

A FOUR-STAGE EVOLUTION MODEL OF BUSINESS-IT STRATEGIC ALIGNMENT: AN INTEGRATED PERSPECTIVE

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ABSTRACT

Business-IT Strategic Alignment (BISA) has been consistently ranked over the past two decades as a one of the top priorities by Chief Information Officers (CIO). This paper reviews the BISA origins, its fundamental concepts, and its frameworks from a pragmatic and integrated perspective. The challenges of BISA are also briefly discussed. The paper contributes to the body of literature with an integrated view of this important concept as gleaned from an analysis of the published works. The paper concludes with recommendations for interpreting the BISA literature and applying the BISA knowledge by practitioners.

INTRODUCTION

Business-IT Strategic Alignment (BISA) has been consistently rated as one of the top priorities by Chief Information Officers (CIO) since the early 1990's [1] [2]. Consequently, numerous research studies have reported on the growth, significance and impact of BISA in industry [3]. Such research endeavors have led to modern concepts and frameworks for understanding the alignment elements, functions and their interrelationships among them, as well as models for identifying internal and external organizational constructs that help to achieve an effective BISA.

By following a similar research goal from Chan and Reich [3], we conducted a methodological and didactical dual objective for reviewing the fundamental antecedents, core concepts and the main frameworks reported in the literature. The BISA origins, its fundamental concepts, and its frameworks from a pragmatic, integrated and organized perspective were also reviewed with additional discussions presented on key scholastic and professional implications. The results of this research presented here will help new BISA researchers and practitioners integrate and organize this complex and diverse topic. This paper also presents an analysis of emergent challenges closely related to the BISA practice and phenomenon. Finally, the paper concludes with limitations and recommendations for further research.

As illustrated in Figure 1, a review of the literature helps establish the antecedents of the BISA concept through the following constructs: 1) the organization's mission, 2) the organization's objectives, 3) the organization's strategy, 4) the Strategic Information Systems Planning (SISP), 5) the strategic IS, 6) the

competitive weapon, 7) the business-IS planning coordination, 8) the business-IS planning coordination dimensions, and 9) the IS strategic alignment. Table 1 below highlights these fundamental constructs extrapolated from the literature.



Figure 1: Framework for analyzing the BISA concept antecedents

| Construct | Definition (Source) |
|--|---|
| Organization's Mission | <ul style="list-style-type: none"> A statement that tells what it is, why it exists, and the unique contribution it can make [4]. |
| Organization's Objectives | <ul style="list-style-type: none"> Qualitative or quantitative broad and timeless statements on organizational desired future positions or destinations that it wishes to reach [4]. |
| Organization's Strategy | <ul style="list-style-type: none"> The general direction which it chooses to move in order to achieve its objectives and goals [4]. A proposed action or sequence of actions intended to have far-reaching effects on the company's ability to achieve its business objectives [5]. |
| Strategic Information Systems Planning (SISP) | <ul style="list-style-type: none"> A process of identifying a portfolio of computer-based applications that will assist an organization in executing its business plans and consequently realizing its business goals [6]. A process of deciding the objectives for organizational computing and identifying potential computer applications which the organization should implement [5]. |
| Strategic IS | <ul style="list-style-type: none"> An application that changes a firm's product, service or the way a firm competes in its industry [7]. |
| Competitive Weapon | <ul style="list-style-type: none"> A resource used by an organization to enhance its overall strategy [7]. A resource used for impacting organizational strategies [6]. A resource used for generating a competitive advantage [8]. |
| Business-IS Planning Coordination | <ul style="list-style-type: none"> An aligned planning realization which derives the information systems strategy from the organization's strategy set [4]. |

| | |
|---|--|
| Business-IS Planning Coordination Dimensions | <ul style="list-style-type: none"> • <i>Content: portions of the Business plan are part of the IS plan and vice versa.</i> • <i>Timing: IS plan is created before, after or during the creation of the business plan.</i> • <i>Personnel: key personnel involved in both plans.</i> |
| IS Strategic Alignment | <ul style="list-style-type: none"> • <i>Consistency of IS goals with corporate goals.</i> • <i>Best fit of MIS objectives with organizational goals and current and projected need of the organization [6].</i> • <i>Process of elaborating a strategic corporate map that describes the different aspects of the corporate strategy and the IS strategy [5].</i> |

REVIEW OF RELEVANT FRAMEWORKS FOR STRUCTURING THE BUSINESS-IT STRATEGIC ALIGNMENT PHENOMENON

A number of BISA frameworks have been reported in the literature. We present a few fundamental frameworks that have been particularly influential. Most of these frameworks below share conceptual similarities in constructs, reflect an established record of research and practice on linking business and technologies; and have their theoretical roots grounded in the Strategic Information Systems Planning (SISP) and IT strategies literature.

Henderson and Venkatraman [9] proposed the Strategic Alignment Model (SAM), which is one of the most widely cited alignment frameworks. The key message of the SAM model suggests that the IT strategy needs to be fully aligned with business strategy in order for a company to be successful. More specifically, in the SAM framework, two kinds of integration between business and IT were identified: 1) strategic integration and 2) operational integration. The first type of integration indicates the link between business strategy and IT strategy. It focuses on the external components and implies that IT strategies are ‘stepping stones’ of business strategy and a firm’s strategic development is the driving force behind IT development. The second type, operational integration, indicates the internal link between organizational infrastructure and processes and IT infrastructure and processes.

More recently, Weiss et al. [10] proposed an important extension of BISA research that shows three profiles linking IT to distinct business objectives and suggested that alignment frameworks need to move beyond “how to” checklists and must recognize different patterns of alignment for different organizations’ goals. Supporting Baets’ [5] premises, Weiss and Thorogood [11] argued that previous alignment frameworks continue to be too internally focused and omit external dimensions such as the stakeholders, environments, and markets. Furthermore, earlier frameworks prescribe alignment guidelines as a top-down, lower, or even mid-level process only, while in reality individuals and teams often plan and perform alignment on an ad-hoc basis. Finally, there are no specific means to measure the degrees of internal efficiency and external market engagement resulting from an organization’s BISA. The lack of measurement calls for assessment methods and alignment models, such as the strategic alignment maturity framework proposed by Luftman [12].

The three alignment profiles according to their intended end-purpose are: 1) technical resource, 2) business enabler, and 3) strategic weapon [10] [11]. These three alignment profiles were defined based on dimensions of internal IT-business integration and external market engagement, addressing both internal and external alignment issues. The first profile, technical resource profile, calls for low levels of IT-business integration and IT-market engagement. The second level, business enabler profile, deploys

IT in some business processes and begins engaging IT with customers and suppliers. The third and highest, strategic weapon profile, utilizes IT to mobilize and extend the enterprise, which requires extensive IT deployment both internally and externally. When aligning IT as a “Strategic Weapon”, either a combined IT-business strategy or a business strategy integrating IT capabilities drives the strategic use of IT.

Only a few fundamental BISA frameworks are presented in the current literature; however, there are many other frameworks in the literature which provide helpful insights and empirical evidence on the Business-IT alignment strategies and processes [3]. Most of these frameworks share conceptual similarities in constructs (e.g., four dimensions of business strategy, business structure, IT strategy, and IT structure) and derived their theoretical foundations from the Strategic Information Systems Planning (SISP) and Business-IT strategies literature.

IMPLICATIONS AND DISCUSSION ON THE BUSINESS-IT STRATEGIC ALIGNMENT PHENOMENON

The extensive literature dedicated to this field since the 1970s implies that the concept is complex, meaning that it is highly dynamic, with multiple contingency-based interrelationships, with no simple linear cause-effect patterns, and with social and technological systems interplays [13]. Conceptualizations and frameworks have helped to grasp a better academic understanding but a single solution is far from being reached.

Thus, our primary claim is that achieving an effective BISA can be considered a challenging yet complex adaptive system where social and technological systems interplay [14]. A similar conceptualization as a complex adaptive system is reported in Tanriverdi et al. [15]. Additionally, we suggest a shift on the three quests of the BISA concept, as follows:

- a) From an alignment approach to a co-evolution approach of the Business-IT strategic interplay within the competitive landscape of modern organizations.
- b) From a passive and static Integration approach to an active and dynamic Reconfiguration approach: the Business-IT strategic interplay should enable the organization to reconfigure its network of contracts, resources, and transactions to support the firm’s dynamic co-evolution with a vibrant, rugged, competitive landscape.
- c) From a monotonic trend of sustained competitive advantage to a creative destruction pattern of renewal: the Business-IT strategic interplay should enable a firm to get a series of competitive advantages in its business environment, destabilize and unlearn the reasons behind previous advantages to create new ones, and repeat this pattern.

Our integrative review permits us to propose an evolution model of the BISA practice as follows (Figure 2):

- **Pre-era:** the business strategy was totally unlinked to the IT strategy (if any).
- **Former era:** the business strategy drives (via the alignment concept) the IT strategy.
- **Competitive era:** the business strategy is impacted by the IT strategy (as a competitive weapon).
- **Complex System era:** the business strategy interplays concurrently with the IT strategy (as a complex adaptive system).

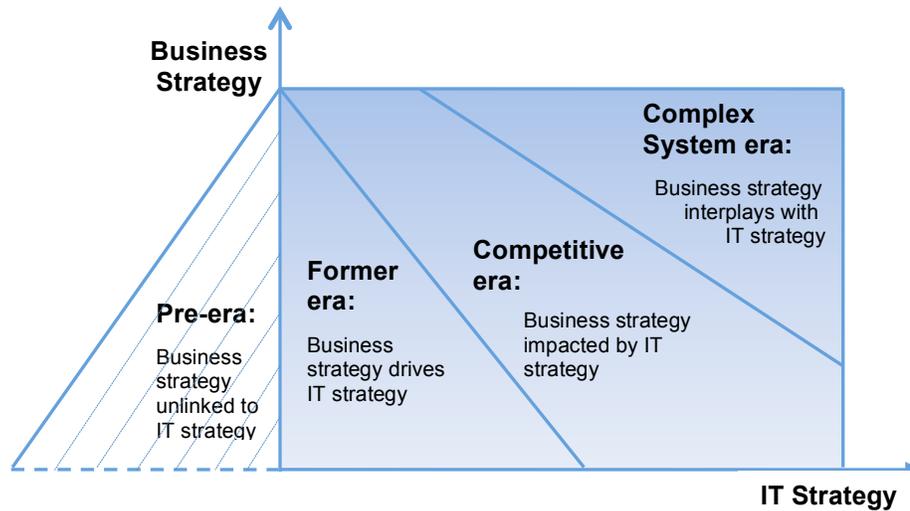


Figure 2 – Evolution Model of the Business-IT Strategic Alignment Phenomenon

To this end, required research on BISA interplay based on complexity science as a suitable lens for articulating multidisciplinary research and dealing with the future challenges in a coherent manner, is highly recommended [14]. Similarly, Chan and Reich [3], suggest that this new research can focus on new theoretical underpinnings by the greater use of well-established theories (e.g., institutional theory, the resource based view of the firm and stakeholder theory) through the lenses of complex adaptive systems.

From an applied perspective, CIOs of worldwide organizations are facing these challenges and they look to the academic and research communities to provide advanced and current conceptualizations and frameworks to cope with this complex phenomenon. This integrative review paper adds to this body of knowledge and helps facilitate additional research endeavors. A logical evolution of the origins and challenges of the BISA phenomenon were introduced. Based on the richness and variety of research findings on this complex phenomenon, we can present the following recommendations and cautions for CIOs:

- **IT Strategy and Business Strategy are strongly intertwined.** CIOs should be part also of the Executive team and establish a minimal business climate of mutual respect, trust and responsibility.
- **IT Strategy and Business Strategy are highly impacted by the business environment.** CIOs and the Executive team should be totally aware of the environmental changes including competitors, customers, regulators, and other relevant components.
- **Sophisticated BISA methodologies are neither efficient nor effective.** Several research findings suggest that executive's team should be careful in selecting a suitable planning methodology and avoiding the wasteful intellectual exercises for the sake of the methodology rather than the business.

CONCLUSIONS

For over two decades, BISA has been consistently considered as a top priority by CIOs and IT practitioners. Numerous studies have been conducted on many facets of this relevant organizational objective, but related literature is vast and highly varied for new researchers and practitioners. In this research, we have provided an in-depth review of the fundamental antecedents, core concepts and the

main frameworks of BISA reported in the literature. Along the process, we have developed an integrated and organized view on the strategic alignment between business and IT and proposed a four-stage evolution model of the Business-IT Strategic Alignment phenomenon. This paper also analyzes the emergent challenges, new perspectives and future directions of this important yet complex topic.

Finally, this paper contributes to the literature with an integrated view and a four-stage evolution model of this relevant phenomenon derived from a thorough analysis of prominent knowledge sources. This paper elicits a set of recommendations for interpreting the literature and applying the rich body of knowledge for IT practitioners. Given the importance and complexity of the BISA, we encourage and anticipate continued research efforts to investigate and establish advanced and updated conceptualizations and frameworks to cope with this complex yet critical subject.

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