



## Business-IT Alignment: A practical research approach



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### ABSTRACT

The purpose of this study is to empirically investigate the impact of Business-Information Technology Alignment, or BIA, on organizations and to revisit the BIA antecedents by using data from hotel sector of the service industry.

The research model was developed based on the literature and inputs from the hotel industry and IT experts, using the Structural Equation Modeling (SEM) technique in data analysis, and data from phone interviews that were conducted with both business and IT personnel from 3 to 5 star hotels in Thailand.

We found that Business-IT Alignment does have a positive relationship with organizational performance. Shared domain knowledge was found to have the highest relationship with Business-IT Alignment while IT management sophistication had the least impact, but in a negative direction, while organizational size was found to be a moderator. Other BIA antecedents were effective communication, IT operational and implementation success, and planning sophistication.

This study developed a model that integrates the alignment between the strategic and operational levels which offers a holistic view of BIA, different from previous studies that considered only one or the other level. Secondly, we cross verify the antecedents from the literature and actual practice by interviewing experts in the industry. Finally, we revisited measurements and relationships among the constructs so that the model is up-to-date and applicable to the current business environment.

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## 1. Introduction

Business-Information Technology Alignment or BIA has been proven by many researchers to help organizations in a variety of ways, such as by maximizing the return on Information Technology (IT) investment (Avison, Jones, Powell, & Wilson, 2004; Kashanchi & Toland, 2006); helping to identify the true value of IT (Byrd, Lewis, & Bryan, 2006; Kohli & Devaraj, 2004; Tallon, 2007–8; Tallon & Kraemer, 2007); and helping to improve IT usage (Beimborn, Franke, Wagner, & Weitzel, 2007; Wagner, Beimborn, Franke, & Weitzel, 2006). BIA was also found to moderate the relationship between IT investment and firm performance (Byrd et al., 2006) which suggests that firms can increase their performance without necessarily increasing their IT investment but by instead increasing the alignment between business and IT.

It is possible to assess the degree or level of alignment in order to make it more tangible. For example, Luftman (2000) assessed the alignment processes in organizations and proposed an alignment maturity scale composed of these five levels: the initial/ad hoc

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process; the committed process; the established focused process; the improved/managed process; and the optimized process. Weiss and Anderson (2004) adapted Daft's (2001) model to an alignment value matrix that considered two axes: the level of integration between business and IT, which represent the organizational management aspect; and the value that IT contributes to business, which represents the system's complexity aspect. These two axes can reflect the alignment profile of an organization, which consists of the operational resource profile, the strategic resource profile, and the strategic weapon profile.

These two examples attempt to identify the level of BIA to show organizations what they should do to improve their alignment (Luftman, 2000, p. 20) so as to obtain the optimal benefits from BIA. Once the actual BIA level, or stage, has been identified, organizations can then decide whether to remain at the same alignment level or try to achieve a better alignment.

## 2. Problem statements and research objectives

To increase the alignment level, an organization must be able to first identify, and then understand, the BIA enablers or antecedents. Only then will it be able to focus on the most critical items that can dramatically improve the BIA. An ability to recognize what causes BIA can reduce the risk of alignment management failure, which is mostly caused by an inefficient management of the organization's resources (Weiss & Anderson, 2004) and which in turn, wastes precious time and money from effort to resolve IT-related problems (Chan, 2002).

This research study aims to clarify theoretical conflicts in the literature and update the findings regarding recent technology. The key question that we aim answer is "What are the antecedents of BIA as of today?" This question is not new to this research area. However, the answer can change over time due to the continuous development of new technology and changes in the business environment. We revisited past findings on BIA antecedents, as well as gathered new information from actual business practices so as to formulate an appropriate model. To be sustainable, organizations need to be adaptable enough to respond to their current environment (Weiss & Anderson, 2004, p. 9). This is why a study on BIA antecedents can become a continuous study.

Based on the problem statement, we developed three research objectives. The first one was to revisit the impact of BIA on organizational performance but consider it in the context of its current environment. The second objective was to identify the antecedents of BIA, and then, the last one, was to verify the different impacts the antecedents had on BIA.

## 3. What's new in Business-IT Alignment research

Business-IT Alignment, or BIA, can be defined as "applying information technology (IT) in an appropriate and timely way, in harmony with business strategies, goals and needs" (Luftman, 2000, p. 3; Luftman, Papp, & Brier, 1999, p. 3). Alternately, it can also be explained in terms of "linkages between business and IT at the strategic or planning level, which is the degree to which the IT mission, objectives, and plans support, and are supported by, the business mission, objectives, and plan." (Chan & Reich, 2007; Chung, Rainer, & Lewis, 2003; Reich & Benbasat, 1996, p. 56; Reich & Benbasat, 2000, p. 82; Tan & Gallupe, 2006).

Despite the above definitions, BIA research varies in terms of focus and context. For example, alignment has been studied at the strategic level (Cragg, King, & Hussin, 2002; Kefi & Kalika, 2005; Luftman, 2000; Silva, Figueroa, & Gonzalez-Reinhart, 2007); at the operational level (Beimborn, Schlosser, & Weitzel, 2009); at the IT project level (Jenkin & Chan, 2010); and by comparing the alignment between organizational structure and IT structure (Chan, 2002; Croteau, Solomon, Raymond, & Bergeron, 2001; Gordon & Gordon, 2000).

Early studies on Business-IT Alignment tended to focus on the alignment between business strategies and IT strategies (Beimborn et al., 2007). The reasons for going in this direction could come from the assumption that once the strategies were aligned, the structure would then follow. In addition, some case studies found that alignment at the strategic level was considered more important than at the operational one because the management was expecting a greater return from the strategic level than from the operational level (Chan, 2002).

For this study, Business-IT Alignment refers to an alignment between the whole business entity and IT entity from the strategic to the operational levels. This BIA study focuses on how business and IT can be partnered in managerial practice throughout an organization's operation. It shows how well people working in organizations can learn and share knowledge with each other, as well as, be able to use it strategically. The synchronization between the strategic and operation levels does matter to an organization. Bergeron, Raymond, and Rivard (2004) found that the organization that had no conflict in the alignment among business strategies, IT strategies, business operations and IT operations achieved a better performance. Once the strategic level is set well, the organization also needs to follow this up at the operational level too. The strategy cannot be effective if it is not able to transform it into a real operation (Feurer, Chaharbaghi, Weber, & Wargin, 2000). Therefore, the ability to execute the strategies at the operational level should be recognized as equal important. As a consequence, the evaluation of Business-IT Alignment in an organization should also contain both strategic and operational levels.

This study, then, considers the alignment between business and IT strategies together in the so-called "Strategic Business-IT Alignment", or "Strategic BIA", together with the alignment between business and IT infrastructure and processes, or the so-called "Operational Business-IT Alignment", or "Operational BIA". There have been claims that research containing both levels does not yet exist (Beimborn et al., 2007). This gap led to our research objective to develop a model that could include both Strategic BIA and Operational BIA to represent the overall BIA of an organization and that could also identify the antecedents of BIA in order to demonstrate their impact on an organization.

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