An IT Balance Scorecard Design under Service Management Philosophy

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Abstract

The present study proposes a design for an Information Technology Balanced Scorecard (IT BSC) that integrates with business and environment and balances and optimizes deployment and control of the Information Technology strategy. This Strategic and Tactical IT Planning model enhances IT’s role in obtaining and measuring its contribution to business value: optimizing IT operational efficiency or proposing new business ideas with a high IT component. The proposed model stimulates innovation in each of the parts of the IT Services lifecycle, is based on IT Service Management best practices and uses ideas from the ITIL v3 standard.

1. Introduction

This research is about IT Governance and one of its key processes is Strategic Planning of Information Systems. The proposed Balanced Scorecard in this paper aligns with good IT governance requirements. According to the IT Governance Institute, IT governance can be defined as “The responsibility of executives and the board of directors, consisting of the leadership, organizational structures and processes that ensure that the enterprise’s IT sustains and extends the organization’s strategies and objectives” [13]. In this study we have used IT strategic planning as “a complex of implicit or explicit visions, goals, guidelines and plans with respect to the supply and the demand of formal information in an organization, sanctioned by management, intended to support the objectives of the organization in the long run, while being able to adjust to the environment” [9]. It is with this key process of IT government, IT strategic planning, where this research uses the Balanced Scorecard oriented towards IT Service Management (ITSM BSC) as the best way to deploy the IT department’s strategies and their back control. The four processes proposed to manage the strategy and described in Kaplan and Norton’s IT Balanced Scorecard are: translating the vision; feedback and learning; business planning; and communication and learning [15]. These four concepts work together in an endless spiral of improvement over the lifecycle of the IT services. The IT Governance definition is taken as the starting point to understand the differences between IT governance and IT management. In contrast to the definition of IT governance, IT management looks for “The system of controls and processes required to achieve the strategic objectives set by the organization's governing body. Management is subject to the policy guidance and monitoring set through corporate governance” [34]. ITSM BSC is based on ITIL, one of the best practices for IT Service Management: “Service management is a set of specialized organizational capabilities for providing value to customers in the form of services” [32]. The proposed ITSM BSC is confined to strategic and tactical levels in the IT area, siding with governance and management definitions and using IT Service Management concepts.

The idea of taking the BSC and IT Service Management to design a new Strategic Planning concept is due, first of all, to the maturity of both concepts and to the fact that they are two of the most used techniques in governance and management of IT organizations. Between 40 per cent and 65 per cent of the organizations use BSC [24] and sixty five per cent of the large companies have implemented an ITIL best practice [36]. There are also studies that analyze whether the implementation of ITSM BSC entails financial benefits because many deal with non-financial issues [23] [25] [27]. To this end, S. Davis and T. Albright [5] analyze the banking environment with many organizations, some of which applied BSC. Those which did, had the most value added.

2. Main goal and scope of the research.

The main objective of this research is to propose an optimized IT BSC design, taking the BSC proposal and IT service management best practices as the starting point to deploy both strategic and tactical changes of IT services in a balanced way and to control the
deployment of IT change. This proposal, which integrates service management with the BSC, is called the “Balanced Scorecard Oriented to IT Service Management, or ITSM BSC. This service orientation integrates the IT supply (IT areas) and the IT demand (business areas) in the organizations.

The scope of this research covers the deployment of the strategy for the entire IT services portfolio. In some organizations the IT area is limited to issues associated with IT infrastructure. However, in this research the proposed IT BSC covers the entire portfolio of IT services: IT governance, IT management, IT architecture, project management and change management, security, network management, service center, problem management, management of operating systems and databases, information systems development, capacity management, continuity management and backup services. The proposed design does not include the valuation of the previous strategy for defining the strategic lines, and it recommends the use of other methods such as: Visioning, Stakeholder Analysis, Drama Theory and Five Forces.

3. Selected Bibliography

The first widely extended dashboards were the “tableaux de bord” that introduced business unit objectives, Key Success Factors and an interrelationship between the different levels of the “tableaux de bord” [7]. BSC groups the objectives and indicators into balanced perspectives to ensure that key issues are considered in any strategy. The most widespread BSC are those developed by Kaplan and Norton, which comprise four perspectives: financial, customer, internal processes, and learning and growth [16]. These perspectives are not treated independently, but are guided by a vision and a mission inherent in all the perspectives [15]. Besides objectives, strategic goals, specific targets, indicators (lead and lag) and action plans can be found. Each of the objectives with the indicators should be part of a chain of cause-effect (strategy maps) objectives to deploy the defined strategy to the rest of the organization.

Apart from Kaplan and Norton’s BSC, there are others with similar approaches, such as the Maisel dashboard [20], which replaces growth perspective with human resource perspective. McNair’s pyramid dashboard [22] is similar, and vision is broken down into four levels from the fourth or bottom level of the pyramid, in which the results are measured by efficiency and effectiveness. Interesting adaptations of the classic view of the BSC but designed to IT departments are the Van Grembergen proposals [37]. Van Grembergen proposes a cascade of BSC from the IT development and IT operations areas to business.

Another interesting approach is the use of IT BSC in conjunction with other techniques such as dynamic models [28] [2], or standards such as the Excellence Model of the European Foundation for Quality Management (EFQM). BSC does not incorporate time delays in the cause-effect relationships or feedbacks, and therefore lead-time is unknown, making it difficult to select and evaluate the objectives proposed; it is the dynamic models which provide this information. EFQM focuses on TQM (Total Quality Management) while BSC focuses on strategy, but both have similarities such as the need to adapt to each company and association with incentives [39].

Although ITIL version 3 does not consider BSC ITSM in depth, it is mentioned in Service Strategy, where it is incorporated in the “definition list” section; in Service Design, that defines a metric tree based on the BSC; in Service Operation, appointed as complementary industry guidance, and in Service Improvement, detailing BSC cascades and applying it to a service desk example [32]. ITIL v3 provides guidance to bring each of the classical perspectives’ definition to a new ITSM perspectives definition.

The current IT BSC proposal improves the existing ones, adapting them to the IT sector requirements and avoiding the following: The inadequacy of functional BSC to the needs of IT departments; not considering environment as one of the triggers of the strategy within IT departments; not knowing how to select the best strategic objectives and to quantify value using a dynamic model; and the disintegration and lack of communication between the organization areas and the IT department organizational hierarchy.

The four goals proposed to be supported by Kaplan and Norton’s Balanced Scorecard, and by extension by IT BSC, are: translating the vision; feedback and learning; business planning; and communication and learning. However, these four goals are not fully reached in the current IT organizations, as can be seen in the following examples:

- Translating the vision and communication and learning: Only 43% rate good or very good on the ability to integrate and share information across departments and necessary third parties [33]. Only 43% of the respondents agree that the relationship between management and business is very effective [4]. COBIT, which gives business / IT alignment help, is being used only by about 10% of the IT population [12].

- Feedback and learning: Only 38% of the innovation aspects are very efficient in the organizations [4]. IT representatives indicate that the maturity of the governance of their department is at
level 3 or below [6]. A small majority (55%) of IT departments informs the business about potential business opportunities always or regularly [12].

- Business planning: Only 34% say that planning functions are very effective [4]. Over 40% of the strategic discussions and alignment of strategies are held independently to budget discussions [6].

In a massive survey conducted by the author with the help of itSMF Spain and Bita Center, only 22% of respondents use the BSC in their IT departments as a tool of governance or management. Moreover, in the Spanish organizations, 66% of the respondents use ITIL v3 as a best practice for IT departments and 89% of them consider the value contribution of ITIL v3 as governance or management best practice positively. In addition, 8 out of 10 respondents indicate that the IT department has formal relationships with outsourcing suppliers and more than half of them indicated they have formal SLAs established (SLA is a ITIL best practice) [6]. All mentioned issues, as well as the acceptance of ITIL v3 in organizations, are the justification for this proposal.

4. A new IT BSC design for better integration.

To resolve the points mentioned above, it is necessary to design a BSC that (from upper level to lower level):

- Incorporates environment in IT BSC (section 5).
- Improves measurement of value (section 6).
- Integrate IT BSC with the business BSC (section 7).
- Integrates the IT area using the IT BSC (section 8).

Figure I shows how BSC of IT is interrelated as a service supplier, and the BSC of the business as a service under the design of the proposed ITSM BSC.

Figure I. New ITSM BSC proposal designed towards IT Service Management and Sourcing.

IT BSC proposes adjusting classical BSC to a vision of service management, incorporating a new environment perspective (discussed in section 4.2.) and modifying the classical perspectives with the following:

- Future perspective: Using this nomenclature instead of growth, which depends on the strategy of the moment. In the BSC, under the philosophy of Kaplan’s and Norton’s future perspective, a good position regarding human, organizational and technological capacity is achieved [15]. IT is one of the largest sources of innovation and creativity in organizations, which makes this perspective essential. To accommodate the ITIL V3 philosophy, the author recommends following the dual classification of IT assets (resources and capabilities with their
corresponding details) because these are the IT assets that must be adapted to the future. Given the importance of acquiring knowledge for the survival of IT organizations, this perspective increasingly has a more critical role in organizations.

- Operation perspective: It is responsible for controlling the deployment of our strategy in the IT processes, irrespective of the ownership of resources (internal or external). This idea is essential in order to move to a philosophy aimed at IT service management, in which a service can be provided with internal and external resources depending on the time. This perspective proposes objectives that lead to excellence in the IT operation. Having a process-oriented ITIL V3 greatly facilitates the work with this perspective and it is recommended to define groups following ITIL V3 processes, activities and their relationships. For example, a strategic objective of "improved incident resolution time" is found in the sub-perspective of "service operation" and "incident management". If, for example, COTS services design is outsourced, it is also outsourced within the operation perspective, and even supported and maintained in the BSC of another organization and integrated into our organization’s BSC. Some authors consider outsourcing in the customer perspective [28], but we think it fits much better in the operation perspective.

- Customer / user perspective: In this perspective, the client’s (who pays for IT services, and asks for client requirements) objectives and the user’s (who uses the IT services and asks for functional requirements) objectives must be considered; both are complementary views. Under a Service Management operation, the agreements with customers are reflected in the Service Level Agreements (SLA) and therefore an ITSM BSC has to relate the evolution of the strategy to the expected evolution of the SLA. Logically, SLA is more detailed in the Service Level Management process, while information in ITSM BSC is summarized in the strategic or tactical level of service levels. Using ITSM terminology, this perspective will have two sub-perspectives: utility (What do we give to the user / customer?, for example a new IT service) and warranty (How do we give the IT service to the user / customer?, for example greater systems availability). If the goal is to improve the way in which we provide internal processes (i.e. capacity management), this will be controlled by service-level objectives within the operation perspective.

- IT Financial Perspective: Since IT BSC covers part of the business strategy, the financial perspective that appears in ITSM BSC should take the name of business contribution perspective [21]. However, given the big IT investment required for the IT department investments, apart from the contribution to business previously discussed, it should include targets on how to fund the IT resources and capabilities required. To consider various aspects this perspective is called IT financial perspective. In order to balance the value of IT proposals, these are also subdivided into three sub-perspectives: value of new business supported by IT (strategic innovation), value of operational improvement provoked by IT (operational efficiency) and value from IT good governance. The fourth sub-perspective is objectives on how to obtain funds.

ITSM BSC also proposes a series of new entities to complement causal diagrams (cause / effect) of objectives similar to other existing proposals [26] [18]. All the strategic objectives are related to the mission / vision and the strategic line that is our trigger. One important change is that BSC does not end with initiatives and those responsible; it is also associated to every initiative with information about the IT service catalog ("What service line or service area is covered by the initiative.” and “What market space is covered by the initiative.”) and the service level to be achieved. The actions are grouped into projects and programs. This way, ITSM BSC covers the double vision: the inner vision of IT and business processes affected by IT strategic change, and the external vision of IT services of a market space with a service level. Every strategic objective is evaluated: value, cost, risk and lead-time.

It is essential that BSC helps to manage the implementation of the strategy properly [29]. When we talk about strategy, we are talking about change and impediments or barriers to be overcome [38]. Therefore, it is a good thing that causal diagrams have to inform about both the forces that help change (motivators, facilitators, catalysts) and the barriers to change (mischief, frustrating and delays). Thus, the proposed ITSM BSC aims to inform barriers and facilitators of change in the objectives that this aspect is critical [17]. ITSM BSC should not be filled with too much information, but key information to ease the strategy and the governance of IT change is fundamental and should be included.

For a quicker and easier use of ITSM BSC, we proposed that causal diagrams’ directions be defined and limited by relations such as "If you pass this objective, it leads to this objective". The relationships showed in figure II by arrows are proposed in other researches [24].
5. Incorporating environment to IT BSC.

More and more, organizations need to consider the virtual boundaries that incorporate environment and social aspects [8], instead of organizations with the classical view that ends with their departments. The new business based on Internet technologies, incorporating globalization of transactions, not knowing the customers / suppliers that interact with them, to add high diversity to IT solutions and have a very dynamic behavior. In the case of IT services, there are external partners and suppliers that participate in an IT organization, and this requires incorporating environment (the philosophy of the "four Ps": People, Processes, Providers and Partners). This makes ITSM BSC, which only has internal objectives and is disconnected from the outside world, of little use. We have introduced a simplified and adapted tool as powerful as Porter's five competitive forces [30] in BSC environment perspective, which triggers the other perspectives. Therefore, BSC considers environment for two reasons:

- Integration with the strategy of partner organizations: According to the Service Management philosophy, it is necessary to connect the internal ITSM BSC and external ITSM BSC organizations that collaborate as service providers. The service management philosophy facilitates outsourcing as an internal service after a given point in time. All these objectives are incorporated in the operation perspective.

- Macro factors that affect our strategy: It is necessary to control environmental variables that affect the objectives of all the perspectives. To analyze the acceptance of a technology, rational and political aspects and environment must often be considered. This suggests an ITSM BSC in which perspectives are
linked to the group of economic, technological and social variables, which are important to consider, and continually control the evolution. Thus, changes in the ecosystem (leaps in technology, macroeconomic variables, level of interconnectivity, agreement maturity, etc.) are a trigger to the majority of IT strategies and, as a result, they have to be included in ITSM BSC. Another benefit of introducing environment in IT BSC is that the actual BSC does not reflect the assumptions and the limitations to support the strategy decisions.

6. Improving measurement of value and selecting variables from the IT BSC causal diagrams.

To value IT objectives in the BSC qualitatively and in isolation is not enough [1]: it requires methods to consistently calculate the integrated value of the causal chain [35] and to consider intangible contributions [3] [14]. Any tool that deploys change, as is the case of ITSM BSC, has to balance the concepts of operational efficiency and strategic innovation. Porter describes these concepts as doing the same in a more optimized (operational efficiency) way or addressing new technology-based activities for differentiation (strategic innovation) [30]. Strategic innovation with complete and deep changes is in line with the philosophy also recommended by Business Process Reengineering (BPR). McFarlan’s matrix considers both concepts of locating Information Systems (IS) according to their strategic positioning.

The five perspectives proposed in paragraph 4 add value to the business regardless of other perspectives (an improvement in customer perspective does not have to come from future perspective), are dependent on each other (an improvement in operation perspective entails advantages in the customer perspective), and must always finish with financial perspective. Therefore, the different perspectives are different value input sources with different payback periods on investment. Dynamic simulation models facilitate obtaining information [2] [28] [31]. In another paper, the author has designed a dynamic model integrated with a IT BSC. Without these simulations it would be difficult to filter which objectives have the most influence in a change process and therefore to select the most suitable objectives.

The Net Present Value used to evaluate IT strategic decisions is calculated using standard formulas that provide value through fourteen factors or value dials that are influenced by IT decisions: compliance with standards and external policies; improved governance and IT management; improved corporate governance; improved branding; optimization of accounts payable and receivable; improved asset efficiency and infrastructure; reduced investment; tax optimization; improving administrative and marketing costs; improvement in cost, production and logistics; improved or business income coverage of needs related to marketing activities; improving revenue or coverage of needs for new products and services; improving income and coverage requirements for new customers, and improved margins by price optimization. This value calculation must include risk consideration that is closely linked to the time horizon to begin cash flows.

7. Integrating IT BSC with the business BSC

Under a modern approach, IT cannot be taken as a business tool or as something isolated from other business areas [19]. In modern organizations, making plans or any significant change requires integrating and considering all the departments involved [11]. The fundamental philosophy proposed is to provide complete strategic objectives in the organization. In order to facilitate the operation and to allow different departments and their managers to exercise their responsibility and authority, the objectives can be broken down into partial objectives by area: financial, production, human resources, commercial, research & development and information systems. With this philosophy, there are simplified classical theories of alignment between business strategies and technology strategies as well as between structures and strategies. Moreover, important strategic objectives are achieved with high added value by making "miscegenation" of all the knowledge areas involved in the strategic objective. It is not recommended to create mono-departmental and independent objectives and then try to convince the rest of the departments to align themselves with something that has already been defined and designed under a single perspective [10]. What is recommended is to design the proposed objectives with some degree of coordination and incorporate all the techniques, methods or functions of the departments affected. After creating this unique and improved objective by consensus, it can then be divided into partial objectives according to the responsibility of the different areas affected. The alignment between strategy and operations is facilitated because strategy deployment through ITSM BSC translates strategic objectives into tactical objectives, and these into initiatives. The only existing misalignment is the delay from embodying to adopting the idea, because the time needed for implementing technological projects is generally longer than time.
needed for running functional or organizational changes.

8. Integrating the IT area using the IT BSC

The vertical integration that provides a breakdown of BSC must be added to the horizontal integration, according to the IT department’s hierarchical organization. BSC has so far shown that the strategic BSC to deploy strategic change and more detailed levels of the organization such as tactical aspects (more detailed and shorter time horizon) should be added to it. BSC is one of the best communication and training tools for decision-making that an organization can implement, ensuring compliance with the strategy at all levels.

The format, perspectives and information that are supported are similar for tactical and strategic ITSM BSC, but with a shorter organizational scope and shorter development time ranges. Logically, in small or medium-sized companies, this further breakdown of ITSM BSC is not required. The strategic and tactical ITSM BSC operation coincides over time, and a double "top / down" and "down / top" adjustment is always required to ensure more added value BSC and consistency.

Figure III shows that for organizations which require a higher level of detail, it is appropriate to detail ITSM BSC, taking the lifecycle of the IT services grouped (development plus transition and operation) into account, plus a third Scorecard, which collects the necessary changes proposed in IT Governance (the governance provides strategic improvements in all IT processes such as IT planning process and continuous improvement process) [13]. ITIL V3 can also give precise instructions on how to address this ITSM BSC breakdown from strategic to tactics. There are three possibilities: breakdown by service provisioning process (service design books and service transition book processes), service area, or market space (combination of archetype of service and service asset). The lowest levels, or operation levels, would meet client or employee objectives without requiring elaborate and comprehensive dashboards. For example, in the case of IT employees, rewards and promotions should be linked to meeting personal objectives (derived from the strategic and tactical objectives) and in the case of suppliers, bonuses and penalties must be linked to fulfilling objectives (linked to strategic and tactical objectives) and their associated Service Level Agreements.

![Figure III. BSC breakdown designed towards IT Service Management and depending on the size of the company.](image)
9. Implementation of the proposed solution in an Insurance company business case

The proposed design is applied to a case study developed by the paper author. The BSC provides coverage for changes in IT services of the IT department of a large insurance company. In the insurance company there was much disagreement on IT Government, mainly due to uncoordinated decisions that led to working with disparate architectures and solutions without taking advantage of synergies. Before designing the ITSM BSC, an evaluation of the Strategic Options was made by using a SWOT analysis (a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats), a PEST analysis (describes a framework of macro-environmental analysis considering Political, Economic, Social, and Technological factors) and a reengineering process analysis of the IT department. The following weaknesses, strengths, threats and opportunities were found:

- The main weaknesses were the lack of scalability of the IT infrastructure, no method for selecting suppliers and dispersion of technological infrastructure.
- The main strengths were a highly technical IT team, fluent in programming languages. The IT Department was used to using metrics and was able to adapt to change.
- The main threats were many new business competitors eager to grow, and with more usable, interactive and advanced information systems.
- The main opportunities were new technological solutions to share resource of existing and new IT infrastructure and a large number of competing providers offering them.

The company has an efficient ERP, with updated versions that are supported on the SAP platform. In the 2010 planning, only one change to COTS (commercial of the shell) or applications services of IT service catalog was considered: an application relating to an employee portal. The principal changes are focused on renewing IT infrastructure and improving the scalability, availability and continuity in the IT infrastructure. The strategic planning process identifies three strategic lines: server virtualization and update of the infrastructure, implementation of an employee portal and IT governance improvement. This change is supported in the 29 objectives.

The three strategic lines are listed below:
- Virtualization of servers and update of the infrastructure (VIR) Virtualization systems were in full acceptance during 2009 in Spain due to their great potential for cost savings and efficient use of the capacity of information systems. The organization was looking for a high growth rate of Information Systems and greater flexibility and adaptability to change. Management was also facilitated by allowing the coexistence of different systems with different characteristics, governed under a single capacity management. It is an example of strategic line triggered by environmental changes: virtualization technologies, maturity and suppliers in competition with the possibility of change, eliminating the dreaded dependence on a single supplier. Internally, managers are also demanding IT services with more variable costs for facilitating the opening of new offices and applications in order to meet changing demands and decrease the implementation lead-times. Within the internal objectives to be achieved, the following could be listed, among others: to design / implement virtualization software, to acquire / configure an infrastructure-monitoring system and to optimize demand and capacity management. With the rapid growth of IT, it is required to update the group of IT servers that cover all the offices in Spain every three years. Within the same strategic line, the update of microcomputers and installation of a test lab infrastructure to minimize risk by previous testing was included.
- Implementation of an employee portal (EMP): The implementation of an employee portal enables company employees to get an agile, fast and easy administration of several of the processes related to human resource management. Another objective of the employee portal is to provide strategic information carried by a new communication office that allows users to be better informed about business aspects, transmit strategic commercial information to customers and reduce the number of doubts and mistakes. In order to be better aligned with the commercial strategy, users are expected to improve customer service through more training and information, and thus increase sales. The other objective is for employees to have information at their disposal to consult their own HR information (payroll, vacation, presence, etc.), to manage the education pathway (open courses, training materials, etc) and to consult general administration information (satisfaction surveys, for example). The technologies proposed are the purchase of a package of knowledge management supplemented with developments by HTML, PHP and Flash.
- Improving IT governance (GOV): Changes in infrastructure will not give the expected results if new models for IT governance are not provided. IT governance leads the change from a classical conception based on internal metrics to a more modern conception based on service level definition, maturity...
levels and service contracts with external suppliers. ITSM BSC requires the organization to be connected through sharing design and integration with ITSM BSC providers of certain services such as major contracts for Application Service Provider. It defines a service catalog and every service is endowed with a complete definition of service level, bonus and penalizations, and standard costs under which they provide the services. There is also a growing concern for continuity aspects. Building on the redefinition of policy caused by the virtualization infrastructure is necessary to develop new roles and procedures and setting instructions to use resources in critical situations.

10. Validation methodology

The use of Action Research was proposed to validate this research. The Action Research methodology was chosen for working up validating this paper for the following reasons:
- The paper is an extensive model not easily translatable to a few variables with a few relationships validated by a short number of hypotheses.
- This governance research has a human and social component that is better improved by the collaboration of researchers and practitioners.
- The paper is designed to solve real problems that happen in IT departments and is more utility-oriented to the professional field than to contribute only academic knowledge.

The general methodology used has four steps: Diagnosing, action planning, action taking, action evaluating. The process of Action Research is done in an iterative process of three phases. After completing the first phase, a pre-model is proposed (performed mainly by the researcher). After that, a second phase is opened, which includes all the improvements by practitioners (in the second and third phase practitioners are deeply involved). After the proposals for improvement and validation of the initial proposed model, the final model is obtained from the third stage.

Given the level of knowledge required to validate the paper, the practitioners chosen to participate in the action research process have been ten experts with over twenty years of experience in the areas of IS, IT Service Management and IT governance. To validate the paper at the end of phase II, the practitioners had to positively answer around fifteen questions per domain area. During the action research process two business cases were developed by the paper author in two companies from the real life (the insurance business case and a new portal of corporate social responsibility).

The research question was: How can we adapt and particularize the balanced scorecard to be used in a more effective and simple way in IT strategies following a well-known and high acceptance service management best practice? The validation process took three years.

11. Conclusion

Balanced Scorecard (BSC) is a discipline that has considerably evolved in recent years and is the most widely accepted discipline in organizations when deploying a balanced strategy and, subsequently, monitoring the evolution of change and its deviations. Moreover, in recent years interesting methodologies, techniques and models which have brought IT to business, as is the case of version 3 of ITIL and its philosophy based on the life cycle of IT services, have appeared. All these ideas have affected IT governance and, consequently, IT Strategic Planning process, one of its most important processes, and its deployment through Balanced Scorecard oriented to IT (IT BSC).

The author does not recommend the use of tools designed for the functional areas without adapting them to the peculiarities of the IT world. This publication discusses different evolutions of the BSC for IT and proposes an optimized design for better integrating IT with business and the environment. It has specified the design, following the guidelines set out by the best practices of IT service management.

12. References


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