategic engagement with customers:</p> <p>Banking services are to be brought to poor households and firms in remote rural areas and a larger remittance network is to be built.</p>
<p>Input:</p> <p>(Bank’s target in resource management)</p>	<p>Fund allocation and management for the poor:</p> <p>Offering suitable investment and remittance flow to the poor at affordable prices.</p>	<p>Required strategic capital management:</p> <p>Banks have to reach small, and medium loans and remittances in rural remote, and poverty-prone areas at affordable prices.</p>

Literary Support

World Bank’s 2019 report explores the repercussions of heightened international trade tensions and subdued investment on economic growth and inequality. This report by the World Bank examines the impact of international trade on economic growth and inequality. The report argues that international trade can be a powerful tool for reducing poverty and inequality if it is accompanied by investments in human capital and infrastructure. The report also suggests that policies that facilitate the equal distribution of international trade can help to reduce inequality.

World Migration Report 2018. Geneva: International Organization for Migration: This report by the International Organization for Migration (IOM) focuses on the role of migration in promoting development and reducing inequality. The report argues that remittances can be an important tool for reducing poverty and inequality in developing countries, and the policies that support the transfer of remittances can help to maximize their positive impact.

In aligning the banking activities towards supporting the above SDG targets, Bangladesh Bank (The Central Bank of Bangladesh) mapped its following existing programs and policies towards supporting the above-discussed SDG targets:

SDG Target No	Relevant policies and programs
10.1	All credit policies, monetary policy, and financial inclusion policies. Note: These policies are related to SDG 10 by influencing income distribution, empowering marginalized populations, and reducing inequality through improved access to financial resources.
10.5	Financial sector regulation and supervision. Note: This policy is related to SDG 10 by ensuring fairness, transparency, and access to financial services, thereby contributing to the goal of reducing income inequality within and among countries.

Source: SDG Target Mapping by Bangladesh Bank, 2018.

5.4.8.3 Developing OVI (Objectively Verifiable Indicator) for SDG 10

In order to implement the plan for SDG 10, as outlined in the previous sub-section, and track institutional progress on it, the bank can identify objectively verifiable indicator/indicators based on the implementing and monitoring frameworks devised for the proposed impact optimizing sustainable banking plan and present the whole process through linking the OVI and the theory of action (ToA) as demonstrated in the following table no 5.41.

Table 5.41 OVI linked with ToA for SDG 10.

First Step: Three terms Sustainability objectives of the bank	Long-term objective: Contribution in reducing income inequality and increasing safe foreign financial flow, especially among the poor.	
	Medium-term objective: Contribution to increasing economic participation, per capita income, and foreign financial transactions among the poor.	
	Short-term objective: Increased access to bank’s financial and payment services by the poor: To enhance the accessibility of banking and payment services for both domestic and cross-border economic activities and financial transactions.	
Second Step: Key Actions based on objectives:		
	Customer management	Capital management
Quality	Realization of long-term vision: Consideration of reducing	Bank’s offerings for realization of the medium-term vision:

	inequality and increasing safe foreign financial flow.	Offering financial service products for the poor and remittance flow to the country.
Quantity	Category of customers to realize the short-term vision: Customer will be increased among economically disadvantaged individuals, particularly focusing on facilitating secure access to banking payment services for cross-border economic activities.	Direction of service to realize the short-term vision: The banking services will be provided aiming to boost savings, facilitate targeted financial disbursements, enable regular payments, and enhance remittance flow with economically disadvantaged communities.
Target group	Purpose of sustainability interaction to realize the medium-term vision: Expatriates and their family members, self-employed among the poor.	Direction of financial flow to realize the medium-term vision: Financial flow will be mobilized towards supporting increasing economic participation, per capita income, and foreign financial transactions among the poor.
Timing	Time effectiveness from a customer point of view: To ensure timely and equitable access to banking services for economically disadvantaged individuals, thereby preventing their vulnerability to exploitative informal lending practices and directly supporting SDG 10's mission of reducing income inequality by providing fair	Time effectiveness from an operational point of view: Long-term relation with the poor customer so that they get enough time to cross the poverty line and thus income inequality. Bank should maintain an enduring relationship with economically disadvantaged customers, enabling them adequate time and support to

	financial opportunities for all.	uplift themselves from poverty, thereby actively contributing to SDG 10's mission of reducing income inequality by fostering sustained economic growth and empowerment among marginalized populations.		
Place	Place effectiveness from customer point of view: To extend the reach of banking services to rural and poverty-stricken geographic regions, thereby ensuring that financially underserved communities have access to the tools and resources necessary to reduce income inequality and promote economic well-being.	Place effectiveness from an operational point of view: Banking service will be spread to remote areas in the country and facilitate overseas transactions through online, mobile, and agent banking. To expand banking services to remote and underserved areas within the country while enabling secure overseas transactions through digital channels, thus ensuring equitable access to financial services and reducing income disparities across geographical regions.		
Third Step: Finding Objectively Verifiable Indicators:				
Specific	Measurable	Available	Realistic	Time bounded
The issue to be expressed:	Measurable units and dimension:	The denominator	The progress throughout the ratios is	The progress

<p>Providing financial services for increasing economic participation, per capita income, and foreign financial transactions among the poor.</p>	<p>Whether the number is Increasing throughout the following ratio:</p> <p>Percentage Number of remittance service recipients by the bank to the total remittance service recipients in the market. (Note: It reflects the bank's role in facilitating remittance services, which can have a positive impact on reducing inequality and financial inclusion).</p> <p>Remittance Fee to the amount of remittance sent through the bank. (This indicator would represent the average remittance fee charged by the</p>	<p>and the nominator terms of the ratios are supposed to be available in the annual reports.</p>	<p>not impossible if</p> <p>a. The bank's objective function gives equal weight to sustainability and profitability with a focus on increasing economic participation, financial inclusion, per capita income and facilitating secure foreign financial transactions among economically disadvantaged populations as part of its commitment to reducing inequality through access to financial services.</p>	<p>should be tracked on a regular basis and at least once a year.</p>
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	<p>bank, providing a clear measure of the affordability of remittance services for customers. This is important as high fees can disproportionately affect low-income individuals who rely on remittances from family members working abroad).</p> <p>Percentage of Loan to SME to the total amount of loan</p> <p>Percentage of microcredit to the total amount of credit disbursed by the bank.</p>		<p>b. It is ensured that well-trained and motivated executives drive progress in areas such as remittance services, loans to SMEs, and microcredit allocation keeping in mind the aim of contributing to reduce income inequality and foster economic growth.</p>	
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Literary Support

Overseas remittances have been one of the most remarkable aspects of Bangladeshi labor exports. It is deeply linked with SDG implementation in Bangladesh. Banks in Bangladesh

can contribute to the sustainable development of the country by smoothing the remittance payment at an affordable charge. A study by Saha. et al. (2014) showed how the Bank's remittance service is linked with achieving sustainable development goals (especially 'inequality') in Bangladesh. They showed that remittance inflows impact macroeconomic variables such as GDP growth, which in turn influences poverty levels and the poverty gap ratio. Remittance directly affects poverty reduction, education, and health, while financial development indicators like the total remittance to GDP ratio provide insights into their significance in the economy. The indicators related to inequality, including the share of the poorest quintile in national consumption and the employment-to-population ratio, are influenced by remittance services. Recognizing this connection is crucial as it underscores the contribution of remittance services to SDGs, particularly in reducing inequality and promoting economic growth in Bangladesh.

The World Bank's report titled "SME Finance Policy Guide" offers valuable insights into the significance of SME loans. The report emphasizes that SMEs are vital for economic growth, employment generation, and poverty reduction. It discusses the role of financial institutions in providing loans to SMEs and highlights best practices for promoting SME financing. This indicator, when increased, reflects a bank's commitment to supporting small and medium-sized enterprises, which in turn contributes to economic growth and reduced income inequality.

The study by Khandker and Samad (2014) offers compelling empirical evidence of the substantial impact of microcredit programs on poverty alleviation and the reduction of income inequality in rural Bangladesh. Continuous participation in these programs has resulted in higher household income, increased consumption, and significant poverty reduction, accounting for over 10 percent of the decline in extreme poverty in rural areas over a specific decade. This study underscores how banks can contribute to reducing income inequality and fostering growth by providing targeted microcredit services, empowering marginalized individuals, and aligning with the objectives of SDG 10, ultimately advancing economic well-being and equality in society.

5.4.9 SDG 11: Sustainable cities and communities: Make cities and human settlements inclusive, safe, resilient, and sustainable.

5.4.9.1 Selecting the workable theme

SDG 11 aims to make cities and human settlements inclusive, safe, resilient, and sustainable. This SDG has 10 targets and 14 indicators to measure progress towards achieving it. We have to choose some workable themes from these targets and indicators analyzing their national and banking relevance. Here, we go through the following way:

5.4.9.1.1 Summary of the SDG 11 and Relevant National Targets of Bangladesh:

The United Nations (UN) has outlined specific targets and indicators Under SDG 11. Bangladesh as a member country has made efforts to align its national priorities with the relevant issues identified in these targets. In its 7th Five-Year plan and list of National Priority Targets (NPT), Bangladesh Has incorporated key areas that reflect the essence of these targets. Table 5.42 provides a summary of the specified targets and priority issues identified by Bangladesh in its pursuit of SDG 11.

Table 5.42 Summary of the SDG 11 targets and priority issues for Bangladesh.

Summary of the SDG Targets	Summary of all targets: 11.1 Safe and affordable housing for all. 11.2. Access to safe, affordable, accessible, and sustainable transport systems for all, improving road safety.
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	<p>11.3. Inclusive and sustainable urbanization.</p> <p>11.4. Protection of natural and cultural heritage.</p> <p>11.5. Reducing the number of directly affected persons attributed to disasters.</p> <p>11.6. Reducing adverse environmental impact (air quality and waste management).</p> <p>11.a. Balanced territorial development.</p> <p>11.b. Sustainable urban planning and local disaster risk reduction strategies.</p> <p>11.c. Sustainable and resilient buildings utilizing local materials.</p>
7th 5 years plan	<p>i. Access to improved water sources will be ensured for all urban dwellers.</p> <p>ii. Ensure sustainable urban development that supports increased productivity, investment, and employment.</p>
National Priority Targets	<p>NPT 30: Ensure women, children, the elderly, and persons with disabilities have convenient access to public transport (minimum 20% seats).</p>

5.4.9.1.2 Selecting Nationally Relevant SDG Targets :

By examining the contents of the 7th 5-year plan and the National Priority Targets (NPT), we can determine the specific sustainability themes that should be prioritized in line with Bangladesh’s development agenda for SDG 11. Through careful analysis and mapping of the concepts outlined in these documents, we can choose the following SDG targets that are

nationally relevant for Bangladesh as demonstrated in Table no 5.43.

Table 5.43 Nationally relevant targets from SDG 11.

No	Details of the selected targets	Relevant SDG Indicators	Analysis
	11.1 By 2030, ensure access for all to adequate, safe, and affordable housing and basic services and upgrade slums.	11.1.1 Proportion of urban population living in slums, informal settlements, or inadequate housing.	This target is about ensuring safe and affordable housing for all. This is complementary to the issue of the 7 th 5-year plan about access to improved water sources will be ensured for all urban dwellers.
	11.2 By 2030, provide access to safe, affordable, accessible, and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with	11.2.1 Proportion of the population that has convenient access to public transport, by sex, age, and persons with disabilities	SDG 11.2 tells about access to safe, affordable, accessible, and sustainable transport systems for all which is consistent with NPT 30.

	disabilities, and older persons.		
	11.a. Support positive economic, social, and environmental links between urban, pre-urban, and rural areas by strengthening national and regional development planning.	11.a.1: Number of countries that have national urban policies or regional development plans that (a) respond to population dynamics; (b) ensure balanced territorial development and (c) increase local fiscal space.	SDG 11. a tells about the balanced territorial development of the country. This theme is implied in many declared sustainability themes of Bangladesh, related to reducing poverty and inequality, though it is not clearly mentioned in the 7 th five years plan or NPT,
	11. b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels.	11.b.1 Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030. 11.b.2 Proportion of local governments that adopt and	SDG 11. b tells about sustainable urban planning and local disaster risk reduction strategies.

		implement local disaster risk reduction strategies in line with national disaster risk reduction strategies	
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5.4.9.1.3 Selecting the Bank relevant SDG impact optimizing themes:

Once the nationally relevant SDG targets have been identified for SDG11, the next step is to choose workable themes that are relevant to the bank's operations. The bank's relevance is assessed by examining how it's functioning within the real economy, as previously explained (financial intermediation, resource allocation, maturity transformation, payment system, and risk management), relates to the specific sustainability themes embedded within the SDGs. The analysis is outlined below in the following table no 5.44.

Table 5.44 Bank-relevant themes derived from the nationally relevant targets associated with SDG 11.

SDGs Targets	Targeted Themes	Targeted people/place	Bank Relevance
11.1	11.1 Safe and affordable housing for all.	Poor and middle-class people	The Bank's functioning of financial intermediation and resource allocation can support affordable housing for all and balanced territorial development By directing financial resources towards
11.a.	11.a. Balanced	Rural and	

	territorial development	remote areas.	<p>housing projects in underserved areas and regions with limited affordable housing options.</p> <p>Banks can advance affordable housing by offering favorable loans and partnering with government agencies and organizations. They can also support balanced territorial development by financing infrastructure projects, providing loans to businesses in underdeveloped regions, and collaborating with local authorities to identify investment opportunities in areas requiring development, such as affordable housing and community revitalization. These actions collectively contribute to addressing both housing affordability and regional development challenges.</p>
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Literary Support:

The banking sector can support affordable housing finance through mortgage lending and other financing instruments. According to the International Finance Corporation (IFC), "access to housing finance is a key factor in improving living conditions and reducing poverty." (IFC, 2019) Banks can provide mortgage loans that are tailored to the needs of low-income households and offer affordable financing rates and repayment terms.

According to the World Bank, rural areas are often excluded from basic services, and providing access to these services is essential for reducing poverty and promoting sustainable development World Bank, 2019).

Workable Theme:

Affordable housing for all and balanced territorial development

5.4.9.2 Sustainable Banking Plan for SDG 11

In addressing the workable theme from SDG 11, found in the previous sub-section, the bank can prepare a plan based on the planning framework developed for the proposed impact optimizing sustainable banking plan and put it in the log-frame template as presented in the following table no 5.45.

Table 5.45 Sustainable banking plan for SDG 11 in the log frame template.

Chain of Log Frame	Description	Analysis
Goal: Bank's vision regarding contribution to SDG 11.	Housing and development for all: Affordable housing for all and balanced territorial development	Workable theme derived from SDG 11: Housing and development will make community and human settlement inclusive and sustainable.
Impact: The Bank's vision is to be realized at the level of the	Balanced territorial Development: Development of the rural areas	Theme translated into the desired macroeconomic goal: Development of the rural areas and underdeveloped regions will

Macroeconomy.	and underdeveloped regions.	support the sustainability of the cities and communities through decentralization and diversification of urban conditions.
Outcome: The Bank's vision to be realized at the level of macroeconomic agents.	Housing for all: All people irrespective of rural, urban, poor, or rich will get affordable and safe housing facilities.	Theme translated into the desired conditions of macroeconomic agents: Increasing access to housing facilities for a larger population will foster inclusiveness in human settlement and development, promoting equal opportunities and well-being for all.
Output: Bank's target in value creation to the real economy.	Financial services for housing and rural development: People in rural areas will get financial services and loans will be provided for housing purposes.	Required strategic management in bank's functioning with the real economy: Financial services will enhance overall economic and development activities in rural and lagging regions whereas house loans will enhance inclusiveness in development at least in terms of human settlement and stability.
Activity :	Rural banking and house loans: The Bank will bring the	Required strategic

(Bank's target in business process).	people in rural and lagging regions to its service network and provide loans for housing purposes who need it.	<p>engagement with customers:</p> <p>Banks should focus on reaching services to remote, rural, and lagging areas through developing new networks or existing networks controlled by the local people or branches of other financial institutions.</p>
<p>Input:</p> <p>(Bank's target in resource management)</p>	<p>Capital management for rural areas and housing purposes:</p> <p>Offering suitable deposit and investment products in rural areas and suitable house loan products for those who lack them. It will facilitate in mobilization of financial resources towards housing initiatives, supporting affordable housing projects in underserved areas, and promoting inclusive development across different regions.</p>	<p>Required strategic capital management:</p> <p>Deposits and investment products in rural and lagging areas should be different from urban areas according to necessity in terms of size, duration, sector, location, etc. Housing schemes and loans should be offered targeting different income groups.</p>

Literary Support:

In aligning the banking activities towards supporting the above SDG targets, Bangladesh Bank (The central bank of Bangladesh) mapped its following existing programs and policies towards supporting the above-discussed SDG targets:

SDG Target No Relevant policies and programs

11.1	Housing finance policies and programs.
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Source: SDG Target Mapping by Bangladesh Bank, 2018.

5.4.9.3 Developing OVI (Objectively Verifiable Indicator) for SDG 11

To implement the plan for SDG 11, as outlined in the previous sub-section, and track institutional progress on it, the bank can identify objectively verifiable indicator/indicators based on the implementing and monitoring frameworks devised for the proposed impact-optimizing sustainable banking plan and present the whole process through linking the OVI and the theory of action (ToA) as demonstrated in the following table no 5.46.

Table 5.46 OVI linked with ToA for SDG 11.

<p>First Step: Three terms Sustainability objectives of the bank</p>	<p>Long-term objective: Contribution to the development of the rural areas and lagging regions particularly through initiatives promoting affordable housing for all aiming at achieving balanced territorial development and addressing the housing needs of underserved populations.</p>
	<p>Medium-term objective: Contribution to ensuring that affordable and safe and safe housing is accessible to people from all backgrounds, whether they live in rural or urban areas and regardless of their financial means.</p>

	Short-term objective: Providing financial services for housing and rural development.	
Second Step: Key Actions based on objectives:		
	Customer management	Capital management
Quality	Realization of long-term vision: Consideration of balanced development and housing for all.	Bank's offerings for the realization of the medium-term vision: By providing tailored financial products and partnering with government initiatives, banks can help ensure that accessible and affordable housing is available to all, while also supporting the development of underdeveloped regions.
Quantity	Category of customers to realize the short-term vision: Customers from rural and underdeveloped areas and house loan-related customers will be increased.	Direction of service to realize the short-term vision: Increasing deposits from, disbursing loans to impoverished individuals, and ensuing regular financial transactions and payments by rural residents will result in greater access to financial services for housing.
Target group	Purpose of sustainability interaction to realize the medium-term vision: Impoverished individuals and	Direction of financial flow to realize the medium-term vision: Financial flow will be mobilized towards a balanced development between rural

	<p>firms in rural and urban areas, particularly those who lack access to their housing facilities.</p>	<p>and urban areas and funding for safe and affordable housing.</p>
<p>Timing</p>	<p>Time effectiveness from a customer point of view: To empower impoverished individuals, especially in underdeveloped regions with the necessary resources, financial literacy, and access to specialized financing solutions to prevent them from falling into the exploitative informal loan cycle while promoting affordable housing and balanced territorial development.</p>	<p>Time effectiveness from an operational point of view: To establish enduring relationships with economically disadvantaged customers, offering tailored financial solutions and support that extend over the long term, thereby providing them with the necessary time and resources to uplift their economic circumstances, achieve financial stability and affordable housing opportunities in underdeveloped regions, thus contributing to the goal of balanced territorial development and housing accessible for all.</p>
<p>Place</p>	<p>Place effectiveness from a customer point of view: To ensure that customers are effectively reached and served in rural and poverty-prone geographic locations, with a specific focus on providing accessible banking services, tailored financing options, and housing-related support in the</p>	<p>Place effectiveness from an operational point of view: To expand banking services into remote and underserved areas through innovative methods such as mobile banking and agent banking facilitating not only financial inclusion but also specially targeting these regions for the promotion of affordable housing initiatives and infrastructure</p>

	underserved regions to facilitate affordable housing solutions and contribute to balanced territorial development.	development, thus contributing to the overarching goal of balanced territorial development and increased housing accessibility for all.
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Third Step: Finding Objectively Verifiable Indicators:

Specific	Measurable	Available	Realistic	Time bounded
<p>Issue to be expressed: Financial services for housing and rural development</p>	<p>Measurable units and dimension: Whether the number is Increasing throughout the following ratio: Percentage of loan disbursement in the rural areas to the total investment. Percentage of deposits from the rural areas</p>	<p>The denominator and the numerator terms of the ratios are supposed to be available in the annual reports.</p>	<p>The progress throughout the ratios is not impossible if</p> <p>a. The bank equally prioritizes sustainability logic and profitability logic in its objective function which entails a balanced commitment to financial inclusion, responsible lending practices, and investment in housing and infrastructure development</p>	<p>The progress should be tracked regularly and at least once a year.</p>

	<p>to the total deposits in the bank.</p> <p>Percentage of house loans in amount and number of recipients to the total amount and number.</p>		<p>within rural and underdeveloped regions where economic growth and access to affordable housing go hand-in-hand for sustainable development.</p> <p>b. The executives are well trained and motivated to play a pivotal role in targeting measurable issues specific to the identified indicators.</p> <p>Through their expertise and commitment, they can drive initiatives to increase the percentage of loans disbursed in rural areas, encouraging rural deposits and promoting</p>	
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			<p>affordable housing by efficiently allocating resources and implementing reasonable lending practices. This approach ensures that the bank's operation aligns with the sustainable banking goals of financial services for housing and a balanced regional development within the country as outlined in SDG 11.</p>	
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Literary Support:

The Sustainable Banking Network (SBN), a community of financial regulators and banking associations from emerging markets, has developed a set of indicators to assess bank's sustainable finance practices. One of the indicators is the percentage of rural loans to total loans, which measures a bank's commitment to promoting financial inclusion and access to finance in rural areas (SBN, 2018). Similarly, the IFC a member of the World Bank Group, has developed a set of sustainability performance indicators, which includes the percentage of rural loans and deposits to total loans and deposits respectively (IFC, 2012).

UNEP FI has developed a set of principles for responsible banking. One of the principles is to align the bank's housing finance activities with sustainable development objectives (UNEP FI, 2019). This principle signifies a commitment to promoting housing finance practices that not only facilitate homeownership but also prioritize sustainability, affordability, and accessibility. It encourages banks to contribute to initiatives related to affordable housing for all, particularly in underdeveloped regions, and to adopt responsible lending practices that ensure housing loans are extended in a manner that supports both environmental and social sustainability, ultimately contributing to the broader goal of housing and rural development. Moreover, the study, conducted by Kajimo-Shkantu and Evans in 2006, explores the role of South African banks in providing low-income housing finance. While the study primarily focuses on the challenges and constraints faced by banks in this regard, it also suggests the need for a different business model suited to the needs of the low-income population (Kajimo et al. 2006).

5.4.10 SDG 12: Responsible Consumption and Production: Ensure sustainable consumption and production patterns.

5.4.10.1 Selecting the workable theme from SDG 12

SDG 12 aims to ensure sustainable consumption and production patterns by promoting resources and energy efficiency, sustainable infrastructure, and providing access to basic services, green and decent jobs, and a better quality of life for all. This SDG has 11 targets and 13 indicators to measure progress towards achieving it. We have to choose some workable themes from these targets and indicators analyzing their national and banking relevance. Here, we go through the following way:

5.4.10.1.1 Summary of the SDG 5 and Relevant National Targets of Bangladesh:

The United Nations (UN) has outlined specific targets and indicators Under SDG 12. Bangladesh as a member country has made efforts to align its national priorities with the relevant issues identified in these targets. In its 7th Five-Year plan and list of National Priority Targets (NPT), Bangladesh Has incorporated key areas that reflect the essence of these targets. Table 5.47 provides a summary of the specified targets and priority issues identified by Bangladesh in its pursuit of SDG 12.

Table 5.47 Summary of the SDG 12 targets and priority issues for Bangladesh.

<p>Summary of the SDG 12 targets</p>	<p>Summary of all targets:</p> <p>12.1. Adopting and implementing policies for sustainable consumption and production.</p> <p>12.2. Sustainable and efficient use of natural resources.</p> <p>12.3. Reducing food waste at every stage from farm to consumer.</p> <p>12.4. Environmentally sound management of chemicals and wastes throughout their lifecycle.</p> <p>12.5. Reducing waste generation</p> <p>12.6. Sustainable policies and reporting by companies.</p> <p>12.7. Sustainable public procurement practices.</p> <p>12.8. Promoting sustainable lifestyle.</p> <p>12.a. Enhancing scientific and technological capacity for</p>
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	<p>sustainable consumption and production.</p> <p>12.b. Monitoring the sustainability effect of tourism.</p> <p>12.c. Reducing Fossil fuel subsidies</p>
7th 5 years plan	<ul style="list-style-type: none"> i. Increase productive forest coverage to 20 percent with 70% tree density. ii. Improve air quality in Dhaka including large cities and enact Clean Air Act.
National Priority Targets	NPT 31: Ensure 100% of industries install and operate waste management systems.

5.4.10.1.2 Selecting Nationally Relevant SDG Targets :

By examining the contents of the 7th 5-year plan and the National Priority Targets (NPT), we can determine the specific sustainability themes that should be prioritized in line with Bangladesh’s development agenda for SDG 12. Through careful analysis and mapping of the concepts outlined in these documents, we can choose the following SDG targets that are nationally relevant for Bangladesh as demonstrated in Table no 5.48.

Table 5.48 Nationally relevant targets from SDG 12.

No	Details of the selected targets	Relevant SDG Indicators	Analysis
	<p>12.1 Implement the 10-Year Framework of Programs on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries.</p>	<p>12.1.1 Number of countries developing, adopting, or implementing policy instruments aimed at supporting the shift to sustainable consumption and production.</p> <p>As a member country of UNDP, Bangladesh is under obligation to adopt such a policy.</p>	<p>12.1 Adopting and implementing policies for sustainable consumption and production which includes installation and operation of waste management systems that are relevant to NPT 31 and 7th five-year plan about improving air quality.</p>

5.4.10.1.3 Selecting the Bank relevant SDG impact optimizing themes:

Once the nationally relevant SDG targets have been identified for SDG12, the next step is to choose workable themes that are relevant to the bank’s operations. The bank’s relevance is assessed by examining how it's functioning within the real economy, as previously explained (financial intermediation, resource allocation, maturity transformation, payment system, and risk management), relates to the specific sustainability themes embedded within the SDGs. The analysis is outlined in the following table no 5.49.

Table 5.49 Bank-relevant themes derived from the nationally relevant targets associated with SDG 12.

SDGs Targets	Targeted Themes	Targeted people/place	Bank Relevance
12.1	Adopting and implementing policies for sustainable consumption and production which includes installation and operation of waste management system.	Production Units in the Economy like manufacturing companies, agricultural producers, mining and extractive industries, retailers and distributors, etc.	The Bank's functioning of financial intermediation can incentivize and support the adoption of sustainable practices and technologies by offering favorable loan terms, financing options, and advisory services. Bank's resource allocation decisions have a direct impact on the adoption and implementation of sustainability policies.

Literary Support:

According to the 3rd principle of Responsible banking adopted by UNEPFI, Banks can develop sustainable finance policies that prioritize investment in sustainable projects and practices. These policies can include requirements for environmental and social due diligence for all lending and investment decisions. By developing sustainable finance policies, banks can help ensure that their investments support sustainable consumption and production practices (UNEP FI, 2020).

Workable theme: Promoting responsible production and consumption through facilitating in adoption and implementation of sustainability policies and Installation and operation of green technologies which will lead towards more sustainable resource management and reduced environmental impact.

5.4.10.2 Sustainable Banking Plan for SDG 12:

In addressing the workable theme from SDG 12, found in the previous sub-section, the bank can prepare a plan based on the planning framework developed for the proposed impact optimizing sustainable banking plan and put it in the log-frame template as presented in the following table no 5.50.

Table 5.50 Sustainable banking plan for SDG 12 in the log frame template.

Chain of Log Frame	Description	Analysis
Goal: Bank’s vision regarding contribution to SDG 12.	Adopting policies and technology for green economy: Adoption and implementation of sustainability policies and Installation and operation green technologies.	Workable theme derived from SDG 12: Sustainable policies and technological adoption are required to ensure responsible consumption and production patterns.
Impact: The Bank’s vision is to be realized at the level	Green economy: Greenness of the economy is a vision that is supposed	Theme translated into the desired macroeconomic goal: The macroeconomic goal of sustainable

of the Macroeconomy.	to be the target of all activities related to responsible consumption and production.	consumption and production is a green economy defined as low carbon, resource efficient, and socially inclusive.
Outcome: The Bank's vision is to be realized at the level of macroeconomic agents.	Sustainable behavior of the people: People will adopt and implement sustainability policies and install green technologies, especially in the case of emission and waste management.	Theme translated into the desired conditions of macroeconomic agents: The green economy needs to adopt and implement sustainability policies, practices, and technologies by consumers and producers that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services.
Output: Bank's target in value creation to the real economy.	Finance for green economy: Encouraging and financing responsible activities and technological adoption to ensure green economy.	Required strategic management in the bank's functioning with the real economy: The Bank can utilize its existing channels with households and firms to allocate financial resources and promote responsible consumption and production behaviors among them.
Activity : (Bank's target in business process).	Funding green projects and adoption: The Bank will encourage the economic behavior of the customers through	Required strategic engagement with customers: The projects related to sustainability adoption are to be financed. It aims to

	financing green projects and technological adoption for this cause.	encourage both firms to undertake green initiatives and households to adopt environmentally-friendly products and behaviors, through raising awareness and offering favorable financing conditions.
Input: (Bank's target in resource management)	Green finance: Suitable investment products are to be offered for green technologies and projects.	Required strategic capital management: Loans are to be offered for adopting green technologies in different sectors relevant to emission, energy, and resource efficiency.

Literary Support:

In aligning the banking activities towards supporting the above SDG targets, Bangladesh Bank (The Central Bank of Bangladesh) mapped its following existing programs and policies towards supporting the above-discussed SDG targets:

SDG Target No	Relevant policies and programs
12.1 and 12.5	Green finance for waste management

Source: SDG Target Mapping by Bangladesh Bank, 2018.

5.4.10.3 Developing OVI (Objectively Verifiable Indicator) for SDG 12:

In order to implement the plan for SDG 12, as outlined in the previous sub-section, and track institutional progress on it, the bank can identify objectively verifiable indicator/indicators based on the implementing and monitoring frameworks devised for the proposed impact optimizing sustainable banking plan and present the whole process through linking the OVI and the theory of action (ToA) as demonstrated in the following table no 5.51.

Table 5.51 OVI linked with ToA for SDG 12.

First Step: Three terms Sustainability objectives of the bank	Long-term objective: Contribution to a green and sustainable economy through doing responsible business and supporting the greenness programs taken in all activities related to consumption and production in the real economy.	
	Medium-term objective: Being responsible to the economic agents Enabling people to adopt and implement sustainability policies and installing green technologies, especially in the case of emission and waste management.	
	Short-term objective: Doing business responsibly and Providing funds and payment services to responsible activities and technological adoption to ensure a green economy.	
Second Step: Key Actions based on objectives:		
	Customer management	Capital management

<p>Quality</p>	<p>Realization of long-term vision: Aligning banking practice with the vision of promoting fairness, eco-friendly production and consumption, and comprehensive risk assessment for this vision.</p>	<p>The bank's offerings for the realization of the medium-term vision are doing business responsibly and Offering financial products for adopting, implementing sustainability policies, and installing green technologies, especially in the case of emission and waste management.</p>
<p>Quantity</p>	<p>Category of customers to realize the short-term vision: To grow the customer base specifically among individuals who have undergone environmental compliance and embraced green technologies, thereby actively contributing to the advancement of a sustainable economy.</p>	<p>Direction of service to realize the short-term vision: Providing deposit, disbursement, and regular payment services specifically designed to facilitate and support responsible activities and adoption of green technologies.</p>
<p>Target group</p>	<p>Purpose of sustainability interaction to realize the medium-term vision: The bank should primarily target</p>	<p>Direction of financial flow to realize the medium-term vision: Channeling financial resources toward facilitating the adoption of sustainability policies and green</p>

	businesses and individuals capable of making a substantial impact on sustainability, especially in areas such as emission reduction and waste management.	technologies by both businesses and individuals with a particular focus on emission reduction and waste management initiatives.
Timing	Time effectiveness from a customer point of view: The green program should be taken in the production and consumption activities immediately and should get prompt financial support from the banking channel before further worsening the environment.	Time effectiveness from an operational point of view: Long-term quality relation with environmental programs related to production and consumption activities to ensure advancement in the greenness of the overall economy.
Place	Place effectiveness from a customer point of view: Financial service should be reached to the greenness program taken throughout the country.	Place effectiveness from an operational point of view: Banking service will be spread to the environmental program located in remote and vulnerable areas through online, mobile, and agent banking.
Third Step: Finding Objectively Verifiable Indicators:		

Specific	Measurable	Available	Realistic	Time bounded
<p>The issue to be expressed: Allocating and Providing funds for adopting, implementing sustainability policies, and installing green technologies</p>	<p>Measurable units and dimension: Whether the number is Increasing throughout the following ratio: Spread deposit interest rate to investment interest rate. (Note: A narrower interest rate spread signifies a greater level of responsibility on the part of the bank toward society and its depositors, as it suggests that the bank is retaining less profit from depositor funds and allocating</p>	<p>The denominator and the numerator terms of the ratios are supposed to be available in the annual reports.</p>	<p>The progress throughout the ratios is not impossible if</p> <ul style="list-style-type: none"> a. Banks not only aim to generate profit but also proactively integrate sustainability goals into their strategic planning allocating financial resources to support initiatives that promote responsible production and consumption. b. Bank executives are both well- 	<p>The progress should be tracked on a regular basis and at least once a year.</p>

	<p>more to productive loans and investments in the real economy which is relevant to the theme of adopting policy for responsible production to society in SDG 12).</p> <p>Percentage of CSR expenditure to the total profit by the bank. (This metric signifies a bank's commitment to ethical and sustainable practices by reflecting the proportion of its earnings channeled into initiatives that benefit society</p>		<p>trained and highly motivated to focus on measurable sustainability issues specifically related to responsible production and consumption including interest rate spread, CSR expenditure, profit reinvestment, and others.</p>	
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	<p>and the environment.</p> <p>This is relevant to the theme of adopting a policy for responsible production in (SDG 12).</p> <p>Percentage of Profit reinvested in the bank's capital to the total profit earned by the bank. (Note: This indicator is pertinent because it signifies that the bank is prioritizing the greater welfare of society over the interests of owners or shareholders by retaining a portion of profits for reinvestment</p>			
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	<p>rather than distributing them as dividends. Thus the bank adopts a policy for the theme of responsible production in SDG 12 by reinforcing the capital base for the economy, society, and sustainability).</p> <p>Percentage of Green finance for adopting policies and installation of green technology to the total investment.</p> <p>No of investment rated for ESG to total no of investment clients.</p>			
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	<p>Or Amount of rated investment for ESG to total investment</p> <p>(Note: In the context of sustainable banking, rated investment refers to investments that have been assessed and assigned a rating based on their environmental, social, and governance (ESG) performance, indicating their level of sustainability and responsible practices).</p> <p>Percentage of spending on green awareness to the total marketing</p>			
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	<p>spending.</p> <p>Percentage of spending on green training to the total spending on training.</p> <p>(Note: The above two indicators signify a bank's commitment to sustainability by directing resources towards raising environmental awareness and equipping its workforce with green expertise. This proactive approach not only encourages responsible production and consumption within the bank's operations but</p>			
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	<p>also empowers customers and employees to make sustainable choices, ultimately contributing to the advancement of responsible practices and green technology adoption, which are central to SDG 12).</p>			
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Literary Support:

To encourage sustainably responsible practice, Bangladesh Bank (The central bank of Bangladesh) introduced a comprehensive guideline on Corporate Social Responsibility (CSR) where banks have been asked to concentrate hard on linking CSR at their highest corporate level for ingraining environmentally and socially responsible practices and engaging with borrowers in scrutiny of the environmental and social impacts (BB, 2008). Moreover, Bangladesh Bank’s issuance of guidelines for Environmental and Social Risk Management (ESRM) in 2022 underscores the importance of ESG consideration in Banking (BB, 2022).

The Global Reporting Initiative (GRI), an independent organization that promotes sustainability reporting by businesses, recommends that companies report on their

investments in sustainability-related training and awareness programs as part of their sustainability reporting (GRI, 2016).

UNEP FI calls for banks to align their business strategies with the goals of the Paris Agreement on climate Change, including committing to allocate a specific percentage of their lending and investment portfolios to sustainable projects and initiatives (UNEP FI, 2019) The European Union has introduced the Sustainable Finance Disclosure Regulation (SFDR), which requires financial institutions to disclose information about their sustainability practices. It includes a measure of the deposit interest rate spread and recommends that banks aim for a narrow spread in order to align their financial objectives with their environmental and social goals (EC, 2019). A narrower spread implies a heightened sense of responsibility on the bank's part towards society and its depositors, as it signifies a reduced focus on extracting excessive profits from depositor funds and a stronger commitment to investing in the real economy. In this context, the sustainable banking index proposed by Rebai et al (20014) includes important indicators such as loans to deposit ratio (LDR), interest level on deposits (ILD), and interest level on loans (ILL) in its multi-attribute utility functions to assess sustainability practices in the banking sector (Rebai et al, 2014).

The percentage of profit reinvested in a bank's capital, relative to total profit, signifies the institution's commitment to financial stability and societal responsibility. This allocation of profits reinforces the bank's foundation, enhancing its resilience and supporting long-term economic and social well-being. By prioritizing capital reinvestment, banks align with SDG 12's objectives of responsible production and consumption, as it provides the financial stability necessary to fund projects promoting sustainability. Notably, Rebai et al. (2014) include this indicator, profit reinvested in the bank's capital (PRBC), in their sustainable banking index, underscoring its importance in assessing sustainable banking practices (Rebai et al., 2014).

Spending on building green awareness for the customer is a sustainable banking indicator of paramount importance, as demonstrated by different studies. Ahuja (2015) demonstrates that education and environmental awareness are closely related, influencing customers to embrace digital and green banking practices, ultimately contributing to sustainable development and growth. Noman et al. (2015) emphasize the importance of green

banking adoption in Bangladesh for sustainable economic growth and highlight the role of education and awareness in changing client behaviors. In Pakistan, Khan and Szegedi (2019) argue that the banking sector can help reduce environmental issues in a developing economy, emphasizing the significance of customer awareness and education. This indicator signifies a bank's commitment to educating customers about environmentally responsible financial choices and aligns with SDG 12's principles of responsible production and consumption, making it an essential measure in sustainable banking practices.

Spending on green training is also a significant sustainable banking indicator, as highlighted by Rebai (2014) in the context of the proposed multi-attribute utility function-based sustainable banking index. This metric signifies a bank's unwavering commitment to sustainability by directing resources toward not only raising environmental awareness but also equipping its workforce with essential green expertise. By proactively investing in green training initiatives, banks empower both employees and customers to make informed and sustainable choices. This approach not only fosters responsible production and consumption within the bank's operations but also facilitates the broader adoption of green technologies and responsible practices, aligning directly with the theme of SDG 12.

5.4.11 SDG 13: Climate Action: Take urgent action to combat climate change and its impacts by regulating emissions and promoting developments in renewable energy.

5.4.11.1 Selecting the workable theme

SDG 13 aims to take urgent action to combat climate change and its impacts and to strengthen resilience and adaptive capacity to climate-related and natural disasters. This SDG has 5 targets and 8 indicators to measure progress towards achieving it. We have to choose some workable themes from these targets and indicators analyzing their national and banking relevance. Here, we go through the following way:

5.4.11.1.1 Summary of the SDG 5 and Relevant National Targets of Bangladesh:

The United Nations (UN) has outlined specific targets and indicators Under SDG 13. Bangladesh as a member country has made efforts to align its national priorities with the relevant issues identified in these targets. In its 7th Five-Year plan and list of National Priority Targets (NPT), Bangladesh Has incorporated key areas that reflect the essence of these targets. The following table no 5.52 provides a summary of the specified targets and priority issues identified by Bangladesh in its pursuit of SDG 13.

Table 5.52 Summary of the SDG 13 targets and priority issues for Bangladesh.

<p>Summary of SDG 13 Targets</p>	<p>Summary of all Targets:</p> <p>13.1. Resilience to climate-related hazards and natural disasters.</p> <p>13.2. National climate change policies and strategies.</p> <p>13.3. Human and institutional capacity in climate change management</p> <p>13.a. International mobilization of green climate fund.</p> <p>13.b. Effective climate change-related planning and management focusing on vulnerable groups of people.</p>
<p>7th 5 years plan</p>	<p>i. Environmental, Climate Change, and disaster risk reduction considerations are integrated into project design, budgetary allocations, and implementation process.</p>

	ii. 500-meter-wide green belt to be established and protected along the coast
National Priority target	NPT 32 - Reduce the number of deaths, missing persons, and directly affected persons attributed to disasters to 1500 per 100,000 population (SDG Indicator 13.1.1)

5.4.11.1.2 Selecting nationally relevant SDG Targets :

By examining the contents of the 7th 5-year plan and the National Priority Targets (NPT), we can determine the specific sustainability themes that should be prioritized in line with Bangladesh’s development agenda for SDG 13. Through careful analysis and mapping of the concepts outlined in these documents, we can choose the following SDG targets that are nationally relevant for Bangladesh as demonstrated in Table no 5.53.

Table 5.53 Nationally relevant targets from SDG 13.

No	Details of the selected targets	Relevant SDG Indicators	Analysis
1.	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all	13.1.1 Number of deaths, missing persons, and directly affected persons attributed to disasters per 100,000 populations.	13.1. Resilience to climate-related hazards and natural disasters which are manifested as reducing the number of deaths and

	countries.		missing persons directly affected persons attributed to disasters in NPT 32.
2.	13.3 Improve education, awareness-raising, and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning.	13.3.1 Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment.	13.3. Human and institutional capacity on climate change management which is consistent with the 7 th 5-year plan.

5.4.11.1.3 Selecting the Bank relevant SDG impact optimizing themes:

Once the nationally relevant SDG targets have been identified for SDG13, the next step is to choose workable themes that are relevant to the bank's operations. The bank's relevance is assessed by examining how it's functioning within the real economy, as previously explained (financial intermediation, resource allocation, maturity transformation, payment system, and risk management), relates to the specific sustainability themes embedded within the SDGs. The analysis is outlined in the following table no 5.54.

Table 5.54 Bank-relevant themes derived from the nationally relevant targets associated with SDG 13.

SDGs Targets	Targeted Themes	Targeted people/place	Bank Relevance
SDG Target no 13.1	Resilience to climate-related hazards and natural disasters	People in climate risk areas especially in the coastal areas.	The Bank’s functioning of resource allocation can contribute to building resilience at the individual, community, and national levels through directing financial resources towards disaster risk reduction measures and investment in resilient infrastructure. Bank’s functioning of financial intermediation can offer emergency loans, lines of credit, and working capital to individuals, businesses, and communities affected by hazards and disasters.
SDG Target no 13.3	Human and institutional capacity in climate change management	People in disaster-prone areas and private and public organizations work for them.	

Literary Support:

Several international initiatives have been launched to support banks in integrating sustainability and climate resilience into their operations and financing activities. For example, the Task Force on Climate-related Financial Disclosures (TCFD) provides recommendations for companies and financial institutions to disclose climate-related risks and opportunities in their financial reporting (FSB, 2015). The United Nations Environment Programme Finance Initiative (UNEP FI, 2019.) has developed the Principles for Responsible Banking, which provide a framework for banks to align their strategies with the

SDGs and integrate sustainability into their business practices. The implementation of these principles supports the promotion of resilience to hazards and disasters as well as human and institutional capacity for climate change management.

Workable theme: Resilience to hazard and disaster and human and institutional capacity for climate change management.

5.4.11.2 Sustainable Banking Plan for SDG 13:

In addressing the workable theme from SDG 13, found in the previous sub-section, the bank can prepare a plan based on the planning framework developed for the proposed impact optimizing sustainable banking plan and put it in the log-frame template as presented in the following table no 5.55.

Table 5.55 Sustainable banking plan for SDG 13 in the log frame template.

Chain of Log Frame	Description	Analysis
<p>Goal: Bank's vision regarding contribution to SDG 13.</p>	<p>Increased Resilience and capacity for climate change management: Resilience to hazard and disaster and human and institutional capacity for climate change management.</p>	<p>Workable theme derived from SDG 13: Sometimes, environmental disasters and climate change-related hazards are inevitable. Hence, resilience and increased human and institutional capacity to manage the risks and vulnerability and resilience to hazards are good</p>

		solutions.
<p>Impact: The Bank's vision is to be realized at the level of Macroeconomy.</p>	<p>Effective national Environmental disaster management:</p> <p>National preparedness for disaster and climate change management.</p>	<p>Theme translated into the desired macroeconomic goal:</p> <p>The country should take proactive and pragmatic policies and programs for managing climate change-related hazards and environmental disasters with a special focus on the enhancement of individual and institutional capacity and resilience.</p>
<p>Outcome: The Bank's vision is to be realized at the level of macroeconomic agents.</p>	<p>Human and institutional capacity and resilience:</p> <p>Capacity for reducing risks and resilience to hazards due to climate change are to be enhanced both at institutional and individual levels.</p>	<p>Theme translated into the desired conditions of macroeconomic agents:</p> <p>Both households and firms, in disaster-prone areas, will improve their ability to manage environmental risks and enhance resilience to environmental hazards, while concurrently, local government and related institutions will significantly bolster their capacity to address climate change, natural disasters, and environmental risks, collectively working towards</p>

		building resilience within communities and firms in these vulnerable areas.
Output: Bank's target in value creation to the real economy.	Developed financial conditions of the people in disaster-prone areas: Providing financial services to disaster-prone areas strengthens the capacity and resilience of vulnerable individuals and institutions, enabling them to effectively manage climate change impacts and build resilience against future hazards.	Required strategic management in bank's functioning with the real economy: Banks should increase finance in economic activities in the disaster-prone areas and increase fund flow from and to the households, firms, and local government institutions in those areas. Thus, banks can contribute to enhancing resilience to hazards and disasters and strengthening human and institutional capacity for climate change management, enabling effective response, adaptation, and recovery measures.
Activity : (Bank's target in business process).	Banking to disaster-prone areas and people: The Bank will bring financial services to the people and firms in the disaster-prone areas.	Required strategic engagement with customers: Bank should expand its service network to the targeted disaster-prone areas and attract

		vulnerable people to its customer pool both as depositors and borrowers and facilitate their economic transactions through payment services.
Input: (Bank's target in resource management)	Financial management for climate change vulnerable people: The Bank will mobilize investment and flow the financial capital towards the economic development of climate change vulnerable populations. Thus banks play a crucial role in fostering resilience to hazards and disasters and enhancing human and institutional capacity for effective climate change management and adaptation.	Required strategic capital management: By offering suitable deposit and investment products tailored to the needs, opportunities, and interests of vulnerable populations in disaster-prone areas, banks contribute to the promotion of resilience to hazards and disasters as well as the strengthening of human and institutional capacity for climate change management and adaptation.

Literary Support:

Banks can significantly contribute to increased resilience and capacity for climate change management by financing climate-resilient infrastructure (Stern, 2007), offering disaster risk reduction financing through insurance products (Suarez, & Linnerooth-Bayer, 2011), supporting capacity building and education on climate change adaptation (World Bank,

2016), investing in renewable energy and clean technologies (IEA, 2020), promoting climate-smart agriculture practices (FAO, 2017) and funding climate research and data collection (IPCC,2022). These actions not only enhance societal resilience to climate-related hazards and disasters but also strengthen human and institutional capabilities for effective climate change management, aligning with the imperative of migrating climate change and adapting to its impacts.

In aligning the banking activities towards supporting the above SDG targets, Bangladesh Bank (The central bank of Bangladesh) mapped its following existing programs and policies towards supporting the above-discussed SDG targets:

SDG Target No	Relevant policies and programs
13.1	CSR fund for building resilience against climate change
13.2	Green finance to address climate change

Source: SDG Target Mapping by Bangladesh Bank, 2018.

5.4.11.3 Developing OVI (Objectively Verifiable Indicator) for SDG 13

To implement the plan for SDG 13, as outlined in the previous sub-section, and track institutional progress on it, the bank can identify objectively verifiable indicator/indicators based on the implementing and monitoring frameworks devised for the proposed impact-optimizing sustainable banking plan and present the whole process through linking the OVI and the theory of action (ToA) as demonstrated in the following table no 5.56.

Table 5.56 OVI linked with ToA for SDG 13.

First Step: Three terms Sustainability objectives of the bank	Long-term objective: Contribution to national preparedness for disaster and climate change management.	
	Medium-term objective: Contribution in enhancing capacity for reducing risks and increasing resilience to hazards due to climate change both at institutional and individual levels.	
	Short-term objective: To provide financial services to vulnerable people and institutions for climate change management.	
Second Step: Key Actions based on objectives:		
	Customer management	Capital management
Quality	Realization of long-term vision: Consideration of national preparedness for disaster and climate change management.	Bank's offerings for realization of the medium-term vision: Offering financial products relevant to enhancing capacity for reducing risks and increasing resilience to hazards due to climate change both at institutional and individual levels.
Quantity	Category of customers to realize the short-term vision: Customers will be increased among people	The direction of service to realize the short-term vision: Deposit, disbursement, and regular payment services towards

	<p>who have taken environmental compliance programs and adopted green technologies to ensure a green economy.</p>	<p>responsible activities and technological adoption to face climate change-related challenges.</p>
<p>Target group</p>	<p>Purpose of sustainability interaction to realize the medium-term vision: People and firms in disaster-prone areas.</p>	<p>Direction of financial flow to realize the medium-term vision: Financial flow will be mobilized towards reducing risks and increasing resilience to hazards due to climate change both at institutional and individual levels.</p>
<p>Timing</p>	<p>Time effectiveness from a customer point of view: The targeted group and projects should get prompt financial support from the banking channel before further worsening the environment.</p>	<p>Time effectiveness from an operational point of view: Long-term quality relation with the targeted people and projects to respond to the challenge of climate change effectively.</p>
<p>Place</p>	<p>Place effectiveness from a customer point of view: Financial service should be reached to the programs related to climate change taken</p>	<p>Place effectiveness from an operational point of view: Banking service will be spread to the climate change program located in remote and vulnerable areas through online, mobile, and</p>

	throughout the country.	agent banking.
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Third Step: Finding Objectively Verifiable Indicators:

Specific	Measurable	Available	Realistic	Time bounded
The issue to be expressed: To provide financial services to vulnerable people and institutions for climate change management.	Measurable units and dimension: Whether the number is increasing throughout the following ratio: Total allocation of climate funds by the bank. (It refers to the overall amount of financial resources dedicated to climate-related initiatives, projects, and interventions aimed at addressing climate change, promoting	The denominator and the numerator terms of the ratios are supposed to be available in the annual reports.	The progress throughout the ratios is not impossible if a. Both the sustainability logic and profitability are equally weighted in the bank's objective function. b. The executives are well trained and motivated to perform targeting the progress throughout the identified measurable issues.	The progress should be tracked on a regular basis and at least once a year.

	<p>sustainability, and supporting resilience-building efforts).</p> <p>Percentage of utilization of climate fund to the total amount of allocation for this purpose.</p> <p>Percentage of climate investment (projects that contribute to climate change mitigation, adaptation, or resilience) to the total investment.</p> <p>Number of climate-related projects funded (that contribute to climate change mitigation, adaptation, or resilience) by</p>		<p>c. Partnership and collaboration are made with local NGOs and government offices working for climate change and disaster management.</p>	
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	<p>the bank to its total number of investment clients.</p> <p>A number of vulnerable clients and institutions served by the bank to the total number of investment clients.</p>			
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Literary Support

To address the climate-vulnerable people, Bangladesh Bank (The Central Bank of Bangladesh) has instructed all banks and NBFIs to allocate 10 percent of their annual CSR budget to the Climate Risk Fund. (BB, 2015). Bangladesh Bank also encouraged all scheduled (Listed by the Central Bank of Bangladesh) banks and NBFIs to provide financing at a concessional rate or grant under climate risk funds to different not-for organizations or organizations for the establishment of Solid Waste Management Systems, Rainwater Harvesting and Solar Power Panel (BB, 2016).


The Task Force on Climate-related Financial Disclosure (TCFD) is a global initiative established by the Financial Stability Board with the aim of encouraging financial institutions worldwide to enhance climate risk disclosure practices. The TCFD recommends that financial institutions disclose information about the climate-related risks and opportunities associated with their investments, as well as information about their strategies for managing





these risks and opportunities. This information can be used to assess a bank’s commitment to addressing climate change and supporting sustainable development. (TCFD, 2017).

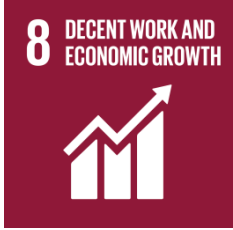
5.5 ALL THE INDICATORS FOUND ACCORDING TO THE RESPECTIVE SDGs




Here we will summarize all the indicators that are found throughout the above-long analysis of 11 selected SDG themes. The indicators are listed in the following table 5.57.



Table 5. 57 The impact of optimizing sustainable banking indicators for 11 selected SDG themes.

No	SDGs	Indicators
1	SDG 1: End Poverty 	<ul style="list-style-type: none"> a. Percentage of microcredit to total investment. b. Percentage of SME to the total investment c. Percentage of loan to labor-intensive sector to total disbursement. d. Percentage of small deposits to total deposits
2	SDG 2: Zero (No) Hunger	<ul style="list-style-type: none"> a. Percentage of credit to the agricultural sector to the total fund investment. b. Percentage of farmers’ accounts to the total number of deposit accounts.

	 <p>2 ZERO HUNGER</p>	
3	<p>SDG 4: Quality Education</p>  <p>4 QUALITY EDUCATION</p>	<p>Percentage of small deposit accounts from poverty-stricken families (who are supposed to be challenged in accessing and continuing education and skills to the total number of deposit accounts in the bank).</p>
4	<p>SDG 5: Gender Equality</p>  <p>5 GENDER EQUALITY</p>	<ul style="list-style-type: none"> a. Percentage of deposit by of deposit accounts by women to the total deposit accounts b. Percentage of loan disbursement to women to the total investments
5	<p>SDG 7: Affordable and Clean Energy</p>  <p>7 AFFORDABLE AND CLEAN ENERGY</p>	<ul style="list-style-type: none"> a. Percentage of loan disbursement for the projects related to a green economy, energy efficiency, and reduced emission to the amount of total investments by the bank. b. Percentage of no of accounts using the internet to the total no of accounts

6	<p>SDG 8: Decent work and Economic growth</p> 	<ul style="list-style-type: none"> a. Percentage of new deposits in a particular year to the total deposit of the bank. b. Percentage of new investment to the total investment of the bank. c. Percentage of investment by the bank to the total deposit collected by the bank. d. Percentage of remittance flowed by the bank to the total remittance flow in the market. e. Percentage of export flow by the bank to the total export in the market. f. Percentage of imports flow by the bank to the total imports in the market. g. Accounts opened by the mobile banking to the total accounts in the bank h. Accounts are opened by the agent banking to the total accounts in the bank. i. Percentage of loans extended to businesses that promote decent work practices to the total loan disbursed.
7	<p>SDG 9: Industry innovation and infrastructure.</p>	<ul style="list-style-type: none"> a. Percentage of SME Loan to total loan disbursement. b. Percentage of loan to ICT sector to the total loan disbursed by the bank.

	 <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<ul style="list-style-type: none"> c. Percentage of loan to the manufacturing sector to the total loan disbursed by the bank. d. Percentage of loan to infrastructure development projects by the government to the total loan disbursed by the bank.
8	 <p>10 REDUCED INEQUALITIES</p>	<ul style="list-style-type: none"> a. Percentage of remittance service recipients served by the bank to the total remittance service recipients in the market. b. Percentage of SME loan, Microcredit to the total amount of loan disbursed by the bank.
9	 <p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>	<ul style="list-style-type: none"> a. Percentage of loan disbursement in the rural areas to the total loan disbursed by the bank. b. Percentage of deposits from the rural areas to the total deposits in the bank. c. Percentage of house loan in amount and number of recipients to the total amount and number.
10	<p>SDG 12: Responsible Consumption and Production</p>	<ul style="list-style-type: none"> a. Percentage of CSR expenditure to the total profit by the bank. b. Percentage of Profit reinvested in the bank's capital to the total profit earned by the bank. c. Percentage of Green finance for adopting policies and installation of green technology to the total investment.

		<ul style="list-style-type: none"> d. No of investment rated to total no of investment clients. Or Amount of rated investment to total investment e. Percentage of spending on green awareness to the total marketing spending. f. Percentage of spending on green training to the total spending on training.
11	<p>SDG 13: Climate Action</p> 	<ul style="list-style-type: none"> a. Percentage of utilization of climate fund to the total amount of allocation for this purpose. b. Percentage of climate investment (projects that contribute to climate change mitigation, adaptation, or resilience) to the total investment. c. Number of climate-related projects funded by the bank to its total number of investment clients. d. Number of vulnerable clients and institutions served by the bank to the total number of investment clients

5.6 CONSTRUCTION OF SUSTAINABLE BANKING INDEX BASED ON THE PROPOSED IMPACT OPTIMIZING SUSTAINABLE BANKING MODEL

After identifying and summarizing key indicators across the chosen 11 SDG themes, the next step is to develop an index for assessing sustainable banking performance based on the proposed impact-optimizing sustainable banking model. This section offers a comprehensive guide to creating such an index, focusing on a five-step process that encompasses various aspects of index construction. Initially, indicators from the selected 11 SDG themes are

categorized into three sustainability dimensions. Subsequently, data collection is conducted to gather relevant information for these indicators. Then, indicators are weighted to reflect their relative significance in assessing sustainability. Following this, sub-indices are calculated for each dimension, providing a more detailed assessment. Finally, all sub-indices are compiled to create a comprehensive composite index, ensuring a holistic evaluation of sustainability within the banking sector, and offering a more accurate measure of its progress toward sustainable practices. All these steps are elaborated and applied in detail in the subsequent subsections.

5.6.1 Step One: Categorization of the indicators into three dimensions of sustainability

Here, we will undertake a categorization process, organizing the identified indicators into three distinct dimensions of sustainability: economic, social, and environmental. These dimensions allow for a comprehensive assessment of the bank's contribution to sustainable development within the economy. The methodology used to categorize the proposed sustainable banking indicators into distinct dimensions of sustainability involves a systematic approach based on established frameworks and theoretical foundations. Firstly, the indicators are compared with established frameworks such as the triple bottom line (TBL) concept, as introduced by Elkington and Rowlands (1999) and further developed by Barbier and Burgess (2017). This comparison helps assess whether the indicators align with the economic, social, and environmental dimensions outlined in these frameworks. Secondly, the theoretical foundation of the proposed indicators is examined by referencing relevant literature, including studies by Habib et al. (2017) and Rebai (2014) and other studies. This evaluation involves analyzing how the indicators contribute to the multifaceted dimensions of sustainable finance and banking as outlined in these studies. Once, the indicators are assessed in terms of their alignment with established frameworks and theoretical underpinnings, they are categorized into distinct dimensions of sustainability: economic, environmental, and social. This categorization ensures that each indicator is clearly associated with one of these

dimensions based on its focus and intended impact. Through this systematic classification process, the indicators are organized according to their relevance to economic growth, environmental conservation, and social well-being, thereby providing a comprehensive assessment of sustainable banking Practices.

Furthermore, the categorized indicators will be clustered into specific sustainability issues, focusing on how the bank's functioning influences the behavior and conditions of the economy and economic agents. By examining these issues, we can gain insight into the bank's role in promoting sustainable practices and driving positive impacts across various aspects of the economy. The categorized and clustered indicators referred to corresponding particular SDG are presented in the following table 5.2:

Table 5.58 The categorized impact optimizing sustainable banking indicators.

Issues	Number	Indicators	SDG Rationality
Economic			
Capital formation	1	Percentage of new deposits to the total deposit of the bank.	SDG 8
	2	Percentage of new investment to the total investment of the bank.	SDG 8
	3	Percentage of loan to infrastructure development projects by the government to the total loan disbursed by the bank.	SDG 9
Utilization of resources	4	Percentage of investment by the bank to the total deposit collected by the bank.	SDG 8
Fairness in dealing with the economy	5	Spread deposit interest rate to investment interest rate.	SDG 12

	6	Percentage of CSR expenditure to the total profit by the bank.	SDG 12
	7	Percentage of Profit reinvested in the bank's capital to the total profit earned by the bank.	SDG 8
Economic diversification	8	Percentage of loan to ICT sector to the total investment of the bank.	SDG 9
	9	Percentage of loan to the manufacturing sector to the total investment.	SDG 9
Employment generation	10	Percentage of loan to labor-intensive sector to the total disbursement.	SDG 1
Environment			
Green Investment	1	Percentage of loan disbursement for the projects related to a green economy, energy efficiency, and reduced emission to the amount of total investments by the bank.	SDG 7
	2	Percentage of loans extended to businesses that promote decent work practices to the total loan disbursed.	SDG 8
Environmental Risk Management (ERM)	3	No of investment rated to total no of investment clients.	SDG 12
	4	Amount of rated investment to total investment	SDG 12
Climate risk fund	5	Total allocation of climate funds by the	SDG 13

		bank.	
	6	Percentage of utilization of climate fund to the total amount of allocation for this purpose.	SDG 13
	7	Percentage of climate investment (projects that contribute to climate change mitigation, adaptation, or resilience) to the total investment.	SDG 13
	8	Number of climate-related projects funded by the bank to its total number of investment clients.	SDG 13
	9	Number of vulnerable clients and institutions served by the bank to the total number of investment clients	SDG 13
Green training and capacity building	10	Percentage of training program to the total number of training events.	SDG 12
	11	Percentage of staff received green training to the total number of employees.	SDG 12
	12	Percentage of spending on green training to the total spending on training.	SDG 12
Green Technology	13	Percentage of Green finance for adopting policies and installation of green technology to the total investment.	SDG 12
Green marketing and awareness	14	Percentage of spending on green	SDG 12

		awareness to the total marketing spending.	
Automation in banking	15	Percentage of no of accounts using the internet to the total no of accounts.	SDG 12
Social			
Welfare financial service	1	Percentage of house loan in amount to the total loan disbursement.	SDG 11
	2	Percentage of house loans in number of recipients to the total number of investment clients.	
	3	Percentage of remittance flowed by the bank to the total remittance flow in the market.	SDG 8
	4	Percentage Number of remittance service recipients by the bank to the total remittance service recipients in the market.	SDG 10
	5	Percentage of credit to the agricultural sector to the total fund investment.	SDG 2
Supporting Vulnerable group	6	Percentage of farmers' accounts to the total number of deposit accounts.	SDG 2
	7	Percentage of small deposits to total deposits.	SDG 1
	8	Percentage of small deposit accounts from poverty-stricken families challenged in accessing and continuing education and skills to the total number of deposit	SDG 4

		accounts in the bank.	
Reaching unbanked	9	Accounts are opened by mobile banking to the total accounts in the bank.	SDG 8
	10	Accounts are opened by the agent banking to the total accounts in the bank.	SDG 8
Widening financial inclusion	11	Percentage of microcredit to total investment.	SDG 1 & 10
	12	Percentage of SME to the total investment	SDG 1 & 10
	11	Percentage of Microcredit to the total amount of investment.	SDG 1 & 10
Reducing inequality.	12	Percentage of deposit accounts by women to the total deposit accounts.	SDG 5
	13	Percentage of loan disbursement to women to the total investments.	SDG 5
	14	Percentage of women investment clients to the total investment clients.	SDG 5
	15	Percentage of deposits from the rural areas to the total deposits in the bank.	SDG 11
	16	Percentage of loan disbursement in the rural areas to the total investment.	SDG 11

Literary Support:

Barbier and Burgess (2017) a study that aligns with the concept of the “triple bottom line” introduced by John Elkington and Rowlands in 1999. Elkington’s concept advocated that businesses should evaluate their performance not just in financial terms but also in terms of their social and environmental impacts (Elkington & Rowlands, 1999). Barbier and Burgess expanded on this idea by categorizing the 17 SDGs into three primary dimensions: economic, social, and environmental. In the economic dimension, goals like poverty eradication and economic growth were emphasized. The social dimension focused on goals related to education, gender equality, and social well-being. Lastly, the environmental dimension encompassed goals addressing clean energy, climate action, and environmental conservation. This systemized framework illustrates how the SDGs contribute to the triple bottom line of sustainability, emphasizing the interconnectedness of economic, social, and environmental aspects in achieving global sustainable development goals (SDGs). The concept of Elkington and Rowlands and Barbier and Burgess’s application of it underscores the importance of considering these three dimensions for a holistic approach to sustainability in both business and broader global development contexts.

In their 2017 study, Habib et al. classified the key aspects, of sustainable finance in the banking sector into three categories. First, the economic aspects encompassed efficient financing of business and economic activities, along with the efficient allocation of resources to priority sectors, while also addressing corporate governance and transparency issues with financial institutions. Second, the environmental aspects highlighted the importance of environmental risk management in both financing decisions and in-house operations, emphasizing the need for financing environmentally beneficial technologies. Lastly, the social aspects focused on promoting disadvantaged groups through financial services, including corporate social responsibility activities associated with the financed activities, support for vulnerable societal groups, and the provision of raised support services. These categories collectively represent the multifaceted dimensions of sustainable finance as delineated by Habib et al. (2017).

Rebai (2014) introduced a comprehensive sustainable banking index based on multi-attribute utility functions representing key stakeholders' perspectives. In the discussion of the

utility function of the stakeholder ‘civil society,’ he classified the bank’s actions toward sustainable development into different groups and categorized different sustainable banking themes and indicators into each group. The group of economic sustainability actions (EcS) emphasizes responsible banking through transparent economic financing and risk management. This is assessed through sub-criteria including the reinvestment of profits in the bank’s capital (PRBC), the immediate contribution to the national product (ICNP), and loans (L) reflecting the bank’s commitment to economic growth and prudent lending practices. The group of social responsibility (SoR) underscores the bank’s role in contributing to the broader societal well-being, encompassing labor practices, human rights compliance, civic engagement, employment generation, and poverty alleviation initiatives, evaluated through criteria such as diversity (Di) and inclusion (I). The group of environmental responsibility (EvS) highlights the bank’s environmental responsibility, including avoiding support for environmentally damaging businesses, adherence to sustainability standards, and promotion of climate-respectful investments and green practices, assessed through criteria such as socially responsible investments (SRI), carbon emissions (CE) and green consumption (GC).

5.6.2 Step Two: Data Collection:

To calculate the index, here we select Islamic Bank Bangladesh Limited (IBBL), one of the largest private banks in Bangladesh as a sample case. This is a compelling choice for several reasons. Firstly, IBBL’s consistent recognition as one of the world’s top 1000 banks by UK’s financial intelligence magazine ‘The Banker’. IBBL first appeared on the list in 2012 and secured its position every year since then. Apart from this, the global Council for Islamic Banks and Financial Institutions (CIBAFI) conferred IBBL ‘World’s Best Islamic Bank CIBAFI Award 2019’ for Investment Innovation. These recognitions demonstrate this bank’s sustained commitment to excellence and innovation in the banking sector. Secondly, IBBL achieved the top-performing banking award in sustainability rating by the Bangladesh Institute of Bank Management (BIBM) in 2022. Previously, Bangladesh Bank, the central bank of Bangladesh, recognized this bank as a sustainable bank in 2021, while it was also

awarded the ‘Sardar Patel Award 2016 for outstanding contribution to Sustainable Economic Development. These notable achievements in sustainability ratings showcase its dedication to sustainable banking practices. Thirdly, the bank’s impressive financial performance, with substantial revenue, operating income, total assets, and net income underscores its financial stability and significance in the industry. Additionally, its extensive workforce of 21, 000 employees with its ability to mobilize tk. 1410,445 million (US \$ 16.63 billion) in deposits from over 18,383,517 depositors and deploy Tk 1,461,365 million (US \$ 17.22 billion) as general investment into 983,996 accounts in 2022, demonstrates the bank’s extensive reach and influence in serving a broad spectrum of clients and businesses. Lastly, IBBL’s transparent disclosure of its financial and operational data supports its suitability as a sample case for assessing sustainable banking practices (IBBL Annual Report, 2022).

Data is collected from the annual reports of the Bank in 2018 and 2022. Though we have identified many indicators for economic, social, and environmental dimensions of sustainability, we have to calculate the index only based on available indicators and data in the published report. The available data are transformed into ratios and calculated as values in scale as a process of normalization in units. The calculations are shown in the following table 5.59.

Table 5.59. Ratio Calculations.

		Economic				
Issues	Indicators	Data (2018)	Data (2022)	In Ratio or scale (2018)	In ratio or scale (2022)	
Capital Formation to the Economy	Market share of investment	8.39%	11.37%	0.0839	11.37/100 = 0.1137	
Utilization	Investment	90.80%	91.64%	0.9080	91.64/100 =	

n of resources for the economy	nt deposit ratio				0.9164
Contribution to the openness of the economy.	Market share of export business	9.20%	7.41%	Average scale : (0.0920 +0.09)/ 2 = 0.091	Average scale: (0.0741 +0.1) / 2 = 0.0871
	Market share of import business	9%	10%		
Fairness in dealing with the economy	Retained Profit	16%	10%	0.16	0.1
Responsibility to the economy	CSR Expenditure/ Total Income	901,558,332/ 29,040,664,834	CSR expenditure 3273.69 million tk Total income: Tk. 106,606.17	0.0310	0.0307
Environmental					
Issues	Indicators	Data (2018)	Data (2022)	In Ratio or scale (2018)	In ratio or scale (2022)
Environmental risk management (ERM)	No investment rated/ Total number of	Number of customers appraised for risk rating: 10,059	50,758 rated customers. The total investment clients:	(10059/777340) = 0.0129	50,758/983,996 = 0.0516

	investment clients.	The total investment client of the bank: 777,340	983,996		
Green Investment	Green Investment/ Total Investment	Tk 10226.28 million/847,371 million tk	20,711.99 16.72%	(10226.28/847371) =0.0121	16.72/100 =0.1672
Green Training and capacity building	No of staff received training on green banking/ Total no of employees.	No of staff received training on green banking: 1304, Total Employees of the bank: 14698	3440 trained Total manpower: 20,792	(1304/14698) = 0.0887	3440/ 20792 = 0.1654
Green Marketing and Awareness Building	Spending on green marketing/ Total spending	Green marketing spending 2 million tk, Total spending: 19375 million tk	Green marketing spending 3 million tk , total spending: Tk. 100,682.72 million	(2/19375) = 0.0001	3/100682.72 = 0.00003
Automation for Green Banking	No of accounts using internet/	Internet using accounts: 3, 17,771. Total no of	Internet users: 1,356,383 Total no of accounts:18,3	3,17,771/1,14,82,966 = 0.0277	1356383/18383517 = 0.0738

	Total no of accounts	accounts:1,14,82,966	83,517		
Climate Risk Fund	Percentage of climate investment to the total investment.	Climate investment: Tk 671.72 Million Total Investment: 847,371million tk	Humanitarian and disaster Relief Tk.3197.05 Total investment million for 128,043	671.72/847371 = 0.0008	3197.05/128043= 0.0250
Social					
Issues	Indicators	Data (2018)	Data (2022)	In Ratio or scale (2018)	In ratio or scale (2022)
Welfare-oriented Financial Services	Percentage of credit to the agricultural sector to the total fund investment. (Social)	2.48%	15.69%	0.0248	15.69/100 = 0.1569
	Percentage of remittance flowed by the bank to	21%	22.92%	0.210	22.92/100 = 0.2292

	the total remittance flow in the market. (Social and Economic)				
Widening Financial Inclusion	Percentage of SME to the total investment (Social and E)	24.92%.	24.13% in bank and 10.92% in market	0.2492	24.13/100 = 0.2413
	Percentage of Microcredit as Rural Development Scheme and urban poor development scheme to the	9.59%	Tk. 55,881 million Total investment= 128,043	0.0959	55881/128043 = 0.43642370141

	total investment				
Reaching Unbanked	Percentage of agent banking accounts to the total no of accounts	No of agent banking accounts: 106,138, Total no of accounts: 1,14,82,966	33,55,000 customers from agent banking to Total no of accounts 18,383,517	(106,138/1,14,82,966) = 0.0092	3355000/18,383,517 = 0.1825
Reducing Inequality	Percentage of loan disbursement in the rural areas to the total investment. (Social)	7.96%	55,881 million tk Total investment= 128,043	0.0796	55881/128043 = 0.4364
	Percentage of women investment clients (as special	No of women clients invested to:8535 Total investment clients: 777,340	9,549 Total Investment accounts: 983,996	(8535/777340) = 0.0109	9549/983996 = 0.0097

	scheme) to the total investme nt clients.				
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5.6.3 Step three: Weighting:

The available indicators are ranked on the basis of the perceived trade-off between sustainability logic and profitability logic for each indicator. Here, we asked five mid-level employees of the different banks (private, public, Islamic, and conventional) to rank the available indicators within respective one of three sustainability dimensions.

The choice to consult mid-level bank employees to assign weights to sustainability indicators stems from practical consideration. These mid-level bank employees possess valuable hands-on experience with their respective banks' day-to-day operations, which allows them to provide a practical and operational perspective on the trade-offs between sustainability and profitability logic. Their insights are essential for assessing the real-world implications of these trade-offs and are highly relevant in this context.

While the number of respondents is relatively small, it aligns with Keeney and Raiffa's (1976) observation that there are no universally agreed-upon criteria for selecting experts. It is acknowledged that this sample size is limited and may not comprehensively represent the entire population of bank employees. However, it is important to clarify that this choice does not aim for statistical representativeness, but rather, it seeks to provide a starting point to gain insights into the trade-offs between sustainability and profitability logic capturing diverse perspectives within the context of the research. Hence, the choice of five employees is a practical compromise and the choice of employees from different types of banks (private, public, Islamic, conventional) allows for a range of viewpoints and diversity in perspectives, given the contextual nature of the research.

It's also important to note that the weights assigned in this research may not be universally applicable to all situations or regions. Indeed, if similar research is conducted in other banks or countries, the weights may differ based on the unique contexts and stakeholder perspectives. Hence, the weightage used in this study is not intended to be rigidly standardized or arrive at definitive weights but rather serves as a starting point for the specific context of this research. The accuracy and generalizability of the weights can indeed be enhanced in future studies by increasing the number of respondents from more banks and locations.

We will follow an ascending order ranking where the highest trade-offed indicator will be ranked as 1 and the second most trade-offed will be given 2 and so on. The arithmetic mean is used to find the average rank for each indicator within the respective dimension. The ratio of average rank to the sum value is found to assign weight within the respective dimension for each indicator. The whole process is presented in the following table no 5.60.

Table 5.60 Weight calculations.

Economic								
SL No	Indicators	R1	R2	R3	R4	R5	Average Rank	Weight
1	Market share of investment	2	2	4	1	5	2.8	0.1772
2	Investment deposit ratio	3	5	1	2	4	3	0.1899
3	Market share of export and import business	4	4	2	5	3	3.6	0.2278

4	Retained Profit	1	3	4	4	2	2.8	0.1772
5	CSR Expenditure/ Total Income	5	1	5	3	1	3	0.1899
						Total:	15.8	

Environment

SL No	Indicators	R1	R2	R3	R4	R5	Average Rank	Weight
1	No of investment rated/ Total number of investment clients.	2	2	3	3	2	2.4	0.1143
2	Green Investment/ Total Investment	1	1	1	4	3	2	0.0952
3	No of staff received training on green banking/ Total no of employees.	6	6	4	6	4	5.2	0.2476
4	Spending on green marketing/ Total spending	4	3	6	5	5	4.6	0.2190
5	No of accounts using internet/ Total no of accounts	5	5	5	1	6	4.4	0.2095
6	Percentage of climate investment to the total	3	4	2	2	1	2.4	0.1143

	investment							
						Total:	21	
Social								
SL No	Indicators	R1	R2	R3	R4	R5	Average Rank	Weight
1	Percentage of credit to the agricultural sector to the total fund investment. (Social)	1	2	3	2	4	2.4	0.0882
2	Percentage of remittance flowed by the bank to the total remittance flow in the market. (Social and Economic)	3	7	4	1	7	4.4	0.1618
3	Percentage of SME to the total investment	4	6	5	3	6	4.8	0.1765
4	Percentage of Microcredit as Rural Development Scheme to the total investment	2	3	3	5	1	2.8	0.1029
5	Percentage of agent banking accounts to the total no of accounts	6	4	6	4	3	4.6	0.1691
6	Percentage of loan disbursement in the rural areas	7	5	1	7	5	5	0.1838

	to the total investment. (Social)							
7	Percentage of women investment clients to the total investment clients.	5	1	2	6	2	3.2	0.1176
						Total:	27.2	

5.6.4 Step Four: Calculating Sub-Indices:

In developing economic, environmental, and social sub-indices, here, we have to identify the weighted value for each indicator by multiplying the value and weight as suggested in the handbook on constructing composite indicators (OECD, 2008). Then the weighted values are summed to get a total weighted value which is shown in the following table 5.61.

Table 5.61 Sub index calculations.

Economic					
Indicators	Weight	Scale value (2018)	Scale value (2022)	Weighted value (2018)	Weighted value (2022)
Market share of investment	0.1772	0.0839	0.1137	0.0149	0.0201
Investment deposit ratio	0.1899	0.9080	0.9164	0.1724	0.1740
Market share of export and import business	0.2278	0.091	0.0870	0.0207	0.0198
Retained Profit	0.1772	0.16 0	0.1	0.0283	0.0177
CSR Expenditure/	0.1899	0.0310	0.0307	0.0059	0.0058

Total Income					
	The sum of Weighted Values :			0.2423	0.2375
Environment					
Indicators	Weight	Scale value (2018)	Scale value (2022)	Weighted value (2018)	Weighted value (2022)
No of investment rated/ Total number of investment clients.	0.1143	0.0129	0.0515	0.00154	0.0059
Green Investment/ Total Investment	0.0952	0.0121	0.1672	0.0011	0.0159
No of staff received training on green banking/ Total no of employees.	0.2476	0.0887	0.1654	0.0220	0.0410
Spending on green marketing/ Total spending	0.2190	0.0001	0.00003	0.00002	
No of accounts using internet/ Total no of accounts	0.2095	0.0277	0.0738	0.0058	0.000006
Percentage of climate investment to the total investment	0.1143	0.0009	0.0250	0.00009	0.0028
	The sum of Weighted Values:			0.0305	0.0656
Social					
Indicators	Weight	Scale value (2018)	Scale value (2022)	Weighted value (2018)	Weighted value (2022)

Percentage of credit to the agricultural sector to the total fund investment. (Social)	0.0882	0.0248	0.1569	0.0023	0.0138
Percentage of remittance flowed by the bank to the total remittance flow in the market. (Social and Economic)	0.1618	0.210	0.2292	0.0340	0.0371
Percentage of SME to the total investment	0.1765	0.2492	0.2413	0.0440	0.0426
Percentage of Microcredit as Rural Development Scheme to the total investment	0.1029	0.0959	0.4364	0.0099	0.04491
Percentage of agent banking accounts to the total no of accounts	0.1691	0.0092	0.1825	0.0016	0.0309
Percentage of loan disbursement in the rural areas to the total investment. (Social)	0.1838	0.0796	0.4364	0.0146	0.0802
Percentage of women investment clients to the total investment clients.	0.1176	0.0110	0.0097	0.00129	0.0011
	The sum of Weighted Values:			0.1075	0.2506

After getting the total weighted value for economic, environmental, and social dimensions of sustainability, we can calculate the sub-indices for each dimension by dividing the total weighted value by the total number of the indicators within the dimension as it is followed by Rebai (2014) in calculating multi-attribute utility function for different bank's stakeholders in sustainable banking index. The subindex values are calculated in the following table no 5.62.

Table 5.62 Calculations of Sub-Index Values.

Indices for contribution to Sustainable development	2018	2022
Sub Index value for assessing a bank's contribution to economic sustainability	$0.24227346/5 = 0.0484$	$0.23755348859/5 = 0.0475$
Sub Index value for assessing the bank's contribution to environmental sustainability	$0.03050569205/6 = 0.0051$	$0.06563885793/6 = 0.0109$
Sub Index value for assessing a bank's contribution to social sustainability	$0.10750197398/7 = 0.0153$	$0.25063731671/7 = 0.0358$

5.6.5 Step Five: Composite index

After getting the sub-indices for the dimensions of sustainability, now we can calculate the overall sustainable banking index by finding a geometric mean of the 3 sub-indices as it is followed by UNDP in the calculation of its Human Development Index (HDI). The geometric mean is calculated by multiplying all the values together and then taking the nth root, where n is the number of values. Since there are three values, we will multiply these values and take the cube root. The sustainable banking index values for the years 2018 and 2022 are found

in the following table 5.63.

Table 5.63 The Calculations of overall Sustainable Banking Index values for 2018 and 2022.

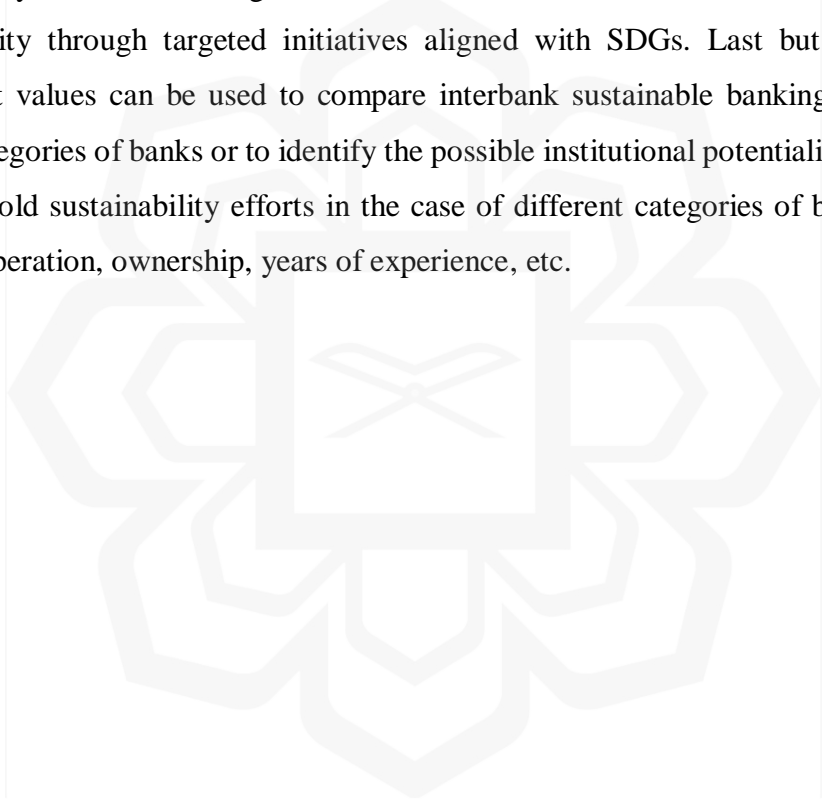
Index	Calculation	Index value
Sustainable Banking Index for 2018	$(0.04845 * 0.0051 * 0.01536)^{1/3}$	Approximately 0.0093
Sustainable Banking Index for 2022	$(0.0475 * 0.0109 * 0.0358)^{1/3}$	Approximately 0.0976

5.7 IMPLICATIONS:

Thus, we can assess the bank's contribution to implementing the SDGs at three levels within the proposed sustainable banking model. The indicators' scale value helps to assess the bank's contribution to the particular SDG issue underlying the indicator. The sub-index values for three dimensions of sustainability help to assess the bank's contribution in implementing economic, environmental, and social sustainability issues lying under the relevant SDGs separately. The composite sustainable banking index value will help to assess the bank's overall contribution to implementing the SDGs throughout the proposed model. All these indicators, sub-index, and index values can be calculated for the base year and the progress can be tracked throughout the subsequent years. In the current context, it specifically highlights the case of Islamic Bank Bangladesh Limited (IBBL) and its sustainable banking practices from 2018 to 2022.

IBBL has exhibited remarkable growth in its sustainable banking practices from 2018 to 2022. The overall sustainable banking index value increased significantly from 0.0093 to

0.0976, indicating the bank's strong commitment to environmental responsibility, social impact, and economic development. While the sub-index value for economic sustainability saw a slight decrease, IBBL made notable progress in environmental and social sustainability. The bank's increased sub-index value for environmental sustainability demonstrates its efforts to address environmental risks and promote sustainable practices. Moreover, the substantial positive change in the sub-index value for social sustainability reflects IBBL's contributions to social development and inclusive growth. To maintain a well-rounded sustainable banking performance, IBBL should focus on strengthening economic sustainability while continuing to build on its achievements in environmental and social sustainability through targeted initiatives aligned with SDGs. Last but not least, these assessment values can be used to compare interbank sustainable banking performance in similar categories of banks or to identify the possible institutional potentiality and barriers in ensuring bold sustainability efforts in the case of different categories of banks in terms of mode of operation, ownership, years of experience, etc.



CHAPTER SIX

CONCLUSION

6.1 INTRODUCTION

This chapter is the conclusion of the thesis. It discussed about the focus of the thesis by outlining the research findings as the answers to the research questions that were aimed at the beginning of the study. Then the policy implications and the important contribution to research and how this contributes to the existing body of literature are discussed. Finally, this chapter discusses the study's limitations and possible future directions, and concluding remarks are provided.

6.2 THE FOCUS OF THE THESIS

6.2.1 The Research Background:

The “big disconnect” exists between companies’ sustainability efforts and the global state of the environment and society. This disconnect is evident in the context of the SDG funding gap, where sustainable banking efforts fall short of the estimated investment needed to achieve the SDGs. Despite trillions of dollars in global financial assets, there is a business model gap that fails to connect micro-level sustainability efforts with macro-level sustainability outcomes. The prevailing business case for the sustainability model focuses on profitability rather than aligning with the SDGs. This model has limitations in mobilizing banking assets towards sustainability, aligning impact with the SDGs, and ensuring effectiveness. To address these limitations, a sustainability case for a business model is needed, where impact optimization is the goal. This model should prioritize

delivering positive impacts and aligning strategy with social needs for sustainable development.

6.2.2 The Research Questions and Findings of the study:

In response to the above context, this thesis aimed at four research questions.

1. What are the features and strategies that can be incorporated into a suitable banking business model to effectively address the SDG funding gap and enable proactive contribution towards achieving the SDG?
2. What will be the theory of change associated with the proposed sustainable banking model?
3. What will be the application framework that supports the implementation of the proposed sustainable banking model?
4. How can a sustainable banking plan, monitoring indicators, and assessment index be prepared within the proposed model using the determined framework?

In addressing the first question, this thesis critically examines the limitations of the prevailing business case sustainability model, which primarily prioritizes profitability over sustainability. To address these shortcomings, interventions are proposed throughout the business model canvas (BMC) template. Subsequently, the thesis presents an impact-optimizing sustainable banking model that encompasses essential features and strategies to effectively address the funding gap associated with the Sustainable Development Goals (SDGs). The model focuses on four key components of a business model: value proposition, value creation, value delivery, and value capture, each aligned with specific strategies to maximize its contribution to sustainable development.

1. **Value Proposition:** The model emphasizes the proactive intentionality behind a bank's sustainability efforts. It aims to align regular banking activities with the relevant SDGs and translate them into actionable plans. By integrating

sustainability impacts as part of the value proposition, the model enhances its relevance and contribution to sustainable development.

2. **Value Creation:** The model highlights the mainstreaming of sustainability efforts in core banking activities. It seeks to optimize the scale of sustainable banking impact by focusing on core banking functions, resource management, and customer engagement. By aligning achievable sustainability milestones with the SDGs, the model significantly enhances the contribution to sustainable development.
3. **Value Delivery:** The model emphasizes the efficiency and effectiveness of sustainable banking efforts. It outlines concrete impact transmission paths, ensuring that the bank's impact is transmitted to the real economy through established links and channels. By targeting relevant stakeholders and harmonizing the impact stream, the model enhances the depth of impact and effective contribution to sustainable development.
4. **Value capture:** The model addresses the priority and relativity between profitability and sustainability when they contradict each other. It aims to make a profit on impact by optimizing impacts while securing risk-adjusted financial returns. By integrating sustainability logic and profitability logic in the objective function, the model optimizes the overall contribution to sustainable development.

Thus, the proposed model aligns banking activities with the SDGs, mainstreams sustainability efforts, ensures efficient and effective value delivery, considers the interplay between profitability and sustainability, and answers the first research question of the thesis.

In response to the second question, this thesis formulates a theory of change derived from the proposed impact-optimizing sustainable banking model. This theory outlines the “what”, “why” and “how” aspects that guide banks in designing their sustainability efforts ensuring a proactive, effective, and substantial contribution to sustainable development. This theory of change is summarized in a logical framework that consists of six components; goal, impact, outcome, output, activity, and input. Each component represents a specific aspect of the bank's sustainability vision and its realization at different levels.

The goal component emphasizes the importance of aligning the bank's vision with the relevant Sustainable Development Goals (SDGs) and their themes. The goal is to optimize the impact utility by addressing current sustainability challenges. The impact component highlights the need to translate workable themes into macroeconomic sustainability goals. The aim is to streamline the impact direction and align the economy towards sustainability. The outcome component focuses on transforming the conditions, behaviors, transactions, and interactions of macroeconomic agents to positively contribute to the realization of macroeconomic sustainability goals derived from SDG themes. The goal is to optimize impact effectiveness by mobilizing the role of macroeconomic agents towards sustainability. The output component emphasizes the importance of guiding the bank's functioning in the real economy to create a consistent sustainable banking impact. This involves establishing concrete transmission paths to ensure the optimized process of impact delivery. The activity component highlights the strategic engagement of the bank with its customers from three organizational identity orientation perspectives to maximize indirect impact through financial flows between the bank and macroeconomic agents. The goal is to optimize impact scale by mobilizing the customer's sustainability role in the real economy. The input component focuses on strategic capital management, including financial, social, and intellectual capital, to bring sustainability concerns into core banking activities. The capital should be managed in a way that customers can get access to essentials for realizing the SDGs, reducing costs, or improving the quality of the solutions. The aim is to optimize impact sources by mainstreaming sustainability efforts in banking operations.

Overall, the theory of change associated with the proposed sustainable banking model is designed to enhance the utility, depth, scale, and value of impact. It emphasizes proactive planning, effective transmission of impact, significant contribution to sustainable development, and the integration of sustainability logic alongside profitability logic. By following this theory of change, the proposed model aims to optimize the overall contribution to sustainable development by aligning banking activities with the SDGs and addressing the SDG funding gap.

This thesis addresses the third research question by presenting four components

of the application framework that accompany the proposed impact-optimizing model. These components of the framework serve the purpose of facilitating planning, implementation, monitoring, and evaluation processes.

The planning component outlined in this thesis is designed based on the six components of the theory of change and addresses the question of how a bank can contribute objectively, effectively, and significantly to the Sustainable Development Goals (SDGs). Thematically, it consists of three parts, Firstly; it involves selecting the relevant SDGs for the bank and identifying corresponding workable themes, providing specific areas of focus for the bank's sustainability plans. Secondly, it translates these themes into macroeconomic sustainability goals, ensuring alignment between the bank's strategic sustainability objectives and desired sustainability impact. Lastly, it focuses on aligning the bank's operations with its strategic sustainability objectives and considers the questions related to the types of interventions needed to motivate the desired roles of targeted macroeconomic agents, the changes required in the bank's capital management, and the engagement with customers to stimulate the desired conditions in the macroeconomic agents and the economy as a whole.

The implementation component of the framework is rooted in the theory of action, derived from the theory of change, to guide banks in achieving their sustainability goals. It outlines the processes through which change occurs and tracks progress effectively. Customized for the proposed sustainable banking model the framework includes seven steps of the theory of action ranging from defining the vision, identifying long-term, medium-term, and short-term objectives, identifying key actions, establishing connections between actions and objectives, to recognizing the importance of committed employees. By following these steps, the implementation component of the application framework provides a logical sequence for realizing the proposed sustainable banking model and achieving impactful and sustainable outcomes.

The monitoring component of the application framework is designed to track the progress and assess the achievement of both actions and objectives in the sustainable banking model. The indicators are developed based on the key actions and the linking of actions to the objectives in the theory of action. The aim is to ensure that the indicators

reflect the desired changes and contribute to the realization of the long-term, medium-term, and short-term objectives and help evaluate progress and impact. In developing such objectively verifiable indicators, two lines of thinking are used: result-based objectivity (QTTTP protocol) and non-biased objectivity (SMART protocol). The former includes specifications such as quality, quantity, timing, target group, and place while the latter ensures that the indicators are specific, measurable, realistic, and time-bound. By addressing guiding questions, the indicators provide objective measures of sustainability performance, aligned with the bank's long-term, medium-term, and short-term objectives, and help evaluate progress and impact.

The evaluation component of the application framework recognizes the unique nature of sustainability evaluation compared to other business performance dimensions. It acknowledges the complexity and multidimensional nature of sustainability, which encompasses social, environmental, and financial aspects. It also emphasizes the involvement of various stakeholders who are affected by or affect the company's business. The framework outlines steps for constructing a composite sustainable banking index within the proposed impact-optimizing model. This includes selecting suitable indicators, weighting them based on their contribution, collecting data from accessible sources, normalization and aggregating the indicators, and calculating the composite sustainability index using the Simple Additive Weighting (SAW) method. By following these steps, the model can be used to evaluate and compare the sustainability performance of banks over time providing valuable insights to decision-makers regarding their progress and contribution to sustainable development.

Chapter four of the thesis is dedicated to addressing the three aforementioned questions, while chapter five specifically focuses on **answering the fourth research question**. In chapter five, the process of preparing a sustainable banking plan is outlined, starting with the selection of relevant SDGs for the banking industry. The chapter emphasizes the importance of considering national priorities and the specific impact of the banking sector. It then delves into the development of a business model plan and the identification of objectively verifiable indicators for each of the 11 selected SDGs for the banking industry in Bangladesh. The planning process follows the framework developed

in chapter four, using the logical framework approach to link the goals, impact, outcome, output, activity, and input components of the model. The implementing and monitoring framework from Chapter Four is also utilized to identify the objectively verifiable indicators (OVI). The analysis is supported by ample references and literary sources to validate the findings and guide the development of the business model plan and OVI for effective implementation and evaluation.

Then this chapter (chapter five) focuses on constructing a sample index for Islamic Bank Bangladesh Limited (A major private bank in Bangladesh) to evaluate its operational performance of sustainable banking within the proposed impact-optimizing model. Building upon the evaluation framework developed in chapter four, it presents a five-step process that addresses various aspects of index construction. Firstly, indicators are categorized into three dimensions of sustainability to identify and organize relevant measures for assessing a bank's sustainability. Secondly, the importance of data collection is emphasized, highlighting the need for reliable and relevant data from sources such as financial reports and social responsibility assessments. The chapter then discusses the weighting of indicators, assigning relative importance based on their significance. Furthermore, the calculation of sub-indices within each dimension allows for a detailed analysis of specific sustainability aspects. Finally, the compilation of a composite index combines the sub-indices using appropriate aggregation methods to generate an overall score, providing a comprehensive evaluation of sustainability in the banking sector and facilitating effective progress monitoring.

6.3 POLICY IMPLICATIONS OF THE STUDY

The impact of optimizing the sustainable banking model has significant policy implications for various stakeholders involved in sustainable development and SDG financing. Firstly, for banks, aligning their operations with the model can enhance their contribution to the SDGs, address the funding gap, and promote sustainable practices within the financial sector. This can lead to improved proactivity, objectivity, efficacy, and efficiency in

sustainable banking efforts by selecting relevant global sustainability goals, translating them into actionable strategies, and integrating sustainability considerations into core banking activities. Secondly, policymakers and regulators can utilize the model as a reference to create an enabling environment for sustainable banking initiatives, fostering regulatory frameworks that support and incentivize sustainable practices. Thirdly, the model provides valuable insights for investors, civil society organizations, and international development agencies seeking to engage with sustainable banking practices, offering guidance on evaluating and partnering with banks that align with the model's principles. By implementing the impact-optimizing sustainable banking model, stakeholders can collectively contribute to achieving the SDGs and advancing sustainable development on a broader scale.

6.4 LIMITATIONS OF THE STUDY

While the impact of optimizing the sustainable banking model presented in this research provides valuable insights, it is important to recognize its limitations. Firstly, The model's effectiveness is influenced by external factors such as regulations, market conditions, and stakeholder collaboration, which may vary across different contexts and regions. Secondly, though ample literary supports are given behind each and every stage of the research, the flows of all these steps are conducted guided by logic which is not always possible to flow beyond contextual subjectivity and personal biasedness. Hence, the proposed model is always open to the possible necessary improvements both information and application based on stronger logic, diverse perspectives, and practical evidence and research.

As a consequence of this fact, we can identify many areas of improvement some of which can be outlined throughout the following headings:

a. Selecting SDGs and SDGs indicators :

In selecting the bank-relevant SDGs, their targets, and indicators the local priorities can be addressed more appropriately through considering the baseline conditions of the country to those targets and indicators. Here, relevant statistical data can be reviewed as

evidence.

b. Translating the SDGs into workable theme:

In translating the SDGs into the context of macroeconomic goals, macroeconomic agents, and banks' functioning in the real economy, the scope of impact can be optimized by considering the chain effects of the interconnected SDGs. The supporting research or expert opinion may be sought to validate those arguments and considerations.

c. Alignment of banking activities to the SDGs:

The capital and customer management aiming to create impacts through the three organizational identity orientations, the four financial flows, five functions of banks, the behavior and conditions of four macroeconomic agents, and seven macroeconomic goals for a particular SDG theme may become more clear and more concrete through supporting more empirical research evidence, expert opinions and using flow charts.

d. Indicators development:

We have identified some indicators throughout the action components of the logic frame matrix which entail only capital and customer management. The result-level indicators may also be identified throughout the output, outcome, and impact components of the log frame matrix through conducting advanced research to support action-level operational indicators. Again the operational level indicators also may be more strongly validated through consulting with additional existing literature review and seeking expert opinions.

e. Index construction:

In constructing the index, as an application, we have included only those indicators that are of positive direction. The negative directional indicators and net effect indicators may be developed by using suitable techniques and tools.

f. Use of index:

The thesis is ended by calculating the sub-index and overall composite index. Further research may be conducted to use the value from indicator, sub-index, and index to compare

intra and inter-bank performance. Both time series and cross-sectional studies may be conducted for these purposes.

6.5 CONTRIBUTION TO THE EXISTING BODY OF KNOWLEDGE

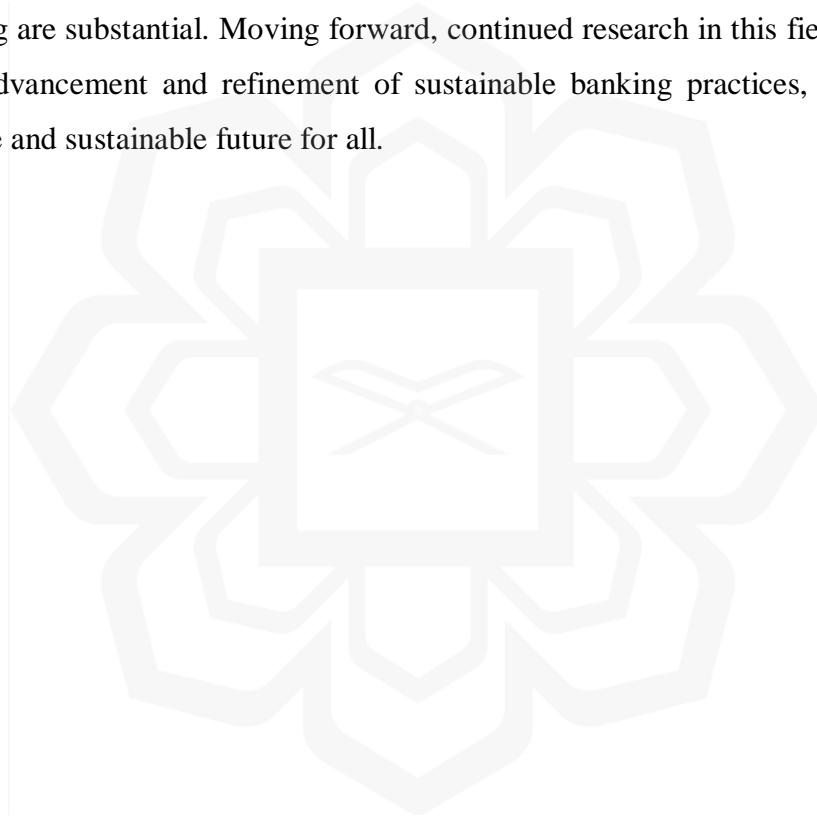
The study makes a significant contribution to the existing body of knowledge in the field of sustainable banking and sustainable development funding. It bridges several research gaps by identifying impact-optimizing strategies, establishing a theory of change specific to sustainable banking, creating practical application frameworks, and integrating planning, monitoring, and evaluation processes. By offering practical insights, frameworks, and theories, the study provides valuable guidance for banks to align their operations with the SDGs and maximize their impact on sustainable development. These contributions enhance understanding and advance sustainable banking practices in the context of SDG financing, ultimately contributing to the broader goal of achieving sustainable development.

6.6 FUTURE RESEARCH AREAS

There are several potential areas for future research. Firstly, empirical studies can be conducted to assess the practical implementation and effectiveness of the impact optimizing sustainable banking model in different banking institutions and regions. Additionally, further research could explore the specific challenges and opportunities faced by banks in integrating the proposed model into their existing frameworks and operations. Moreover, investigations into the role of technology and digitalization in enhancing the impact and scalability of sustainable banking initiatives would be valuable.

6.7 CONCLUDING REMARKS

In conclusion, this thesis addressed the research problem of developing an impact-optimizing sustainable banking model to bridge the SDG funding gap. By answering the research questions, this thesis has established a comprehensive understanding of the sustainable banking business model, its theory of change, application frameworks, and guidelines for planning and monitoring within the proposed model. While the model has limitations, its implications for stakeholders involved in sustainable development and SDG financing are substantial. Moving forward, continued research in this field will contribute to the advancement and refinement of sustainable banking practices, fostering a more inclusive and sustainable future for all.



APPENDIX

The funding gap has become a pressing challenge in achieving the SDGs, marked by a decline in international development aid, limited public funds, exacerbated budget deficits due to the post-Covid situation, and a struggle to effectively mobilize private capital for public purposes. Within this landscape, the banking sector, which contributes a substantial share of capital to industries in emerging markets, holds a crucial role in bridging this gap. However, the current profit-optimizing sustainable banking model falls short in its capacity to proactively, effectively, and significantly advance sustainable development and address the SDG funding gap. To overcome these limitations, there is a proposed shift towards an impact-optimizing sustainable banking model. Consequently, a pertinent question arises: how does the proposed model make a difference compared to existing sustainable banking practices in addressing the context of the SDG funding gap proactively, significantly, and effectively? To answer this question, we will delve into the sustainability reports of a sample institution, Islamic Bank Bangladesh Limited (IBBL) for different years and make a comparative analysis with the proposed model and its application. This exploration will shed light on why the proposed model is better suited to address the SDG context proactively, significantly, and effectively. We can advance the discussion by focusing on the fundamental value structure of the business model as outlined below.

Value Proposition:

In its 2022 and 2023 sustainability reports, IBBL claimed to align its initiatives with the sustainable Development Goals (SDGs) emphasizing its vision of welfare oriented banking and investment diversification to priority sectors. However, a closer examination reveals that the bank lacked concrete plans to support these claims. The report described how its vision and mission relate to various SDGs like poverty reduction (SDG 1), hunger alleviation (SDG 2), gender equality (SDG 5), economic growth (SDG 8), innovation (SDG 9), clean water and sanitation (SDG 6). While it listed some sustainable finance components and sectors including sustainable agriculture, socially responsible finance, and eco-friendly products, IBBL's report lacked proactive strategies for meaningfully contributing to the

SDGs and sustainability themes. The bank's failure to provide a well-defined strategy for aligning its core banking activities with these goals and themes throughout its value transmission process to the real economy has impeded the effectiveness of the bank's sustainability efforts and the utility of its sustainability impact.

In contrast, the proposed impact-optimizing sustainable banking model goes beyond identifying bank-relevant SDGs, it also meticulously outlines actionable themes, analyzing the details of declared indicators by the UN as well as considering the national priority targets in Bangladesh for those SDGs and formulates comprehensive plans for those themes into logical framework template in a systematic manner. Thus, unlike the common practice of simply linking existing sustainability programs to isolated SDGs or complying with the regulatory requirements, this proactive model is committed to addressing real sustainability challenges prevalent in the economy. Consequently, it not only enhances the sincerity of the bank but also significantly amplifies the meaningfulness of its sustainability impact.

Value Creation:

The sustainability reports from 2021 and 2022 of IBBL reveal a primary reliance on corporate social responsibility (CSR) activities to address the SDGs, distinct from the core banking operations. While IBBL demonstrated commitment to SDGs through its CSR program, which focused on the triple bottom line of people, planet, and profit, these efforts appeared supplementary to the core banking services. Notably, IBBL did not formulate specific plans for individual SDGs during this period and full integration of sustainability goals into core banking operations was not yet evident. Consequently, IBBL's approach to SDGs was largely confined to peripheral initiatives, limiting the bank's potential to make a significant impact on SDG implementation.

In contrast, the proposed impact-optimizing model takes a comprehensive approach by integrating SDG considerations into core banking activities. It is achieved by aligning capital and customer management with specific SDG-related objectives at various levels, including industry, macroeconomic agents, and broader macroeconomy. This model empowers customers to actively participate in achieving these objectives and mobilize

funds to directly support SDGs. As a result, the model significantly scales up the bank's sustainability efforts and amplifies its impact on SDG implementation, moving beyond the limitations of CSR-centred approaches observed in IBBL's reports.

Value Delivery:

IBBL's green banking plan for 2023 outlines eight key strategies. These include one: a focus on achieving sustainable disbursement targets set by the central bank, two: maintaining a high-ranking position in sustainability within the banking sector, three: upgrading environmental and social risk management guidelines, four: reducing paper usage by at least 10% and increasing virtual communication, five: decreasing carbon footprint through efficient utility use with a goal of utility bills by 5%, six: conducting carbon footprint measurement, seven: providing ongoing training programs for employee capacity building and eight: prioritizing environmentally-friendly projects while avoiding those that are not. However, analysis reveals that four of these strategies (4,5,6, and 7) primarily address the bank's in-house environmental issues, whereas the bank's primary societal impact is through its customers. The eighth strategy, while related to indirect environmental sustainability impact, lacks specificity in terms of targets and touchpoints along the value chain. Notably, there is no mention of the bank's indirect social impact. Overall, the plan falls short in terms of establishing explicit targets, maintaining transparency in its efforts, and adopting a more encompassing approach to effectively convey value throughout the bank's value chain.

In contrast, the proposed model focused on the bank's indirect sustainability impact on the real economy that flows through its customers. Here the proposed model formulates the Theory of Change (ToC) and Theory of Action (ToA) linking intervention in sustainability efforts of banks to the desired results as a contribution to implementing the SDG effectively through established links and channels between banks and the real economy. If the bank prepares a plan for its sustainability effort based on this ToC and implements that plan based on the ToA bank will be able to engage the more relevant touch points and persons towards implementing the SDGs. This approach helps the bank to enhance the effectiveness of its sustainability efforts and the depth of its sustainability

impacts.

Value Capturing:

IBBL's strategies and activities, as outlined in its 2018 Green Banking Report and continuing through 2023, primarily prioritize profit optimization over impact optimization. The bank acknowledges the critical importance of green banking, especially in terms of mitigating credit risks associated with climate change and regulatory risks related to funding environmentally controversial projects. By emphasizing profit within the context of these risks, IBBL aims to secure its financial resilience and uphold its reputation in an era marked by growing environmental awareness. This profit-centric approach is consistently evident in its reports, including the most recent one in 2023. Furthermore, there is a noticeable absence of standardized metrics and frameworks for monitoring and assessing progress in generating non-financial matters during this period.

In contrast, the proposed impact-optimizing model identifies objectively verifiable indicators (OVIs) by analyzing the Theory of Action (ToC) for actionable SDG themes through the QOTTP protocol and SMART protocol. These indicators are then categorized into the triple bottom line and consolidated into composite indicators across economic, environmental, and social dimensions of sustainability using standard statistical procedures. Then, these three composite indices are combined into an overall index value to get a perception regarding the overall sustainability performance of the bank. The bank can use the identified indicators to track the progress of its sustainability efforts and the index value will assist it in evaluating the bank's overall sustainability performance in terms of its contribution to SDG implementation. Such practices, utilizing these indicators and the index, will guide the bank in its continued commitment to making a meaningful impact, shifting the balance from profit to impact in its corporate objectives.

In summary, the proposed impact-optimizing model provides banks with a systematic, proactive, and comprehensive strategy that is aligned with national priorities and global SDGs. This empowers banks to take a pivotal role in bridging the SDG funding gap highlighting significant distinctions from the prevailing profit-optimizing sustainable banking practices, as demonstrated through the case of IBBL.

REFERENCES

- Afshari, A., Mojahed, M., & Yusuff, R. M. (2010). Simple additive weighting approach to personnel selection problem. *International Journal of Innovation, Management and Technology*, 1(5), 511.
- Ashraf, N., Karlan, D., & Yin, W. (2006). Deposit collectors. *The BE Journal of Economic Analysis & Policy*, 6(2), 0000102202153806371483.
- Ahuja, N. (2015). Green banking in India: A review of the literature. *International Journal for research in management and pharmacy*, 4(1), 11-16.
- Amit, R., & Zott, C. (2012). Creating value through business model innovation. *MIT Sloan management review*.
- Agarwal, N., Chakrabarti, R., Brem, A., & Bocken, N. (2018). Market driving at Bottom of the Pyramid (BoP): An analysis of social enterprises from the healthcare sector. *Journal of Business Research*, 234-244.
- Agarwal, N., Gneiting, U. & Mhlanga, R. (2017). Raising the Bar: Rethinking the Role of Business in the Sustainable Development Goals, Oxfam.
- Avkiran, N. K., & Morita, H. (2010). Benchmarking firm performance from a multiple-stakeholder perspective with an application to Chinese banking. *Omega*, 38(6), 501-508.
- Albert, S., & Whetten, D. A. (1985). Organizational identity. In B. M. Staw & L. L. Cummings (Eds.), *Research in Organizational Behavior* (pp.263-295). JAI Press.
- Albert, S., Ashforth, B. E., & Dutton, J. E. (2000). Organizational identity and identification: Charting new waters and building new bridges. *Academy of Management Review*, 25(1), 13-17.

- Almandoz, J. (2012). Arriving at the starting line: The impact of community and financial logics on new banking ventures. *Academy of Management Journal*, 55(6), 1381-1406.
- Austin, J. E., & Leonard, H. B. D. (2008). Can the virtuous mouse and the wealthy elephant live happily ever after? *California Management Review*, 51(1), 77-102.
- Azapagic, A. (2003). Systems approach to corporate sustainability: a general management framework. *Process Safety and Environmental Protection*, 81(5), 303-316.
- Azizul Islam, M. (2011). Ethics in Banking, *Eleventh Nurul Matin Memorial Lecture (2011)*, Bangladesh Institute of Bank Management.
- AFI (2019), Alliance for Financial Inclusion Policy Model: AFI Core Set of Financial Inclusion Indicators, Alliance for financial inclusion, Kuala Lumpur, Malaysia, December 2019.
- ADB, (2015), Financial Inclusion in Asia: An Overview. *Asian Development Bank Economics Working Paper Series*, (449).
- ADB (2016). 2016 Trade Finance Gaps, Growth, and Jobs Survey. *ADB Briefs*, August, 2016. Retrieved From: <https://www.adb.org/sites/default/files/publication/190631/trade-finance-gaps.pdf>.
- ADB (2018), *Working Together for a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific*, Annual report, Asian Development Bank, 2018.
- Asfaw, S., Shiferaw, B., Simtowe, F., & Lipper, L. (2012). Impact of modern agricultural technologies on smallholder welfare: Evidence from Tanzania and Ethiopia. *Food policy*, 37(3), 283-295.
- AEC (2012), *Developing your theory of action; A facilitation guide*, Action Evaluation Collaborative
- Aragon-Correa, J. Alberto, Alfred A. Marcus, Jorge E. Rivera, and Amy L. Kenworthy. 2017. Sustainability Management Teaching Resources and the Challenge of

Balancing Planet, People, and Profits. *Academy of Management Learning & Education* 16: 469–83.

Alberti, Fernando G., and Mario A. Varon Garrido. 2017. Can profit and sustainability goals co-exist? New business models for hybrid firms. *Journal of Business Strategy* 8: 3–13.

Berns, M., A. Townsend, Z. Khayat, B. Balagopal, M. Reeves, M. S. Hopkins, and N. Kruschwitz. 2009. Sustainability and Competitive Advantage. *MIT Sloan Management Review* 51: 18–26.

Bansal, Pratima, and Mark R. DesJardine. 2014. Business sustainability: It is about time. *Strategic Organization* 12: 70–78.

Ball, D. R. (2011). Integrating Multiple Sustainability Criteria in Technology, Innovation, and Operations Management Strategic Decisions. In Proceedings of the *Northeast Business & Economics Association* (pp 27-33). Philadelphia, PA, USA, November 3–5.

Baumgartner, R.J. 2009. Organizational culture and leadership: Preconditions for the development of a sustainable corporation. *Sustainable Development* 17: 102–13.

Bereuther, T., & Stappmanns, F. (2017). Translating the Sustainable Development Goals into Societal Value Contributions of Businesses.

Baumgartner, R.J. & Korhonen, J. (2010). Strategic thinking for sustainable development. *Sustainable Development*, 18(2), pp.71–75.

Bangladesh Bank. (2022). *Guidelines on Environmental & Social Risk Management (ESRM) for Banks and Financial Institutions in Bangladesh*, Sustainable Finance Department, Bangladesh Bank, Dhaka. Retrived from <https://www.bb.org.bd/mediaroom/circulars/gbcrd/jun262022sfd03e.pdf>

Beck, T., Demirgüç-Kunt, A., & Honohan, P. (2009). Access to Financial Services: Measurement, Impact, and Policies. *World Bank Research Observer*, 24(1).

Beck, T., Demirguc-Kunt, A., & Levine, R. (2004a). Finance, inequality, and poverty: Cross-country evidence. *National Bureau of Economic research Working Paper* 10979.

- Barrett, C. B. (2008). Smallholder market participation: Concepts and evidence from eastern and southern Africa. *Food policy*, 33(4), 299-317.
- Barbier, E. B., & Burgess, J. C. (2017). The Sustainable Development Goals and the systems approach to sustainability. *Economics*, 11(1), 20170028.
- Barclays. (2020). *Making a difference Barclays PLC Annual Report 2020*. Retrieved from <https://home.barclays/content/dam/home-barclays/documents/investor-relations/reports-and-events/annual-reports/2020/Barclays-PLC-Annual-Report-2020.pdf>.
- Bank Australia.(n.d). *2022 Impact Report*. Retrieved from. https://assets-global.website-files.com/6296b5df22055031ecf8914a/6346334d9109b1ba73f3d74c_2022%20Impact%20Report.pdf.
- Better Evaluation. (n.d). *Describe the theory of change*. Retrieved from <https://www.betterevaluation.org/frameworks-guides/managers-guide-evaluation/scope-evaluation/describe-theory>.
change#:~:text=A%20theory%20of%20change%20explains,the%20intended%20or%20observed%20impacts.
- Barbier, E. B., & Burgess, J. C. (2017). The Sustainable Development Goals and the systems approach to sustainability. *Economics*, 11(1), 20170028.
- Bocken, N. (2021). Sustainable business models. *Decent Work and Economic Growth. Encyclopedia of the UN Sustainable Development Goals; Leal Filho, W., Azul, AM, Brandli, L., Lange Salvia, A., Wall, T., Eds.*
- Bardy, R., Rubens, A., Saner, R., & Yiu, L. (2021). *Public Goods, Sustainable Development and the Contribution of Business*. Cambridge Scholars Publishing.
- Bouma, J. J., Jeucken, M., & Klinkers, L. (Eds.). (2017). *Sustainable banking: The greening of finance*. Routledge.
- Blamey, A., M. Mackenzie. 2007. Theories of change and realistic evaluation: Peas in a pod or apples and oranges? *Evaluation* 13/4: 439– 455.
- Bickmann, L. 1987. The functions of program theory. In: *Using program theory in evaluation*. Edited by L. Bickmann. San Francisco: Jossey-Bass. 5–18

- Beaman, L., Karlan, D., Thuysbaert, B., & Udry, C. (2014). Selection into credit markets: Evidence from agriculture in Mali. *National Bureau of Economic Research Working Paper 20382*.
- Banerjee, A., Duflo, E., Glennerster, R., & Kinnan, C. (2015), The Miracle of Microfinance? Evidence from a randomized evaluation, *American Economics Journal: Applied Economics*, 7(1), 22-53.
- Beck, T., A. Demirguc-Kunt, R. Levine (2004), “Finance, Inequality, and Poverty: Cross-Country Evidence”, National Bureau of Economic Research Working Paper 10979.
- Bhatia, S., & Singh, S. (2019). Empowering women through financial inclusion: a study of urban slum. *Vikalpa*, 44(4), 182-197.
- Beckmann, M., Hielscher, S., & Pies. I. (2014). Commitment strategies for sustainability: How business firms can transform trade-offs into win-in outcomes. *Business Strategy and the Environment* 23, 18–37.
- Beck, T., A. Demirguc-Kunt, R. Levine (2004), “Finance, Inequality, and Poverty: Cross-Country Evidence”, National Bureau of Economic Research Working Paper 10979.
- Barro, R. J. and X. Sala-i-Martin (1995), *Economic Growth*, Cambridge MA: The MIT Press.
- Barro, Robert J. (1997), *Determinants of Economic Growth: A Cross-Country Empirical Study*, Cambridge, MA: The MIT Press.
- BankTrack, Honor the Earth, Indigenous Environmental Network, Oil Change International, Rainforest Action Network, and the Sierra Club (2018), *Banking on Climate Change; Fossil Fuel Finance Report*, 2018
- Bangladesh Bank. (2008), *Circular on Mainstreaming Corporate Social Responsibility (CSR) in banks and financial institutions in Bangladesh*, DOS Circular No- 1, June 1, 2008.
- Bangladesh Bank. (2015). *Circular on Quarterly Review Report on Green Banking*

Activities of Banks & Financial Institutions and Green Refinance Activities of Bangladesh Bank, GBCSRD Circular No 04, July 9, 2015.

- Bangladesh Bank. (2016). *Sustainable Banking*, Bangladesh bank, FD Circular No. 01, May 11, 2016
- Biemer, J., Dixon, W., & Blackburn, N. (2013, August). Our environmental handprint: The good we do. In *2013 1st IEEE conference on technologies for sustainability (SusTech)* (pp. 146-153). IEEE.
- Bingham, J. B., Gibb Dyer, W., Smith, I., & Adams, G. L. (2011). A stakeholder identity orientation approach to corporate social performance in family firms. *Journal of Business Ethics*, 99(4), 565-585.
- Bansal, P., & Roth, K. (2000). Why companies go green: A model of ecological responsiveness. *Academy of Management Journal*, 43(4), 717-736.
- Bocken, N. M., Schuit, C. S., & Kraaijenhagen, C. (2018). Experimenting with a circular business model: Lessons from eight cases. *Environmental innovation and societal transitions*, 28, 79-95.
- Bocken, N., Boons, F., & Baldassarre, B. (2019). Sustainable business model experimentation by understanding ecologies of business models. *Journal of Cleaner Production*, 208, 1498-1512.
- Bocken, N. M., Short, S. W., Rana, P., & Evans, S. (2014). A literature and practice review to develop sustainable business model archetypes. *Journal of Cleaner Production*, 65, 42-56.
- Battilana, J., & Dorado, S. (2010). Building sustainable hybrid organizations: The case of commercial microfinance organizations. *Academy of Management Journal*, 53(6), 1419-1440.
- Baker, S., & Eckerberg, K. (2008). In pursuit of sustainable development. In *New Governance Practices at the Sub-national Level in Europe*. Routledge/ECPR Studies in European Political Sciences Abingdon.

- Bouma, J. J., Jeucken, M., and Klinkers, L. (2001) *Sustainable Banking: The Greening of Finance*, Sheffield, UK: Greenleaf Publishing.
- Busch, T., Bauer, R., & Orlitzky, M. (2016). Sustainable development and financial markets: Old paths and new avenues. *Business & Society*, 55(3), 303-329.
- Burton, I. (1987). Report on reports: Our common future: The World Commission on environment and development. *Environment: Science and Policy for Sustainable Development*, 29(5), 25-29.
- Brønn, P. S., & Vidaver-Cohen, D. (2009). Corporate motives for the social initiative: Legitimacy, sustainability, or the bottom line? *Journal of Business Ethics*, 87(1), 91-109.
- Baumgartner, R. J., & Rauter, R. (2017). Strategic perspectives of corporate sustainability management to develop a sustainable organization. *Journal of Cleaner Production*, 140, 81-92.
- Baumgartner, R. J., & Ebner, D. (2010). Corporate sustainability strategies: sustainability profiles and maturity levels. *Sustainable development*, 18(2), 76-89.
- Brickson, S. L. (2000). The impact of identity orientation on individual and organizational outcomes in demographically diverse settings. *Academy of Management Review*, 25(1), 82-101.
- Brickson, S. L. (2005). Organizational identity orientation: Forging a link between organizational identity and organizations' relations with stakeholders. *Administrative Science Quarterly*, 50(4), 576-609.
- Brickson, S. L. (2007). Organizational identity orientation: The genesis of the role of the firm and distinct forms of social value. *Academy of Management Review*, 32(3), 864-888.
- Brewer, M. B., & Gardner, W. (1996). Who is this "We"? Levels of collective identity and self-representation. *Journal of personality and social psychology*, 71(1), 83.

- Claessens, S., & Erik, F. (2006), Finance and Hunger: Empirical Evidence of the Agricultural Productivity Channel, World Bank Research Working Paper No. 4080, Washington: D.C.: The World Bank.
- Connell, J. P., Kubisch, A. C., Schorr, L. B., & Weiss, C. H. (1995). *New approaches to evaluating community initiatives: Concepts, methods, and contexts*. Queenstown, MD: Aspen Institute.
- Chen, H. T., & Rossi, P. H. (1987). The theory-driven approach to validity. *Evaluation and program planning*, 10(1), 95-103.
- Chernev, A., & Blair, S. (2015). Doing well by doing good: The benevolent halo of corporate social responsibility. *Journal of Consumer Research* 41, 1412–25.
- Clark, H., & Anderson, A. A. (2004, November). Theories of change and logic models: Telling them apart. In *American Evaluation Association Conference*. Atlanta: GA.
- Csutora, Mária. 2011. From eco-efficiency to eco-effectiveness? The policy-performance paradox. *Society and Economy* 33: 161–81.
- Citi, 2021. *Annual Report, 2021*. Retrieved from <https://www.citibank.com/citi/investor/quarterly/2022/annual-report/>.
- Corporate Citizenship (2015). *From my world to our world: What the sustainable goals mean for business*. Corporate Citizenship.
- Corbett, J., Webster, J., & Jenkin, T. A. (2018). Unmasking corporate sustainability at the project level: Exploring the influence of institutional logics and individual agency. *Journal of Business Ethics*, 147(2), 261-286.
- Cowton, C. J., & Thompson, P. (2000). Do codes make a difference? The case of bank lending and the environment. *Journal of Business Ethics*, 24(2), 165-178.
- Cowe, R. (2012). Banking on sustainability: is the financial sector doing enough? 26 Wednesday. *The Guardian*. Retrieved from : <http://www.the-guardian.com/sustainable-business/blog/banking-sustainabilityfinancial-sector>.
- Chesbrough, H. (2010). Business model innovation: opportunities and barriers. *Long range*

planning, 43(2-3), 354-363.

Carhart, M. (1997). On persistence in mutual fund returns. *J Finance*, 52(1), 57-82.

Dyllick, Thomas, and Kai Hockerts. 2002. Beyond the business case for corporate sustainability. *Business Strategy and the Environment* 11: 130–41.

Devinney, T. M. (2009). Is the Socially Responsible Corporation a Myth? The Good, the Bad, and the Ugly of Corporate Social Responsibility. *Academy of Management Perspectives* 23: 44–56.

Dyllick, T., & Muff, K. (2016). What does sustainability for business really mean. *And when is a business truly sustainable*, 381.

Dyllick, T., Muff, K. (2013): Clarifying the meaning of sustainable business: Introducing a typology from business-as-usual to true business sustainability. *Organization & Environment*. 29(2), 156-174 .

DB (n.d), Difference between Similar Terms and Objects, Retrieved from <http://www.differencebetween.net/miscellaneous/difference-between-theory-of-action-and-theory-of-change/>.

Danske Bank, 2021, *Annual Report, 2021*. Retrieved from <https://danskebank.com/-/media/danske-bank-com/file-cloud/2022/2/danske-bank-annual-report-2021.pdf>

Doran, G. T. (1981). There's a SMART way to write management's goals and objectives. *Management review*, 70(11), 35-36.

Dollar, D., & Kraay, A. (2002). Growth is Good for the Poor. *Journal of economic growth*, 7, 195-225.

DFID (2004), "Financial sector development: A pre-requisite for growth and poverty reduction?", *Policy Division, Department for International Development*, London, June.

Dunford, C. (2006), Evidence of Microfinance's Contribution to Achieving the Millennium Development Goals, *Freedom from Hunger*. Retrieved from

[http:// www. microcreditsummit.org/papers/Workshops/17_Dunford.pdf](http://www.microcreditsummit.org/papers/Workshops/17_Dunford.pdf)

DFID (2004), "Adaptation to climate change: Can insurance reduce the vulnerability of the poor?"; *DFID Key Sheet No. 8*, London: Department for International Development (DFID)

Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2020). The Global Findex Database 2017: Measuring financial inclusion and opportunities to expand access to and use of financial services. *The World Bank Economic Review*, 34(Supplement_1), S2-S8.

Daruvala, T., Dietz, M., Härle, P., Sengupta, J., Voelkel, M., & Windhagen, E. (2012). The triple transformation: achieving a sustainable business model. 2nd McKinsey Annual Review on the banking industry [online], [cited 13 February 2016]. Retrieved from <http://www.Slideshare.net/iwancahyo/thetripletransformationachievingasustainablebusinessmodel>.

Darby, L., & Jenkins, H. (2006). Applying sustainability indicators to the social enterprise business model: The development and application of an indicator set for Newport Wastesavers, Wales. *International Journal of Social Economics*, 33(5/6), 411-431.

Dyllick, T., & Muff, K. (2016). Clarifying the meaning of sustainable business: Introducing a typology from business-as-usual to true business sustainability. *Organization & Environment*, 29(2), 156-174.

Dyllick, T. L., & Muff, K. (2013). The Business Sustainability Typology. Available at SSRN 2368735.

Dyllick, T., & Rost, Z. (2017). Towards true product sustainability. *Journal of Cleaner Production*, 162, 346-360.

Delevic, M. (2011). *Guide to the logical framework approach: a key tool for project cycle management*. European Integration Office, Belgrade.

DNB, 2017, *SDG impact indicators; A guide for investors and companies*, A joint effort by representatives from Dutch financial institutions and companies & Working

Group 4 on SDG Impact Measurement, De Nederlandsche Bank.

De Kruijk, H., & Rutten, M. (2007). *Vulnerability and poverty dynamics in the Maldives*. Institute for International and Development Economics.

EC. (2019), Sustainable Finance Disclosure Regulation, European Commission, 2019.

Emirgüç-Kunt, A., Beck, T., & Honohan, P. (2008), Finance for All? Policies and Pitfalls in Expanding Access. on, Washington, D.C.: The World Bank.

Eslami, Y., Lezoche, M., Panetto, H., & Dassisti, M. (2023). An indicator-based sustainability assessment framework in manufacturing organizations. *Journal of Industrial Information Integration*, 36, 100516.

European Commission (2009), Quarterly Report On the Euro Area, Vol. 8, No. 1, Brussels: European Commission.

EBF. (2019), Sustainable Development Goals: A Practical Guide for the Banking Community, European Banking Federation.

Elkington, J. (1997). *Cannibals with Forks—The Triple Bottom Line of the 21st Century*. Oxford: Capstone Publishing Limited.

Epstein, M. J., Adriana R. B., & Kristi Y. (2015). Managing Social, Environmental, and Financial Performance Simultaneously. *Long Range Planning*, 48, 35–45.

Epstein, Marc J., and Priscilla S. Wisner. 2001. Using a Balanced Scorecard to Implement Sustainability. *Environmental Quality Management* 11: 1–10.

Elkington, J., & Rowlands, I. H. (1999). Cannibals with forks: The triple bottom line of 21st-century business. *Alternatives Journal*, 25(4), 42.

Ernst & Young Accountants LLP, 2013, Transparency Report, the Netherlands, 2013.

Elkington, J., & Rowlands, I. H. (1998). Cannibals with forks: The triple bottom line of 21st-century business. *Alternatives Journal*, 25(4), 42.

EBF (2021), Sustainable Banking, Retrieved From:

<https://www.ebf.eu/priorities/financing-growth/sustainable-finance/>

- Fan, S., Hazell, P., & Thorat, S. (2000). Government spending, growth and poverty in rural India. *American journal of agricultural economics*, 82(4), 1038-1051.
- Funnell, S. C., & Rogers, P. J. (2011). *Purposeful program theory: Effective use of theories of change and logic models*. John Wiley & Sons.
- FAO, 2016, *Strategic Review of Food Security and Nutrition in Bangladesh*. Food and Agricultural Organization of the United Nations, Rome.
- FAO, (2017). *Climate-Smart Agriculture Sourcebook*. Food and Agricultural Organization of the United Nations, Rome.
- FSB (2015), *Task Force on Climate-Related Financial Disclosures*, Financial Stability Board, 2015.
- Forum for the Future (2004). *Learning and Skills for Sustainable Development: Developing a sustainability literate society*.
- Fauchart, E., & Gruber, M. (2011). Darwinians, communitarians, and missionaries: The role of founder identity in entrepreneurship. *Academy of Management Journal*, 54(5), 935-957.
- Font, X., Lluís, G., & Jones, S.(2016). A social cognitive theory of sustainability empathy. *Annals of Tourism Research*, 58.
- Frooman, J. (1999). Stakeholder influence strategies. *Academy of management review*, 24(2), 191-205.
- Freeman, E., & Phillips, R. (2002). Stakeholder theory: A libertarian defense, *Business Ethics Quarterly* 12 (3), 331-49.
- Fisk, P. (2010). *People planet profit: How to embrace sustainability for innovation and business growth*. Kogan Page Publishers.
- GABV (2021), *Annual Report* , Global Alliance for Banking on Values. Retrieved from <https://www.gabv.org/wp-content/uploads/2022/03/GABV-2021-Annual->

[Report.pdf](#).

GRI, (2016), *GRI Standards; 101: Foundation*. Global Reporting Initiative Amsterdam, The Netherlands.

GABV. (n.d.). Global Reporting Initiative . GRI website . Retrieved from <https://www.gabv.org/>.

Globescan & SustainAbility. (2017). *Evaluating Progress Towards The Sustainable Development Goals*.

GRI (2013). G4 sustainability reporting guidelines: reporting principles and standard disclosures. *Global Reporting Initiative, Amsterdam*, 7-14.

GRI, UN Global Compact & WBSCD (2015). *SDG Compass: The guide for business action on the SDGs*. [Online]. Retrieved from: <http://sdgcompass.org/download-guide/> (13.05.2017).

Github. (2012), *Economics theory through applications*. Retrieved from https://saylordotorg.github.io/text_economics-theory-through-applications/s35-27-the-circular-flow-of-income.html.

GBA. (2017), *The Economics of Banking on Women: GBA's Global Women's Market Survey*, Global Banking Alliance for Women, 2017. Retrieved from https://financialallianceforwomen.org/wp-content/uploads/2017/02/InBrief-BusinessCase_FINAL.pdf.

GABV. (2017). *Annual Report*, The Global Alliance for Banking on Values. Retrieved from https://issuu.com/bankingonvalues/docs/gabv_annual_report_2017_english

G20. (2018), *Sustainable Finance Synthesis Report*, G20 Sustainable Finance Study Group, July, 2018.

Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics* 40: 3–73.

GRI & SASB,. (2019), *A Practical Guide to Sustainability Reporting Using GRI and SASB Standards*, Global Reporting Initiative and The Sustainability Accounting Standardized Board. Retrieved From:

<https://www.globalreporting.org/media/mlkjpn1i/gri-sasb-joint-publication-april-2021.pdf>.

GRI. (2019). *Sustainability reporting by banks: A guide to getting started*.

Grossman, G. M., & Helpman, E. (1991). Quality ladders in the theory of growth. *The review of economic studies*, 58(1), 43-61.

Greenwood, R., Hinings, C. R., & Whetten, D. (2014). *Rethinking organisations and institutions*. *J. Manag. Stud*, 51, 1206-1220.

GRI, UNGC & WBCSD. (2015). *SDG Compass- The Guide to Business Action on the SDGs*. Retrieved from https://sdgcompass.org/wp-content/uploads/2015/12/019104_SDG_Compass_Guide_2015.pdf.

Habib, A., Rahman, T., Zareen, A., Ahmed, T., Karim, R., & Majumder, J.(2017). *Exploring Barriers of Sustainable Finance in Financial Sector and Policy Propositions to Remove the Barriers*. Bangladesh Institute of Bank Management (BIBM), August 2017.

Haffar, M., & Searcy, C. (2017). Classification of Trade-offs Encountered in the Practice of Corporate Sustainability. *Journal of Business Ethics* 140: 495–522.

Hahn, T., Figge, F., Pinkse, J., & Preuss, L. (2010). Trade-offs in corporate sustainability: You can't have your cake and eat it. *Business Strategy and the Environment* 19: 217–29.

Herweg K., & Steiner, K. (2002). *Impact monitoring and assessment. Instruments for use in rural development projects with a focus on sustainable land management*. Volume 1. Wabern, CH: Buri

Hart, S. L., & Dowell, G. (2011). A natural-resource-based view of the firm. *Journal of Management* 37: 1464–79.

Haanaes, K., Hopkins, M. S., Kruschwitz, N., Kong, M. T., Arthur, D., & Reeves, M. (2011). Sustainability: The'embracers' seize advantage. *MIT Sloan Management*

Review, 52(3), 3.

Haanaes, K., Kiron, D., Kruschwitz, N., & Velken, I. V. S. (2012). Sustainability nears a tipping point. *MIT sloan management review*, 53(2), 69.

Herring, R. J., & Santomero, A. M. (1995). *The role of the financial sector in economic performance* (pp. 95-08). Wharton School, University of Pennsylvania.

Hoag, J. H., & Hoag, A. J. (2006). *Introductory economics*. World Scientific Publishing Company.

Hollanders, H., Es-Sadki, N., & Merkelbach, I. (2019). *European innovation scoreboard 2019*.

Hockerts, K. (2015). A cognitive perspective on the business case for corporate sustainability. *Business Strategy and the Environment*, 24(2), 102-122.

Henseler, M. (2017). Environmental Sustainability Through Finance: Using the United Nations' Sustainable Development Goals to gauge financial institutions' indirect environmental impact.

IISD. (2021, September). *Just Transition to Green Economy*. International Institute for Sustainable Development. Retrieved from <https://mia.giz.de/cgibin/getfile/53616c7465645f5f5f63ca4e11d014cb867393769285d60136c309c6249967ad22158ecbd3e0156db8c263568dfe16a7df3731efec1aaac95d77d70a136dac8d/giz2021-0336en-just-transition-green-economy.pdf>.

IMO. (2017). *World migration report 2018*. Geneva: International Organization for Migration. Retrieved from : https://publications.iom.int/fr/system/files/pdf/wmr_2018_en_chapter7.pdf.

IFC. (2012). *Performance Standards on Environmental and Social Sustainability*. International Finance Corporation.

IEA. (2020). *Renewables 2020: Analysis and Forecast to 2025*. International Energy Agency.

IPCC. (2022), *Global warming of 1.5° c: An IPCC Special Report on impacts of global*

warming of 1.5° C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. Cambridge University Press.

ICBC. (2021, March 26). ICBC registers a stable performance with good momentum of growth in 2020. *Industrial and Commercial Bank of China*. Retrieved from <https://www.icbc-ltd.com/en/page/721852387861233706.html>.

Islam, M. M. (2020). Agricultural credit and agricultural productivity in Bangladesh: an econometric approach. *International Journal of Food and Agricultural Economics*, 8(1128-2020-1530).

IFC, (2016). *Creating markets for climate business: an IFC climate investment opportunities report*. International Finance Corporation.

IFC.(2017). *Creating markets for climate business: an IFC climate investment opportunities report*. Retrieved from: https://www.ifc.org/wps/wcm/connect/efab8303-2918-4fc2-b4ee-00260c4d9777/IFC.Climate_Investment_Opportunity_Creating_Markets.pdf?MOD=AJPERES&CVID=l-sCYLz.

IFC. (2019). *Creating impact: the promise of impact investing*. World Bank. Retrieved from <https://www.ifc.org/content/dam/ifc/doc/mgrt/the-promise-of-impact-investing.pdf>.

IFC & SBN. (2019). *Global progress report of the Sustainable Banking Network; Innovations in policy and industry actions in emerging markets*. International Finance Corporation and Sustainable Banking Network

IFC (2018) “Housing” Anticipated Impact Measurement and Monitoring, International Finance Corporation, February, 2019. Retrieved From: https://www.ifc.org/wps/wcm/connect/7922ac08-33a4-4111-8df1-0e2f0e3af92a/AIMM-SFB-Housing_Consultation.pdf?MOD=AJPERES&CVID=nmTff3B.

- International Development Finance Club. (2020), *International Development Finance Club*. Retrieved from <https://www.idfc.org/publications/>.
- IFC (2012), IFC performance standards on environmental and social sustainability, International Finance Corporation, Washington, DC : International Finance Corporation , 2012.
- IIRC. (2021). *International <IR> framework*, Integrated Reporting, January, 2021.
- IPEBS. (2020). *The global assessment report on Biodiversity and Ecosystem Services* (Volume 3). Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Retrieved from <https://ipbes.net/news/Media-Release-Global-Assessment>.
- ISO 26000. (2011). *International Organization for standardization*, Geneva.
- Isaksson, R., & Garvare, R. (2003). Measuring sustainable development using process models. *Managerial Auditing Journal*.
- ILO. (2021), *World employment and social outlook: Trends*. International Labour Organization.
- ILO. (2017). *Guidance Note 1.1: Project Design and Theory of Change*. International Labor Organization.
- Jeucken, M. (2010). *Sustainable finance and banking: The financial sector and the future of the planet*. Routledge.
- Jalilian, H., & Kirkpatrick, C. (2001). Financial development and poverty reduction in developing countries. *International journal of finance & economics*, 7(2), 97-108.
- Jones, P., Hillier, D., & Comfort, D. (2017). The sustainable development goals and the financial services industry. *Athens Journal of Business and Economics*, 3(1), 37-50.
- Jordan, A. (2008). The governance of sustainable development: taking stock and looking forwards. *Environment and planning C: Government and policy*, 26(1), 17-33.

- Jianqing, J. (2016). The role of financial institutions in infrastructure development. *Central Banking; Economics*. Retrieved from <https://www.centralbanking.com/central-banks/economics/2473680/the-role-of-financial-institutions-in-infrastructure-development>.
- Kumar, K., & Prakash, A. (2019). Developing a framework for assessing sustainable banking performance of the Indian banking sector. *Social Responsibility Journal*, 15(5), 689-709.
- Khandker, S. R. (1998). *Fighting Poverty with Microcredit: Experience in Bangladesh*. Oxford University Press.
- Khandker, S. R. (2005). Microfinance and Poverty: Evidence Using Panel Data from Bangladesh, *World Bank Economic Review*, 19(2), 263–286.
- Khan, H. R. (2012). Issues and challenges in financial inclusion: Policies, partnerships, process and products. Speech delivered at the Indian Institute of Public Administration, Bhubaneshur.
- Köhn, D. (2012). *Greening the financial sector: How to mainstream environmental finance in developing countries*. Springer Nature.
- Kuhlman, T., & Farrington, J. (2010). What is Sustainability? *Sustainability* 2, 3436–3448.
- Keeney, R. L., & Raiffa, H. (1976). *Decisions with Multiple Objectives: Preferences and value tradeoffs*. Wiley.
- Khandker, S. R., & Samad, H. A. (2014). Microfinance growth and poverty reduction in Bangladesh: What does the longitudinal data say?. *The Bangladesh Development Studies*, 37(1 & 2), 127-157.
- Kajimo-Shakantu, K., & Evans, K. (2006). The role of banks in the provision of low-income housing finance in South Africa: Can they play a different role?. *International Journal of Strategic Property Management*, 10(1), 23-38.
- Khan, Y., & Szegedi, K. (2019). The concept of green banking in pakistan. *Sarhad Journal of Management Sciences*, 5(2), 357-367.
- Kolstad, I. (2007). Why Firms Should Not Always Maximize Profits. *Journal of Business*

Ethics 76, 137–145.

- Kiron, D., Kruschwitz, N., Haanaes, K., Reeves, M., & Goh, E. (2013). The innovation bottom line. *MIT Sloan Management Review*, 54(3), 1.
- Kok, A. M., de Bakker, F. G., & Groenewegen, P. (2017). Sustainability struggles: Conflicting cultures and incompatible logics. *Business & Society*, 58(8), 1496-1532.
- KfW. (2019). The Sustainable Development Goals- SDG Reporting by Banks'. *Kfw Research; Focus on Economics*, No. 267, 20 September, 2019.
- Lagoarde-Segot, T. (2019). Sustainable finance. A critical realist perspective. *Research in International Business and Finance*, 47, 1-9.
- Leal Filho, W., Wolf, F., Lange Salvia, A., Beynaghi, A., Shulla, K., Kovaleva, M., & Vasconcelos, C. R. (2020). Heading towards an unsustainable world: some of the implications of not achieving the SDGs. *Discover Sustainability*, 1(1), 1-11.
- Laverty, K. J. (1996). Economic “short-termism”: The debate, the unresolved issues, and the implications for management practice and research. *Academy of Management Review*, 21(3), 825–60.
- Levine, R. (1997), Financial development and economic growth. *Journal of Economic Literature*, 35 (2), 688-726.
- Lüdeke-Freund, F., Massa, L., Bocken, N., Brent, A., & Musango, J. (2016). Business models for shared value. *Network for Business Sustainability: South Africa*.
- Lüdeke-Freund, F. (2010). Towards a conceptual framework of business models for sustainability'. *Knowledge collaboration & learning for sustainable innovation*, Delft, 25-29.
- Lebada, A. M. (2017). Where are we in financing the SDGs ? Winnipeg: IISD. Retrieved November, 10, 2018 from <https://www.iisd.org/>.
- Li, E., Mao, M. Q., Zhang, H. F., & Zheng, H. (2023). Banks' investments in fintech

- ventures. *Journal of Banking & Finance*, 149, 106754.
- Levine, R. (2004). Finance and growth: Theory and evidence [Working Paper 10766]. Retrieved from <http://www.nber.org/papers/w10766.pdf>.
- Lafferty, W. M. (Ed.). (2004). *Governance for sustainable development: the challenge of adapting form to function*. Edward Elgar Publishing.
- Lounsbury, M. (2007). A tale of two cities: Competing logics and practice variation in the professionalizing of mutual funds. *Academy of management journal*, 50(2), 289-307.
- Lydenberg, S. (2007). Long-Term Investing: A proposal for how to define and implement long-term investing. *Summit on the Future of the Corporation, Paper No. 5*. Corporation 20/20.
- Lucas Jr, R. E. (1988). On the mechanics of economic development. *Journal of monetary economics*, 22(1), 3-42.
- Morris, M. W., & Su, S. K. (1999). Social psychological obstacles in environmental conflict resolution. *American Behavioral Scientist*, 42, 1322–1349.
- Muff, K., Kapalka, A., Dyllick, T. (2017). The Gap Frame - Translating the SDGs into relevant national grand challenges for strategic business opportunities. *The International Journal of Management Education* (in press).
<http://dx.doi.org/10.1016/j.ijme.2017.03.004>.
- MDS (2022), Indicators, Toolbox; Indicators, Meal DPro Starter. Retrieved from <https://mealdprostarter.org/indicators/>.
- Mahbub, A. (1988), “Does Economic Growth Benefit the Masses? Growth, Dependence and Welfare in the Third World”, *American Sociological Review*, USA.
- McKinnon, R. I. (1973). *Money and Capital in Economic Development*. Washington, D.C: Brookings Institution.
- Mellor, J. W. (1999). Pro-poor growth: The relationship between growth in Africa and poverty reduction. *Abt Associates, Bethesda, MD*.

- Mason, P., & Barnes M. (2007). Constructing theories of change: Methods and sources. *In proceedings of the American Evaluation Association* (pp. 151–170).
- Moser, C., & Norton, A. (2001). To claim our right: Livelihood security, human rights, and sustainable development. *In Sustainable Development*, 9(1), 1-15.
- Morse, S., McNamara, N., Acholo, M., & Okwoli, B. (2001). Sustainability indicators: the problem of integration. *Sustainable development*, 9(1), 1-15.
- Marquis, C., & Lounsbury, M. (2007). Vive la résistance: Competing logics and the consolidation of US community banking. *Academy of Management journal*, 50(4), 799-820.
- Meadows, D.H., Meadows, G., Randers, J., & Behrens, W. W. III. (1972). *The Limits to Growth*, Universe Books.
- Mordi, C. N. (2010). The link between the financial (banking) sector and the real sector of the Nigerian economy. *Economic and Financial Review*, 48(4), 11.
- Nielsen, C. (2015). The sustainability imperative: new insights on consumer expectations. *Nielsen Company New York*.
- Nidumolu, R., Prahalad, C. K., & Rangaswami, M. R. (2009). *Why sustainability is now the key driver of innovation*. *Harvard Business Review*, 87 (9), 56-64.
- Noman, A. H. M., Pervin, S., Chowdhury, M. M., & Banna, H. (2015). The effect of credit risk on the banking profitability: A case on Bangladesh. *Global journal of management and business research*, 15(3), 41-48.
- Odu, G. O. (2019). Weighting methods for multi-criteria decision making technique. *Journal of Applied Sciences and Environmental Management*, 23(8), 1449-1457.
- Osterwalder, A., & Pigneur, Y. (2010). *Business model generation: a handbook for visionaries, game changers, and challengers* (Vol. 1). John Wiley & Sons.
- Orlitzky, M., Bauer, R., & Busch, T. (2016). Sustainable development and financial

- markets: Old paths and new avenues. *Business and Society*, 55(3), 351-60.
- Oberlack, C., Breu, T., Giger, M., Harari, N., Herweg, K., Mathez-Stiefel, S. L., ... & Schneider, F. (2019). Theories of change in sustainability science: understanding how change happens. *GAIA-Ecological Perspectives for Science and Society*, 28(2), 106-111.
- OECD. (2008). *Handbook on constructing composite indicators: methodology and user guide*. Joint Research Centre-European Commission, OECD publishing.
- OECD. (2020). *Global Outlook on Financing for Sustainable Development 2021, A New Way to Invest for People and Planet*. <https://doi.org/10.1787/e3c30a9a-en>.
- OECD. (2002). *Governance for Sustainable Development*, Paris, France: OECD. Available at <http://webs.uvigo.es/dialogos/biblioteca/goals.pdf>.
- OECD & UNDP. (2020). *Framework for SDG Aligned Finance*. <https://www.oecd.org/development/financing-sustainable-development/Framework-for-SDG-Aligned-Finance-OECD-UNDP.pdf>.
- OECD. (2020). *Strengthening the Role of Private Finance in Infrastructure Development in Eastern Partner Countries*. <https://www.oecd.org/eurasia/competitiveness-programme/eastern-partners/Strengthening-the-Role-of-Private-Finance-in-Infrastructure-Development-in-Eastern-Partner-Countries-EN.pdf>.
- Osterwalder, A., Pigneur, Y., & Tucci, C. L. (2005). *Clarifying business models: Origins, present, and future of the concept*. Communications of the association for Information Systems, 16(1), 1-25.
- Osterwalder, A., & Pigneur, Y. (2010). *Business model generation: a handbook for visionaries, game changers, and challengers* (Vol. 1). John Wiley & Sons.
- Placier, K. (2011). The impact of recession on the implementation of corporate social responsibility in companies. *Journal of Competitiveness*, 3, 83–96.
- PwC. (2015). Making it your business: Engaging with the Sustainable Development Goals. Retrieved from <https://www.pwc.com/gx/en/sus>

tainability/SDG/SDG%20Research_FINAL.pdf.

- Pérez, M. E. S. (2017). SEBI index: Measuring the commitment to the principles of social banking. *Contaduría y Administración*, 62(4), 1393-1407.
- P M I. (2018). *A guide to the project management body of knowledge*, (6th ed.). Project Management Institute.
- Paina, L. Peters, D. H., Mujinja, P. G., & Bloom, G. (2017). Using theories of change to inform implementation of health systems research and innovation: Experiences of Future Health Systems consortium partners in Bangladesh, India and Uganda. *Health Research Policy and Systems*, 15(2), 109.
- Patton, M. Q. (2008). *Utilization-focused evaluation*. Sage publications.
- Patton, M. Q. (2010). *Developmental evaluation: Applying complexity concepts to enhance innovation and use*. Guilford press.
- P C B. (2015). *7th Five Year Plan, FY 2016, 2020*. General Economic Division (GED). Planning Commission of Bangladesh.
- Pagano, M. (1993). Financial markets and growth: an overview. *European economic review*, 37(2-3), 613-622.
- Paulraj, A. (2009). Environmental motivations: A classification scheme and its impact on environmental strategies and practices. *Business strategy and the Environment*, 18(7), 453-468.
- Pache, A. C., & Santos, F. (2013). Inside the hybrid organization: Selective coupling as a response to competing institutional logics. *Academy of management journal*, 56(4), 972-1001.
- Polonskaya, J., & Babenko, M. (2012). *Best Practice Guide on Sustainable Finance: A Practical Toolkit for Russian Financial Sector*. WWF Sustainable Finance Programme report.
- Porter, M. E., & Kramer, M. R. (2011). The Big Idea: Creating Shared Value, Rethinking Capitalism. *Harvard Business Review* 89(1/2): 62-77.

- Rosner, B. (2010), "The Impact of Financial Development on Poverty in Developing Countries", *UCLA Undergraduate Journal of Economics*, Vol. 1 (2).
- Ravallion, M., & Datt, G. (2002). Why has economic growth been more pro-poor in some states of India than others?. *Journal of development economics*, 68(2), 381-400.
- Retief, F., Morrison-Saunders, A., Geneletti, D., & Pope, J. (2013). Exploring the psychology of trade-off decision-making in environmental impact assessment. *Impact Assessment and Project Appraisal* 31 (1), 13–23.
- Rebai, S. (2014). *New banking performance evaluation approach: sustainable finance and sustainable banking based* (Doctoral dissertation, Higher Institute of Management, University of Tunis).
- Reardon, T., Timmer, C. P., & Minten, B. (2012). Supermarket revolution in Asia and emerging development strategies to include small farmers. *Proceedings of the National Academy of Sciences*, 109(31), 12332-12337.
- Rebai, S., Azaiez, M. N., & Saidane, D. (2014). A Multi-Attribute Utility Model for Performance Evaluation of Sustainable Banking. *International Journal of Economics and Management Engineering*, 8(11), 3573-3577.
- Roszkowska, E. (2013). Rank ordering criteria weighting methods—a comparative overview. *Optimum. Studia Ekonomiczne*, 5 (65), 14-33.
- RobecoSAM. (2015). *Corporate Sustainability Assessment Methodology. CSA Guide. Version.*
- Rao, H., Monin, P., & Durand, R. (2003). Institutional change in Toque Ville: Nouvelle cuisine as an identity movement in French gastronomy. *American journal of sociology*, 108(4), 795-843.
- Renner, M., & Taylor-Powell, E. (2003). Analyzing qualitative data. *Programme Development & Evaluation, University of Wisconsin-Extension Cooperative Extension*, 1-10.
- Reynolds, A. J. (1998). Confirmatory program evaluation: A method for strengthening causal inference. *American Journal of Evaluation*, 19(2), 203-221.

- Rocha, H. O. (2008, June). People, firms and society-Three proposals for aligning personal motives, firm's goals and societal needs. In *1st IESE Conference, Humanizing the Firm & Management Profession*, Barcelona, IESE Business School.
- Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S., Lambin, E. F., ... & Foley, J. A. (2009). A safe operating space for humanity. *nature*, *461*(7263), 472-475.
- Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of Political Economy*, *94*(5), 1002-1037.
- Rogers, P. J. (2000). Causal models in program theory evaluation. *New Directions for Evaluation*, *2000*(87), 47-55.
- Rogers, P. J., Petrosino, A., Huebner, T. A., & Hacsí, T. A. (2000). Program theory evaluation: Practice, promise, and problems. *New directions for evaluation*, *2000*(87), 5-13.
- Rosen, R. (1991). *Life itself: a comprehensive inquiry into the nature, origin, and fabrication of life*. Columbia University Press.
- Rebelo, S. (1991). Long-run policy analysis and long-run growth. *Journal of political Economy*, *99*(3), 500-521.
- Risi, D. (2018). Time and business sustainability: Socially responsible investing in Swiss banks and insurance companies. *Business & society*, *59*(7), 1410-1440.
- Rivas, J., & Magadán, M. (2007). Los Indicadores de sostenibilidad en el turismo. *Revista de Economía, Sociedad, Turismo y Medio Ambiente*, *6*, 27-61.
- Ries, E. (2011). *The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses*, London, UK, Penguin Books.
- Richardson, J. E. (2008). The business model: an integrative framework for strategy execution. *Available at SSRN 932998*.
- Sadollah, A., Nasir, M., & Geem, Z. W. (2020). Sustainability and optimization: from

- conceptual fundamentals to applications. *Sustainability*, 12(5), 2027.
- Stiglitz, J. E. (1993). The role of the state in financial markets. *The world bank economic review*, 7(suppl_1), 19-52.
- SDG Tracker, Bangladesh's Development Mirror. (n.d.). Retrieved from <https://sdg.gov.bd/#1>.
- Skoufias, E., Parker, S. W., Behrman, J. R., & Pessino, C. (2001). Conditional cash transfers and their impact on child work and schooling: Evidence from the programa program in Mexico [with comments]. *Economia*, 2(1), 45-96.
- Sen, Kunal (2010), *Towards Inclusive Financial Development for Achieving the MDGs in Asia and the Pacific*. (MPDD Working Papers No. WP/10/07). United Nations Economic and Social Commission for Asia and the Pacific.
- Sheng, Y.K. (2018). What is good governance? *Journal of the Poverty Reduction Section, United Nations Economic and Social Commission for Asia and the Pacific*. UN Building, Rajdamnern Nok Ave.
- SBN. (2018). *SBN Global Progress Report 2018, Sustainable Banking Network*, Retrieved from https://sbfnetwork.org/wp-content/uploads/pdfs/2018_Global_Progress_Report_Downloads/SBFN_Global_Progress_Report_2018.pdf.
- SBN. (2019). *Global Progress Report of the Sustainable Banking Network: Innovations in Policy and Industry Actions in Emerging Markets*. Washington, DC, USA: Sustainable Banking Network.
- Saha, B., Habib, S. M. A., Mahmood-ur-Rahman Faisal, Zareen, A., Alam, M. M. R., & Rabbi, K. (2014). *Millennium Development Goal and Financial Sector Development*. Bangladesh Institute of Bank Management.
- ShareAction, (2022), Europe's largest banks falling short on climate and biodiversity action, Share Action, December, 2022. Retrieved from <https://shareaction.org/news/europes-largest-banks-falling-short-on-climate-and->

[biodiversity-action.](#)

Saylor Academy (2022), The-circular flow of income. Economics: Theory through applications. (Original work published 2020). Retrieved from https://saylordotorg.github.io/text_economics-theory-through-applications/s35-27-the-circular-flow-of-income.html.

Saisana, M., & Tarantola, S. (2002). State-of-the-art report on current methodologies and practices for composite indicator development, EUR Report 20408 EN. *European Commission, JRC-IPSC, Italy*.

Stern, N. H. (2007). *The economics of climate change: the Stern review*. Cambridge University press.

Suarez, P., & Linnerooth-Bayer, J. (2011). Insurance-related instruments for disaster risk reduction (2011 Global Assessment Report on Disaster Risk Reduction).

Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of management Review*, 26(2), 243-263.

Sachs, J. D., Schmidt-Traub, G., Mazzucato, M., Messner, D., Nakicenovic, N., & Rockström, J. (2019). Six transformations to achieve the sustainable development goals. *Nature sustainability*, 2(9), 805-814.

Smith, K. (2003, October 19). A theory of change = Business model + strategy. *New Schools Venture Fund*. Retrieved from <https://ecorner.stanford.edu/wp-content/uploads/sites/2/2003/10/607.pdf>.

Singh, R. K., Murty, H. R., Gupta, S. K., & Dikshit, A. K. (2009). An overview of sustainability assessment methodologies. *Ecological indicators*, 9(2), 189-212.

Schutten, W. (2016). *Sustainable banking business models* (Master's thesis, University of Twente).

Schaltegger, S., Lüdeke-Freund, F., & Hansen, E. G. (2012). Business cases for sustainability: the role of business model innovation for corporate

sustainability. *International journal of innovation and sustainable development*, 6(2), 95-119.

Shnayder, L., Van Rijnsoever, F. J., & Hekkert, M. P. (2016). Motivations for Corporate Social Responsibility in the packaged food industry: an institutional and stakeholder management perspective. *Journal of Cleaner Production*, 122, 212-227.

Schmidheiny, S., & Zorraquin, F. J. (1996). *Financing change: the financial community, eco-efficiency, and sustainable development*. MIT press.

Steurer, R. (2007). From government strategies to strategic public management: an exploratory outlook on the pursuit of cross-sectoral policy integration. *European Environment*, 17(3), 201-214.

Stephens, B., Caplain, J., Montes, D., & Siegel, M. (2012). Transformation of banking: forces, implications and actions. *Financial services*.

Sidani, S., & Sechrest, L (1999). Putting program theory into operation. *American Journal of Evaluation*, 20(2), 227-238.

SBN. (2021), *Overview, Sustainable Banking Network*. Retrieved from: https://www.ifc.org/wps/wcm/connect/98ed795e-559a-496c-b76d-b89ddb8c2716/SBN_Brief+20210511.pdf?MOD=AJPERES&CVID=nBpj8ZX.

Solidarities International, 2020. Annual Report. <https://www.solidarites.org/wp-content/uploads/2018/05/annual-report-2020-solidarites-international.pdf>.

Sullivan, C. (2018, December14) What is SDG-Washing, and how can your business avoid it? *Medium*. Retrieved from <https://caterinasullivan.medium.com/what-is-sdg-washing-and-how-can-your-business-avoid-it-6f7adaa1be88>.

TCFD (2017), *Recommendations of the Task-Force on Climate-related Financial Disclosure*, 2017. Retrieved from: <https://assets.bbhub.io/company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf>.

- Taslim, M. A., & Chowdhury, A. (1995). *Macroeconomic analysis for Australian students*. Prentice Hall.
- Triodos Bank. (2021). *About Us*. Retrieved from <https://www.triodos.com/en/about-us>.
- Triodos Bank. (2020). *Integrated Annual Report, 2020*. Retrieved from <https://www.annual-report-triodos.com/2020/>.
- Thornton, P. H., & Ocasio, W. (1999). Institutional logics and the historical contingency of power in organizations: Executive succession in the higher education publishing industry, 1958–1990. *American journal of Sociology*, 105(3), 801-843.
- Thompson, J., & Doherty, B. (2006). The diverse world of social enterprise: A collection of social enterprise stories. *International journal of social economics*, 33(5/6), 361-375.
- Teece, D. J. (2010). Business models, business strategy and innovation. *Long range planning*, 43(2-3), 172-194.
- Tonello, M. (2006, April). *Revisiting stock market short-termism*. *The Conference Board* (Research Report No. R-1386-06-RR). Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=938466
- Thien, G. T. K. (2015). CSR for clients' social/environmental impacts?. *Corporate Social Responsibility and Environmental Management*, 22(2), 83-94.
- UNEP FI. (2011). *UNEP FI guide to banking & sustainability*. Geneva: United Nations Environment Programme.
- UNGC (2019). *Making Global Goals Local Business; Responsible Business in the Era of Sustainable Development Goals*. United Nations Global Compact. Retrieved from <https://d306pr3pise04h.cloudfront.net/docs/publications%20FMGGLB+Brochure+2019.pdf>.
- UNGC (2018). *Business Reporting and the SDGs: An Analysis of the Goals and Targets*. United Nations Global Compact, published in 2018, updated in 2022.

- UNEP FI. (2018). *SDGs and Impact*, United Nations Environment Program Finance Initiative. Retrieved From: <https://www.unepfi.org/impact/positive-impact/>
- UNEP FI. (2017). *The Principles for Positive Impact Finance. A common framework to finance the Sustainable Development Goals*. Geneva: United Nations.
- UN. (2015). *Transforming our World: The 2030 agenda for sustainable development*. United Nations, New York. <https://sustainabledevelopment.un.org/post2015/transformingourworld>.
- UNDP. (2015). *Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development*. United Nations Development Programme.
- UNEP FI. (2019). *Principles for Responsible Banking: Guidance Document*. Geneva: United Nations Environment Program Finance Initiative. Retrieved From: <https://www.unepfi.org/wordpress/wp-content/uploads/2022/04/PRB-Guidance-Documents-Jan-2022-D3.pdf>.
- UNEP FI. (2019), *Guide to Banking and Sustainability*, Edition 2. Retrieved From: https://www.unepfi.org/fileadmin/documents/guide_banking_statements.pdf
- UN. (2002). *Report of the World Summit on Sustainable Development*, United Nations New York. .
- UNCTAD. (2014). *World Investment Report 2014. Investing in the SDGs: An Action Plan*. Geneva: United Nations Conference on Trade and Development.
- UNCTAD. 2016. *Economic Development in Africa Report 2016: Debt Dynamics and Development Finance in Africa*. Geneva: United Nations Conference on Trade and Development.
- UNCTAD. (2019). *World Investment Report 2019: Special Economic Zones*. Geneva: United Nations Conference on Trade and Development.
- UN. (1992). *Agenda 21*. United Nations, New York.

- UNCED. (1992). *Rio Declaration on Environment and Development*. UN Doc A/CONF.151/26 (Vol. I). United Nations Conference on Environment and Development.
- UN. (2002). *The johannesburg conference. Environment, Development and Sustainability*, 5(1), 7-39.
- UNEP FI. (2018). *Rethinking impact to finance the SDGs. A position paper and call to action prepared by the positive impact initiative*. United Nations Environment programme Finance Initiative.
- UNGC, & KPMG. (2017). *SDG Industry Matrix-Financial Service*. Produced jointly by United Nations Global Compact and KPMG International.
- UN Global Compact & Accenture. (2013). *Architects of a better world. The UN Global Compact - Accenture CEO Study on Sustainability 2013*. Retrieved from http://www.accenture.com/Microsites/ungc-ceostudy/Documents/pdf/13-1739_UNGC%20report_Final_FSC3.pdf
- UN Global Compact & Accenture. (2010). *A new era of sustainability. UN Global Compact - Accenture CEO Study 2010*. Retrieved from http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture_A_New_Era_of_Sustainability_CEO_Study.pdf
- USEC. (2012). *Litigation Release No: 22540*. United States Securities and Exchange Commission. Retrieved from <https://www.sec.gov/litigation/litreleases/2012/lr22540.htm>
- Varenova, D., Samy, M., & Combs, A. (2013). Corporate social responsibility and profitability: Trade-off or synergy. *Sustainability*, 4, 190–215.
- W B. (2017). *Migration and remittances: Recent developments and outlook, Special Topic: Return Migration*. World Bank Group, October.
- WEF. (2017). *Harnessing the Fourth Industrial Revolution for Sustainable Emerging Cities*, World Economic Forum, November. Retrieved From:

https://www3.weforum.org/docs/WEF_Harnessing_the_4IR_for_Sustainable_Emerging_Cities.pdf.

- Weiss, C. H. (1995). Nothing as practical as good theory: Exploring theory-based evaluation for comprehensive community initiatives for children and families. *New approaches to evaluating community initiatives: Concepts, methods, and contexts*, 1, 65-92.
- W B. (2015). *Global financial development report 2015/2016: Long-term finance*. The World Bank.
- W B. (2019). *Measuring Rural Access: Update 2017/18*. The World Bank.
- W B. (2019). *Global Economic Prospects, June 2019: Heightened Tensions, Subdued Investment*. The World Bank.
- W B. (2016). *Building resilience: World bank group experience in climate and disaster resilient development*. In *Climate Change Adaptation Strategies—An Upstream-downstream Perspective* (pp. 255-270).
- W B. (2020). *Poverty and shared prosperity 2020: Reversals of fortune*. The World Bank.
- W B. (2019). *Hitting the Trillion Mark: A Look at How Much Countries Are Spending on Infrastructure*. Policy Research Working Paper 8730. Retrieved from <http://documents.worldbank.org/curated/en/970571549037261080/Hitting-the-Trillion-Mark-A-Look-at-How-Much-Countries-Are-Spending-on-Infrastructure>.
- W B. (2019). *Global economic prospects, June 2019: Heightened tensions, subdued investment*. The World Bank.
- W B. (2011). *SME Finance Policy Guide*. Developed by World Bank with affiliation G, 20, GPFI/IFC. Retrieved from https://www.researchgate.net/publication/281181204_SME_Finance_Policy_Guide
- WKF. (2004). *WK Kellogg Foundation logic model development guide*. WK Kellogg Foundation.
- Weiss, C. H. (1997). How can theory-based evaluation make greater headway? *Evaluation*

Review, 21(4), 501–524

- Winn, M., Pinkse, J., & Illge, L. (2012). Case Studies on Trade-Offs in Corporate Sustainability. *Corporate Social Responsibility and Environmental Management* 19: 63–68.
- Weber, O., & Feltmate, B. (2016). *Sustainable Banking*. University of Toronto Press.
- Wright, C., & Nyberg, D. (2017). An inconvenient truth: How organizations translate climate change into business as usual. *Academy of management journal*, 60(5), 1633-1661.
- WCED. (1987). *Report of the World Commission on Environment and Development: Our Common Future*. Oxford University Press.
- WBCD. (2015) *SDG Compass; The guide for business action on the SDGs*. World Business Council for Sustainable Development.
- WEF. (2020). *Nature risk rising: Why the crisis engulfing nature matters for business and the economy*. In collaboration with PwC. New Nature Economy series. World Economic Forum.
- Westpac Group. (2014). *Westpac Group environment policy*. Sydney, Australia.
- WB. (2020). [worldbank.org/en/topic/poverty/overview](https://www.worldbank.org/en/topic/poverty/overview). World Bank.
- WB (2020). *Projected poverty impacts of COVID-19 (coronavirus)*. World Bank.
Retrieved from <https://www.worldbank.org/en/topic/poverty/brief/projected-poverty-impacts-of-COVID-19>.
- WHO (2020). *Malnutrition*. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/malnutrition>
- WHO & UNICEF. (2019). *Progress on household drinking water, sanitation and hygiene 2000-2017: special focus on inequalities*. Retrieved from <https://www.unicef.org/reports/progress-on-drinking-water-sanitation-and-hygiene-2019>.

- Yadav, I. S., & Rao, M. S. (2022). Agricultural credit and productivity of crops in India: field evidence from small and marginal farmers across social groups. *Journal of Agribusiness in Developing and Emerging Economies*, (ahead-of-print).
- Yusop, Z. B., Ahmed, K., Shirazi, S. M., & Zardari, N. H. (2015). *Weighting methods and their effects on multi-criteria decision making model outcomes in water resources management*. Springer.
- Yin, R. K. (2013). Validity and generalization in future case study evaluations. *Evaluation*, 19(3), 321-332.
- Zimmermann, S. (2019). Same same but different: How and why banks approach sustainability. *Sustainability*, 11(8).
- Zhuang, J., Gunatilake, H. M., Niimi, Y., Khan, M. E., Jiang, Y., Hasan, R., ... & Huang, B. (2009). Financial sector development, economic growth, and poverty reduction: A literature review. *Asian Development Bank Economics Working Paper Series*, (173).
- Zardari, N.H., Ahmed, K., Shirazi, S.M., and Yusop, Z.B.(2015). *Weighting methods and their effects on multi-criteria decision making model outcomes in water resources management*. Springer.