



ADDIS ABABA UNIVERSITY
COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCES
SCHOOL OF INFORMATION SCIENCE

**ASSESSING BUSINESS AND INFORMATION TECHNOLOGY
ALIGNMENT MATURITY: THE CASE OF COMMERCIAL BANKS
IN ETHIOPIA**

By
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DECEMBER, 2017
ADDIS ABABA, ETHIOPIA



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A Thesis Submitted to School of Graduate Studies of Addis Ababa University in
Partial Fulfillment of the Requirements for the Degree of
Master of Science in Information Science

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Advisor: Temtim Assefa (PhD)

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Declaration

This thesis has not previously been accepted for any degree and is not being concurrently submitted in candidature for any degree in any university.

I declare that the thesis is a result of my own investigation, except where otherwise stated. I have undertaken the study independently with the guidance and support of my research advisor. Other sources are acknowledged by citations giving explicit references. A list of references is appended.

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This thesis has been submitted for examination with my approval as university advisor.

Advisor's Signature: _____
Temtım Assefa (PhD)

Dedication

This thesis is dedicated to my beloved Parents

Acknowledgements

First and foremost I would like to give all the glory and honor to the Almighty God who gave me strength and helped me through my study 'الحمد لله'.

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Abstract

Information technology (IT) is changing the way companies organize their business processes, communicate with customers and deliver their services. An important condition for realizing potential benefits from the use of IT is the alignment between an organization's business strategy and processes, and its IT capabilities. However, IT and business alignment remains a top concern for IT and business executives.

This research aims to assess the maturity level of Business-IT alignment (BITA) of commercial banks in Ethiopia through the utilization of Luftman's Strategic Alignment Maturity model (SAMM) as a framework. The researcher made use of the descriptive survey methodology to collect, analyze and interpret data relevant to the research objectives. Mixed method approach was employed in conducting this study, which was primarily used for triangulation purposes. To address the research questions of this study, two private and one publicly owned commercial banks were selected purposively. Accordingly, Commercial bank of Ethiopia, Dashen bank and Awash international bank were included in the study based on the selection criteria since they are commercial banks and pioneer in implementing information and communication technology infrastructure and IT solutions. Regarding target respondents, purposive sampling specifically expert sampling/Judgmental sampling was used to select seventy five senior IT and business expertise/managers to participate in the study.

The study found that the overall average maturity of the banks IT-Business alignment is at Level2/Committed Process based on the Strategic alignment maturity model (SAMM) scale of Level1 (Initial/Ad hoc Process) to Level5 (Optimized Process). The study also identified that the factors 'Scope & Architecture', 'Governance' and 'Partnership' have relatively high maturity level while the other factors 'Skills', 'Communication' and 'Competency' have relatively low maturity level. When comparing between private and publicly owned banks, the average maturity of IT-business alignment in the publicly owned bank is 2.46 where as in private banks are 2.49. The difference between the two categories of banks in factors 'Governance', 'Scope & Architecture' and 'Skills' were statistically significant.

The result also revealed that commercial banks are investing huge amount of resource and concerning more in the implementation of new technologies and improving their IT infrastructures, as that was indicated by better level of maturity in the 'Scope & Architecture'. However, they gave less attention to develop the skill of their employees concerning on strategic alignment of IT and business. Especially in facilitating opportunities for cross

functional training and job rotation which have a great role on the attainment of better alignment.

Moreover the results of this research can help IT and business practitioners to further elaborate organizational skills training programs necessary for banks to improve their employees' performance throughout their journey towards BITA.

Keywords: *IT-Business alignment, strategic alignment, IT-Business alignment maturity, maturity model, Strategic alignment maturity model.*

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List of Acronyms

BITA	Business and Information Technology Alignment
CIO	Chief Information Officer
COBIT	Control Objectives for Information and Related Technologies
ERP	Enterprise Resource Planning
IS	Information System
IT	Information Technology
ITG	Information Technology Governance
ITIL	Information Technology Infrastructure Library
SAM	Strategic Alignment Model
SAMM	Strategic Alignment Maturity Model
SLA	Service level agreement

CHAPTER ONE

Introduction

1.1. Background of the study

During the past three decades Information Technology (IT) has been constantly evolving and has emerged into a significant component and enabler of most organizations strategy, to the point that modern day organizations are intrinsically dependent on IT [1]. IS/IT is integrally part of most forms of business and industrial organizations. Most organizations in all sectors of industry, business and commerce, government and academia and healthcare in the modern world are fundamentally dependent on their information systems and information technology (IS/IT) [2], [3], [1]. It became obviously true that the role and impact of IS/IT in business and industries has significantly changed over the last decade [1]. With the emergence of IS/IT in business, businesses everywhere are undergoing rapid and significant change, and across a wide range of business markets, IS/IT is obviously rising above its traditional ‘back office’ role and is evolving towards a ‘strategic’ role with the potential not only to support chosen business strategies, but also to shape new business strategies [4], [5]. Previous research has found that the information system strategy is now considering equal with business strategy [6]. [5] Advocate that for an organization to be successful in a dynamic and competitive business environment it is imperative that there is an effective and efficient IT strategy that enables the business strategy and processes.

The business strategic alignment with IS/IT is considered to be a very important issue, particularly when IS/IT becomes an essential part of the business and are used to leverage special business competencies, merge companies, restructure industries, and facilitate global competition [7]. IT and business leaders are continually looking to align their IT and business strategies. In their seventh annual survey, Computer Sciences Corporation [8] reported that IT-business strategic alignment has persisted among the top-ranked issues of chief financial officers. In another study, over 300 Society for Information Management (SIM) executives ranked IT-business alignment as their number one management concern [9]. The alignment between the business strategy and the strategic choices of IS/IT deployment are therefore a prominent area of concern that stays on a high priority business IT issues that business and IT management struggle with [10], [11], [2]. Research has shown that IT-business strategic alignment contributes to higher levels of organizational performance [12] and perceived

business value from IT [13]. Lee and Pai [14] found that the maturity of the information systems function has a strong effect on strategic information systems planning and that IT-business alignment improves with the effectiveness of a firm's planning process. Clearly, there is a need and benefit in determining mechanisms to facilitate the alignment of the IT and business functions. For organizations to stay competitive in a dynamic business environment, they have to determine and understand how to manage IS/IT strategically.

When discussing business-IT alignment, terms like harmony, linkage, fusion, and integration are frequently used synonymously with the term alignment. Business and IT Alignment is widely used, but other notations that can be found include “Business/IT Alignment” (e.g. Van Grembergen and De Haes, [15]) and “Business-IT Alignment” (e.g. Maur et al., [16]; Maes et al., [17]). Some authors refer to “Strategic Business and IT Alignment”, abbreviated as SBITA (e.g. Silva et al., [18]), whereas others simply address BIA as “alignment” (e.g. Chan and Reich, [19]) or as “strategic alignment” [5]. It does not matter whether one considers business-IT alignment or IT-business alignment; the objective is to ensure that the organizational strategies adapt harmoniously [20]. Since different literature use these terms interchangeably, this study also consider those terms in the same way.

1.2 History of Banking in Ethiopia

Modern banking in Ethiopia began in 1905, when the bank of Abyssinia was first established in Addis Ababa under a 50 years franchise agreement with the British owned national bank of Egypt [21]. Eventually, the financial sectors have passed through numerous reformations during Hailesialssie I, Derge and the current regime. After the fall of Derge in 1991, the current administration opened the financial sector to private investors by introducing Monetary and Banking proclamation Number 83/1994 and the Licensing & Supervision of Banking Business Number 84/1994. This proclamation is the foundation of private banking in Ethiopia after the revolution. Despite the prevailing improvement in branch expansion, Ethiopia remains one of the under-banked economies even at sub-Saharan African countries standard [22].

According to the annual report of NBE, in 2015/16 the number of banks declined to 18 from 19 due to the merger of Construction & Business Bank with Commercial Bank of Ethiopia. Out of the 18 banks, 16 were private and 2 public. Currently, banking sectors in Ethiopia is showing progressive development in terms of number of branches, total assets and human resource utilization. Banks opened 494 new branches in 2015/16 (of which 363 were private)

raising the total branch network to reach 3187 from 2693 last year. About 34.4 percent of bank branches were situated in Addis Ababa [23].

Introduction of IT to the banking sector is a recent phenomenon in Ethiopia. Recently both private and public Banks introduced core banking system and IT based financial services like Card banking, Mobile banking, Internet banking, and Electronic fund transfer. Despite of this, In Ethiopia cash is still the most dominant medium of exchange and electronic-banking is not well known. Ethiopian banking system is one of the most underdeveloped compared to the rest of the world [24].

1.3 Statement of the Problem

Information technology (IT) is changing the way companies organize their business processes, communicate with customers, and deliver their services. It has become pervasive in current dynamic and often turbulent business environments. While in the past, business executives could delegate, ignore or avoid IT decisions, this is now impossible in most sectors and industries [25], [26]. They further claimed that the dependency on IT becomes even more imperative in this knowledge-based economy, where organizations are using technology in managing, developing, and communicating intangible assets such as information and knowledge. These claims will enable us to conclude that IT becomes not only a success factor for survival and prosperity, but also an opportunity to differentiate and to achieve competitive advantage. Above all, IT also offers a means for increasing productivity. Leveraging IT successfully to transform the enterprise and create products and services with added value has become a universal business competency. In this viewpoint, the IT department moves from a commodity service provider to a strategic partner in almost all business units and activities.

An important condition for realizing potential benefits from the use of IT is the alignment between an organization's business strategy and processes, and its IT capabilities. While significant progress has been made to understand alignment, research on IT alignment is still plagued by several problems. Chen [27] noted that in order to achieve alignment, organizations must understand that it is an ongoing effort in designing business strategies, implementing best business practices, realigning goals, and continually improving strategic planning. Low alignment maturity between business strategy and Information Technology (IT) strategy is one of the main reasons why enterprises fail to exploit the full potential of their IT investment, and why IT business alignment has been such a persistent and pervasive

conundrum [28], [29], [30]. In fact, companies with lower alignment maturity tend to demonstrate lower overall company performance, e.g., lower Return on investment (ROI), lower profits, etc. [31], [30]. To improve company performance, business IT alignment should be regularly reexamined. According to Wong et al. [32] IT/business alignment is the perfect application for measuring the IT support of the organization's needs, goals, and strategies. El-Mekawy et al, [33] noted that IT/business alignment improves when business places the value on IT.

The research to derive the business-IT alignment maturity assessment has just begun and the tools and processes are still being refined [34]. Wang et al. [35] argued that Business-Information Technology Alignment (BITA) which refers to the degree of fit and integration among business strategy, IT strategy, business structure, and IT structure has been found to improve firm's performance but little is known about the process through which firms achieve BITA. They cited research of more than three decades and argued that business-information technology alignment (BITA) has consistently been rated as one of the top concerns in surveys of information technology practitioners and company executives.

The use of information technology to efficiently and effectively provide banking services to customers and to allow customers to access financial services has become more important than ever. Unfortunately, many banks have not achieved a strong alignment between IT strategies and business strategies [10]. According to Mengistu et al, [36] in the Ethiopian financial industry, only some 19% of the respondents confirmed that IT and business goals are properly aligned to large extent. Senait [37] also noted that Commercial Bank of Ethiopia is investing a huge amount of money on information technology to get all advantages of IT, but its success in effective utilization of IT is very low because it is not managing and governing IT to align it with the business as it was supposed to be. This indicates there is a wide gap in using IT for strategic organizational goals. A gap exists between IT strategies and business strategies that deserve further attention and evaluation given the importance of information technology to this industry and the greater importance that it is likely to play in the future [38].

According to Nolan & McFarlan [39] the goal of IT strategic alignment begins with the board first recognizing the current alignment of IT and the business. Therefore, this research attempts to assess the maturity of IT and business strategies alignment within the Commercial Banks in Ethiopia.

In light of the above, this study aims to explore the following research questions:

- What is the maturity level of IT-Business alignment of the commercial banks in Ethiopia based on SAM model?
- Which sector (privates / public) banks reached better IT-Business alignment maturity level?

1.4 Objective of the study

1.4.1 General objective

The general objective of the research is to assess the maturity level of Business-IT alignment at Ethiopian Commercial Banks through the utilization of Luftman's Strategic Alignment Maturity model. Once the maturity level is established and understood, it would be used to determine opportunities to enhance the Business-IT strategic alignment of the banks.

1.4.2 Specific objective.

- To identify which components of the SAM model have high and which have low level of maturity in strategic alignment of the sample commercial banks.
- To compare the levels of maturity between public and private banks.
- To provide specific recommendations to improve the alignment of IT and business in the commercial banks.

1.5 Significance of the study

In today's dynamic and competitive environment, having matured IT Strategic alignment is a must for financial institutions to sustain and/or extend their business strategy. The necessity and desirability of aligning business needs and information technology (IT) capabilities has been examined in numerous articles [40] and its importance is well recognized [41].

Results from this study may provide executive leadership with data indicating the significance using feasible measurements to link IT to business, and may facilitate their understanding of the maturity level of their organization. This study could provide financial institutions with a proven instrument for identifying what matters and what does not matter as it relates to alignment.

The findings of the research will help institutions to figure out the trouble in the current IT-Business alignment as compared to competitors or industry standards, identify precisely

where improvements can be made to bring IT Strategic alignment processes up to the desired level of maturity. Furthermore, the findings of this study initiate researchers for further studies.

Lastly, the finding also can serve as a benchmark to assess IT-Business alignment maturity in other sectors of the economy. Thus, it can minimize the literature gap in the area of study particularly in Ethiopia.

1.6 Scope of the study

The scope of this research is to assess the maturity level of IT-Business alignment in Commercial Banks in Ethiopia based on the six components/dimensions of Luftman's (SAMM) Strategic Alignment Maturity Model. Due to time and financial constraints from the entire financial sector operating in Ethiopia, the research covers only two privately owned commercial banks and one state owned commercial bank that registered by National Bank of Ethiopia (NBE).

1.7 Organization of the research

This study mainly focuses on assessing the status of strategic business-IT alignment in the given commercial banks of Ethiopia. The study organized into five chapters. Chapter one presents introductions of the study. The literature review part of the study presented in chapter two. The review of the literature includes the definitions of the business and IT strategy. Strategic alignment models, Importance of IT-Business alignment, IT-Business alignment in banking sector, and related works also presented respectively in this chapter. Chapter three presented the research design and methodology. The analysis of the result was presented in chapter four. And then the discussion of the result was followed. Finally, chapter five presented the conclusions, recommendations, and future direction.

CHAPTER TWO

Literature Review

In this chapter, we reviewed the previous literature needed for conducting our study. We should go through the definitions of the business and IT strategy to highlight the differences, as well as the difference between traditional linkage and strategic alignment between business and IT. A presentation of strategic alignment models including the SAMM that applied for this research should be done. Finally, Importance of IT-Business alignment, IT-Business alignment in banking sector and related works presented respectively.

2.1 Business strategy

Organization's business strategies have received much attention among researchers [42]. Storey [43] studied business strategy in smaller firms and identified business strategy as one of the three main components that contribute towards growth in organizations. There are in general two categories of business strategies that can be distinguished. Organizations have the option to either adapt a cost leadership strategy to compete as the lowest-cost producer in their industry or to choose a differentiation strategy by providing unique products or services [44], [45]. In addition, Porter [46] highlights that an organization's ability to deliberately select a set of activities, that will deliver a unique mix of values to its customers, is the essence of the organization's business strategy. To summarize, business strategy is a set of objectives, plans, and policies for an organization to be able to successfully compete in its markets with some of its key characteristics [47]:

- It is long-term.
- It specifies the competitive advantage it will give the organization.
- It lays its focus on key areas.

[44], [48], [49] also argue over the necessity of a clear business strategy. However, they agree that the business strategy alone cannot help organizations to achieve high performance and competitive advantage. They suggest that the business strategy should be supported by effective compensation systems.

2.2 Information Technology strategy

"IT strategy is simply business strategy with an information hat on." [50]. It is IT's task to support, enhance and expand organization's business strategies. Therefore, organizations need a long-term view of IT in the form of an IT strategy [47]. IT strategy is an iterative process to align an organization's IT capabilities with its business requirements [51], and its role is to provide effective, efficient, responsive and flexible systems to meet the current and future business requirements [47]. Rather than being simply a tool for information storage, a system developed out of strategic thinking supports business processes and provides a cost-effective framework for executing the business strategy [47].

Peppard and Ward [1], argued for a movement from strategic information systems towards development of the IS capabilities, concentrating on the sustainability of value through IT. Mainly to understand how to nurture and exploit the delivered value and IT investment can give [1]. The capability has also been discussed as how to form, mobilize and deploy IT resources in combination or simultaneously with other existing resources and capabilities within the organization [52]. This will improve the alignment since stronger IT capabilities and the business strategy will be incorporated with IT investments [1].

2.3 Business and IT Alignment

The alignment between the business strategy and IT strategy is available when business and IT departments collaborate to create and adapt their strategies together as well as working together striving to achieve the same goals [53]. Maes et al, [54], define business and IT alignment as management's continuous, conscious, and coherent process of interrelating all components of a company, contributing to its performance over time.

As an example, business and IT alignment can lead to cost reduction, higher efficiency, improved relationships with customers and suppliers and may enhance the creation of business solutions and opportunities. On the other hand, an organization without alignment may face scarce IT-related investment decisions, higher financial and opportunity costs as well as an overall lower acceptance and communication towards IT's contribution to the business [55], [56].

2.3.1 Alignment Definitions

Having been in the center of attention for academics and IT practitioners for over three decades, alignment has been conceptualized in literature in various forms. One of the first definitions for alignment was proposed by Henderson and Venkatraman. They define it as the degree of fit and integration among four fundamental domains: business strategy, IT strategy, business infrastructure, and IT infrastructure [5]. Reich and Benbasat form a different perspective and define alignment as the degree to which the mission, objectives, and plans contained in the business strategy are shared and supported by the IT strategy [57]. In their paper Luftman and Brier argue that the basic principle of alignment is in applying IT in an appropriate and timely way and in harmony with business strategies, goals, and needs [58]. In a study published a year later, the same author formulates a new definition for alignment, in which it is addressed as both, how IT is in harmony with the business, and how the business should, or could be in harmony with IT [20] which reveals an equal focus on the business strategy as well as the IT strategy.

2.3.2 Alignment Dimensions

Throughout the business-IT alignment literature, there are a number of distinctions made by scholars concerning the various dimensions that can be recognized. Most attention is attributed to the strategic and intellectual [57], structural [59], and social [57] dimensions of alignment. The former two dimensions of alignment have been empirically proven to influence performance in organizations while the effects of the latter are still under debate.

2.3.2.1 Strategic and Intellectual Dimensions

From literature, strategic and intellectual alignment can be defined as the consistency between the Business and the IT plan [60]. Another definition for intellectual alignment by Reich and Benbasat is: “the state in which a high quality set of inter-related IT and business plans exist” [61]. Chan defines strategic alignment as the fit between the priorities and activities of the IS function and those of the business unit [59]. We can identify a similarity in the pre-mentioned definitions since they all address the “fit” between business and IT. From the above it is evident that in order to achieve and sustain strategic and intellectual alignment both the business and the IT plan must formally documented.

2.3.2.2 Structural Dimensions

Contrary to the strategic and intellectual dimensions which deal with the plans regarding the business and IT side, structural dimensions are concerned with the choices made when

selecting architectures and capabilities [54]. Chan elaborates further on defining structural alignment as the degree of structural fit between business and IT in the areas of IT decision making rights, reporting relationships, (de)centralization of IT services and infrastructure as well as the deployment of IT personnel [59]. In literature, a number of proposed IT arrangements have been proposed and have been linked to business strategies in order to increase organizational performance. Empirical research has proven that the competitive strategy that a company follows is related to the IT structure [62].

2.3.2.3 Social Dimensions

The social alignment is concerned with the mutual understanding between executives of the IT and the business department regarding the goals and the plans made for each [61]. It is clear that in this dimensions the weight is shifted towards the people rather than the plans and the structure. Despite being one of the most important pillars in achieving alignment, little attention has been given to the social dimension. Research comes to support this argument, with Taylor-Cummings stating that one of the main reasons why system development fails is attributed to the lack of understanding between the IT and the business people, or else a “culture gap” [63]. However, bridging this gap constitutes a major challenge for both sides in collaborating together at all levels and is a prerequisite in order to achieve alignment [64].

2.3.3 Alignment Models

Throughout literature, scholars have formulated an abundance of models for measuring alignment in the past two decades. Despite the shift of attention to business/IT alignment, the need for strategic fit between business domains didn't occur out of the blue. The relationship between organizational alignment and performance was recognized very early in management theory and has been addressed by theorists in a number of studies [65]. In addition, some scholars attempted to create conceptual models of the interdependence between different business domains.

2.3.3.1 McKinsey 7-S Model

Another notable model on organizational harmonization and alignment is the 7-S model of McKinsey created by Peters and Waterman consultants of the McKinsey & Company consulting firm [66]. The model builds on the premise that there are seven internally interacting domains that need to be aligned in order to increase organizational performance. The elements as depicted in Figure 1 are split into hard and soft elements, with the former being the strategy, structure and systems while the latter domains are the shared values, the

skills, the style and the staff. Although their naming may be misleading, hard elements are easier to be controlled by the management while on the other hand soft elements are less tangible and are influenced more by the culture of the organization. Despite this distinction, both categories are considered by the authors to be equally as important.



Figure 1: McKinsey 7-S Model (Source: Peters & Waterman, 1982)

2.3.3.2 MIT90s Model

The MIT90s model developed at MIT by Scott Morton is one of the first business/IT alignment models addressing the fit between business and IT which served as an inspiration for many future model including Henderson and Venkatramans Strategic Alignment Model [67] as well as the MacDonald model [68]. The model as depicted below makes a distinction between five dimensions which are interrelated.

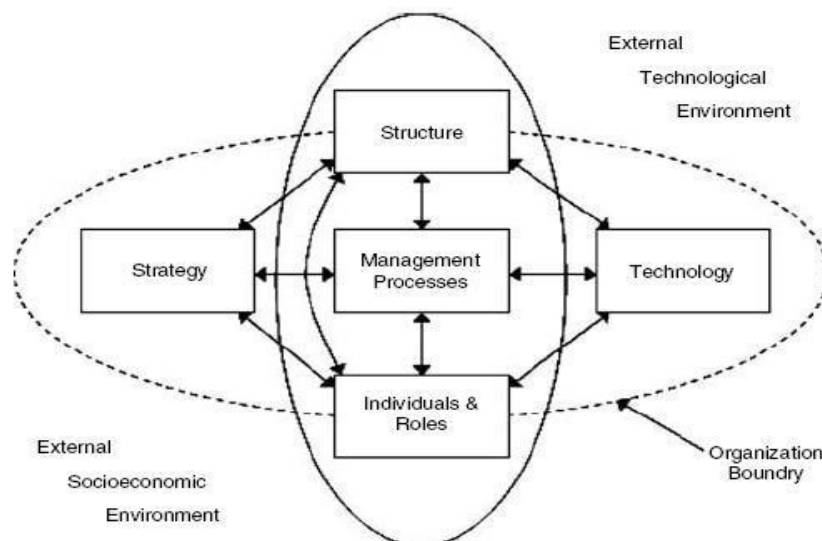


Figure 2: The MIT90s Framework (Source: Scott Morton, 1991)

The main concept behind the model is that organizations which manage to achieve a high level of fit between the five dimensions demonstrate higher levels of organizational performance. The horizontal axis of the model depicts the domains involved when deciding on strategic IT planning while the vertical row revolves around the organizational culture. In addition to the five dimensions which the model identifies, the external environment is also considered.

Extending on the MIT90s model Levy et. Al., focus on the applicability and the results of the model in Small and Medium Enterprises (SMEs) [69]. The authors derive four different paths for obtaining and sustaining alignment of which three offer only partial alignment. The underlying reasons why so many SMEs fail to align their strategies are attributed to this partial alignment which SMEs obtain.

2.3.3.3 Strategic Alignment Model (SAM)

One of the most cited models on strategic alignment is the Strategic Alignment Model by Henderson and Venkatraman. This model is made up of four fundamental domains of strategic choice: the business strategy, information technology strategy, organizational infrastructure and processes, and information technology infrastructure and processes [5].

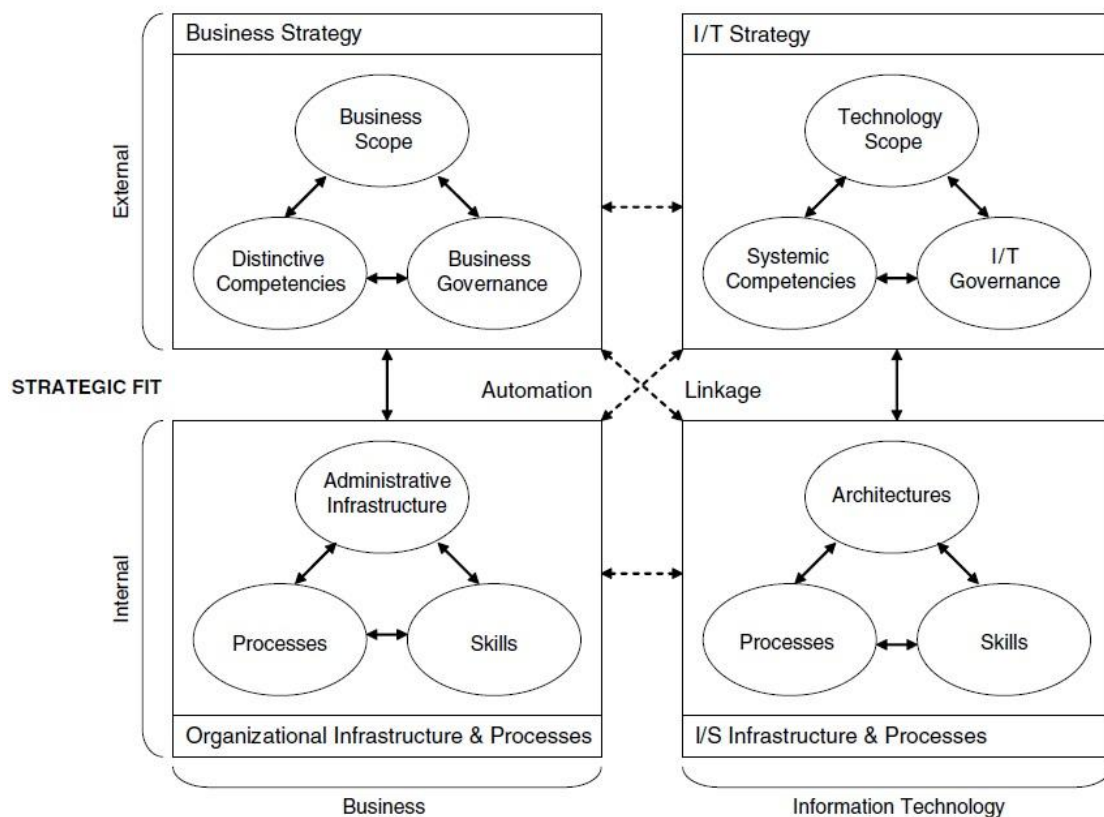


Figure 3: The strategic alignment model (Source: Henderson & Venkatraman, 1993).

The model attempts to integrate two pairs of domains between business and IT by drawing a distinction between the external perspective of IT and the internal focus of IT. The first of these two integrations which is termed strategic integration is done externally between the business strategy and the IT strategy. The second type of integration is internally oriented between the organizational infrastructures and processes and IS infrastructure and processes and is termed operational integration.

Based on these four domains, four alignment perspectives of strategic choice are derived linking three domains in each case. The former two of these alignment perspectives are based on the business strategy as a driver while the latter two on IT strategy as an enabler. More precisely these four perspectives include the following:

- Strategy Execution
- Technology Transformation
- Competitive Potential
- Service Level

Despite its alternative perspectives of alignment the Strategic Alignment Model has limitations as has been proven empirically since the applicability of the model may provide mixed results depending on the industry it is applied [70].

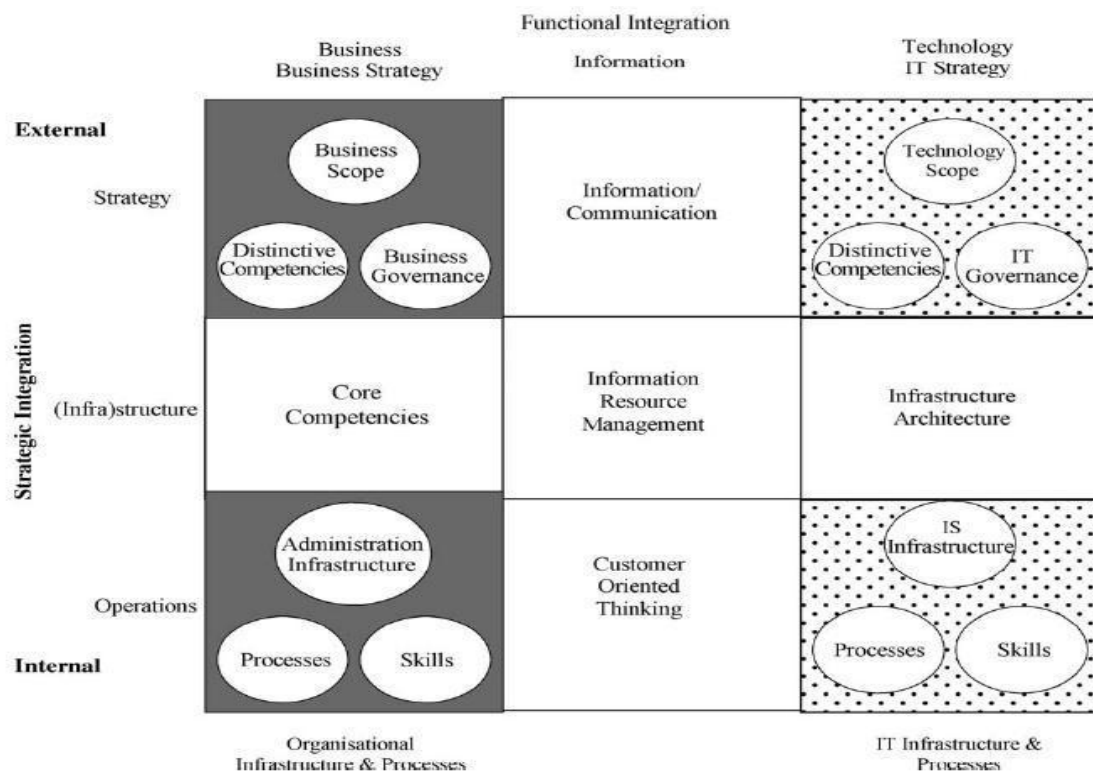


Figure 4: A generic framework for information management (Source: Maes, 1999).

Many academics have built or extended on the model of Henderson and Venkatraman including Maes who propose a number of configurations based on business needs [71]. The first modification which the author proposed is the replacement of the internal domain with a structural level and an operational level. In addition, Maes adds a third dimension on the vertical axis which takes into account the Information and Communication aspects internally and externally.

2.3.3.4 Strategic Alignment Maturity Model (SAMM)

Having presented the most influential models as well as some examples of their extensions we discuss a more recent alignment assessment tool i.e. Strategic Alignment Maturity Model (SAMM) developed by Luftman [20] and which is used as instrument for this research. This alignment model is designed to measure the fit between the technical and business organizations in an enterprise. It identifies six dimensions and for each a rating is attributed ranging for 1 (lowest) to 5 (highest) creating a two dimensional matrix. The six dimensions/components which are recognized are listed and described below:

- **Communication Maturity:** This dimension measures the level of understanding between the business and the IT people as well as with external parties such as with consultants' vendors and business partners.
- **Competitive/Value Measurement Maturity:** Uses balanced measurements to demonstrate the contributions of information technology and the IT organization to the business in terms that both the business and IT understand and accept.
- **Governance Maturity:** Defines who has the authority to make IT decisions and what processes IT and business managers use at strategic, tactical, and operational levels to set IT priorities to allocate IT resources.
- **Partnership Maturity:** Gauges the relationship between a business and IT organization, including IT's role in defining the business's strategies, the degree of trust between the two organizations, and how each perceives the other's contribution.
- **Scope and Architecture Maturity:** Measures IT's provision of a flexible infrastructure, its evaluation and application of emerging technologies, its enabling or driving business process changes, and its delivery of valuable customized solutions to internal business units and external customers or partners.
- **Skills Maturity:** Measures human resources practices, such as hiring, retention, training, performance feedback, encouraging innovation and career opportunities, and

developing the skills of individuals. It also measures the organization's readiness for change, capability for learning, and ability to leverage new ideas.

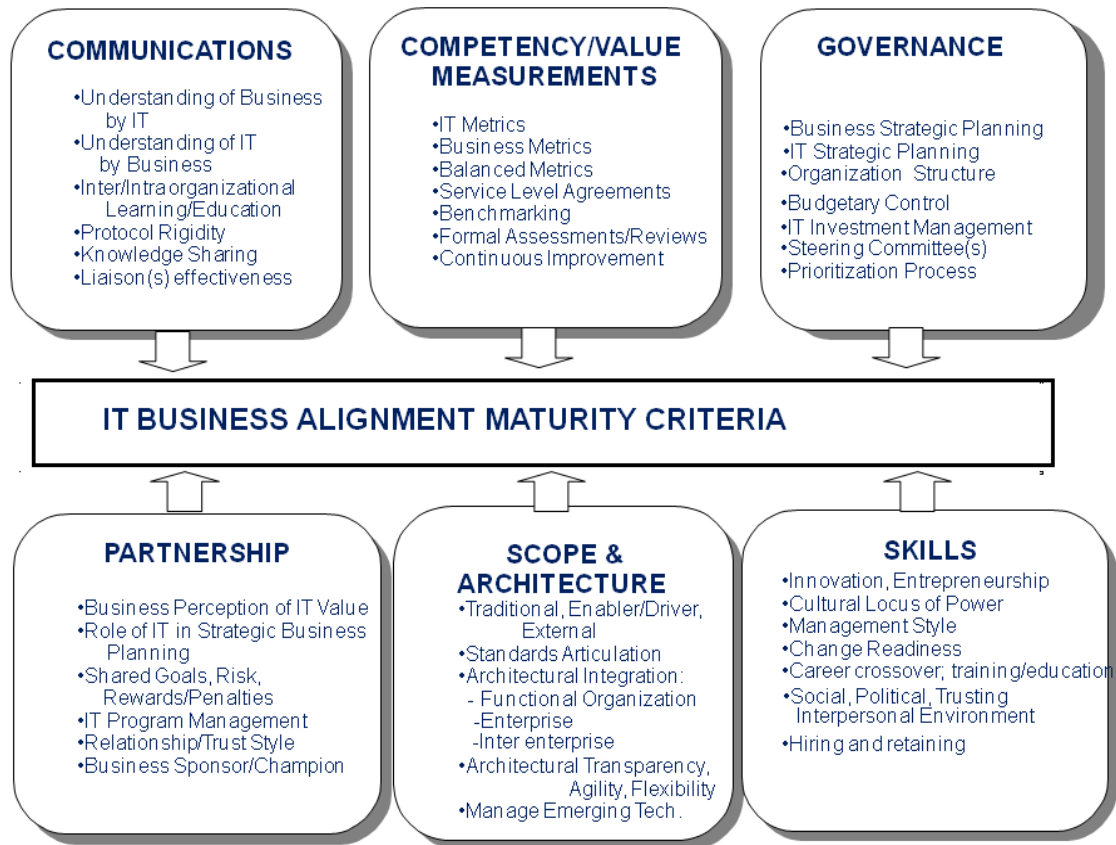


Figure 5: IT-Business Alignment Maturity Criteria (Source: Luftman,2000)

The scores an organization achieves for these six components of maturity are then compared to a five level maturity model to denote the organization's IT-business alignment maturity. These five maturity levels draw on the core concepts of the Software Engineering Institute's Capability Maturity Metric (CMM), but the focus here is solely on IT-business alignment. The definitions of the five levels of alignment maturity, which are summarized in Figure 7 are discussed as follow:

Level 1: Initial or ad-hoc processes. Organizations at Level 1 generally have poor communications between IT and the business and also a poor understanding of the value or contribution the other provides. Their relationships tend to be formal and rigid, and their metrics are usually technical rather than business oriented. Service level agreements tend to be sporadic. IT planning or business planning is ad-hoc. In addition, IT is viewed as a cost center and considered "a cost of doing business." The two parties also have minimal trust and partnership. IT projects rarely have business sponsors or champions. The business and IT also have little to no career crossovers. Applications focus on traditional back-office support, such

as e-mail, accounting, and HR, with no integration among them. Finally, Level 1 organizations do not have an aligned IT-business strategy.

Level 2: Committed processes. Organizations at Level 2 have begun enhancing their IT-business relationship. Alignment tends to focus on functions or departments (e.g., finance, R&D, manufacturing, marketing) or geographical locations (e.g., U.S., Europe, Asia). The business and IT have limited understanding of each others' responsibilities and roles. IT metrics and service levels are technical and cost-oriented, and they are not linked to business metrics. Few continuous improvement programs exist. Management interactions between IT and the business tend to be transaction-based rather than partnership based, and IT spending relates to basic operations. Business sponsorship of IT projects is limited. At the function level, there is some career crossover between the business and IT. IT management considers technical skills the most important for IT.

Level 3: Established, focused processes. In Level 3 organizations, IT assets become more integrated enterprise-wide. Senior and mid-level IT management understand the business, and the business's understanding of IT is emerging. Service level agreements (SLAs) begin to emerge across the enterprise; although the results are not always shared or acted upon. Strategic planning tends to be done at the business unit level, although some inter-organizational planning has begun. IT is increasingly viewed by the business as an asset, but project prioritization still usually responds to "the loudest voice." Formal IT steering committees emerge and meet regularly. IT spending tends to be controlled by budgets, and IT is still seen as a cost center. But awareness of IT's "investment potential" is emerging. The business is more tolerant of risk and is willing to share some risk with IT. At the function level, the business sponsors IT projects and career crossovers between business and IT occur. Both business and technical skills are important to business and IT managers. Technology standards and architecture have emerged at both the enterprise level and with key external partners.

Level 4: Improved, managed processes. Organizations at Level 4 manage the processes they need for strategic alignment within the enterprise. One of the important attributes of this level is that the gap has closed between IT understanding the business and the business understanding IT. As a result, Level 4 organizations have effective decision making and IT provides services that reinforce the concept of IT as a value center. Level 4 organizations leverage their IT assets enterprise-wide, and they focus applications on enhancing business processes for sustainable competitive advantage.

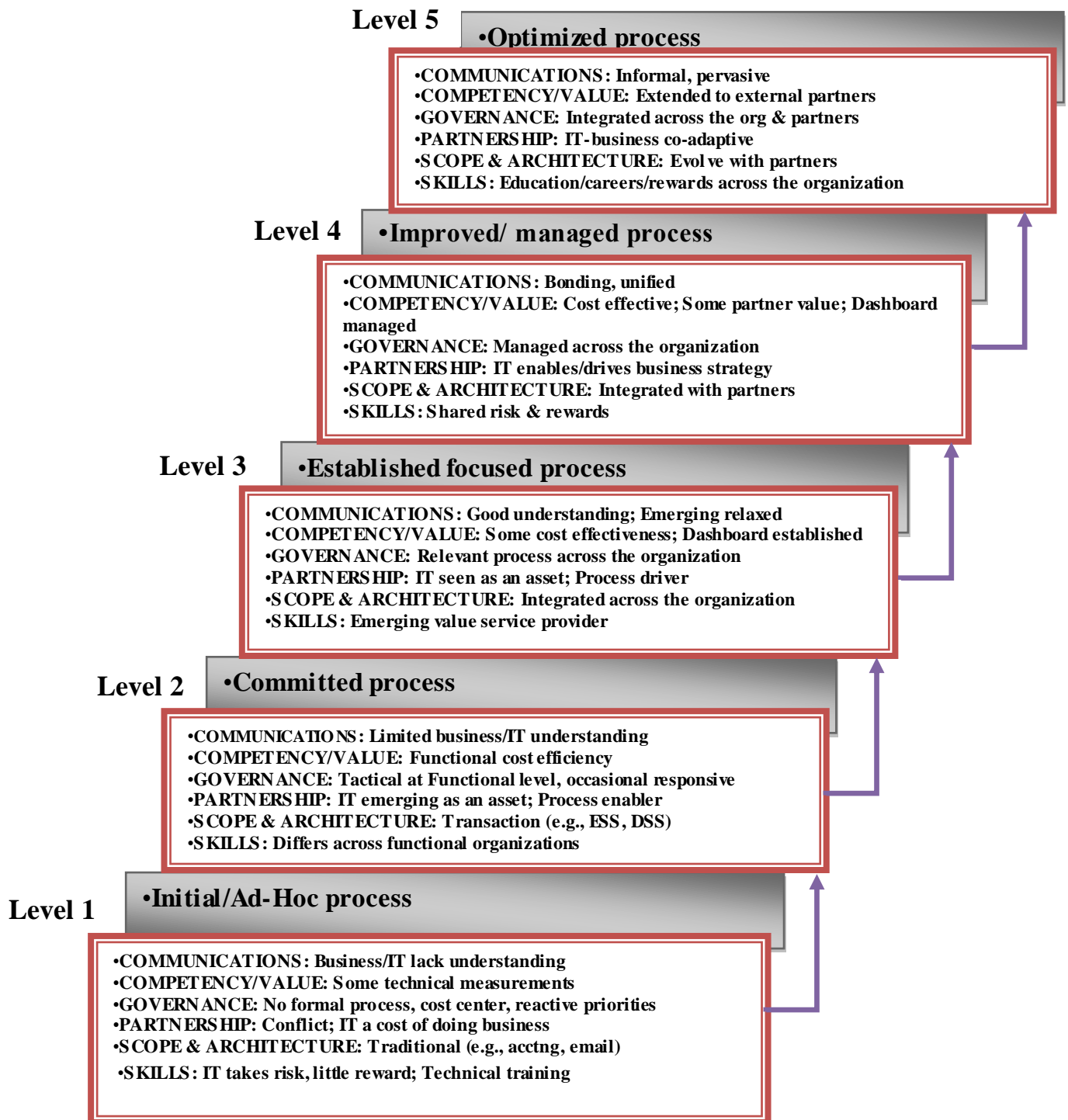


Figure 6: Five Levels of Alignment Maturity (Source: Luftman, 2000)

SLAs are also enterprise-wide, and benchmarking is a routine practice. Strategic business and IT planning processes are managed across the enterprise.

Formal IT steering committees meet regularly and are effective at the strategic, tactical, and operational levels. The business views IT as a valued service provider and as an enabler (or driver) of change. In fact, the business shares risks and rewards with IT by providing

effective sponsorship and championing all IT projects. Overall, change management is highly effective. Career crossovers between business and IT occur across functions, with business and technical skills recognized as very important to the business and IT.

Level 5: Optimized processes. Organizations at Level 5 have optimized strategic IT-business alignment through rigorous governance processes that integrate strategic business planning and IT planning. Alignment goes beyond the enterprise by leveraging IT with the company's business partners, customers, and clients, as well. IT has extended its reach to encompass the value chains of external customers and suppliers. Relationships between the business and IT are informal, and knowledge is shared with external partners. Business metrics, IT metrics, and SLAs also extend to external partners, and benchmarking is routinely performed with these partners. Strategic business and IT planning are integrated across the organization, as well as outside the organization.

2.4 Importance of IT-Business Alignment

The importance of the alignment has been reported as an organization-wide issue that directly influences the company's overall performance [72]. It is claimed to be a necessity to realize benefits from investments in IT [20]. This realization grows in importance as companies strive to link technology and business in the light of dynamic business strategies and continuously evolving technologies [73]. The strategic benefit of deploying IT to support business functions is seen as the basis for sustainable competitive advantage [74], and it has been reported to be positively associated with business performance indicators such as market growth, financial performance, and product-service innovation [75]. Chen [27] noted that it is important to understand how IT and business harmonize because this understanding leads to performance improvements.

Taking into consideration the above, it is not surprising that Luftman, along with many other authors, reports that alignment has been at, or near to, the most prominent concern of business executives in studies conducted by academics, consultants, and research firms [76]. Accordingly, alignment is also a recurrent theme in the information systems and information technology literature [40].

2.5 Business-IT alignment in the banking sector

In the banking sector, firms that are able to holistically leverage the power of information technology, coordinate their business and IT strategies, develop and acquire system-based

applications aligned with their business needs will have higher chances to remain competitive, retain and attract new customers [77]. With an ever increasing competition, it is crucial for financial organizations to justify their heavy IT investments by coordinating their IT strategies with organization processes and business strategies in order to stay ahead in the highly competitive financial market. Banks are constantly improving their ways of organizing their business processes, in order to provide new value propositions to customers.

They struggle to stay up to date with innovative technologies, change their business strategies by going through mergers and acquisitions, developing new projects based on their IT capabilities, and adjusting to regulatory changes. In order to successfully compete in the dynamic environment, banks, like other organizations have to develop information systems capable of supporting business strategies and processes [10]. This means that those that successfully align their IT and business strategies will outperform those that do not.

In the banking sector just as many other businesses, alignment between business and IT occurs when respective strategies are interwoven in such a way that the right things are done, and things are done right meaning that in order to deliver greater value to an organization, alignment must be a two-way relationship, a give and take between IT and business [78]. IT has been instrumental in improving communication and connectivity across all segments of the banking sector as well as in enhancing the quality, efficiency, and speed of delivery of financial services [10]. The journey towards alignment begins when business and IT realize that they have common goals, defined by the core purpose of the bank that they serve. In a supportive and co-operative environment, Information Technology can contribute valuable ideas on how to solve a business problem and business can include IT in technology investments decisions. The balance of power and responsibility between business and IT must be done in such a way that IT recognizes business importance when developing or purchasing new systems. Similarly, business must also recognize that it is not best placed to take technology-related decisions on its own without including IT. Alignment between a banks' business and IT functions can be improved by forging a co-operative, mutually beneficial relationship between the two and getting both sides to a degree of fundamental issues such as business involvement in the project and technology's role in building the business [78]. Banks' business users are less concerned with the firm's IT infrastructure such as the number of gigabits per second, storage, and redundancy. They are more interested in the ability of the bank to provide reliable services, flexible and reliable banking platform capable of supporting a spurt in transactions without breaking down. A storehouse of technology is therefore important for bankers only if it is capable of providing customers'

insight or cutting time to market. Therefore, every IT activity, project or service must play a part in creating business value for the bank. This is done when managers are able to reinvent IT proposition around business-relevant services, attracting the business' attention and creating a better understanding of the impact of one function on the other.

2.6 Related works

There is no much prior research conducted on IT-business alignment maturity in the banking sector specifically in Ethiopia. However, there are few researches conducted that address some aspects of strategic alignment. In this regard, understanding the experience of the banks that have mature IT-business alignment is critical. Thus, this section presents detailed review of related research works done in the area.

Senait [37] on her thesis entitled "IT Governance in Ethiopian Financial Sector: a case Analysis of Commercial Bank of Ethiopia" uses qualitative research method to investigate the status of IT Governance at Commercial Bank of Ethiopia (CBE) using COBIT framework with regard to strategic alignment, risk management, IT resource management and performance measurement. She found that IT Governance status at CBE is at a very low level even though there is awareness; practically there is no standardized way of governing IT. Regarding alignment of IT with business there is visible gap (misalignment of IT with business); there is also a gap in managing IT resource and risks. Furthermore, she pointed out the absence of objective performance measurement methods like IT BSC. There is no key performance indicators (KPI), key goal indicators (KGI) and key risk indicators (KRI) defined a head to measure as well as to monitor the performance of IT.

Tagel [79] had conducted a comparative study to investigate the perceived importance and maturity of IT Governance practices in financial sector of Ethiopia. In his study, mainly a survey method was employed and the survey result was complemented and triangulated with interview data and some key document review. The researcher used both primary as well as secondary source of data to conduct the research. Primary data was collected using self administered questionnaire and semi structured interview. Secondary source of data, like IT organization structure, Corporate governance structure, job descriptions, IT strategy plan, policies, procedures, annual reports, National Bank of Ethiopia (NBE) directives and the website of each company were used to triangulate as well as complement the survey result. The result shows the maturity of IT Governance in Ethiopian financial institution was 1.2, which was between initial (level 1) and repeatable stage (level 2) based on generic maturity

scale 0 to 5. His finding also shows that privately owned financial institutions in Ethiopia achieved better level of IT Governance maturity (1.3) than that of publicly owned (0.94) based on generic maturity scale from 0(non-existence) to 5(optimized). Moreover, the average IT Governance in the banking sector was (1.4) which was much better than that of insurance sector (0.7).

In a related work Luftman & Kempaiah [31] conducted, a research entitled "An Update on Business-IT Alignment". The study involved analyzing the responses of business and IT executives from 197 companies, primarily Global 1,000 companies. Of the 197 organizations, 124 were based in the United States, 38 were in Latin America (the largest in the region, although below the Global 1,000 level), 11 were in Europe, and 24 were in India (half were in the IT services industry). The data was gathered from interviews or group discussions and questionnaires. The average overall maturity score for all the companies was 3.04. The three industries with the highest maturity scores which are retail, transportation, and hotel/entertainment were well above the midpoint for Level 3 companies. However, the average overall maturity level of 57 financial industries was rated 2.90 (Level 2). The result also shows that 'Scope and Architecture' scored the highest of the six, while 'Skills' scored the lowest.

Chen [80] had conducted a research entitled "Business-IT alignment maturity of companies in China." The primary objective of the study was to cross-validate the strategic alignment maturity (SAM) model which developed by [20], and consisted of six maturity factors: communication, competency, governance, partnership, technology scope, and skills. The study used a sample of 130 business and IT executives from 22 companies in China. The second objective of the study was to examine the relationship between IS strategic alignment and the six alignment maturity constructs. And the final objective of the study was to assess the current state of business-IT alignment of companies in China using the validated instrument. For the research, the data was collected using a survey technique. The research constructs were measured using multi-item scales adapted from the SAM framework. The sample was diverse, covering a wide range of industries. Half of the companies were Chinese domestic companies, while the other half were multinationals operating in China. Business and IT executives were almost evenly distributed among the respondents. The correlations between the calculated overall maturity and the six factors, between self-reported maturity and the six factors, and between the calculated overall maturity and the self-reported maturity were all found to be significant. As the findings shows the average overall alignment score was 2.87 (Std. dev. = 0.71) suggesting that, on average, the alignment of companies in China

falls somewhere between the level 2 (Committed Process) and level 3 (Established Focused Process) in terms of alignment maturity. The companies scored relatively high in the COMM and SCOPE factors and relatively low in the GOV and SKILLS factors. When comparing the factor scores between the Chinese domestic companies and multinationals, the study found that multinationals on average scored higher in each factor than Chinese domestic companies. The differences in factors COMM, GOV, and SKILLS were statistically significant.

Leslie [81] conducted a research on Assessing Information Technology and Business Alignment in Local City Government Agencies. The purpose of this quantitative survey study was to conduct an IT/business strategic alignment maturity assessment of several cities in the southwestern part of the United States. The study evaluates 48 LCGA participants in the Southwestern part of the United States and compares their alignment perceptions with their cities' employment size. The theoretical framework for this study was based on ITG and business strategy as measured by the SAMM instrument. An online survey was used for data collection and data results were analyzed using descriptive statistics and an Analysis of Variance. After using the SAMM instrument, the current snapshot maturity level of LCGAs was 2.49 out of a maximum 5.0 level.

In a related work, Naidoo [82] conducted a research on the title "The strategic alignment maturity of business and information technology at Volkswagen South Africa". The main objective of the research was to measure the Strategic Alignment Maturity (SAM) level of Business-IT during the 2008 to 2010 strategic period and its influence in VWSA achieving these objectives. The researcher used a case study method to assess the strategic alignment maturity level of VWSA. The result shows that the overall average maturity level for VWSA was measured at 2.94, which corresponds to a level 2 alignment maturity which defines organizations as having commitment to start being more strategically aligned.

Chumo [83] conducted a research entitled "Information Systems Strategic Alignment Maturity Levels: Corporate and Project Implementation Perspectives". The research used a strategic alignment assessment framework derived from Luftman's Strategic Alignment Maturity Model (SAMM) to establish alignment maturity levels of public universities in Kenya. It explored the maturity levels of strategic alignment in organization's by considering the organization level where IS decisions are made and the IS project level where IS projects are implemented in six universities in Kenya. Survey questionnaires were used in data collection and quantitative data analysis was employed. The study found out that the alignment maturity scores was higher at IS project implementation level as compared to

corporate level. There was also consistency in alignment maturity scores ranking factors in the two levels with communication and partnership scoring high at both levels while the human resource skills were ranked lowest at both levels. The research also found out that Kenyan public universities have an alignment maturity score of between 2 and 3 which is consistent with other studies of organizations in similar sector [31]. There is also a variation in the alignment maturity scores of factors at the two levels. However, some factors maturity scores are consistent across the two levels.

Author	Research Method	Main findings	Remark
Senait [37]	Qualitative research	Very low IT Governance status at CBE. There is also misalignment between business and IT, IT risk and resources are not managed well.	The research concerned on all five focus area of ITG in general way. However, it doesn't show maturity level of each element that measured objectively using a maturity scale.
Tagel [79]	Mixed Research	The result shows IT Governance in Ethiopian financial institution is 1.2, which was between initial (level 1) and repeatable stage (level 2) based on generic maturity scale 0 to 5.	Concerned on measuring maturity level of ITG generically. However, it is not focused on each five domains of ITG. Studying the maturity level of each element is necessary to know that where problem exist.
Luftman & Kempaiah [31]	Mixed Research	The average overall maturity score for all the companies was 3.04. The result also shows that 'Scope and Architecture' scored the highest of the six, while 'Skills' scored the lowest.	The research conducted as worldwide. However, not included African countries, specifically Ethiopia
Chen [80]	Quantitative Research	The average overall alignment score of companies in China was 2.87 (Std. dev. = 0.71) which suggesting that, the alignment falls somewhere between the	It is based on Chinese context and not on the banking industry

		level 2 (Committed Process) and level 3 (Established Focused Process) in terms of alignment maturity.	
Leslie [81]	Quantitative Research	After using the SAMM instrument, the current snapshot maturity level of LCGAs was 2.49 out of a maximum 5.0 level.	The study done on developed county context and on Local City Government Agencies
Naidoo [82]	Case study Research	overall average maturity level for VWSA was measured at 2.94, which corresponds to a level 2 alignment maturity	The study is a case study focused on the company VWSA
Chumo [83]	Quantitative Research	The research found out that Kenyan public universities have an alignment maturity score of between 2 and 3.	It was done on different public universities in Kenya and not on the banking industry.

Table 1: Summary of related works

CHAPTER THREE

Methodology

3.1 Overview of methodology

Several researchers have written widely on research methodology. The primary issue in most of the studies on research methodology is that the selection of methodology is based on the research problem and stated research questions. Methodologies cannot be true or false, only more or less useful [84]. Robson [85] for instance states that methodologies are considered to be systems of clear rules and procedures, upon which the research is based, and against which claims for knowledge are evaluated. Conducting any type of research should be governed by a well-defined research methodology based on scientific principles. Research methodology can be again defined as a method or way to systematically solve the research problem [86]. The researcher also defined methodology as the overall approach that supports the research process.

The research method is the important part of a research, because it helps researchers to decide how to achieve the specified objective, what data to collect, and how to collect and analyze the data in order to solve the target problems. Therefore, it needs much consideration on choosing the appropriate methods, which can provide the desired outputs.

This chapter discusses the research methodology. The chapter is organized in six sections. The second section discusses the research design. Target population and sampling method are presented in the third section. Methods of data collection and analysis are presented in the fourth and fifth sections. In the last section, validity and reliability is presented.

3.2 Research Design

The function of a research design is to ensure that the evidence obtained enables the researcher to answer the research questions as unambiguously as possible [87]. A research for academic purpose is usually undertaken to further enhance knowledge on a topic of interest to the researcher. There are three types of academic researches depending on the problem area and the nature of the phenomenon and based on the purpose of the research namely; exploratory, descriptive or explanatory [84].

Descriptive studies would be used in order to “describe an accurate profile of persons, events, or situations” [85]. A descriptive study can be considered as an extension of the exploratory study where it is actually necessary to begin the research by having a clear picture of the concept proposed. It is also appropriate for situations where a problem is clearly identified and the intention of the research is not to present the link between causes and symptoms.

In this research descriptive research specifically survey research was used, because it enables the researcher to describe the current state of IT-business alignment maturity at each sample commercial bank and also to make comparison between private and public banks. Moreover, Zegeye et.al, [88] stated that “Surveys gather data at a particular point in time with the intention of describing the nature of existing conditions, or identifying standards against which existing conditions can be compared.”

3.2.1 Research Approach

Researchers have three research methods to choose from when conducting research: qualitative, quantitative, and mixed methods. When describing the differences between qualitative and quantitative research approaches, Newman [89] noted that qualitative research reflected a phenomenon while quantitative research indicated universal reality. Leedy & Ormrod [90] supported Newman’s assertion by describing how quantitative research answers relationship questions, qualitative research answers natural phenomena questions, and a mixed research approach answers questions of both the relationship and the phenomena. Researchers have used all three methods to study ITG and business strategies [81]. Quantitative studies are deductive while qualitative studies are inductive. Conversely, inductive or qualitative reasoning makes a generalization based on events. So, this research used mixed method to answer the research question.

3.2.2 Study Setting

The geographical coverage of this research is limited to Addis Ababa city since the head quarters of all selected organization are located in the capital city. The data was gathered from IT and business professionals and managers at the head offices of sample commercial banks.

3.3 Target Population and Sampling Method

To address the research questions of this study, two private and one publicly owned banks was selected. The prime reason for the selection of these organizations is that banks are IT intensive institutions (as indicated by the ITGI survey of 2008 where 77% assured that they depend on IT). The other reason is that they are highly regulated firms by the National Bank of Ethiopia (NBE) which is the Central Bank of the country that makes them the right institutions to secure relevant data for the study.

According to the National Bank of Ethiopia (NBE), currently there are 17 Commercial Banks (16 private and 1 publicly owned) operating in Ethiopia. The sample frame of this research was all the 17 Commercial banks (public/private) in Ethiopia [23].

Accordingly, this study employed purposive sampling technique to select the required sample of banks from commercial banks in Ethiopia. The selection criteria set by the researcher was first the banks are only commercial bank in Ethiopia. Second the bank being pioneer in implementing information and communication technology infrastructure and IT solutions [24]. In general, three banks (Commercial Bank of Ethiopia, Dashen Bank and Awash International Bank) were selected for data collection. Regarding target respondents, not all employees fit this study. Thus identifying those staffs that are responsible or have ample knowledge of the respected bank IT and business strategy and related tasks was mandatory. Hence, purposive sampling specifically expert sampling/Judgmental Sampling was used to select seventy five senior IT and business expertise/managers to participate in the survey. Target key informants were division heads and experts (i.e. IT division heads, IT Managers, and CIO or parallel position) and executives, business unit managers and business expertise (Planning & Strategy Management) since they are the stakeholders in IT and Business strategies. Purposive sampling was used because participants were selected based on their insight or special perspective and experience on the issue under investigation. Then the questionnaires were distributed to this staffs purposefully.

Regarding the interview, because of the flexibility of approach to questioning, semi-structured interview was designed and conducted with two senior managers of the respective departments. I.e. The primary data was collected through interviewing senior management staffs.

3.4 Method of Data Collection

Both primary as well as secondary source of data were used to conduct the research. Primary data was collected using self-administered questionnaire and semi-structured interview. Secondary source of data, like corporate business strategy, policies, procedures, IT organization structure, corporate governance structure, job descriptions, annual reports and the website of the company were used to triangulate as well as complement the survey result. Since multiple ways of gathering information can supplement each other and hence boost the validity and dependability of the result [91].

3.4.1 Data Collection Instrument Development

3.4.1.1 Instrument Development

As it was mentioned in the method of data collection part, this research primarily used closed ended self-administrated questionnaire to collect data from senior business and IT expertise/leaders. Questionnaire was preferred because it is an efficient and economical way of gathering data from a large number of respondents anonymously (encourage respondents to provide genuine information) as well as relatively easy to analyze the data [87], [91].

Luftman and Kempaiah [31] suggested that business and IT alignment needs a tool that can provide an assessment of an organization's level of alignment and a roadmap on how to improve alignment. A broadly used framework for assessing business and IT alignment maturity is Luftman's Strategic Alignment Maturity Model (SAMM) [20]. This framework has been applied in several studies on business and IT alignment [92]. Thus, the survey questions for this research were formulated in accordance with the Luftman [20] SAM model, to determine the organizations Business-IT alignment maturity level.

SAMM is composed of six dimensions i.e., Communication maturity, Competency/value measurement maturity, Governance maturity, Partnership maturity, Scope & Architecture maturity, and Skills maturity. Each of these components is gauged by five levels of scales. Level 1 (Initial/ad-hoc Process), Level 2 (Beginning/Committed Process), Level 3 (Established Process), Level 4 (Improved Process) and Level 5 (Optimized Process). According to Luftman and Kempaiah [31], Level 1 ranges 1.0 - 1.991, Level 2 ranges 2.0 - 2.992, Level 3 ranges 3.0 - 3.593, Level 4 ranges 3.60 - 4.504 and Level 5 maturity average > 4.50. The definitions of the five levels of alignment maturity are briefly discussed in the literature review subsection 2.3.3.5.

In addition to the questionnaire, semi-structured interview was conducted to complement and triangulate the findings of the survey. Semi-structured interview was preferred because it enables the researcher to elicit a great amount of firsthand data from knowledgeable key informants like CIO or parallel position [91].

3.4.1.2 The Rationale to select the SAM Model

As in the previous section discussed there are various reasons for the selection of the Luftman's Strategic Alignment Maturity Model for the purpose of this study. However, the main arguments are the following:

Firstly, existing IS/business alignment assessments are either theoretical conceptualizations or particular studies that cannot be applied generically in several organizations [93]. Hence, SAMM, on the contrary, is a practical method for analyzing organizational maturity of IT/business alignment by means of ranking management practices within five levels of maturity. Each of these levels is subdivided into six factors and each factor is subdivided in a set of management practices, also called attributes. The five levels of maturity are derived through the assessment of the qualities of the attributes associated with each criterion.

Secondly, the SAMM has been enriched from previous research and is still generating research interests. The SAMM is originally based on the strategic alignment model (SAM) [5] but, in comparison to the latter, it covers additional factors, for instance organizational value creation. This approach for assessing, achieving and maintaining alignment suggests a dynamic paradigm process to understand alignment [93], [94]. Maturity assessment is based on the popular work done by the Software Engineering Institute's (SEI) Capability Maturity Metric (CMM) and an evolution of the Nolan and Gibson stages of growth [95].

Thirdly, SAMM has recently been tested and validated [96]. Their findings show that the SAMM can be used as a reliable diagnostic tool to improve the maturity levels of IT/business alignment. Gutierrez et al. [97] also validates SAMM's reliability. The authors analyze the significance of its factors against organization size and indicate that the six factors are significant for either large, medium or small organizations.

Moreover, the SAM framework first published by Luftman [20], has received strong receptivity among IT researchers and practitioners from around the globe [98]. This framework provides a comprehensive view of IT business alignment, and has been validated by extensive research [20], [99]. This instrument has been used in over 2,000 organizations

within the United States. Chen [27] noted that the reliability and validity of this instrument are much higher than the benchmark requirements.

3.5 Methods of Data analysis

The quantitative data which are collected using questionnaire has been analyzed using the Statistical Package for Social Sciences (SPSS) version 24 and Ms Office Excel 2007. The sample within this study was described using descriptive statistics. Summary statistics had presented by the mean, frequency of distribution and graphs (radar and line charts). Radar charts are used to display multivariate observations with an arbitrary number of variables. Then the result complemented and triangulated with the data from interview and key document review to answer the research questions.

3.6 Validity and Reliability

Validity and reliability are the two fundamental elements in the evaluation of a measurement instrument. Validity indicates the degree to which an instrument measures what it is supposed to measure [87]. There are different content validation approaches discussed by several authors. One approach discussed by Hyman et al. [100] is using pre-existing questions of similar studies. One advantage of using this approach is that they will have been extensively tested at the time of first use. Hence, the degree of validity and quality of data are likely to be high. Therefore, the questionnaire in this study was adopted from Luftman [20] SAMM instrument and the questions were rephrased to understand easily by the respondent.

Prior to final questionnaire distribution pilot test has been conducted on nine respondents to check the questions, whether they are good enough to meet the research objective or not. According to Connelly [101], a pilot study sample should be at least 10% of the sample projected for the study. In this research, 12% of the sample size was used to test the reliability of the instrument (questionnaire).

The reliability of the pilot test is ensured through reliability analysis with the help of Cronbach's Alpha, with the score 0.937. Normally Cronbach Alpha test are considered reliable if the test result is greater than 0.7 as SPSS statistics manual [62]. In this regard, the Cronbach's alpha for this study shows the items are reliable and the entire test or questions are internally consistent. See (Appendix C) for Cronbach's Alpha results of each component.

Summary -Reliability Statistics

		N	%	Cronbach's Alpha	N of Items
Cases	Valid	9	100.0	.937	39
	Excluded ^a	0	0.0		
	Total	9	100.0		

a. Listwise deletion based on all variables in the procedure.

Table 2: Pilot Test Cronbach's alpha Case Processing (Source: Survey result, 2017)

Finally, while distributing the questionnaire to the respondents, the researcher distributed 75 questionnaires and obtained 65 responses. During data encoding out of the 65 returned questionnaires 63 of them were found useful and the rest were significantly incomplete. This shows that response rate of 84% was achieved. Among 63 questionnaires, 28 were collected from Commercial bank of Ethiopia (CBE), 21 from Dashen bank (DB) and 14 from Awash International bank (AIB).

CHAPTER FOUR

Data Presentation and Interpretation

4.1 Overview

In this section, we presented the data analysis and results in the case of the three commercial banks. For the assessment of the strategic alignment maturity we have used the Luftman Strategic Alignment Maturity Model (SAMM) [20] as a framework which has six criteria/components (Communications, Competency/value measurement, Governance, Partnership, Scope & Architecture, and Skills) Maturity and use a scale of Level1 (Initial/Ad-hoc Process) to Level5 (Optimized Process).

4.2 Data presentation

4.2.1 Demographic data presentation

Demographic information needs background of the respondents to understand the employees or respondents who participated in filling the questionnaire for this research. The Six demographic variables namely Gender, Age, Education Status, Work Experience, Position and IT/Business strategies and related training /certificates were used to collect respondent's profile.

Descriptive statistics indicated in Table 3, Male formed 82.5% and Female 17.5% of respondents. This shows that there is gender gap in the area of study in the banks.

		Frequency	Percent	Cumulative Percent
Valid	Male	52	82.5	82.5
	Female	11	17.5	100.0
	Total	63	100.0	

Table 3: Gender distribution of the respondents

When we see respondents by age range, majority of the respondents with equal percent of (42.9%) fall in the age (between 25 and 30) and (between 31 and 40) followed by 11.1 % of them between the age of 41 and 50. This shows that more than 54% of the respondents are above the age range of 31 years. In such kind of study, in addition to their experience, the maturity of age may matter the significance of the result.

		Frequency	Percent	Cumulative Percent
Valid	<25	2	3.2	3.2
	25-30	27	42.9	46.0
	31-40	27	42.9	88.9
	41-50	7	11.1	100.0
	Total	63	100.0	

Table 4: Ages of the participants

Considering education as Table 5 below depicts, 27 % of them had master's degree and 73% of them had bachelor degree. However, there is no respondent involved who hold PhD.

		Frequency	Percent	Cumulative Percent
Valid	BSc	46	73.0	73.0
	MSc	17	27.0	100.0
	Total	63	100.0	

Table 5: Level of Education of the participant

Table 6 shows that 49.2% of respondents were IT professionals followed by business professionals (19%). Also 12.7% of respondents were IT managers and 6.3% were Business managers. The objective of this question was to ensure that the information provided was given by a person knowledgeable enough to evaluate the maturity of IT/Business alignment in the respected bank they represented. Most of the respondents were mainly in charge of information system while the others had from business unit.

		Frequency	Percent	Cumulative Percent
Valid	IT Manager	8	12.7	12.7
	IT Professional	31	49.2	61.9
	Business Manager	4	6.3	68.3
	Business Professional	12	19.0	87.3
	Other	8	12.7	100.0
	Total	63	100.0	

Table 6: position of the participants

Regarding work experience as Table 7 below shows that the majorities (81%) of the respondents have greater than 2 years of work experience in the current position. and 19% have less than 2 years experience. Since the research select samples from specific department

(Business and IT) and concerned on studying maturity, having more experience in the current position plays great role for the appropriateness of their response.

		Frequency	Percent	Cumulative Percent
Valid	<2	12	19.0	19.0
	2-5	33	52.4	71.4
	6-10	11	17.5	88.9
	>10	7	11.1	100.0
	Total	63	100.0	

Table 7: Experience of the participants on current position

Table 8 shows that the vast majority (73%) of the respondent have taken related trainings (IT and Business Strategic planning, IT Governance...etc). And only 27% of the respondents haven't taken any related trainings. Which increase the familiarity of respondents in the area of study (IT/Business alignment).

		Frequency	Percent	Cumulative Percent
Valid	No	46	73.0	73.0
	Yes	17	27.0	100.0
	Total	63	100.0	

Table 8: Related training taken

In general, as the demographic data shows most of the respondent profile like educational status, work experience and training taken have highly contributed to the infallibility of the results of the survey.

4.2.2 Analysis of IT-Business alignment maturity in the banks

As described on the previous sections the study conducted based on the Strategic Alignment Maturity Model. Figure 7 below depicts the overall average result of IT-Business alignment maturity assessment of the commercial banks on the six components of SAMM framework. The result shows that the overall average alignment maturity is 2.48 which is approximately reach to the average value based on the SAM Model maturity measurement scale of Level1 (Initial/Ad hoc Process) to Level5 (Optimized Process).

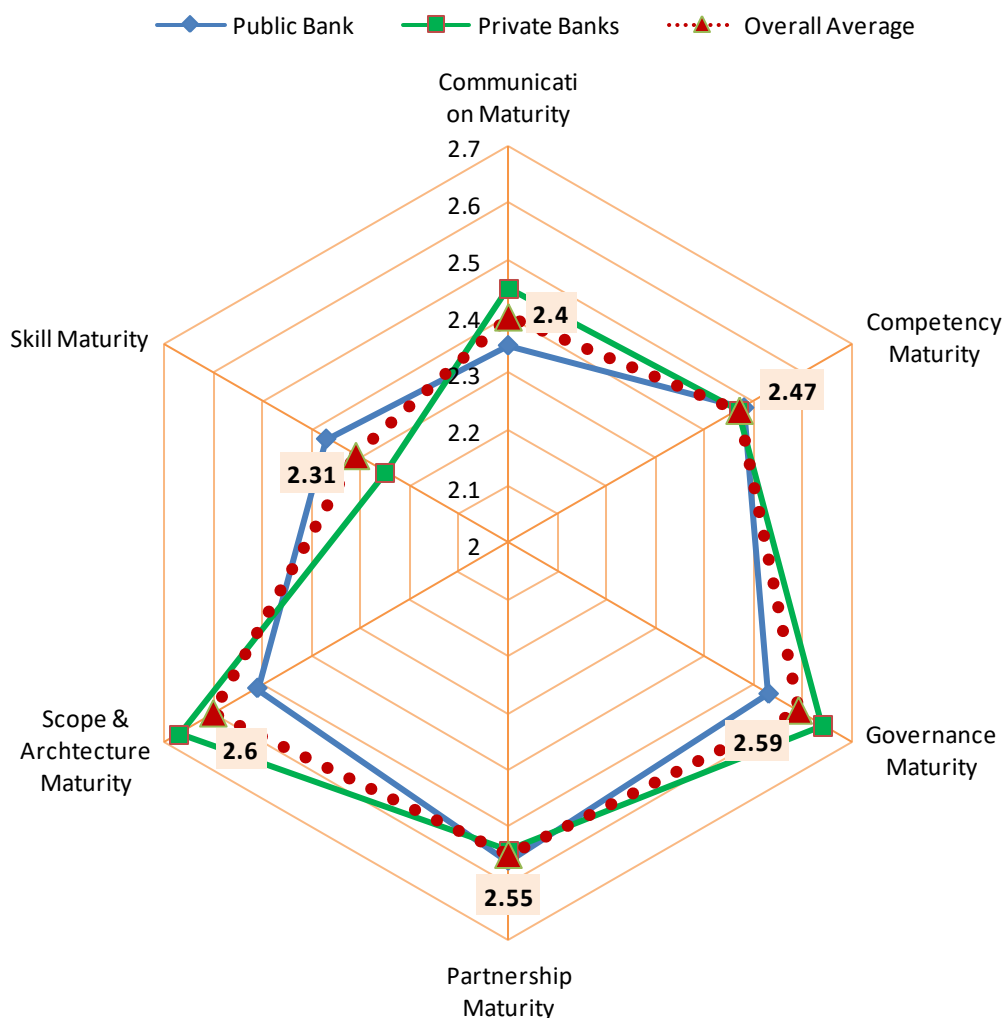


Figure 7: Overall IT-business alignment maturity of banks (Source: Survey result, 2017)

The scores of the variables show relatively high score of mean value 2.60, 2.59 and 2.55 on 'Scope & Architecture', 'Governance', and 'Partnership' components respectively where as relatively low score 2.31, 2.40 & 2.47 on 'Skills', 'Communication' and 'Competency' respectively.

The result indicates that all the six components are laid at level 2 (Beginning/Committed Process). However, some factors are above the average and the others are below the average of the five scales.

Regarding on the comparison of public and privately owned banks, the average maturity of IT-Business alignment in the publicly owned bank is 2.46 where as in private banks are 2.49.

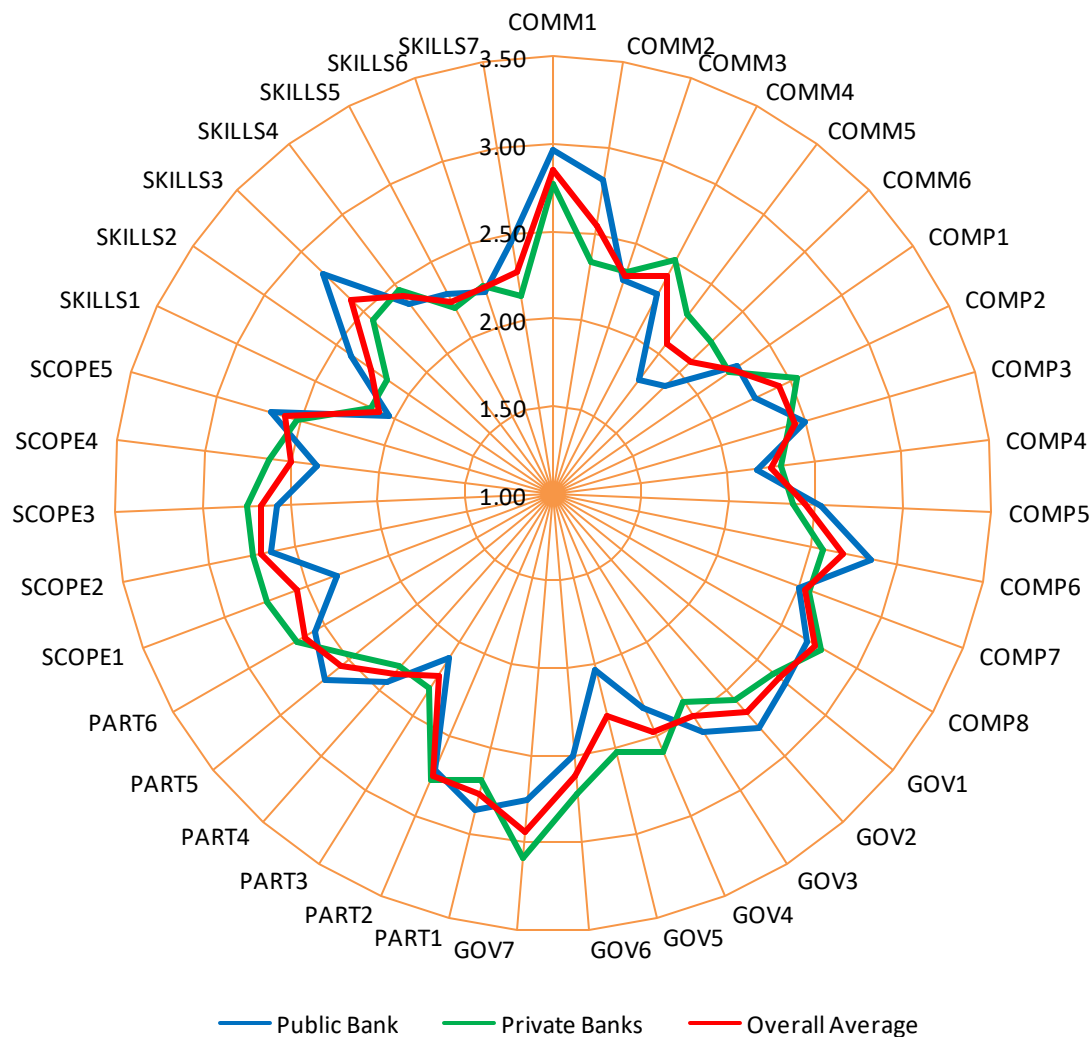


Figure 8: Comparison of Strategic IT-Business alignment maturity between Public and Private Commercial Banks (Source: Survey Result, 2017)

As shown in Figure 8, most of items in both sectors have almost similar level. However, in some items there is significant difference. In COMM1 (Understanding of the business by the IT Function), COMM2 (Understanding of IT by the business), COMP6 (Formal assessments following the implementation of an IT investment or project) and SKILL3 (organization’s readiness for change) publicly owned bank has relatively high maturity where as in COMM4 (Communication style used within the organization), COMM5 (knowledge sharing through the organization), COMM6 (Use of IT business liaisons), and in most of 'Governance' and 'Scope & Architecture' variables the private banks have relatively better alignment maturity than that of the public bank.

In general, the result shows that the banks had met many of indicators in the six strategic alignment maturity factors for Level 2 which characterizes them as having committed to begin the process for Strategic Alignment Maturity. This level of Strategic Alignment Maturity tends to focus on functions or departments (e.g., Marketing, Finance, H/R) within the overall organization.

4.2.3 Analysis by the six components of the framework

As previously described, the SAMM framework is composed of six components which contains different items to measure the maturity of strategic alignment. The components are Communication Maturity, Competency Maturity, Governance Maturity, Partnership Maturity, Scope & Architecture Maturity and Skills Maturity. The results for each measured criteria at the given organizations are reflected below and a description of the results is outlined. The items in each component are abbreviated for the ease of analysis. See (Appendix A) for the full description.

4.2.3.1 Communication Maturity

In the overall score as Figure 7 above shows ‘Communication’ is least matured component of the SAM Model after the ‘Skills’ maturity component. This shows that, it has a significant effect on the reduction of the overall maturity level of the organizations.

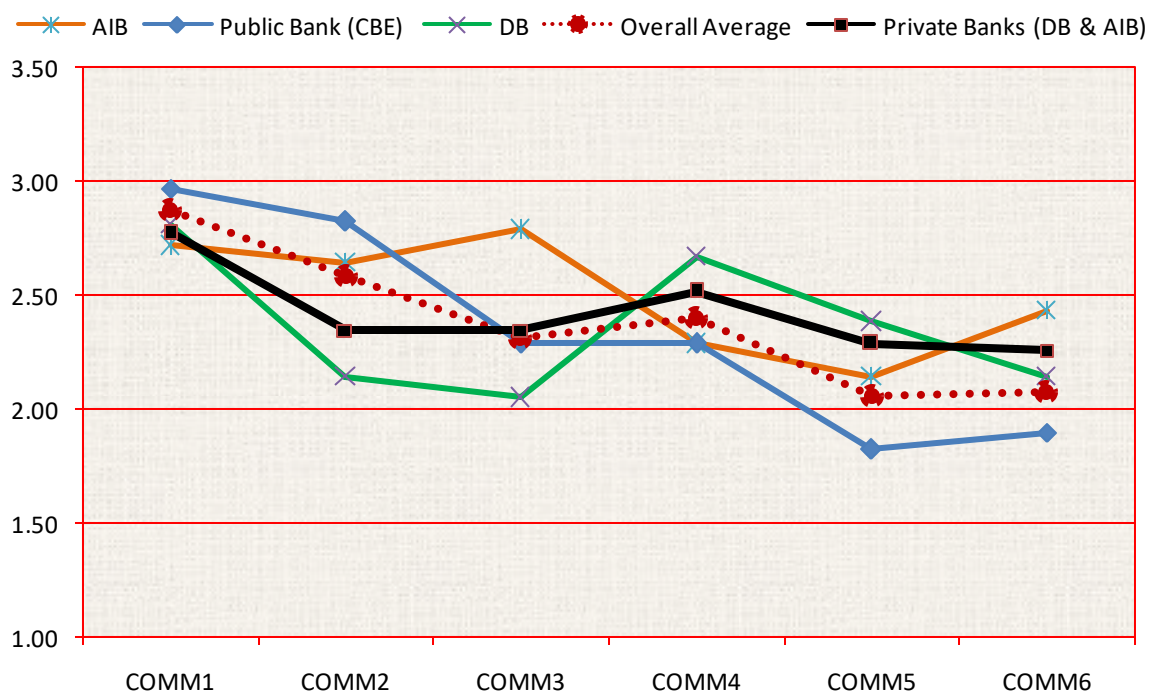


Figure 9: Communication Maturity of Commercial banks (Source: Survey Result, 2017)

As the Figure 9 above clearly shows, the overall average value of items of 'Communication' component have a significant variation from Level 2 "Beginning Process" to Level 3 "Establishing Process". COMM5 (knowledge sharing through the organization) and COMM6 (Use of IT business liaisons) have the least maturity mean value of 2.08 & 2.10 respectively, which is more or less equal to level 2 "Beginning/committed Process".

The other two items COMM4 (Communication style used within the organization) and COMM3 (Degree of richness of methods used for organizational learning) have medium score 2.31 & 2.40 respectively. COMM1 (Degree of Understanding of the business by the IT Function) & COMM2 (Degree of Understanding of IT by the business) have relatively better alignment maturity than the other items with mean score of 2.86 & 2.56 respectively, which is above the average score of the SAMM on 1 to 5 scales. This shows that IT and business professionals are beginning to understand each other. However, there is limited knowledge sharing among the employee.

The Interviewee stated that about their communication practices:

In our bank there is a process council committee which formed by the representative of each units (business & IT). This committee meets within two weeks or ones a month based on new issues from each unit. And also recently some special meetings like quarterly meetings are setting up. In such occasion both the IT and Business representatives will attend and discuss on each cases. However, honestly speaking there is a gap in understanding the task of the other unit. Instead of that, the business units forward their request when they need something from the IT and the IT also does the same.

Another interviewee added that:

Currently our bank is striving to accomplish business growth & operational excellence. However, IT unit specifically concerned on attaining operational excellence. So as to achieve this goal we formulate different initiatives and which in turn creates discussion between the two units (IT and business). Based on that, we meet ones a month to check the status of the activity.

As the result portray knowledge sharing through the organization and use of IT-business liaisons in the public bank are less matured and lay down at level 1 (initial/ad hoc process). However, in understanding of the business by the IT function & understanding of IT by the

business function, the public bank has better maturity than the privately owned banks. So that the bank can use this opportunity to enhance the knowledge sharing practice by setting up appropriate mechanism.

4.2.3.2 Competency Maturity

Figure 10 shows a graphical summary of responses for all “Competency” attributes based on the mean value of 1 (Initial/Ad hoc Process) to 5 (Optimized Process) scale of the model. COMP1 (Metrics & processes used to measure ITs contribution to the business) and COMP4 (Degree of service level agreements (SLAs)) have the lowest maturity with the same mean value of 2.25 followed by COMP2 (The use of business metrics to measure contribution to the business) with a mean 2.43 and then by COMP3 (Degree of the use of integrated IT and business metrics to measure ITs contribution to the business) and COMP5 (Frequency and formality of benchmarking practices), which have an equal value of mean 2.45.

The other items, COMP8 (Contribution of IT function to the strategic goals), COMP6 (Formal assessments following the implementation of an IT investment or project) and COMP7 (Continuous improvement processes in place to improve business-IT alignment) seem to have relatively the highest level of maturity with a mean value of 2.73, 2.71 & 2.54 respectively.

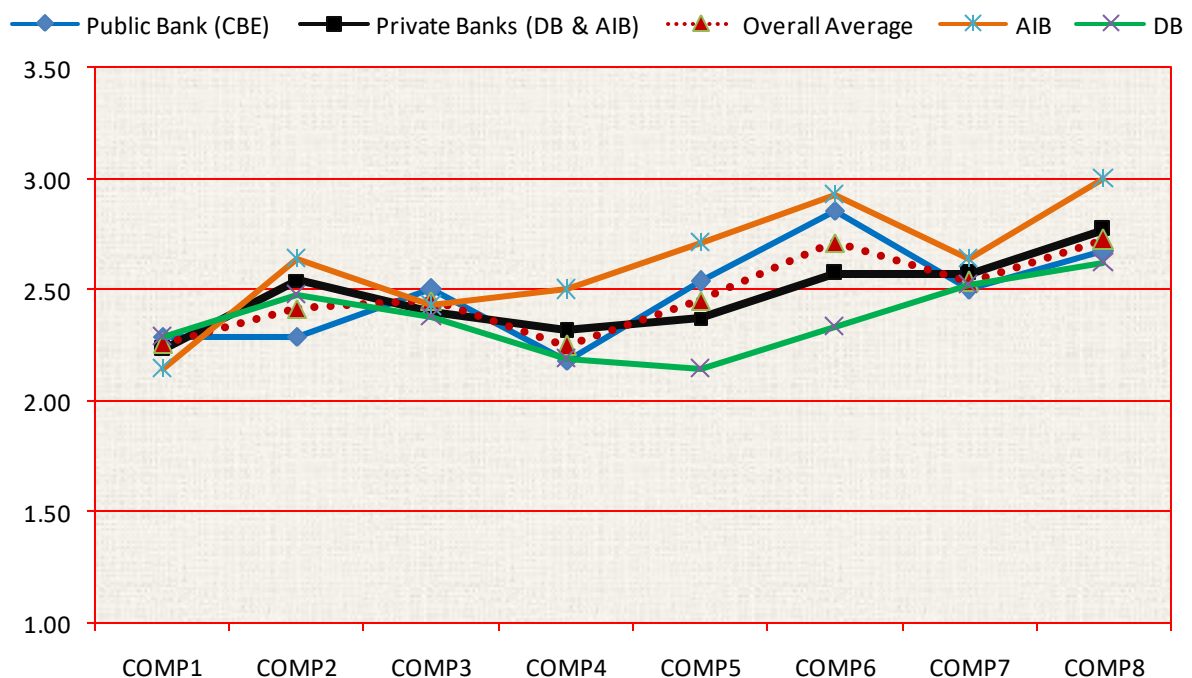


Figure 10: Competency Maturity of Commercial banks (Source: Survey Result, 2017)

The interviewee described that about metrics:

In the bank IT seen as shared service provider. It has interaction from both the Internal (Business units) and the External (Vendors/Third Parties). For this reason it signs different agreements among them. From the vendors perspective we are already using SLAs (Service Level Agreement). However, for the internal processes there is a project on progress to implement ITIL (Information Technology Infrastructure Library) framework which facilitates the service management of the bank. The framework has OLA (Operational Level Agreement) which helps to sign up with the internal processes.

This shows that there are lacking in the use of service level agreements between business and IT. This requires formal definition and acceptance by business, the customer and IT, the service provider related to the service delivery time or performance to ensure effective business process operation. The view from the business and IT is that the service level agreement will ensure that there is a common understanding about services, priorities and responsibilities supporting the relevant business processes. There is however an emerging consensus that business and IT having worked on projects together to develop business cases and project reviews has improved the understanding of each other's areas.

4.2.3.3 Governance Maturity

As Figure 7 above depicts the overall average maturity of the banks, 'Governance' has higher maturity mean value of '2.59' next to the 'Scope & Architecture' component of the model. IT Governance measures how much IT decision-making authority is defined and shared among organizational units and how much both IT and business managers participate in setting priorities for allocating IT resources. Governance also involves managing external partners and ensuring regulatory compliance. Governance is not just about specific decisions. It is about the underlying principles. i.e., who makes the decisions, why, and how? Governance maturity increases as the processes for integrating business and IT priorities, planning, and budgeting become more efficient and effective.

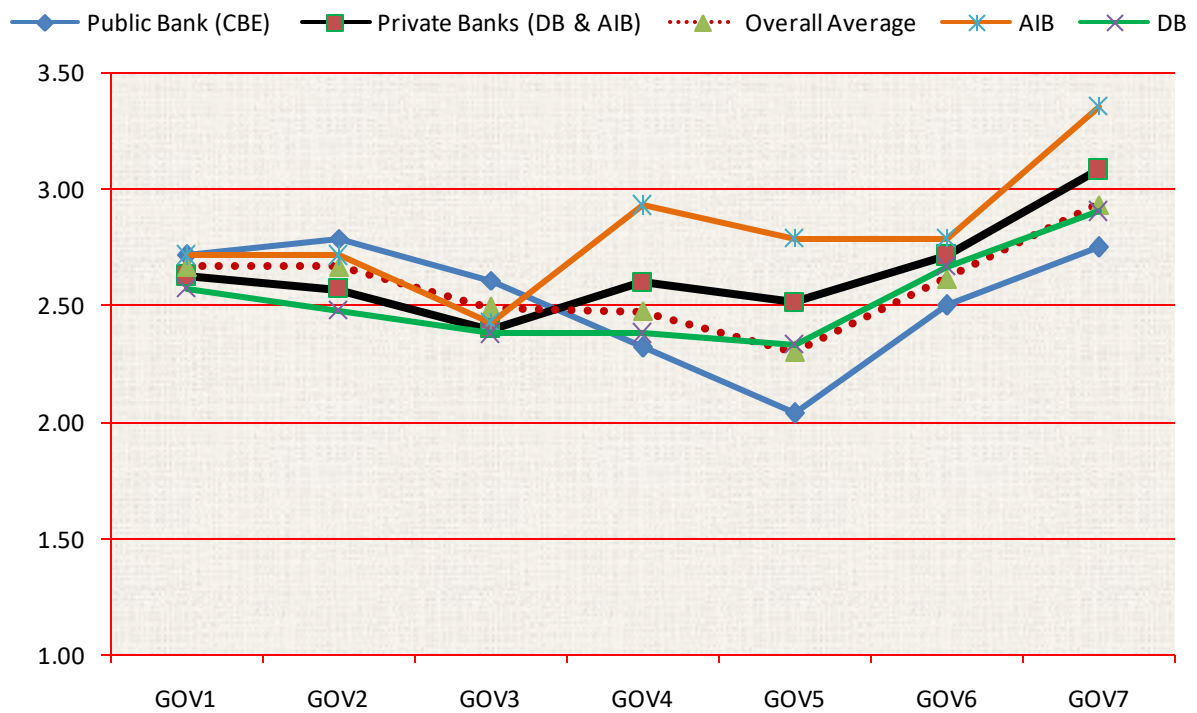


Figure 11: Governance Maturity of Commercial banks (Source: Survey Result, 2017)

For the obtained result, each variables of the ‘Governance’ component has their own significant effect. Figure 11 shows Gov7 (IT function responsiveness to changing business needs) has a mean of 2.94, which is relatively the most mature than other elements and Gov5 (Frequency of meeting IT steering committee(s) with senior level IT and business management participation) has a mean value of 2.28, which is the least mature item in the component. The other elements have relatively moderate value of mean.

The figure also shows that private banks have lowest maturity level at GOV3 (Basis of budgeting IT resources) where as public bank has at GOV5 (Frequency of meeting IT steering committee(s) with senior level IT and business management participation). As well as, the public bank have highest maturity at GOV2 (contribution by Business during IT strategic planning) and private banks have highest maturity level at GOV7 (IT function responsiveness to changing business needs).

Concerning the IT steering committee, the Interviewee mentioned that:

Actually, the bank has Project management office (PMO) that mainly established to handle and control projects. In the PMO there is an IT project Steering committee whose responsibility is in coordinating and managing IT Projects. However, this committee is not involved in the strategic IT planning and alignment issues.

Another interviewee also stated:

The IS Process have its allocated budget and just treated as cost center. And the projects are prioritized by the IT and Business managements based on their urgency to the work. However, the business managers usually dictate the IT in prioritizing it.

As the result indicates, even if there is an IT project steering committee who are responsible for the project work, there is no formal IT steering committee exist at executive or senior management level that mainly concern on IT governance and strategic alignment of IT and business. This inhibits the involvement of the CIO and other IT professionals in all steps of planning, implementation, and evaluation of business strategies and business outcomes.

4.2.3.4 Partnership Maturity

Partnership Gauges the relationship between a business and IT organization, including IT's role in defining the business's strategies, the degree of trust between the two organizations, the sharing of risks and rewards, and how each perceives the other's contribution. The 'Partnership' criterion of Luftman's SAM model is probably the most intangible 'pillar' of BIA, as it covers the (shared) visions, perceptions and goals of business and IT executives. As the overall result shows above 'Partnership' is the most rated factor at the third stage next to 'Governance' with a mean value of 2.55.

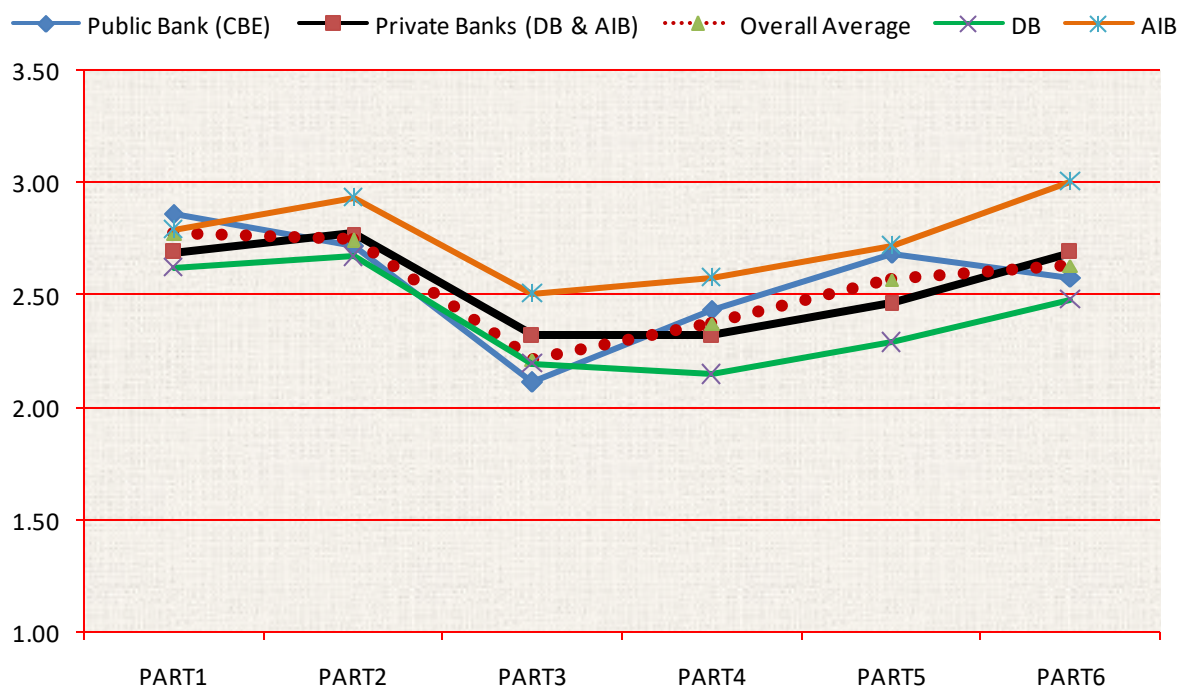


Figure 12: Partnership Maturity of Commercial banks (Source: Survey Result, 2017)

Figure 12 depicts that, PART1 (IT is perceived by the business), PART2 (The role of IT in strategic business planning), PART6 (Business sponsors/champions) & PART5 (IT and Business relationship and trust) have relatively the highest level of maturity with a mean of 2.77, 2.74, 2.63 & 2.54 respectively. On the other hand PART3 (Integrated sharing of risks and rewards associated with IT-based initiatives) and PART4 (Formality & effectiveness of partnership programs between IT & business) have relatively lowest maturity level with a mean value of 2.21 & 2.37.

The Interviewee noted that

In fact, the perception of IT by the business is changing dynamically. The Previous view of the bank was left IT on the corner and only seen as a support provider. However, after the organization of IT as IS Process like other Business units and lead by VP (Vice President), its acceptance also enhanced which creates an opportunity to communicate with other business units and improve the relationship between the departments. But still there is a wide gap in fully involving IT in the organization's strategic planning.

The interviewee also stated that business units are giving recognition for the IT since most of their tasks are becoming dependent on IT. They understand what happened when something like network or system failure occurs.

This shows that the business are realizing and perceiving IT is vital for enabling their business processes. However, there are limitations in pertaining formality of this relationship and sharing risks and rewards with IT-based initiatives.

4.2.3.5 Scope & Architecture Maturity

As described above in Figure 7 'Scope & Architecture' is the first most matured component of the six components in the Strategic alignment maturity (SAM) model. It rated a mean value of '2.60'. Scope and Architecture is the only technical component in the model. It indicates how well IT provides a flexible infrastructure, introduces emerging technologies, fosters business process change, and delivers value to the business, customers, and partners. As business executives recognize the importance of integration across their enterprise and external partners, they realize the importance of understanding how to leverage information technologies to carry out their business strategies.

In this component, all items except SCOPE4 (The level of disruption caused by business & IT changes) have relatively higher value or above the average value of '2.50'. SCOPE4 have a mean value of 2.49.

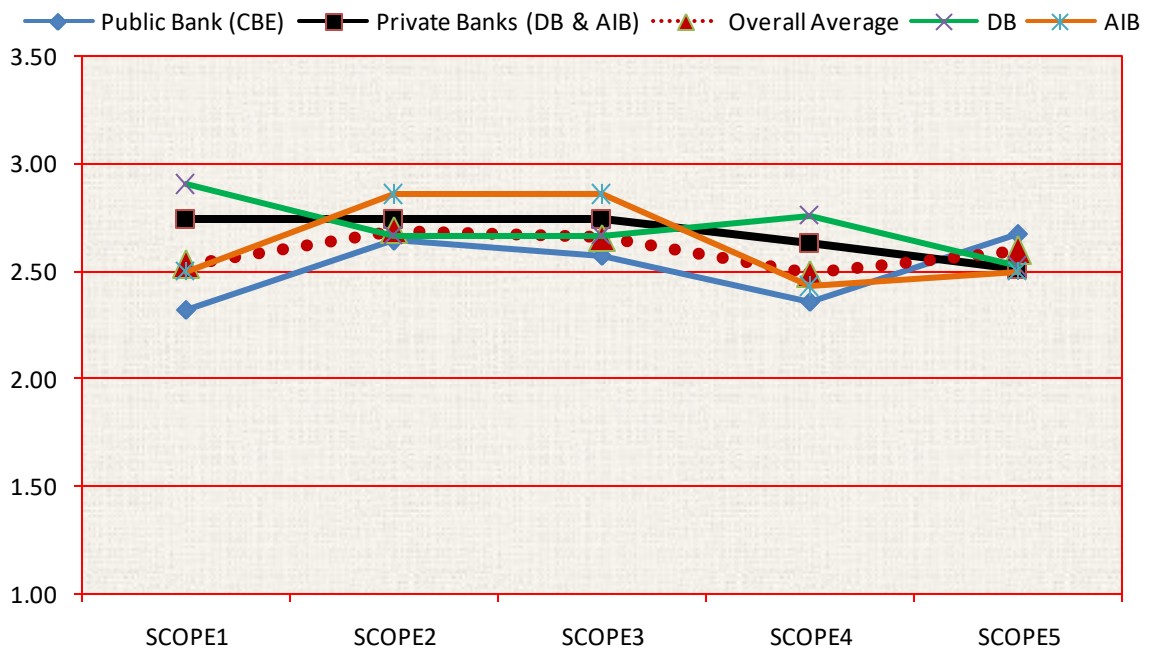


Figure 13: Scope & Architecture maturity of commercial banks (Source: Survey result, 2017)

One interviewee noted that, there is beginning of process on the Scope & Architecture maturity:

“... In our bank one of the most budget allocated unit is the Information System Process. From which IT Infrastructure took a lot. Now our branch banks are connected by a network and communicating easily. Introducing innovative technologies like internet banking, card banking and mobile banking etc. also paying attention. And we are also implementing ERP (Enterprise Resource Planning) software, which will enable us to integrate our internal processes. But, still remaining a lot of works at standard articulation and strategic works”

This indicates that the banks have relatively better achievement in all items of this component than the other components. Moreover, the result shows that the organizations have good initiation in improving their service with the ever changing technologies.

4.2.3.6 Skills Maturity

As the radar diagram above indicates the overall average maturity of the ‘Skills’ is ‘2.31’ which are the least of all other maturity components of the model.

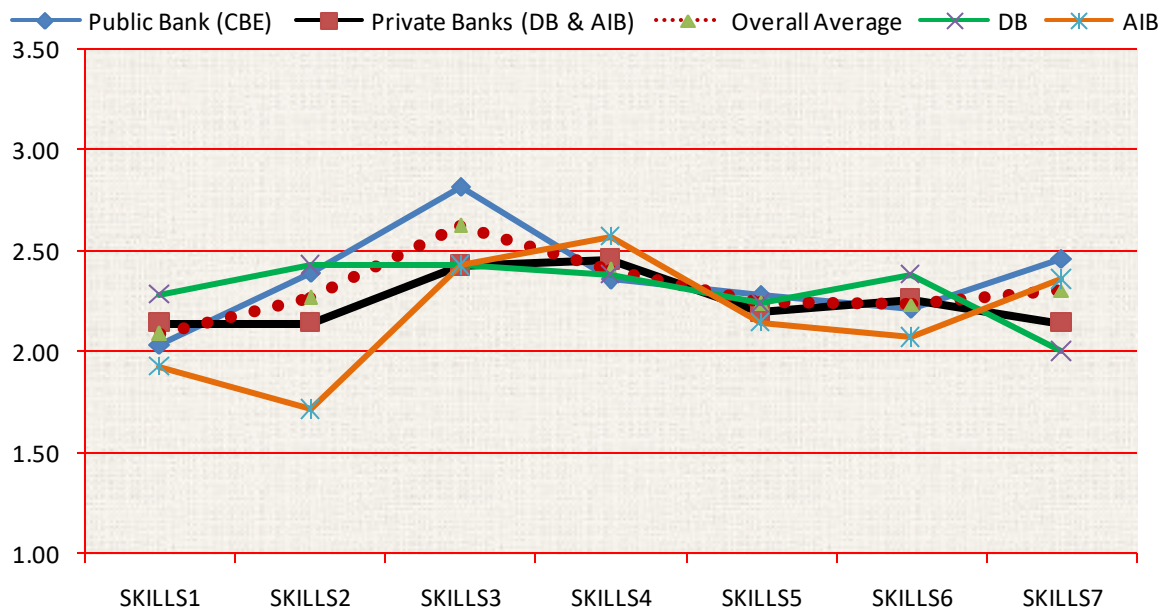


Figure 14: Skills Maturity of Commercial banks (Source: Survey Result, 2017)

Figure 14 shows, out of the seven items only one namely SKILL3 (organization’s readiness for change) achieved the highest alignment maturity score of the ‘Skills’ component having a mean value of ‘2.63’ where as the other items rated as almost the same mean value between 2.00 (Beginning process) and 2.5.

Regarding the organizations skill development, previous researcher found that there is limitation in the development of employees’ skill in the financial sectors of Ethiopia.

“Cross training, collocations as well as job rotation between business and IT not practiced in both sectors (bank and insurance); this leads to limited mutual understanding between business & IT leaders and lower level of knowledge sharing.” [79].

These implies that there are no well-organized mechanisms to improve the skills of the employee especially on the IT and business strategies of the bank.

The interviewee from IT manager also concurs that:

Based on the existing trend, we have no prescribed way of choosing trainees for appropriate training to develop the skill of the employees. We propose training when we suppose it is necessary and acquired it. However, at this time there is an ongoing

project to implement a framework. The framework called SFIA (Skill Framework for Information Age) is developing by foreign consultant (Tech Mahindra). The prime intension of the framework is to show what looks like the career path of each employee and categorize each employee based on their skills, position level and so on which makes easy to identify skill gaps and give appropriate training for the right person.

The result suggests that, the banks are providing less attention in the development skill of their employees especially in offering crossover trainings and job rotation which can serve as a mechanism to know each other's task. However, the banks are trying to look up the ways that alleviate the problem. This helps to attain a better level of maturity on IT-business alignment.

4.3 Discussion of Findings

In previous section the maturity of IT-Business alignment of commercial banks in Ethiopia were presented based on the six dimensions of Strategic Alignment Maturity (SAM) Model. i.e. Communication maturity, Competency maturity, Governance maturity, Partnership maturity, Scope & Architecture maturity and Skills maturity. The model also uses a five scale measurement with Level 1 – Initial/Ad-hoc Process, Level 2 – Beginning/Committed Process, Level 3 – Established Process, Level 4 – Improved/Managed Process, and Level 5 – Optimized Process.

The study reveals the following key findings that are important to improve the maturity of IT-Business alignment of the commercial banks that operate in Ethiopia and to gain a competitive advantage of the industry through effective utilization of its IT infrastructure and skilled man power resource. The findings are discussed here based on the research questions that are described in the first chapter.

The primary research question of the study was what is the maturity level of IT-Business alignment of the commercial banks in Ethiopia based on SAM model? Regarding to this, the overall average maturity of IT-Business alignment was rated 2.48 (Between Level2/Committed Process and Level3/Established Process) based on the Strategic alignment maturity (SAM) model. The result shows that the banks are at lowest level of maturity or approximately below the average value. The maturity level concurs with Danjou [81] who found that the average maturity level of LCGAs was 2.49.

For this result all variables of the model have their own contribution. As the average maturity level of the alignment indicated, the sample banks scored relatively better in 'Scope & Architecture', 'Governance' and 'Partnership' components with a mean value of 2.60, 2.59 and 2.55 respectively. The scoping activities include among others shared application development considerations, standards articulation, architectural integration and architectural transparency, agility principles, and activities that promote infrastructure flexibility [20]. Weill and Broadbent [102] suggest that firms with an IT infrastructure that links their business units and integrates their different business processes have stronger revenue growth than those firms that have a less extensive IT infrastructure. Currently the banks in focus are insisting to implement innovative technologies (like Internet Banking, Mobile Banking, Card Banking, etc.). And also as the interviewee noted that they are striving to integrate all internal core processes by implementing ERP (Enterprise Resource Planning). Concerning

governance maturity the result shows that the IT allocated budget for its functional unit and considered as cost center. The IT managers have the chance to participate in prioritizing IT projects and decision making. But, most of the time dictated by the business managers. Which may lead the banks for extra cost and wasting time of the employees in gratuitous work.

Partnership is also fundamental for the IT function to directly collaborate with the business functions which can create mutual trust, create realistic expectations, and build effective relationships. In the bank, Management interactions between IT and the business tend to be transaction-based rather than partnership-based, and IT spending relates to basic operations.

On the other hand Skill Maturity, Communication Maturity and Competency Maturity have relatively a low maturity level with a mean value of 2.31, 2.40 and 2.47 respectively. The result shows that at the function level, there is no career crossover between the business and IT. And also IT management considers technical skills the most important for IT. This agree with Tagel's finding he noted that "Cross training, collocations as well as job rotation between business and IT not practiced in both sectors (Banks and Insurance); this leads to limited mutual understanding between business & IT leaders and lower level of knowledge sharing." [79]. One of the main reason for the lack of alignment between IT and business strategies in the banking industry have included a general lack of communication and collaboration between business and IT leaders about strategy. The respondent determined their strategic alignment maturity for 'Communication' was at a Level 2. This implies that the bank's IT-business communications were primarily at the divisional level and there was a limited understanding of what IT can do for the business, resulting in information systems being underutilized. Regarding knowledge sharing, No formal knowledge sharing mechanisms existed. The result also matches the finding of [79], in which he noted that "Communication and collaboration between business and IT leaders at strategic, tactical and operational level and mutual understanding between business and IT are at lower level in both banking and insurance sectors". Another researcher also confirmed that "Most of the time knowledge is shared informally through one to one personal interactions. When employees encounter a problem, they contact a person who has an experience in their task." [103].

The result is in line with the average scores found by Luftman & Kempaiah [31] at financial industries whose maturity was at Level 2. And also 'Scope and Architecture' scored the highest of the six, while 'Skills' scored the lowest as the same as this study. This implies that

financial institutions are investing huge amount of resource and concerning more in the implementation of new technologies and improving their IT infrastructures. However, they gave less attention in the developing of the skill of their employees. Especially in facilitating opportunities for cross functional training and job rotation which have a great role on the attainment of better alignment between IT and business.

The next research question was which bank (private / public) reached better level of maturity of IT-Business alignment? As the analysis section showed in detail in some variables public bank has highest score where as on the other variables private banks have better alignment maturity. Public bank has relatively better maturity on Competency, Partnership and Skill components. Whereas, Private banks have better achievement on the components Communication, Governance and Scope & Architecture. However, the average result reveals the maturity of IT-Business alignment in both public and private banks fall on Level2 (Committed Process). This implies that both the private and public sectors have to work hard to improve this lower level of alignment. In addition to that, they have to share best experiences that one has better achievement from the other on the practices of strategic alignment.

4.4 Summary

In this chapter, results from analysis of questionnaire and interview responses are presented. Mean value and different charts are used to display the results of commercial bank's maturity level of business and IT alignment based on six components of strategic alignment maturity model. It also complemented and triangulated by the interview response. The summarized findings indicate that the banks have overall average maturity of Level 2 (Committed/ Beginning Process). The result shows that the banks have relatively high score on 'Scope & Architecture', 'Governance', and 'Partnership' components and relatively low score on 'Skills', 'Communication' and 'Competency' components.

CHAPTER FIVE

Conclusion and Recommendation

The evaluation of a company's alignment status is a fundamental step in identifying actions necessary for enhancing the congruent relationship between business and IT, and to ensure that IT is being leveraged to provide value to the business. To integrate into a smoothly working business system and improve productivity, managers ought to align their Information Systems with the business strategy.

5.1 Conclusion

The purpose of this study was to assess the maturity level of IT and business strategies alignment within the banking industry. In doing so the study tried to analyze data that have been gathered through both primary and secondary sources. The research used SAMM (Strategic Alignment Maturity Model) as a framework to measure the status of alignment between IT and business in the sample banks, based on the six dimensions i.e Communication, Competency, Governance, Partnership, Scope & Architecture and Skills maturity of the model. The framework use a five level scales from level1 (Initial Process) to level5 (Optimized Process).

The research reveals that 'Skills', 'Communication' and 'Competency' components of alignment maturity have the least maturity level and which lead the banks to misalignment of IT and business. As the result shows that cross training, collocations as well as job rotation between business and IT are not practiced in the banks which causes for the limitation of understanding each other among IT and business staffs. Regarding competency/value measurement, IT metrics are focused at the functional level in the banks, and Service Level Agreements (SLAs) are technical in nature. One area that could help to improve maturity would be to add more business-related metrics to SLAs to help for more of a partnership between IT and the business units. The process that some banks are beginning to implement OLA (Operational Level Agreement) which is the part of ITIL (Information Technology Infrastructure Library) framework is taken as a crucial action to state everything that the functional IT groups will need to do in relation to each other to support the SLA.

Even if the other components 'Scope & Architecture', 'Governance' and 'Partnership' relatively have better maturity level, still the banks have to work hard to eradicate the barriers

that inhibit pertinent alignment. IT is increasingly viewed by the business as an asset in the banks, but still seen as a cost center and project prioritization usually responds to “the loudest voice”. The organization of IS process by Vice President Level have positive impact in getting recognition of IT's value and also provide an opportunity for the IT to discuss each issue on the process council. However, the involvement of IT managers in strategic planning of business and IT are seen as inadequate.

Even though the maturity of strategic alignment in both public and private commercial banks is in its lower maturity level "Committed Process", relatively privately owned banks have better achievement on the overall alignment maturity than that of the public bank. On some components such as 'Competency', 'Partnership' and 'Skills' the public bank has better achievement whereas on the others private banks surpass that of the public bank. As a result, the banks have to facilitate a mechanism to share their experience and best practices on the area to narrow the gap of strategic alignment.

Furthermore, this study helps the banks to benchmark where they stand in their alignment and perhaps more importantly, how they can improve their IT-business relationships and performance.

5.2 Recommendation

According to Luftman [20], the primary objective of the maturity assessment is to identify specific recommendations to improve the alignment of IT and the business. Achieving alignment is evolutionary and dynamic. It requires strong support from senior management, good working relationships, strong leadership, appropriate prioritization, trust, and effective communication, as well as a thorough understanding of the business and technical environments.

Based on the research findings and conclusions above, the following are recommended for commercial banks in Ethiopia to improve strategic alignment.

- Commercial banks have to develop an effective two-way communication and a good participation/collaboration relationship between the business and the IT department, because often there is little business awareness on the part of IT or little IT appreciation on the part of the business.

- Existence of an IT steering committee that perform regular meeting with senior level IT and business management participation increases the alignment of IT and business strategies.
- Ensuring ongoing knowledge sharing across departments and organizations is paramount for attaining and sustaining business-IT alignment. The banks have to facilitate the sharing and the management of knowledge by using mechanisms such as career cross-over (IT staff working in the business unit; business staff working in IT), continuous education, cross-training (IT training should be given to business professionals and business training should be given to IT professionals), etc.
- A mentality in which business leaders and IT leaders see themselves as competing against each other rather than working together often results in a misalignment of IT and business strategies. It is therefore important for IT managers and business managers in the banks to keep in touch to know the requirements for the organization as a whole.
- Service level agreements should be periodically reviewed between IT and business representatives, in order to sustain continuous improvement and the attainment of business objectives.
- The banks must widen scope of technological investments to latest technology advanced products and services both for their customers and for internal work units in order to improve strategic alignment and in turn generate more profits beyond the issue of survival.
- Business leaders and executives in the banking industry still believe that IT strategy should not dictate business strategy. Even more, many believe that any involvement of IT in the creation of business strategy is inappropriate. The idea of including the CIO and other IT professionals in the development of strategies in a banking sector is really about changing the greater internal culture of a banking organization [10]. Business leaders must be educated about why the CIO and IT professionals are a vital part of the larger strategic planning process.
- IT strategic roadmap which guides the bank toward achieving long term result should be developed while keeping with the mission and vision of the banks. Also to communicate where IS was in the past and where it wants to go in the future and a how it is going to achieve it.

- Executives can use these results to articulate more comprehensive action plans for attaining greater IT-business alignment thus enhancing IT's value for the business.

5.3 Limitation and Future research direction

Like any research, this study has several limitations which should be mentioned, that can provide opportunity for future research. For time and financial constraints the study was conducted on selected commercial banks. The research would be more fruitful if it is conducted widely by including other financial institutions such as insurances and microfinance institutions.

Even though, this research area has given top concern by several scholars, there is lack of similar published studies specifically in our country context in Ethiopia. This made the discussion less comprehensive. So that, there are more future research opportunities to be consider in the area of strategic alignment.

Further research also can be done using different evaluation method or framework to evaluate the strategic alignment maturity since any framework has its strength and drawbacks.

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Appendices

Appendix A: Strategic Alignment Maturity Model (SAMM) Components description

Components	Items/ Abbreviated	Description
Communication	COMM1	Degree of Understanding of the business by the IT Function
	COMM2	Degree of Understanding Of IT by the business
	COMM3	Degree of richness of methods used for organizational learning
	COMM4	Communication style used within the organization
	COMM5	Degree of knowledge sharing through the organization
	COMM6	Use of IT business liaisons
Competency/Value Measurement	COMP1	Metrics & processes used to measure ITs contribution to the business
	COMP2	The use of business metrics to measure contribution to the business.
	COMP3	Degree of the use of integrated IT and business metrics to measure ITs contribution to the business.
	COMP4	Degree of service level agreements (SLAs)
	COMP5	Frequency and formality of benchmarking practices
	COMP6	Are there formal assessments following the implementation of an IT investment or project
	COMP7	Are there continuous improvement processes in place to improve business-IT alignment
	COMP8	Contribution of IT function to the strategic goals
Governance	GOV1	The level of contribution by IT during business strategic planning
	GOV2	The level of contribution by Business during IT strategic planning
	GOV3	Basis of budgeting IT resources
	GOV4	Basis of IT investment decisions
	GOV5	Frequency of meeting IT steering committee(s) with senior level IT and business management participation
	GOV6	Prioritization of projects by the business and IT
	GOV7	IT function responsiveness to changing business needs
Partnership	PART1	IT is perceived by the business as:
	PART2	the role of IT in strategic business planning

	PART3	Integrated sharing of risks and rewards associated with IT-based initiatives
	PART4	Formality & effectiveness of partnership programs between IT & business
	PART5	IT and Business relationship and trust
	PART6	business sponsors/champions
Scope & Architecture	SCOPE1	How has the primary IT systems evolved
	SCOPE2	IT standards articulation and compliance
	SCOPE3	The level of integration of IT systems
	SCOPE4	The level of disruption caused by business & IT changes (e.g., implementation of a new technology, business process, and merger/ acquisition)
	SCOPE5	The scope of IT infrastructure flexibility to business and technology changes.
Skills	SKILLS1	The extent the organization fosters an innovative entrepreneurial environment
	SKILLS2	The cultural locus of power in making IT-based decisions.
	SKILLS3	organization's readiness for change
	SKILLS4	career crossover opportunities among IT and business personnel: Job transfers
	SKILLS5	What are the opportunities for cross functional training and job rotation
	SKILLS6	The interpersonal interaction (eg. trust, confidence, cultural, social & political environment) that exists across IT & business units in the organization.
	SKILLS7	The IT organization's ability to attract and retain IT staff with technical and business skills.

Appendix B: Descriptive Statistics

	N	Minimum	Maximum	Mean
COMM1	63	1.00	5.00	2.8571
COMM2	63	1.00	5.00	2.5556
COMM3	63	1.00	5.00	2.3175
COMM4	63	1.00	4.00	2.4127
COMM5	63	1.00	4.00	2.0794
COMM6	63	1.00	5.00	2.0952
COMP1	63	1.00	5.00	2.2540
COMP2	63	1.00	5.00	2.4286
COMP3	63	1.00	5.00	2.4444
COMP4	63	1.00	4.00	2.2540
COMP5	63	1.00	5.00	2.4444
COMP6	63	1.00	5.00	2.6984
COMP7	63	1.00	5.00	2.5397
COMP8	63	1.00	5.00	2.7302
GOV1	63	1.00	5.00	2.6667
GOV2	63	1.00	5.00	2.6667
GOV3	63	1.00	5.00	2.4921
GOV4	63	1.00	5.00	2.4762
GOV5	63	1.00	4.00	2.3016
GOV6	63	1.00	5.00	2.6190
GOV7	63	1.00	5.00	2.9365
PART1	63	1.00	5.00	2.7619
PART2	63	1.00	5.00	2.7460
PART3	63	1.00	4.00	2.2222
PART4	63	1.00	5.00	2.3651
PART5	63	1.00	5.00	2.5556
PART6	63	1.00	5.00	2.6349
SCOPE1	63	1.00	5.00	2.5556
SCOPE2	63	1.00	5.00	2.6984
SCOPE3	63	1.00	5.00	2.6667
SCOPE4	63	1.00	5.00	2.5079
SCOPE5	63	1.00	5.00	2.5873
SKILLS1	63	1.00	5.00	2.0952
SKILLS2	63	1.00	4.00	2.2540
SKILLS3	63	1.00	5.00	2.6032
SKILLS4	63	1.00	5.00	2.4127
SKILLS5	63	1.00	5.00	2.2381
SKILLS6	63	1.00	5.00	2.2381
SKILLS7	63	1.00	5.00	2.2857
Valid N (listwise)	63			

Appendix C: Reliability Statistics

Factors	Cronbach's Alpha	N of Items
Communication	0.721	6
Competency	0.808	8
Governance	0.802	7
Partnership	0.841	6
Scope & Architecture	0.830	5
Skills	0.791	7

አዲስ አበባ ዩኒቨርሲቲ
የተፈጥሮ ሳይንስ ኮሌጅ
የኢንፎርሜሽን ሳይንስ ት/ቤት



ADDIS ABABA UNIVERSITY
College of Natural Science
School of Information
Science

Date April 18, 2017

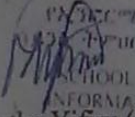
Ref: -SIS/36 /2017

To: Commercial Bank of Ethiopia
Awash International Bank
Dashen Bank

Student Abdselem Rahmeto (ID. No. GSE/0073/07) is a graduate student at the School of Information Science, Addis Ababa University. He is currently conducting a MSc thesis research under the title "Assessing Maturity of Information Technology & Business Alignment: The case of Commercial Banks in Ethiopia".

I would like to thank you in advance for all the assistance that you would provide to the student.

With Regards,


Martha Yifiru (PhD)
Head, School of Information Science

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የ ኢትዮጵያን ግድባን ኮ
COMMERCIAL BANK OF ETHIOPIA
INTER DEPARTMENTAL MEMORANDUM

<i>DATE</i> ቀን :	<i>April 20, 2017</i>
<i>TO</i> ለ :	<i>VP - IS Chief - Business Development Director - Accounts and Reconciliation</i>
<i>FROM</i> ከ :	<i>Manager-Learning & Development</i>
<i>SUBJECT</i> ጉዳይ :	<i>Request for cooperation</i>

Addis Ababa university in its letter dated April 08, 2016 has requested the Bank to assist and support Abdlselam Rahemeto who is a student of information science and currently working a project paper on "Assessment of Maturity of Information Technology and Business Alignment"

This is therefore, to request you to provide the required assistance and cooperation without compromising confidentiality.

Thank you.

Getu Bedilu

DA

Appendix F: Cover Letter for Questionnaire

Dear Respondent,

This questionnaire is prepared and distributed for the attainment of a Master's Degree in Information Science from Addis Ababa University. The questionnaire is prepared to be filled by selected staff(IT and Business Executives) of Commercial Banks drawn for the study from the head quarter offices of the organizations.

The focus of the questionnaire is to assess the status of Information Technology and Business Alignment within the commercial banks of Ethiopia based on the six components of strategic alignment maturity model.

I am inviting you to participate in this research study by completing the attached survey questions. The survey questionnaire requires approximately 15 to 20 minutes. Regarding confidentiality, no personal or identifying information is required and the information that you provide will be used for academic purpose. Your genuine, frank and timely responses are therefore much appreciated as they lay the foundation for realistic and sound research work and thus contribute to the quality and success of the study.

If you require further information on this study, or have any questions or suggestions, please contact me directly at (email and tel.)

Thank you for sacrificing your valuable time and the sympathetic response for this questionnaire.

AbdlselamRahmeto

E-mail: abdlselamrahmeto@yahoo.com

Appendix G: Survey Questionnaire

This self-assessment questionnaire has two main sections. Section I contains 7 demographic questions. Section II contains 39 IT-Business alignment related questions & it has six main parts: - Communication, Competency, Governance, Partnership, Scope & Architecture and Skills.

Section I: Personal and Occupational Information

Please put a “✓” in the provided box

1. What is the name of your organization? _____
2. Gender? Male Female
3. Age? Less than 25 years 25 – 30 years 31 – 40 years
 41 – 50 years More than 50 years
4. Higher level of education achieved?
 College Diploma Bachelor's Degree
 Master's degree PhD Other, please specify _____
5. What is your current position in the organization?
 CIO/IT Director IT Manager IT Professional
 Business Manager Business Professional Other
6. Years of experience in your current position?
 < 2 year Between 5 and 10 years
 Between 2 and 5 years > 10 years
7. Have you got IT Governance/IT Strategic/Business strategic planning/ related
Training/ certificate No Yes, please list _____

Section II: IT-Business Alignment related Questions

Description

The six components of the strategic alignment maturity assessment are illustrated below to make easy understanding the questions.

- 1. Communications:** Measures the effectiveness of the exchange of ideas, knowledge, and information between IT and business organizations, enabling both to clearly understand the company's strategies, plans, business and IT environments, risks, priorities, and how to achieve them.
- 2. Competency/Value measurements:** Uses balanced different measurements to demonstrate the contributions of information technology and the IT organization to the business in terms that both the business and IT understand and accept.
- 3. Governance:** Defines who has the authority to make IT decisions and what processes IT and business managers use at strategic, tactical, and operational levels to set IT priorities to allocate IT resources. This is the focus of the paper.
- 4. Partnership:** Gauges the relationship between a business and IT organization, including IT's role in defining the business's strategies, the degree of trust between the two organizations, and how each perceives the other's contribution.
- 5. Scope and Architecture:** Measures IT's provision of a flexible infrastructure, its evaluation and application of emerging technologies, its enabling or driving business process changes, and its delivery of valuable customized solutions to internal business units and external customers or partners.
- 6. Skills:** Measures human resources practices, such as hiring, retention, training, performance feedback, encouraging innovation and career opportunities, and developing the skills of individuals. It also measures the organization's readiness for change, capability for learning, and ability to leverage new ideas.

Please choose one of the best alternatives for each question and put a " ✓ " sign in the provided box

Items	Questions	1-Initial/Ad-hoc Process	2-Beginning/ Committed Process	3-Established Process	4-improved process	5-Optimized process
1. Communication Maturity (COMM)						
COMM1	Degree of Understanding of the business by the IT Function	<input type="checkbox"/> IT management lack understanding	<input type="checkbox"/> Limited understanding by IT management	<input type="checkbox"/> Good understanding by IT management	<input type="checkbox"/> Understanding encouraged among IT staff	<input type="checkbox"/> Understanding required of all IT staff
COMM2	Degree of Understanding Of IT by the business	<input type="checkbox"/> Managers lack understanding	<input type="checkbox"/> Limited understanding by IT management	<input type="checkbox"/> Good understanding by managers	<input type="checkbox"/> Understanding encouraged among staff	<input type="checkbox"/> Understanding required of all staff
COMM3	Degree of richness of methods used for organizational learning	<input type="checkbox"/> Casual conversation and meeting	<input type="checkbox"/> Newsletters, reports, group e-mail	<input type="checkbox"/> Training, departmental meeting	<input type="checkbox"/> Formal methods sponsored by senior management	<input type="checkbox"/> Learning monitored for effectiveness
COMM4	Communication style used within the organization	<input type="checkbox"/> One-way, from the business; formal and inflexible	<input type="checkbox"/> One-way, from the business; moderately informal and moderately flexible	<input type="checkbox"/> Two- way, formal and inflexible	<input type="checkbox"/> Two-way; moderately informal and moderately flexible	<input type="checkbox"/> Two-way, informal and flexible
COMM5	Degree of knowledge sharing through the organization	<input type="checkbox"/> Ad hoc	<input type="checkbox"/> Some Structured Sharing emerging	<input type="checkbox"/> Structured around key processes	<input type="checkbox"/> Formal sharing at all levels	<input type="checkbox"/> Formal sharing with partners
COMM6	Use of IT business liaisons	<input type="checkbox"/> None or use only as needed	<input type="checkbox"/> Primary IT-Business link	<input type="checkbox"/> Facilitate knowledge transfer	<input type="checkbox"/> Facilitate relationship building	<input type="checkbox"/> Building relationship with partners
2. Competency and value measurements (COMP)						
COMP1	Metrics & processes used to measure ITs contribution to the business	<input type="checkbox"/> Technical only	<input type="checkbox"/> Technical & cost efficiency measure; metrics rarely reviewed	<input type="checkbox"/> Use traditional financial measures	<input type="checkbox"/> Also measure cost effectiveness; Formal feedback processes	<input type="checkbox"/> Extended to external partner (eg. Customers & vendors, outsourcers)
COMP2	The use of business metrics to measure contribution to the business.	<input type="checkbox"/> Ad-hoc; Not related to IT	<input type="checkbox"/> cost efficiency measures at the functional organization level only	<input type="checkbox"/> use traditional financial measures	<input type="checkbox"/> Also measure customer value	<input type="checkbox"/> Balanced scorecard, extended to external partners (e.g. customers and suppliers)
COMP3	Degree of the use of integrated IT and business metrics to measure ITs contribution to the business.	<input type="checkbox"/> Value of IT investments are rarely measured	<input type="checkbox"/> Business and IT metrics unlinked	<input type="checkbox"/> business and IT metrics becoming linked	<input type="checkbox"/> Business & IT metrics formally linked, reviewed & acted up on	<input type="checkbox"/> Balanced scorecard, extended to external partners

Competency and value measurements continued...		1-Initial/Ad-hoc Process	2-Beginning/ Committed Process	3-Established Process	4-Improved process	5-Optimized process
COMP4	Degree of service level agreements (SLAs)	<input type="checkbox"/> Sporadically present	<input type="checkbox"/> Technical at the functional/departmental level	<input type="checkbox"/> Emerging across the organisation	<input type="checkbox"/> are both technically oriented & relationship oriented, Organisation wide	<input type="checkbox"/> between the IT and functional organizations as well as at enterprise wide and extended to external partners
COMP5	Frequency and formality of benchmarking practices	<input type="checkbox"/> seldom or Not generally practiced	<input type="checkbox"/> Sometimes informally	<input type="checkbox"/> Focused on specific processes	<input type="checkbox"/> routinely perform formal benchmarks and usually take action	<input type="checkbox"/> Routinely performed and measure results
COMP6	Are there formal assessments following the implementation of an IT investment or project	<input type="checkbox"/> Do not assess	<input type="checkbox"/> only after we have a business or IT problem	<input type="checkbox"/> Becoming routine occurrences	<input type="checkbox"/> Formally performed and act on findings	<input type="checkbox"/> Routinely performed, act and measure results
COMP7	Are there continuous improvement processes in place to improve business-IT alignment	<input type="checkbox"/> None	<input type="checkbox"/> Minimum - effectiveness not measured	<input type="checkbox"/> Emerging - starting to measure effectiveness	<input type="checkbox"/> Frequently measure effectiveness	<input type="checkbox"/> Routinely performed and measures well established
COMP8	Contribution of IT function to the strategic goals	<input type="checkbox"/> Ad hoc	<input type="checkbox"/> Somewhat weak	<input type="checkbox"/> Neither weak nor strong	<input type="checkbox"/> Somewhat strong	<input type="checkbox"/> Very Strong

3. Governance Maturity(GOV)						
GOV1	The level of contribution by IT during business strategic planning	<input type="checkbox"/> No IT input, Ad-hoc as required	<input type="checkbox"/> Basic planning at the Business functional level – slight input by IT	<input type="checkbox"/> Some IT input and inter-organisational planning	<input type="checkbox"/> At departmental & organisational functional level, with IT	<input type="checkbox"/> Integrated across and outside the organisation
GOV2	The level of contribution by Business during IT strategic planning	<input type="checkbox"/> No Business input, Ad-hoc as required	<input type="checkbox"/> Basic planning at IT functional level – slight input by Business	<input type="checkbox"/> Some Business input and inter-organisational planning	<input type="checkbox"/> At IT departmental and organisational functional level, with Business	<input type="checkbox"/> Integrated with Business and outside the organisation
GOV3	Basis of budgeting IT resources	<input type="checkbox"/> Cost center, with erratic/inconsistent/irregular /changeable spending	<input type="checkbox"/> Cost center, by functional organization	<input type="checkbox"/> Cost center with some projects treated as investments	<input type="checkbox"/> Investment center	<input type="checkbox"/> Profit center, where IT generates revenues

Governance Maturity continued...		1-Initial/Ad-hoc Process	2-Beginning/ Committed Process	3-Established Process	4-Improved process	5-Optimized process
GOV4	Basis of IT investment decisions	<input type="checkbox"/> Reduce costs	<input type="checkbox"/> Increase productivity and efficiency as the focus.	<input type="checkbox"/> Traditional financial reviews. IT is seen as a process enabler.	<input type="checkbox"/> Business effectiveness is the focus. IT is seen as a process driver or business strategy enabler.	<input type="checkbox"/> Create competitive advantage and increase profit. Our business partners see value.
GOV5	Frequency of meeting IT steering committee(s) with senior level IT and business management participation	<input type="checkbox"/> Don't have formal/regular steering committee(s).	<input type="checkbox"/> have committee(s) which meet informally on an as-needed basis.	<input type="checkbox"/> Regular clear communication - formal committees meet regularly	<input type="checkbox"/> Formal effective committees	<input type="checkbox"/> Partnership – also include external partners
GOV6	Prioritization of projects by the business and IT	<input type="checkbox"/> In reaction to a business or IT need	<input type="checkbox"/> Determined by IT function	<input type="checkbox"/> Determined by Business function	<input type="checkbox"/> Mutually determined between senior and mid-level IT and business management.	<input type="checkbox"/> Mutually determined between senior and mid-level IT & business mgnt & with consideration of the priorities of any business partners/alliances
GOV7	IT function responsiveness to changing business needs	<input type="checkbox"/> Very weak	<input type="checkbox"/> Somewhat weak	<input type="checkbox"/> Neither weak nor strong	<input type="checkbox"/> Somewhat strong	<input type="checkbox"/> Very strong

4. Partnership Maturity (PART)						
PART1	IT is perceived by the business as:	<input type="checkbox"/> A cost of doing business	<input type="checkbox"/> Emerging as an asset	<input type="checkbox"/> A fundamental enabler of future business activity	<input type="checkbox"/> A fundamental driver of future business activity	<input type="checkbox"/> IT partners with the Business in creating value
PART2	the role of IT in strategic business planning	<input type="checkbox"/> IT does not have a role	<input type="checkbox"/> IT is used to enable business processes	<input type="checkbox"/> IT is used to drive business processes	<input type="checkbox"/> IT is used to enable or drive business strategy	<input type="checkbox"/> IT enables Business to adapt and change - responsively and effectively
PART3	Integrated sharing of risks and rewards associated with IT-based initiatives	<input type="checkbox"/> IT takes all the risks and does not receive any of the rewards.	<input type="checkbox"/> IT takes most of the risks with little reward.	<input type="checkbox"/> Sharing of risks and rewards is emerging.	<input type="checkbox"/> Risks and rewards are always shared.	<input type="checkbox"/> formal compensation and reward systems in place that induce managers to take risks.

Partnership Maturity continued...		1-Initial/Ad-hoc Process	2-Beginning/ Committed Process	3-Established Process	4-Improved process	5-Optimized process
PART4	Formality & effectiveness of partnership programs between IT & business	<input type="checkbox"/> IT-business relationship is not managed	<input type="checkbox"/> Managed on an ad-hoc basis – as required	<input type="checkbox"/> Process/Standards defined but always followed	<input type="checkbox"/> Process/ Standards defined and are adhered to	<input type="checkbox"/> Process / Standards evolved - Continuous improvement
PART5	IT and Business relationship and trust	<input type="checkbox"/> Conflict and mi-trust - no relationship	<input type="checkbox"/> Primarily transactional relationship	<input type="checkbox"/> IT emerging as valued service provider	<input type="checkbox"/> Valued service provider - long term partner	<input type="checkbox"/> Valued partner, trusted IT services provider
PART6	business sponsors/champions	<input type="checkbox"/> Usually None	<input type="checkbox"/> Often have a senior level IT sponsor only	<input type="checkbox"/> IT and Business sponsor at the departmental level	<input type="checkbox"/> Business sponsor at corporate level	<input type="checkbox"/> Managing Director is the business sponsor

5. Technology Scope Maturity (SCOPE)						
SCOPE1	How has the primary IT systems evolved	<input type="checkbox"/> Traditional Office support systems (e.g. accounting, email)	<input type="checkbox"/> Transaction based (e.g. Shop Floor tracking, ESS, DSS)	<input type="checkbox"/> Business process enabler (MRP – SAP, WM, Web)	<input type="checkbox"/> Business process driver – redefined scope	<input type="checkbox"/> Business strategy driver/enabler
SCOPE2	IT standards articulation and compliance	<input type="checkbox"/> Non-existent or ad-hoc	<input type="checkbox"/> Defined and enforced at the functional unit level but not across different functional units	<input type="checkbox"/> Defined and enforced at the functional unit level with emerging coordination across functional units	<input type="checkbox"/> Defined and enforced across functional units	<input type="checkbox"/> Inter-enterprise - extended to external partners
SCOPE3	The level of integration of IT systems	<input type="checkbox"/> Not well integrated	<input type="checkbox"/> Integrated at the functional unit with emerging integration across functional units	<input type="checkbox"/> Integrated across functional units	<input type="checkbox"/> Integrated across the organisation	<input type="checkbox"/> Integrated with partners
SCOPE4	The level of disruption caused by business & IT changes (e.g., implementation of a new technology, business process, and merger/ acquisition)	<input type="checkbox"/> Not readily transparent (very disruptive)	<input type="checkbox"/> Transparent at the functional level only	<input type="checkbox"/> Transparent at the functional level and emerging across all remote, branch, and mobile locations	<input type="checkbox"/> Transparent across the entire organization	<input type="checkbox"/> Transparent across the organization and to our business partners/ alliances
SCOPE5	The scope of IT infrastructure flexibility to business and technology changes.	<input type="checkbox"/> A utility providing the basic IT services at minimum cost	<input type="checkbox"/> Becoming driven by business strategy	<input type="checkbox"/> Driven by the requirements of the current business strategy	<input type="checkbox"/> Emerging as a resource to enable fast response to changes in the marketplace	<input type="checkbox"/> Enable and drive fast response to changes in the marketplace

		1-Initial/Ad-hoc Process	2-Beginning/ Committed Process	3-Established Process	4-Improved process	5-Optimized process
6. Skills Maturity (SKILLS)						
SKILLS1	The extent the organization fosters an innovative entrepreneurial environment	<input type="checkbox"/> Discouraged	<input type="checkbox"/> Moderately encouraged at the functional unit level	<input type="checkbox"/> Strongly encouraged at the functional unit level	<input type="checkbox"/> Strongly encouraged at the functional unit and corporate levels	<input type="checkbox"/> Strongly encouraged at the functional unit, corporate level, and with business partners/ alliance
SKILLS2	The cultural locus of power in making IT-based decisions.	<input type="checkbox"/> Top Business and IT management at corporate level only	<input type="checkbox"/> Top business or IT management at corporate level with emerging functional unit level influence	<input type="checkbox"/> Top Business and departmental management, IT advisory role	<input type="checkbox"/> Top Business and IT management across the organisation	<input type="checkbox"/> All executives, including CIO and partners
SKILLS3	organization's readiness for change	<input type="checkbox"/> Resistant to change	<input type="checkbox"/> recognize the need for change and change readiness programs are emerging.	<input type="checkbox"/> Change readiness Programs in place at functional level	<input type="checkbox"/> Change readiness Programs in place at corporate level	<input type="checkbox"/> programs are in place at the corporate level and we are proactive and anticipate change
SKILLS4	career crossover opportunities among IT and business personnel: Job transfers	<input type="checkbox"/> rarely or never occur	<input type="checkbox"/> Occasionally within departmental levels	<input type="checkbox"/> regularly occur for management level positions usually at the functional level.	<input type="checkbox"/> regularly occur for all position levels and within the functional units.	<input type="checkbox"/> regularly occur for all position levels , within the functional units, and at the corporate level.
SKILLS5	What are the opportunities for cross functional training and job rotation	<input type="checkbox"/> No opportunities	<input type="checkbox"/> Opportunities are dependent on the functional unit.	<input type="checkbox"/> Formal programs are practiced by all functional units.	<input type="checkbox"/> Formal programs are practiced by all functional units and across the enterprise.	<input type="checkbox"/> formally available across the enterprise and with business partners/alliances.
SKILLS6	The interpersonal interaction (eg.trust, confidence, cultural, social & political environment) that exists across IT & business units in the organization.	<input type="checkbox"/> There is minimum interaction between IT and business units.	<input type="checkbox"/> Strictly a business only relationship	<input type="checkbox"/> Trust and confidence among IT and business is emerging.	<input type="checkbox"/> Trust and confidence among IT and business is achieved.	<input type="checkbox"/> Trust and confidence is extended to external customers and partners
SKILLS7	The IT organization's ability to attract and retain IT staff with technical and business skills.	<input type="checkbox"/> no formal program to retain IT professionals	<input type="checkbox"/> IT hiring is focused on technical expertise	<input type="checkbox"/> IT hiring is focused equally on technical and business expertise. Retention programs are in place.	<input type="checkbox"/> Formal programs are in place to attract and retain the best IT professionals with both technical and business skills.	<input type="checkbox"/> Effective programs are in place to attract and retain the best IT professionals with both technical and business skills

Thank you!!

If you have any other comments or insights on IT-Business alignment in your organization you are welcome _____

Appendix H: Interview Guide

1. In your view, how well does IT understand the Bank's business environment (*e.g., its customers, competitors, processes, partners/alliances*) and the business understand the IT environment (*e.g., its current and potential capabilities, systems, services, processes*)?
2. What is the extent of knowledge sharing (intellectual understanding and appreciation of the problems/opportunities, tasks, roles, objectives, priorities, goals, direction, etc.) between IT and business?
3. IS there integrated IT and business metrics in place to measure IT's contribution to the business and/or vice versa?
4. Do you have implemented service level agreements (SLAs) in your Bank?
5. Is there existed IT steering committee(s) with senior level IT and business management participation?
6. Are you doing strategic business planning with IT participation and strategic IT planning with business participation?
7. To what extent are there formal processes in place that focus on enhancing the partnership relationships that exist between IT and business (*e.g., cross functional teams, training, risk/reward sharing*)?
8. How well the components of your IT infrastructure are integrated and flexible to business and technology changes?
9. In your organization, who are responsible in making important IT-based decisions?
10. Is there opportunities for the employee to learn about and support services outside the employee's functional unit using programs such as cross-training and job rotation?

