Infact: Computer International Journal (ICIJ)
Vol.10, No.02, Agustus 2026
p-ISSN : 2527-8363, e-ISSN: 2829-0259
DOI:

Evaluation of Strategic and Information Technology Alignment Using the Strategic Alignment Model (SAM) at Shanti Bhuana Institute

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Submitted: 04/15/2026 , Revision: 08/08/2026 , Accepted : 08/21/2026

Abstract

Alignment between organizational strategy and information technology (IT) is a critical factor in improving institutional performance, particularly in higher education institutions facing rapid digital transformation. This study evaluates the alignment between institutional strategy and IT at Shanti Bhuana Institute using the Strategic Alignment Model (SAM) developed by Henderson and Venkatraman, with the aim of identifying existing gaps and providing recommendations to improve IT utilization and institutional effectiveness. A descriptive qualitative approach was employed, with data collected through semi-structured interviews, direct observation, and documentation studies, and analyzed across the four domains of SAM: business strategy, IT strategy, organizational infrastructure and processes, and IT infrastructure and processes. The results indicate that Shanti Bhuana Institute has implemented various IT initiatives to support academic and administrative activities; however, notable gaps remain in the integration of strategic planning, communication between management and the IT unit, and the optimization of IT resources. These communication-related gaps are further explained through Media Richness Theory, which shows that strategic and ambiguous information is often conveyed through communication channels that are too lean for its complexity. The study concludes that strengthening IT governance, improving the richness of communication between units, and developing integrated IT strategic planning are essential steps toward achieving a higher level of strategic and IT alignment. The findings are expected to provide practical guidance for improving IT implementation in similar higher education institutions.

Keywords:
Keyword1; Strategic Alignment
Keyword2; Information Technology
Keyword3; Strategic Alignment Model
Keyword4; Media Richness Theory
Keyword5; Higher Education
Keyword6; IT Governance

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1. Introduction

The rapid development of information technology (IT) has driven organizations, including higher education institutions, to adapt strategically in order to improve performance and competitiveness. Higher education institutions are required not only to produce quality graduates but also to manage resources effectively and efficiently through the utilization of information technology. In this context, the alignment between an institution's business strategy and its information technology strategy becomes a key factor in achieving organizational goals optimally [1].

Strategy and information technology alignment commonly referred to as IT-business alignment is a concept that emphasizes that the implementation of IT must be consistent with an organization's vision, mission, and strategy. Misalignment between the two can lead to inefficiencies, wasted resources, and failure to support core business processes; therefore, a systematic approach is needed to evaluate the level of alignment [2]. One of the frameworks most widely used to analyze strategy and IT alignment is the Strategic Alignment Model (SAM), developed by Henderson and Venkatraman [7]. This model emphasizes the linkages between four main domains: business strategy, IT strategy, organizational infrastructure and processes, and IT infrastructure and processes. By using SAM, organizations can identify existing gaps and formulate strategic steps to improve alignment [3].

Shanti Bhuana Institute, as one of the growing higher education institutions in Indonesia, also faces challenges in integrating its business strategy with the utilization of information technology. Along with the increasing demand for digital-based academic services, the institution needs to ensure that IT implementation comprehensively supports its strategic objectives. Based on this background, this study aims to evaluate the alignment between strategy and information technology at Shanti Bhuana Institute using the SAM approach. The results of this study are expected to provide an overview of the existing level of alignment, as well as a basis for developing strategic recommendations to improve the effectiveness of information technology utilization in higher education institutions.

Novelty and Contribution

Although SAM has been widely applied in previous research, most existing studies in the Indonesian context focus on large public universities or corporate organizations, with relatively limited attention given to small and newly established private higher education institutions such as Shanti Bhuana Institute. The novelty of this study lies in its comprehensive application of all four SAM domains rather than a single dimension to a young, resource-constrained institution, combined with an explicit analysis of the communication dynamics between management and the IT unit through the lens of Media Richness Theory [11]. This dual perspective, combining a strategic management framework with an organizational communication theory, is intended to explain not only where misalignment occurs, but also why it occurs from a communication-process standpoint. This is expected to provide both theoretical enrichment to the strategic alignment literature and practical guidance for institutions with similar organizational characteristics.

2. Literature Review

The literature review in this study serves as a conceptual foundation for understanding various approaches that have been used in prior research on business strategy and information technology alignment in organizations, particularly higher education institutions. Through a review of previous studies, the author compares the models and methods used and explores relevant concepts to strengthen the direction of the research. This review also aims to map the position of this research within the existing scientific landscape while clarifying the novelty and contribution generated [4]. The sources used include both national and international scientific publications, so that a comprehensive picture of research developments in this field is obtained [5].

2.1 Previous Studies

The first study, by Henderson and Venkatraman, introduced the Strategic Alignment Model (SAM) as a foundational framework for analyzing the alignment between business strategy and IT strategy. This study emphasizes the importance of integration between the business and IT domains through four main perspectives — business strategy, IT strategy, organizational infrastructure, and IT infrastructure — and shows that good alignment can improve organizational effectiveness and create competitive advantage [7].

The second study, by Luftman, developed the Strategic Alignment Maturity Model (SAMM), which extends SAM into a quantitative, questionnaire-based maturity assessment covering six criteria, including communication, governance, partnership, and human-resource competence. The results show that organizations with higher alignment maturity tend to achieve better IT-utilization performance [8].

The third study, by Yunis and Surendro, examined IT strategy alignment in higher education institutions in Indonesia using a qualitative approach and found persistent gaps between institutional strategic planning and IT implementation, particularly regarding system integration and management support [10].

The fourth study, by Ward and Peppard, emphasized the importance of SI/IT strategic planning as a basis for achieving alignment, showing that organizations

with mature strategic planning processes tend to be more successful in implementing IT that corresponds to business needs [9].

The fifth study, by Chan and Reich, examined the relationship between alignment and organizational performance and found a positive relationship between the level of alignment and improvements in both operational efficiency and service innovation [12]. A related stream of work by Reich and Benbasat further shows that shared domain knowledge and frequent, high-quality communication between business and IT executives are the strongest predictors of the social dimension of alignment [15], reinforcing the relevance of a communication-based perspective for the present study.

In contrast to these previous studies, the present research focuses specifically on evaluating strategy and information technology alignment in a higher education context — Shanti Bhuana Institute — using the SAM approach comprehensively across all four domains, while also incorporating an organizational communication theory to explain the mechanisms behind the gaps identified. This combination is intended to provide more contextual and actionable recommendations for improving the effectiveness of information technology utilization at Shanti Bhuana Institute.

2.2 Comparison of Business-IT Alignment Approaches

Several frameworks are available for assessing business-IT alignment, most notably SAM [7], the Strategic Alignment Maturity Model or SAMM [8], and the Ward and Peppard SI/IT strategic planning framework [9]. Each has a different focus, strength, and data requirement, as summarized in Table 1. This comparison provides the empirical basis for selecting SAM as the primary analytical lens in this study, as further explained in Section 3.

Table 1. Comparison of Business-IT Alignment Approaches

Framework	Main Focus	Strength	Limitation in This Study's Context
Strategic Alignment Model – SAM [7]	Structural fit between business and IT across strategy and infrastructure domains	Provides a comprehensive, domain-based diagnostic view; well suited to qualitative, in-depth case analysis	Does not by itself produce a numerical maturity score
Strategic Alignment Maturity Model – SAMM [8]	Quantitative maturity scoring based on six criteria via structured questionnaires	Enables benchmarking and longitudinal comparison across institutions	Requires a larger, standardized respondent base than is available at a small, young institution
Ward & Peppard SI/IT Strategic Planning [9]	Process of deriving SI/IT strategy from business strategy	Strong guidance for the strategy formulation process itself	Less suited for diagnosing the current structural relationship between existing domains

As shown in Table 1, SAM was selected because it offers a structured yet flexible diagnostic view of all four alignment domains without requiring a large standardized sample, making it appropriate for an in-depth, descriptive qualitative study of a single, relatively young institution such as Shanti Bhuana Institute.

2.3 Rationale for Selecting SAM

Beyond strategic management frameworks, the effectiveness of strategy and IT alignment is also strongly influenced by how information is exchanged between organizational units. This study therefore also draws on Media Richness Theory, proposed by Daft and Lengel [11], which explains that communication channels differ in their capacity to convey information, resolve ambiguity, and provide immediate feedback. Rich media — such as face-to-face meetings — allow for immediate feedback, multiple cues, and natural language, and are therefore suitable for conveying complex, ambiguous, or strategic messages. Lean media — such as written memos, e-mail, or standard reports — are more appropriate for simple, unambiguous, routine information.

This perspective is rooted in classical communication theory, notably the Shannon-Weaver model, which conceptualizes communication as the transmission of a message from a sender through a channel to a receiver, a process susceptible to “noise” that distorts meaning [14]. Media Richness Theory extends this foundational model by explaining how channel choice affects the amount of ambiguity, or “noise,” present in organizational communication. When strategic or ambiguous information — such as changes in institutional strategy that require IT adaptation — is communicated only through lean channels, the recipient (in this case, the IT unit) may misinterpret or under-prioritize the message, producing a gap between what management intends and what IT ultimately implements. This theoretical lens is used in Section 4 to help explain why the communication gaps between management and the IT unit identified through SAM analysis occur, and to strengthen the practical recommendations proposed in the discussion.

3. Methods

This study uses a descriptive qualitative approach to evaluate the alignment between organizational strategy and information technology at Shanti Bhuana Institute. This approach was chosen because it provides an in-depth picture of the actual conditions and problems occurring in the application of information technology in the higher education environment. The object of this research is the alignment between business strategy and information technology using the Strategic Alignment Model. The subjects of the research include parties involved in the planning and use of information technology, such as institutional leaders, the information technology unit, administrative staff, and information system users.

Data collection was carried out through three techniques: interviews, observation, and documentation studies. Interviews were conducted in a semi-structured manner to obtain information related to institutional strategy, information technology implementation, and the obstacles faced. Observations were made by directly observing the use of information systems and ongoing business processes. The documentation study examined supporting documents such as the institutional strategic plan, organizational structure, and IT-related policies. Data analysis was carried out using descriptive qualitative methods through the stages of data reduction, data presentation, and conclusion drawing, as illustrated in Figure 2. To ensure the validity of the data, this study uses source and method triangulation by comparing findings across interviews, observation, and documentation.

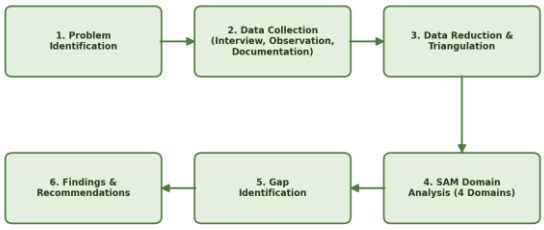

Figure 2. Research Methodology Flow

Figure 2.Research Methodology Flow

3.1 Rationale for Selecting SAM

As summarized in Table 1, SAM was selected over SAMM and the Ward and Peppard framework because Shanti Bhuana Institute is a relatively young and small-scale institution, where the number of key informants involved in strategic and IT decision-making is limited. A descriptive, domain-based qualitative analysis using SAM was therefore considered more appropriate than a large-sample quantitative maturity survey such as SAMM, while still providing a structured and comprehensive diagnostic view across the four alignment domains illustrated in Figure 1.

3.2 Operationalization of the SAM Domains

Each SAM domain was operationalized into specific indicators and linked to a corresponding data-collection technique, as presented in Table 2. This operational framework guided both the interview protocol and the documentation review, and directly informs the analysis matrix presented in Section 4 (Table 3).

Table 2. Operationalization of SAM Domains

SAM Domain	Key Indicators	Primary Data Source
Business Strategy	Institutional vision and mission; strategic plan (Renstra); strategic priorities	Document study (strategic plan); interviews with institutional leadership
IT Strategy	IT vision/roadmap; IT policy; prioritization of IT initiatives relative to business goals	Document study (IT policy/roadmap); interviews with IT unit head
Organizational Infrastructure & Processes	Organizational structure; decision-making process; coordination mechanism between management and IT	Interviews with management and staff; observation of governance/coordination meetings
IT Infrastructure & Processes	System architecture; application/data integration; IT service management practices	Observation of information systems in use; technical documentation

4. Results and Discussion

Based on the results of document analysis, institutional reports, interviews, and literature comparison, the level of alignment between business strategy and information technology strategy at Shanti Bhuana Institute assessed against the four domains illustrated in Figure 1 shows several important findings. In general, the institution has implemented various IT initiatives to support academic and administrative activities, such as an academic information system, an administrative service portal, and an e-learning platform. However, the integration between business strategy and IT strategy is not yet optimal, resulting in gaps in strategic planning and IT utilization.

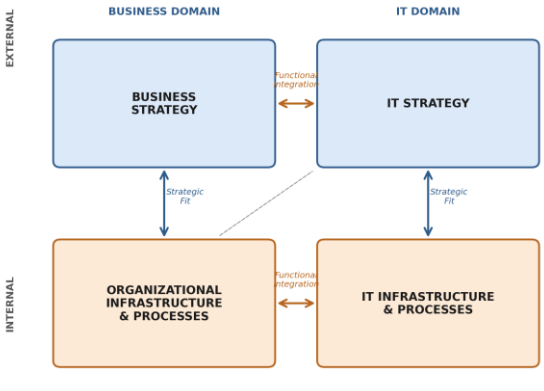

Figure 1. The Strategic Alignment Model (adapted from Henderson & Venkatraman, 1993)

Figure 1. The Strategic Alignment Model applied in this study (adapted from Henderson & Venkatraman, 1993)

Using the operational indicators defined in Table 2, the findings for each SAM domain are summarized in the analysis matrix presented in Table 3.

Table 3. SAM-Based Alignment Analysis Matrix at Shanti Bhuana Institute

SAM Domain	Current Condition	Identified Gap	Alignment Level
Business Strategy	Clearly formulated and reflects the institution's vision and mission	Not yet fully translated into a corresponding, integrated IT roadmap	Medium–High
IT Strategy	Still reactive and largely operational, addressing ad hoc needs rather than acting as a strategic enabler	Limited long-term strategic prioritization and roadmap for IT development	Low–Medium
Organizational Infrastructure & Processes	Governance structure exists, but coordination between management and the IT unit is limited	Strategic plans and policies do not consistently involve the IT unit; strategic discussions often rely on lean communication channels rather than rich, interactive dialogue (see Media Richness Theory, Section 2.3)	Low–Medium
IT Infrastructure & Processes	Multiple systems (academic information system, portal, e-learning) support administrative and academic operations	Partial system integration causes data duplication and inefficient information processing	Medium

Analysis using SAM shows that the business strategy domain has been formulated clearly and reflects the institution's vision and mission. Conversely, the IT strategy domain is still reactive and more focused on operational support than on acting as a strategic enabler, indicating that IT has not yet been fully utilized to support strategic objectives comprehensively. In the domain of organizational infrastructure and processes, document analysis and interviews reveal limitations in communication between management and the IT unit: several strategic plans and policies do not consistently involve the IT unit in their formulation, increasing the potential for data duplication and inefficient processes downstream. The IT infrastructure and processes domain reveals that the utilization of information technology resources already supports administrative and academic operations, but system integration and process optimization still require improvement.

4.1 Interpretation Through Media Richness Theory

Viewed through Media Richness Theory [11], the communication-related gap identified in the organizational infrastructure and processes domain becomes clearer. Strategic decisions such as changes in institutional priorities that require corresponding IT adjustments are inherently ambiguous and benefit from rich communication channels that allow immediate feedback and clarification, such as face-to-face coordination meetings. Interview data suggest that at Shanti Bhuana Institute, such strategic information is frequently conveyed through comparatively lean channels (e.g., written memoranda or isolated, infrequent meetings) rather than sustained, interactive dialogue between management and the IT unit. Consistent with the Shannon-Weaver model of communication [14] and with Reich and Benbasat's finding that shared domain knowledge and frequent communication are the strongest predictors of alignment [15], this channel mismatch introduces “noise” into the transmission of strategic intent, increasing the likelihood that the IT unit implements systems that only partially reflect management's actual priorities. This provides a communication-based explanation for why, despite a clearly formulated business strategy, the resulting IT strategy remains reactive rather than strategically driven.

Analysis of the literature and comparison with best practice further shows that IT strategy should be more directed toward service innovation and business process efficiency in order to play a key role in achieving institutional goals [9], [12]. Overall, the alignment of strategy and IT at Shanti Bhuana Institute is at a medium level. To improve alignment, recommended actions include strengthening IT governance, preparing an IT strategic plan that is integrated with business strategy, increasing coordination between IT-related units, and deliberately selecting richer communication channels such as regular joint strategic-planning meetings for conveying complex or ambiguous strategic information between management and the IT unit. These steps are expected to maximize the utilization of IT to support academic and administrative effectiveness at the institution.

5. Future Research

This study is exploratory and descriptive in nature, focusing on a single institution through a qualitative approach; several directions for future research are therefore proposed. First, future studies could apply a quantitative maturity assessment, such as Luftman's SAMM [8], to produce a numerical

alignment score enabling benchmarking with other higher education institutions over time. Second, a longitudinal study tracking Shanti Bhuana Institute's alignment level across multiple years would help capture the dynamic and evolutionary nature of strategic alignment. Third, future research could examine communication richness as a mediating variable between governance practices and alignment outcomes using quantitative methods such as structural equation modeling, building on the communication-theory perspective introduced in this study. Finally, comparative studies across several small and medium-sized private higher education institutions in Indonesia would help generalize these findings beyond a single-institution case study.

6. Conclusions

Based on document analysis, interviews, and literature study using the Strategic Alignment Model, it can be concluded that the level of alignment between business strategy and information technology strategy at Shanti Bhuana Institute is at a medium level. The business strategy has been formulated clearly and reflects the institution's vision and mission, while the IT strategy remains reactive and more focused on operational support than on acting as a strategic driver. The main gaps lie in the integration of strategic planning, communication between units — which, as explained through Media Richness Theory, is often conducted through channels too lean for the ambiguity of strategic information — and the optimization of IT resource utilization.

To improve strategy and IT alignment, it is necessary to strengthen IT governance and prepare an IT strategic plan that is integrated with business strategy. Increased communication and coordination between units — including a deliberate shift toward richer communication channels for strategic and ambiguous information — also needs to be pursued so that business needs are conveyed effectively to the IT unit, reducing duplication and process inefficiency. Furthermore, IT strategy should be directed to support service innovation and business process efficiency so that IT can play a strategic, driving role that increases the overall effectiveness of the institution.

Acknowledgments

We would like to thank the ISB IT Journal Team for providing this writing template. We would also like to thank Shanti Bhuana Institute, especially its leaders, IT unit, and administrative staff, who provided important documents and information for this analysis. Their support and cooperation were of great help in completing this research. It is hoped that the results of this research can be useful for the development of strategy and the utilization of information technology in higher education institutions.

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