Managing IT Business-Alignment through the Implementation of IT Balanced Scorecard: A Proposed Framework

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Abstract. We propose an integrated methodological framework system to synthesise and implement the IT Balanced Scorecard (BSC). The proposed approach capitalises on existing information and incorporates essential questions that were not routinely considered or recorded in previous work. The approach aims to address several serious challenges which many implementations face by recognising weaknesses and critical success factors from the literature review. The aim of this proposed framework specifically to provide a guideline for business-IT to achieve a better alignment.
Keywords: Business-IT Alignment, IT Balanced Scorecard, Framework, Methodology, Strategy Implementation

1   Introduction

Aligning IT strategy with business strategy is still becoming a critical issue today in the business world and remains a significant concern for C-level executives and IT executives (El-Mekawy, Rusu, Perjons, Sedvall, & Ekici, 2015; Luftman, Lyytinen, & Zvi, 2017). While alignment was extensively studied, researchers employed many conceptualisations and alignment concepts (Gerow, Thatcher, & Grover, 2015). However, there has been no defined description or model. Some indicate, for example, "alignment" to connect IT with business strategies (Kearns & Sabherwal, 2006), while some researchers describe how far IT planning supports business strategy (Ezingeard, McFadzean, & Birchall, 2007; Johnson & Lederer, 2010). Existing research easily restricts alignment into a single strategy or section (Sabherwal & Chan, 2001; Tallon, 2011). However, researchers point out that alignment is a multidimensional structure, and organisations are traditionally challenging to accomplish (Johnson & Lederer, 2010; Tallon, 2011). Moreover,

aligning business-IT with different dimensions or clustering into dimensions, like aligning strategy, is of prime importance (Tallon, Kraemer, & Gurbaxani, 2000). Previous research indicates that if a dimensional view of alignment is taken, a clearer understanding of alignment with another construct may be obtained (Liang, Wang, Xue, & Ge, 2017). However, there is no widely accepted theory, integrated model or structure for directing strategic business and IT alignment to date. As a result, the central issue of assessing, achieving (define, classify, calculate, sustain and improve) and evaluate strategic business-IT alignment remains a significant challenge for many companies.

In the 1990s, Kaplan and Norton developed a Balanced Scorecard as a generally appropriate performance evaluation system. The emphasis of BSC was initially used on developing an IT-balanced scorecard,' which used the BSC 4 viewpoints for a comprehensive approach to managing the IT department (Kaplan & Norton, 2006). Since the early implementation of BSC in the IT department, it has also been used as a business-IT alignment framework. Over the years, the Balanced Scorecard has transformed from a performance evaluation tool initially introduced to a tool for implementing strategies a framework for determining the alignment of an organisation's human, information and organisation capital with its strategy (Kaplan & Norton, 2006). This change has led organisations to consider the BSC as a strategic communication and management framework, emphasising many implementation challenges that have not been reported in the literature before.

However, the "shadow" side of business integration and IT compliance with the Balanced Scorecard system has not been examined. In other words, never had an adequate explanation given how the particular activities, individuals, or interactions between them contribute to the IT and the company's desired synergy in line with implementing the Balanced Scorecard operationalised in organisations. To date, no research has explicitly addressed the IT Balanced Scorecard implementation guideline by presenting the steps or phases that IT management should take to ensure that coordination takes place within the enterprise. IT management would fall overlooked by the business functions without this insight, and the department of IT functions is unable to recognise their role in achieving business-IT alignment (Coltman, Tallon, Sharma, & Queiroz, 2015).

The paper's objective was to address these issues and propose practical advice on tackling them through the core and detail explanation activities suggested in the proposed methodological framework. The proposed methodological framework is based on Kaplan and Norton's framework and integrates with the Business-IT Alignment framework that has been scattered through many works of literature. Therefore, this methodology aims to provide a comprehensive framework for the IT department to fulfil their importance on the business environment in achieving alignment through the use of IT Balance Scorecard, which will cover the essential aspects of a Balanced Scorecard synthesis hence can serve as a guideline for implementations.

2   Literature Review

Alignment concentrates on activities management carries out for the whole organisation to achieve interconnected objectives. Reich & Benbasat (1996) define business and IT alignment as "the degree to which the IT mission, objectives and plans support the strategic business goals." With the development of research into Business-IT alignment in the last three decades, various models were proposed to structure the idea of alignment to different dimensions and levels.

A model called the strategic alignment model (SAM) was developed by Henderson & Venkatraman (1993). The model consists of four strategic areas: business strategy, business infrastructure, IT strategy, and IT infrastructure. However, SAM has several limitations, such as not defining how companies can achieve alignment and still in conceptual models. Therefore, several researchers have responded by addressing SAM limitations and developing an extended SAM. Silva, Plazaola, & Ekstedt (2006) proposed a strategic business and IT alignment theory of alignment (SBITA). This approach validates the SAM alignment framework in terms of business and IT alignment in theoretical and practical terms. While empirical studies frequently refer to SAM as an operationalisation, many researchers consider SAM to be just a weak and practicable conceptual map with no real-life application practice. (Huang & Hu, 2007; Ravishankar, Pan, & Leidner, 2011).

Chan & Reich (2007) undertook a comprehensive analysis of the literature on alignment, resulting in the strategic, structural, social, and cultural aspects. The degree to which the corporate strategy and plans complement each other is referred to as strategic coordination. Structural alignment is characterised as a structural match between business and IT. It requires the position of IT decision-making privileges, reporting partnerships, (de) centralisation of IT, and the deployment of IT staff. The social factor relates to the awareness and engagement of business and IT managers within a defined organisational unit towards the business's mission, priorities, and plans. The cultural factor considers topics like how top management communicate with each other while developing a company strategy.

The limitation of strategic alignment approaches came since they cannot be made into operational tools. Also, only a few organisations with well-structured strategic and IT decision-making systems can successfully use them (Cataldo, McQueen, & Hardings, 2012). Therefore, operational methods are more practical because they are focused on a process-oriented approach to organisations whose ICT assistance is more effectively evaluated, calculated, and enhanced. Furthermore, they incorporate the concept of an iterative sequence of actions to achieve reach alignment, which is consistent with the natural evolution of businesses and the environments in which they compete and the resulting need to revise ICT choices regularly. However, rather than suggesting the Information System's goal state, there is a propensity to define and indicate tasks and methodologies to obtain a certain degree of alignment.

Although strategic alignment is the factor that most frequently affects performance, Simonsen (2007) emphasised operational alignment between what business wants from IT solution because top management perceived business goals achievement from IT solution that has been developed. According to Tallon (2007), the aim of alignment should be to achieve the best possible balance of processes and practices that make up the business strategy. This coincides with Luftman et al. (2017), who claimed that alignment should be based on how business and IT related and connect.

In addition to bridging the strategic and operational alignment, Huang & Hu (2007) proposed using a balanced scorecard to expand Reich & Benbasat Model (2000) to achieve and manage alignment. They argued that the top-down approach is the best way to create an alignment system between business and IT. It showed that a balanced scorecard would offer a valuable method to enhance business evaluation and how it can be combined with IT during business strategy planning. However, the model lacks to define an organisational structure that should be involved. The model also remains complex with the balanced scorecard implementation since it is not defining the steps that should be taken to achieve a balanced scorecard in terms of alignment.

Ullah & Lai (2011) provided an objective-oriented method for identifying specifications that consider the corporate context and can help the IT department better understand the organisation's business goals so that the IT structure can better fulfil business requirements. Leonard & Seddon (2012) research leads to the solution to the critical problem of connecting BITA models. They suggested a meta-model for alignment studies focused on their links to numerous strategic hypotheses. Their process can offer a realistic means of categorising the literature and creating a structure for researching how alignment should consistently relate to and integrate strategy theories.

There is also a research topic focusing on the IT governance aspect and organisational structure. Chua & Storey (2017) found that bottom-up efforts are unavoidable and must be led by the IT department and the business units. Therefore, Zimmermann, Rentrop, & Felden (2016) carried out the analysis as they dealt with the distribution of defined IT task responsibilities in the business-IT alignment process. Some researchers also explore how to make the profit viable under such circumstances and actively allow "business-managed IT" (Kopper, 2017). Therefore, Peppard (2016) highlights that new business-IT alignment conceptualisations are required, acknowledging activities and decisions occurring when developing business-IT alignment. Therefore, there are several gaps found in the literature review that has been explained:

- Proposed alignment models had not explained steps that can combine strategic and operational alignment as a comprehensive framework.
- Models in operationalisation alignment sometimes lack theory.
- Some previous research has concentrated on how effectively organisations have accomplished alignment, but there have been no actionable findings, such as activities that management should pursue to enhance alignment.

In conclusion, this paper proposes a new IT-business alignment framework to bridge these gaps. This new framework sees both strategic and operational alignment as a comprehensive framework. In addition, the framework will also be provided by the theoretical literature on the steps that should take to achieve better alignment. Lastly, by providing a comprehensive framework containing details that should be taken to achieve and maintain business-IT alignment about activities, decisions, and involved stakeholders, then alignment can be practically understood by managers.

3   Research Methodology

Phase 1

A project vision is the first step to ensuring the success of every project. The Balanced Scorecard is built to convert vision generation into a plan that can be understood and communicated (Kaplan & Norton, 1996a). This process helps create trust and dedication to the plan. In the form of the IT Balance Scorecard, decisions on these issues should be made collectively and jointly by the project management committee and the organisation's management committee. Luftman (2000) also stated that the commitment between IT executives and business management is crucial.

Following a better commitment by the management committee, the first objective of developing the BSC is to evaluate and recognise the company's mission and overall strategy (Kaplan & Norton, 1996c). Semi-structured interviews within the C-level executives and IT executives engaged in creating and developing this company's strategy should be undertaken to achieve a detailed understanding of these. The questions should be "where are we now, where do we want to go, and how do we get there?". After the discussion, the business plan should be produced that can be split into two to five strategic subjects. These strategic topics are focused on the organisation's general plan (stability, growth, or revolution), which may include concerns of sales growth, efficiency increase, cost-cutting, business, or product creation.

Resistance to change is another issue of the most significant concern. The BSC is a "transparency" management framework that shines a light on various departments' success. The introduction of BSC has consequently been seen as a consequence of managers' fear of losing authority and influence and even opposing shifting staff. Senior management engagement needs to be identified to help reduce opposition to transition. Key managers are encouraged to become involved in the BSC rollout phase, and contact processes are built with staff to monitor and appreciate the initiative's success and benefits. This intervention is essential, as it has been empirically demonstrated that the active participation of employees in the implementation of the performance assessment system would lead to a substantially higher performance improvement relative to the adoption of a system whereby employees do not participate in the deployment phase (Kleingeld, Van Tuijl, & Algera, 2004). IT management must then be incorporated into the centre of the company. Everyone in IT must interact as a colleague of others in the organisation who need what they do.

The IT department's mainstream view problem is that the IT department operates in an isolated black box. Head of Information Technology or Chief Technology Officer often contest this view and need to reconcile the organisation's interests, the organisation's financial needs, and the need to be technologically up to date. Working together on business and IT is a critical success factor in alignment. Consequently, any decision on technologies impacts a large number of individuals and systems through other business functions. For a sound management system, IT should cultivate the practice of engaging with all those who might be influenced by critical

technological decisions while providing information dissemination and making decision making more straightforward.

This first phase lays out the general framework for integrating the whole enterprise of business and IT. As part of this process, senior business executives and IT executives are formulating the most straightforward criteria for IT from a business viewpoint in a joint response to the following question: "How does our company need to work?" (Kotusev, 2020). Addressing this issue may require, among other decisions, determining the general role of IT in the sector, such as the engine of low costs or the enabler of innovative products.

Phase 2

At this phase, the business's management must first obtain a clearer view of the enterprise's external and internal environment, which can help explain the strategic direction that is being taken (Henderson & Venkatraman, 1993). A Porter five intensity analysis model and SWOT analysis are widely used as a method for collecting information to evaluate the factors behind the group approach and get a deeper understanding of the strengths and vulnerabilities behind the enterprise's strategic goals (Fitz-Gerald, 2004). This phase aims to define the differences between the As-Is and the To-Be circumstances so that suitable action plans can be taken.

Analysing the gaps between the present and potential state of IT infrastructure readiness would include the company's critical substance and IT strategies. Focusing on these gaps means recognising IT initiatives as a priority that can maximise business opportunities (Yayla & Hu, 2012). The gaps that require the most significant attention are more likely to exist and are most likely to affect business substantially. The gaps that have the lowest priority and are least likely to have an enormous impact on the company are not deemed for large project candidates. The priority list of programs is reviewed for approval by the sponsor and the senior executives. Support from other executive levels is an essential success factor in gaining a better appreciation for IT.

Intensive communication between IT executives and business leaders would explain the relationship between IT and business. These discussions encourage the understanding of the industry by IT while at the same time encouraging the understanding of IT by the business. This shared knowledge results in a much stronger relationship across the various directions of the company. The definitive collection of strategic goals and their interdependencies will contribute to creating a strategy map (Prasetyo & Secokusumo, 2019). In the Strategy Mapping step, cause-and-effect links are developed between the Strategic IT projects, establishing a "value chain" to show how the IT organisation's goods and services attract its clients and stakeholders. Strategy Maps for each department are drawn up to ensure a full strategy for achieving any strategic outcome and are then combined into a final corporate strategy map. A policy map depicts the cause-and-effect relations between goals from all four viewpoints and explains the story of how the enterprise produces the desired outcomes.

The Balanced Scorecard's Strategy Map offers a framework for demonstrating how strategy ties intangible assets to value creation (Kaplan & Norton, 1992). The financial perspective explains the strategy's tangible outcome. Measures such as ROI,

shareholder equity, performance, sales growth and cost per unit are lag indicators that indicate whether or not the organisation's plan is effective. The customer perspective determines the value proposition for the focused customer. The value proposition lays out the context for the value creation of intangible assets. If customers prioritise good quality and timely delivery, the expertise, structures and processes that generate and distribute reliable goods and services are of tremendous value to the enterprise. Consistent alignment of activities and capabilities with the client's value proposition is the core of strategy execution. Financial and customer perspectives explain the strategy's desired results. Both perspectives contain many lag indicators. How does the organisation create these desired outcomes? The internal process's perspective describes the few crucial processes that are supposed to have the most significant effect on the strategy. The perspective of learning and growth describes the intangible properties that are most important to the strategy.

The objectives of the four perspectives are linked together by relationships of cause and effect. For example, it is hypothesised that only if targeted consumers are satisfied, financial results can be obtained (De Geuser, Mooraj, & Oyon, 2009). The customer value proposition explains how targeted consumers can drive revenue and loyalty. The internal processes establish and execute the plan for consumer value. Moreover, the foundation of the strategy is given by intangible assets sustaining the internal processes. Aligning objectives in these four perspectives is the key to value creation and hence to a focused and internally consistent strategy.

This phase defines a long-term path required to interlink business and IT strategies for future IT investments. Senior business and IT leaders in the senior-level management, such as Vice President level, recognise the essential business fields that should be uplifted with IT in the long run as part of this process by collectively addressing the sector that our IT investment should implement (Kotusev, 2020). The strategy map will help the management of the company to determine those initiatives. It is crucial to define which IT skills, procedures, practices, or areas should become the primary focus of potential IT investments to address this query, such as supply chains, customer relations and product growth, as well as what types of change in IT-enabled goods are desirable in such areas such as cost reduction, improved quality or implementation of disruptive technologies. Finally, due to this phase's importance, the management committee must agree and adhere to the strategy mapping outcome. The conclusions of this phase must also be addressed and clarified to the selected stakeholders. Once officially approved by senior management and signed, IT investment goals decided to offer a solid framework for future investment decisions, shape investment portfolios and set forward clear IT initiatives to be implemented.

Phase Three

The strategy map designed in the previous phase is the starting point for selecting the BSC performance measures, which will quantify the attainment of the strategic objectives. A typical BSC is composed of a balanced blend of measures. These measures are divided into two categories: performance drivers, which are leading indicators of performance, and performance outcomes which represent lagging measures of performance (Kaplan & Norton, 1996b). Once the measures have been identified, the manager chooses those deemed most appropriate for the company (in

most cases, one or two measurements for each strategic objective). A well-defined scorecard should include a good combination of outcome measures (or long-term targets) and performance drivers to track improvement in the short term. Usually, outcome measures are lagging indicators. In contrast, performance drivers should measure revel the effectiveness of the company strategy. Furthermore, performance drivers without outcome measures may enable the achievement of short-term operational improvements. Still, they will fail to reveal whether the operational improvements have been translated into enhanced financial performance.

Each metric chosen for the scorecard should form part of a relationship between cause and effect that is a conceptual theme for the business unit and concludes with a financial goal. More specifically, when the scorecard power is used to promote innovation and transformation programs, the company will concentrate on issues that deliver growth, not just problems that reduce expense and boost performance. Again, a cause/effect relationship embedded in the Balanced Scorecard is the main component for setting innovation programmes' goals. If cause-effect relationships are not adequately represented in the Balanced Scorecard, it will not translate and communicate the company's vision, mission, and strategy.

When designing the support unit strategy map and Balanced Scorecard, it helps think of the IT department as a business. The difference will be in the financial perspective of the Balanced Scorecard. In the book of Alignment, Kaplan & Norton (2006) divided the financial perspective of an IT department into two categories: efficiency and effectiveness. Support unit efficiency deals with traditional issues such as the cost of services delivered and adherence to budget. Support unit effectiveness describes the impact that the support unit has on the enterprise strategy. Sometimes referred to as linkage scorecard, the effectiveness objectives should define the specific objectives and measures in the enterprise scorecard that the support unit directly impacts.

However, there are some argues for Kaplan and Norton's explanation as they place the IT department as a cost centre so that it is treated as a function that is tasked with reducing IT costs by carrying out various efficiencies. This argument is contradictory to the needs in today's digital era, where many companies are competing to transform their respective IT departments into an essential part of doing business transformation (Guillemette & Paré, 2012). In this case, many companies are competing to inject investment funds into the IT Department to innovate existing business processes. If it is related to the cost centre and efficiency goals, then this is the opposite because the IT department gets more investment funds. Based on a survey conducted by Gartner (2020), the needs of a company in terms of IT expenditure or budget have experienced a significant increase mainly due to the increasingly massive technology such as big data, artificial intelligence, cloud computing.

Many CIOs were in a confusing situation when management questioned the value of IT. What evidence will CIOs use to make the case that IT does matter in the company? How will CIOs show that IT investments can lead to transformative outcomes for a company, optimise the delivery of services, and increase the effectiveness in attaining organisational objectives. This phase's critical point is choosing the right metrics that can reflect IT's value for the business. There is no exact solution or guideline on the best measures to be applied to the IT department

scorecard when selecting the metrics. However, the critical point is to create an IT department scorecard not to sound very technical for business stakeholders.

Furthermore, an IT department's existence within the company aims to make innovative changes that support the business. Innovation is the goal of many companies to transform operations, expand facilities, save money, and maximise performance. CIOs acknowledged their desire to capture IT's contribution to innovation in their enterprise and regarded it as a critical undertaking (Gottschalk & Taylor, 2000). Innovation metrics remain in their infancy, mainly because the Chief Technical Officer must maintain existing activities and lack time for operations to expand. Innovative metrics can also be complicated since they require more than technology to be assessed. Since it is a multi-layered term, innovation can be drawn from several metrics that work together to measure seemingly separate aspects of organisational performance.

Capturing outcomes is not an easy process since it is typically the business divisions that capture IT-enabled technologies' direct impacts. However, CIOs need to work actively to capture results. CIOs need to distinguish the amount of influence attributed to IT innovation; much of the impact can be reported and calculated at the business unit level. This phase also involves the determination of the frequency of measurement for each measure. It is common for measures to be collected quarterly, semi-annually or annually depending on their inherent periodicity and data availability constraints (Star, Russ-eft, Braverman, & Levine, 2016).

The next step covers financial and resources planning or budgeting (Orozco, Tarhini, Masa'deh, & Tarhini, 2015). A business argument that would offer an economic rationale for the budget should be supported to plan the budget. The budgeting process must be connected to the overall goals and conveyed to the entire company to coordinate the staff's role. It started with the overall expenditure (financial and human resources) assigned to the BSC programs and ensured a time horizon for investment. Both the budgetary measures and less budgetary heavy initiatives need to be allotted to the budget.

This third phase provides a more detailed description of IT's importance for business by choosing the metrics that apply to business needs. As part of this process, business manager and IT managers in the middle-level management draw up very comprehensive investment strategies for various business areas by collaboratively addressing the following question: "What IT initiatives does our firm need to implement and when?". This investment portfolio also needs to set short and long strategic initiatives that will be executed (Kotusev, 2020).

Phase Four

The strategy map outlines the strategy's logic, demonstrating the objectives explicitly for the essential internal process's importance and the intangible assets needed to support them. The balanced scorecard turns the objectives of the strategy map into measures and targets. However, objectives and targets cannot be accomplished as such because they have been established. The company should launch a collection of action programs to allow the targets of all the measures to be achieved. The organisation must supply resources such as people, funding, and capacity for each action program. These programmes of action are referred to as

strategic initiatives. Managers would define the strategic initiatives necessary to achieve the target for each measure on the Balanced Scorecard. Hence, the strategy's execution is managed through the execution of initiatives (Hu & Huang, 2006).

Action plans that identify and offer support for strategic strategies need to be matched with strategic themes and need to be treated as a comprehensive investment strategy rather than as a collection of individual programs. Each strategic theme should include a self-contained business case. In general, the targets in the four perspectives of a strategy map culminated in the corresponding Balanced Scorecard needing around twenty to thirty measures. The strategy map shows how the different measurements give the instrumentation for a particular strategy on a correctly designed Balanced Scorecard.

Business sponsors and IT architects can work collaboratively to design future IT architecture. An IT architect is a person who architects and develops IT solutions and services for organisations. They have a powerful blend of business knowledge and IT expertise to develop the best possible outcomes for their company ranging from software, hardware, network, or any IT solution (Figueiredo, Federal, Pereira, Audy, & Prikladnicki, 2012).

They can begin by developing the new IT architecture, taking the as-is IT environment, and formulating a to-be architecture based on the business capabilities that have been identified. Once they have determined their target architecture, including applications and technology components, they can redesign segments or individual pieces of the IT environment to support the new business capabilities (Figueiredo et al., 2012). Within this phase, agile development offers excellent flexibility and increases the speed at which applications can be delivered due to its incremental approach and ability to integrate continuously changing requirements. Previous software development methods, such as the waterfall model, were often a costly impediment to innovation.

During agile development, the architectural runway reconciles the Agile teams' emergent design with the intentional architecture supporting the bigger picture. The architectural runway is a significant accelerator to digital investment decision making and evolves as business requirements change. The architecture is built "just-in-time" and helps sustain investments while enabling Agile teams to innovate. Architects provide product managers and development teams with a sweeping view of the enterprise ranging from business objectives to IT architecture so that companies can transform a vision into concrete IT projects.

In this phase, the next steps are linked to the setting of target measures. The BSC then progresses from being a method that simply measures metrics to being a tool that manages the strategy (Epstein & Manzoni, 1998). Target setting is one of the critical activities required to make strategy work (Bricknall, Darrell, Nilsson, & Pessi, 2007). It involves setting challenging targets for each of the measures previously defined. The latter should be ascertained by the performance measure owners as depicted in the previous phase to achieve commitment and amplify the likelihood of attaining targets (Levinson, 2003).

This phase details each of the IT initiatives in the approved investment portfolio and produces very high-level implementation plans for solutions. As part of this stage, business sponsors and IT architects collectively answer the following questions and develop the conceptual structure of necessary IT solutions: "What are the best options

for implementing solutions?". Answering this issue involves discussing the possible high-level approach development solutions with their pros and cons and choosing the most suitable alternative to be realised based on its advantages or cost ratio and related risks. The solution overviews describe the importance of the IT solutions presented and include technical descriptions, such as how the solution operates, what technologies are created, what business procedures are enhanced, and how the relevant details can be collected. Solution overviews also provide a framework for developing and reviewing structured business scenarios for new IT technologies (Kotusev, 2020).

After being decided upon by business and IT stakeholders and then approved and financed by the Investment Committee, the solution overviews provide the basis for further system execution operations and establish more comprehensive business criteria and technical parameters during the subsequent implementation phase.

Phase Five

Finally, during this phase, the BSC implementation team should ensure that the knowledge is transmitted to the entire organisation and start using the new BSC within 60 days (Kaplan & Norton, 1996a). In this context, a general overview of the BSC implementation should be presented for selected stakeholders involved in the use and maintenance of BSC as they will have to fully understand and carry out the action required to support BSC.

This phase transforms high-level solution overviews developed during the previous phase into detailed technical system implementation plans. In this phase, business analysts or real IT project owners typically have IT architects who are mainly involved. These parties decide how to deal with IT by answering the following question: "How is the new IT system should be implemented?". The response to this issue first involves consensus to see how the next system can operate from a business viewpoint and then recommend that such business criteria be applied in the best technological way possible (Kotusev, 2020).

This solution designs provide all the details needed to deliver the defined IT systems, such as what features and behaviour are anticipated, what specific specifications should be met, what software should be built, how they should work properly, what technology is needed, and where the solution should be implemented. In some cases, intermediate solution designs can be created before complete solution designs are begun to double-check and validate last time and expense estimates. Finally, comprehensive solution designs are processed by IT project teams, including software developers, infrastructure engineers and database managers, who execute their respective IT solutions according to the requirements given. It will turn abstract IT plans into tangible systems that are part of the organisational IT landscape.

4   Discussion

All IT planning decisions are decided through the above five phases of business and IT alignment. The guidelines start with very abstract organisational strategy decisions and end with very concrete project-level decisions. It reflects an organised structure of on-going coordination and decision-making that incorporates business and IT, with leaders in the applicable organisational hierarchy taking various IT linked planning choices. This decision-making process can also be seen from this point of view as a flow that started with planning concepts from the business and IT leaders as abstract concepts through a specific project that should be executed at the bottom.

The five-phase flow of alignment starts from the strategic alignment that is very abstract through the discussion between business and IT leaders on how the company want to do with the business. Therefore, business and IT leaders must understand what kind of strategic priorities they should create to gain a competitive advantage in this phase. This phase also involves reviewing the company's vision and mission and matching the strategic projects or planning to the vision and mission. During this phase, it is essential to gain a commitment that will involve the collaboration between business and IT leaders. Without this collaboration, both departments will see them as isolated department because IT sounds too technical, and the business does not understand IT's value. This process will determine whether IT acts as an enable of innovation to the business or just a department that should take the initiative to reduce the costs that the company injects into the IT.

The second phase involves the senior management level, such as vice president or senior vice president from both departments, to elaborate on what kinds of IT strategic projects should execute. It will involve developing a strategy map as the key to start making the IT have value towards the business. In this strategic alignment phase, the senior level manager should more determine about investments they should create to fulfil the top management strategic projects that already formulated. They need to translate the abstract concept from the business and IT leaders to more specific investment that should be injected to support the strategic projects that will carry on. Therefore, it is essential to build a strategy map with the cause and effect linkages to show the exact value of IT to business. The strategy maps will also ensure that each identified IT project with strong judgment on business objectives will carry on.

In phase three, there is a transition from strategic to operational alignment. It needs involving a middle-level manager in both departments. The middle managers are responsible for this phase because it acts as a bridge between top management and the bottom of the rest of the organisation that includes employees under their responsibility. Therefore, they should act as they know what top management needs to gain a competitive advantage and prepare for the IT department's readiness to reach the goals or objectives that the top management formulated. In this phase, they also need to elaborate on how the IT has value to business by determining the budget to execute the investment and set the IT metrics that show the value to the business.

In the last two phases, phase four emphasises the operational alignment that will elaborate on how the projects or investment can be applied. In phase four, IT architects' responsibility that has a strong understanding both in business process and enterprise architecture is needed to ensure that the projects technical concept align

with the employee capacity or readiness and with IT infrastructure that the company has. They are also responsible for the detailed portfolio they want to execute by appointing the performance assessment owner and setting a stretch target to achieve the projects. In the last phases, the technical document on how the project should be executed is carried out by the IT project manager and or business analyst to ensure that the IT project or initiatives run efficiently and within budget and time. Therefore, in this last phase, they are also responsible for disseminating the project throughout the organisation.

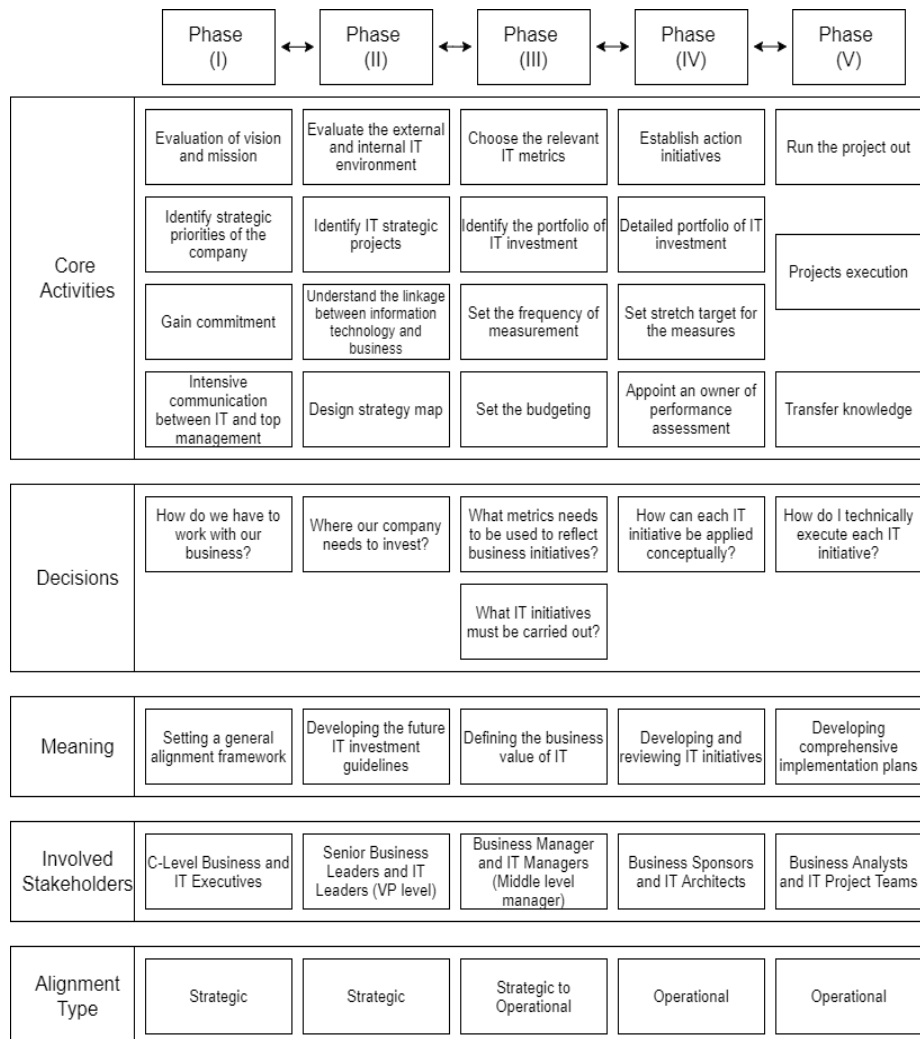|	Phase (I)	Phase (II)	Phase (III)	Phase (IV)	Phase (V)
Core Activities	Evaluation of vision and mission	Evaluate the external and internal IT environment	Choose the relevant IT metrics	Establish action initiatives	Run the project out
	Identify strategic priorities of the company	Identify IT strategic projects	Identify the portfolio of IT investment	Detailed portfolio of IT investment	Projects execution
	Gain commitment	Understand the linkage between information technology and business	Set the frequency of measurement	Set stretch target for the measures	
	Intensive communication between IT and top management	Design strategy map	Set the budgeting	Appoint an owner of performance assessment	Transfer knowledge
Decisions	How do we have to work with our business?	Where our company needs to invest?	What metrics needs to be used to reflect business initiatives?	How can each IT initiative be applied conceptually?	How do I technically execute each IT initiative?
			What IT initiatives must be carried out?		
Meaning	Setting a general alignment framework	Developing the future IT investment guidelines	Defining the business value of IT	Developing and reviewing IT initiatives	Developing comprehensive implementation plans
Involved Stakeholders	C-Level Business and IT Executives	Senior Business Leaders and IT Leaders (VP level)	Business Manager and IT Managers (Middle level manager)	Business Sponsors and IT Architects	Business Analysts and IT Project Teams
Alignment Type	Strategic	Strategic	Strategic to Operational	Operational	Operational

Fig. 1. A Proposed Framework of Five-phase of IT Balanced Scorecard Implementation

As seen in Fig. 1, by figuring out and explaining the steps that should be taken, achieving alignment should become more apparent, and every stakeholder in the company can understand it. Showing this proposed guideline with a detailed explanation about the core activities, decisions, and involved stakeholders will reveal the shadow of business and IT alignment covered up all this time. This proposed guideline tries to elaborate on IT balanced scorecard core activities that should be undertaken to achieve business-IT alignment. It also shows the steps that involve top management between business and IT to define the IT department involvement throughout the business and then ended with the specific project activities implementation that the IT project manager and business analyst will carry on. Also, it is easier to achieve alignment between business and IT by showing collaboration, partnership, and understanding of each other.

5   Conclusion

This paper has developed an integrated methodological approach to IT Balanced Scorecard synthesis and implementation through a comprehensive literature review. Also, we provide detailed and documenting guidance on the core activities, activity meanings, decision-making in any phase, stakeholders involved and types of alignment, based on the framework of Kaplan and Norton and business-IT alignment existing framework. Our methodology aims to provide a comprehensive framework that addresses the essential aspects of an IT balanced scorecard synthesis and can be used as an implementation guide.

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