

ITIL Its Effectiveness: Decision Makers' Perspectives

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Effectiveness of ITIL: Decision makers' perspectives

Abstract: Information Technology (IT) is a fast-growing field interrelating many disciplines to fulfill business computing and transactional processing needs. Information technology encompasses hardware, software, and network communications software and hardware to provide high quality services and products. The advancement of network telecommunications and related technologies has served as a catalyst to many organizations to advance the way to conduct business. More businesses now utilized web-based computing and transactional processing. Organizations faced dealing with rapid technology changes and complex IT disciplines while conducting business. Often, business leaders who demanded speedy changes undermined considerations for adhering to a process model to assist in transitioning and adopting new technologies. Several factors may contribute to misalignment, such as lack of a process model, inadequate resources, defects in IT governance, and the difficulty of managing rapidly changing technology. Previous studies have examined the effectiveness of the Information Technology Infrastructure Library (ITIL); and how well ITIL aligns with corporate business strategies.

This paper examines the decision makers' perspectives on effectiveness of ITIL process model on its relation to business strategies. The study investigates the potential benefits of adopting a process model to improve key related business processes. The intent is to examine whether a strategic IT business alignment exists when selecting a prescribed process model in an enterprise. The paper evaluates the effect of leadership decisions regarding the adoption and implementation of a prescribed process model and its success within an organization. Corporate decision makers invited to share their understandings of ITIL; its relationship with business strategies and whether or not there are perceived challenges and gaps in adopting a predefined process model.

Decision makers expect concurrent executions of business and integration of new IT technologies help to alleviate the business requirements and meet their business goals and objectives.

Introduction: Project management is critical to IT development and helps to keep IT projects on track through each cycle. A Wall Street Journal report stated recent research revealed managing IT projects well could significantly improve a firm's profits and improve IT investments [3]. IT project management is often a process used to keep the project within technical limitations, within the allowed budget, and within a deterministic schedule [38]. The Standish Group's "CHAOS Summary 2009" showed the project success rate had decreased, with the data revealing a success rate of just 32% of IT software projects; that is, completion within the allowed schedule and cost. The report showed roughly half (44%) the projects were minimally acceptable and required additional work. Lundquist [25] believed the underlying reasons for IT projects failures included rapid, increased changes in technologies, business requests, and communications.

The IT business communities, government agencies, and academia all shared consensus regarding the effectiveness of diffusing a process model in IT enterprise [41][42]. To overcome the daunting task, corporate, government, and academic organizations joined forces to develop IT, software, and business process models to deal with the problems [41][42]. Even though the

specific details among various process models and approaches were different, collectively, they agreed in having a framework to embrace changes in IT/software and business process [41][42] .

Information Technology Infrastructure Library (ITIL): In the early 1980s, the British government pioneered ITIL, which later became one of the best-practice methods engaging public and private participants worldwide. ITIL earned its fame through a full sequence of steps the organizations could use to implement their IT processes to establish specific tasks such as “service desk, problem management, incident management, relationship management, and configuration management” [17, pp. 1-2]. Many organizations used ITIL as the accepted framework; enabling IT managers utilize a series of proven processes and methodologies to conduct their business services [35]. A September 2009 survey of the state of ITIL globally indicated 56% of IT organizations surveyed used ITIL v2, 31% had upgraded to ITIL v3 from v2, and 13% used ITIL v3 from scratch [14].

Many governments and private sectors chose to adopt and implement ITIL. ITIL is a highly suitable framework for IT enterprises because it describes how to organize IT resources; the framework includes a set of practices to describe roles and functions of IT Service Management (ITSM), and documentation of processes to deliver business value. In US, several Fortune 500 companies have adopted ITIL as their corporate process model; including Microsoft, Barclays Bank, and Disneyland. These companies have reported the successful implementation of ITIL to perform their service management. ITIL provides accredited training, assessment tools, and a comprehensive qualifications scheme [4] to help organizations to become successful in deploying ITIL. Companies use IT as a critical resource to sustain and compete in a global market. IT can drive an enterprise’s competitive strategy, act as a key factor of a business process, and form the crucial infrastructure of enterprise information flow [33]. For three decades, strategic alignment had been the top concern among leaders [6][24][36]. The existence of IT business alignment could help organizations to deliver systems and services critical to the enterprise strategies, processes, or customer needs [15].

Studies in the United States, Europe, and Australia had shown ITIL as one of the best approaches to align business and information technology [19][27]. ITIL processes, when fully implemented, could improve service level to support an organization’s work needs [37]. The benefits of using ITIL included:

- Improved service quality [8][9][21],
- Standardization of service [8][20],
- Improved customer satisfaction [8][20][32],
- Best practices [13][21],
- Increased return on investment [8][9][20][21],
- Increased information and communication technology [21],
- Reduced support costs [8][21], and
- Compliance with regulatory requirements [21].

The critics of implementing ITIL claimed the implementation of ITIL differed from organization to organization. The ITIL Foundation [18] indicated, “The IT infrastructure Library can be used within organizations with existing methods and activities in service management” (p. 1, para. 3). ITIL implementation is not an easy task, and an enterprise may face some implementation challenges, such as employees’ disagreement, assignment deviation, and vague instructions, which can cause organizational damage [34].

The Role of corporate leadership: The role of corporate leadership appeared often in literature as a key factor for innovation and creativity, improving business opportunities, improving profits, and reducing costs. Management and leadership support was a key factor for ITIL adoption and implementation [8][13][17][31]. Many researchers had stressed the role of IT as a strategic partner, and executives' IT knowledge as crucial to accept management change and align business with IT. Research suggested 60% or more of chief executives in Great Britain believed their company's information technology did not typically help to achieve their business goals and objectives, compared with 39% for IT directors [16]. Meanwhile, IT managers criticized the executive members who did not understand technology for failing to support IT investments and projects [16].

In a competitive environment, a new role for the CIO required him/her "to establish, implement, and communicate the strategic IT vision and plan, wedded to the overall business strategy, and ensure that IT is used effectively to achieve overall business goals related to revenue growth, profitability, and cost effectiveness" [26]. The relationship between the organization's business and IT involved the responsibilities and roles of the CIO and IT managers, who required comprehensive understanding of value adding, cost effectiveness, and system responsiveness as effective to adoption of ITIL within an organization [1]. Additionally, customer service, IT, and business strategy, and communication were integral components in relationship building. Such factors indicated the importance and significance of the study to leadership as a crucial factor for successful creation of sustainable and profitable organizations.

Business and IT leaders may profit from this study; positive acceptance may enable them to influence the improvement and enhancement of the organizational processes and practices. An effective decision for adoption and implementation of a prescribed process model could help executives and the IT population to maximize the benefit of IT to their organizations. Findings from this study may provide executives with enough information and knowledge to adopt a predefined process model. Such information and knowledge may assist leaders in capturing new business opportunities, thereby improving business IT strategic alignment, reducing cost, and creating a competitive and innovating environment.

Chan and Reich [10] noted the central problems between IT and organization leaders was knowledge about each position's role and responsibilities. IT leaders are not always knowledgeable about business strategy and business leaders are not always knowledgeable about IT. Therefore, IT professionals may fail to understand the meaning of several industry drivers and business. The barriers of language, terminology, and knowledge issues are a root cause of IT project failure. Adopting and implementing a change management process, for example, needs good management and leadership capability at all levels of the organization.

Leaders who successfully adopted ITIL found ITIL provided savings in operational expenses [40] and excellent customer service [39]. Leadership concerns about ITIL implementation, or any other process model, included cost and the lengthy time to complete. Some executives hesitated to implement ITIL because of fear of "high costs, lack of knowledge about ITIL, and opposition from key managers" [30, p. 2].

Research Question: For three decades, researchers had examined and investigated adopting a prescribed process model to find solutions to improve and integrate business process with IT,

reduce cost, increase customer satisfaction, and close the gap between the business organization and the IT organization. Earlier works focused on adopting a process model in software development and engineering using waterfall and spiral models. The aim had been to reduce the IT failure rate, meet user requirements, and improve IT utilization to add value to organizations. Additional goals included added efficiency, improved quality of service, and higher stakeholder satisfaction. This paper attempts to address the following research questions:

- Do executive leadership positions (CEO, CIO, CTO, COO, senior managers, and managers) perceived to influence the selection and adoption of a prescribed process model such as ITIL?
- What effect does adopting a prescribed model have on organizational success?

An investigation and analysis of organizational needs between business requirement processes and IT processes and practices might help establish a new perspective for achieving and sustaining strategic alignment. An ITIL, System Management (SM) could promote more collaboration, better communication skills, and shared knowledge among leaders and teams within organizational boundaries. The model could provide more understanding of business concepts and IT value. Business and IT processes could integrate such benefits to deliver the best practices to meet business objectives. Visible benefits might promote or perceive to influence business and IT leaders to enhance communication between business and IT teams to develop internal standard procedures and policies to change how individuals perceive each other. Such benefits boost knowledge sharing among teams to think about service perhaps more than technical issues [39]. The study results may be useful for executives and senior manager to consider when adopting a predefined process model to enhance communication, reduce cost, and improve customer satisfaction.

Data Collection: A set was to evaluate the executives' perceptions of their decision-making processes for adopting a process model, while considering leadership and management support as the primary factor of process model successful adoption. The collected data from surveys benefitted the leaders and the organizations in exploring the importance of adopting a prescribed process to help align IT with business. Such alignment could reduce cost, improve organizational process, and gain a competitive advantage. As relates to this paper, the survey instrument had three distinct sections. The purpose of the first section was to examine the relationship between IT business strategic alignment and ITIL v3 adoption. The importance of strategic alignment allows a better understanding of how organizations can utilize IT to improve an organizational performance positively [28] after achieving business and ITIL v3 service strategy alignment. The goal of the second section was to understand the executives' perceptions about adopting a process model. Collecting data from executives provided an indication of their influence and support to adopt a specific process model. The intent of the last sections was to show business improvement and organization success by adopting a prescribed process model such as ITIL v3.

The collected information underwent analysis through descriptive statistics using the chi-square method to highlight a possible pattern or attribute among study participants. According to Leedy and Ormrod [23], "A correlational study examines the extent to which differences in one characteristic or variable are related to differences in one or more other characteristics or variables" (p. 184). Leedy and Ormrod indicated, "A correlation exists if, when one variable increases, another variable either increases or decreases in a somewhat

predictable fashion” (p. 184). Correlational design differs from experimental design because the intent of correlation is to answer the question of whether a relationship exists between variables, while experimental, quasi-experimental, and causal-comparative designs determine cause and effect [12].

Data Analysis: The data analysis used in this study, including the statistical techniques, were appropriate for determining influence or affecting business strategic alignment for selecting a prescribed process model such as ITIL, which was the general purpose of the study.

Do executive leadership positions perceived to influence the selection and adoption of a prescribed process model such as ITIL?

Executives responded to four questions about their perceptions on strategic alignment, each measured on a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). A summary of the answers is in Table 1. The results showed, while answers always ranged from the low end of the scale to the high end, the mean was always towards the top of the scale. The first question asked whether CEOs participated in the decision making process to adopt ITIL or a similar process. The mean response on the 5-point scale was 3.86 ($SD = 1.033$). The next question asked if CEOs influenced the decision to adopt a process model, with the mean response as 3.95 ($SD = 1.05$). The two questions were repeated for the CIO, first in terms of taking part in the decision making process ($M = 3.84$, $SD = 1.006$) and second in terms of influencing the decision ($M = 3.96$, $SD = .980$).

Table 1
Executives’ Views on Executive Influence

Question	<i>N</i>	<i>M</i>	<i>SD</i>
In your company, do you believe the CEO participates in the decision-making process to adopt an information system service management process model such as ITIL?	162	3.86	1.03
In your company, do you believe the CEO influences decisions to adopt an information system service management process model such as ITIL?	162	3.95	1.05
In your company, do you believe the CIO participates in decision making process to adopt information system service management process model such as ITIL?	161	3.84	1.01
In your company, do you believe the CIO influences decisions to adopt an information system service management process model such as ITIL?	160	3.96	.98

The descriptive measures showed the executives felt they were important participants in the decision-making process concerning ITIL and similar models. Table 2 shows correlations between executive influence and implementation. The correlation between CEO decision-making participation and ITIL adoption levels was positive and significant ($\tau = .214$, $p = .001$),

as was the correlation between CEO influence and ITIL adoption levels ($\tau = .169, p = .010$). The CIO decision-making question correlated significantly with ITIL adoption levels ($\tau = .203, p = .002$), though correlation of the CIO influence question fell just short of significance ($\tau = .128, p = .053$). We propose the following hypothesis:

H_0 : Executive leadership decisions and support have no effect on selection and adoption of a prescribed process model.

H_A : Executive leadership decisions and support have an effect on selection and adoption of a prescribed process model.

Table 2
Correlations Between Executive Influence and Implementation

Executive Influence Questions	τ	p	N
In your company, do you believe the CEO participates in decision-making process to adopt information system service management process model such as ITIL?	0.214**	0.001	162
In your company, do you believe the CEO influences decisions to adopt an information system service management process model such as ITIL?	0.169*	0.01	162
In your company, do you believe the CIO participates in decision making process to adopt information system service management process model such as ITIL?	0.203**	0.002	161
In your company, do you believe the CIO influences decisions to adopt an information system service management process model such as ITIL?	0.128	.053	160

Note. Correlation of executive leadership questions with ITL level practiced by company.

* $p < .05$. ** $p < .01$.

The results failed to support the null hypothesis of no influence from executive leaders on implementation of process models: “Executive leadership decisions and support have no effect on selection and adoption of a prescribed process model.” Findings instead supported the alternate hypothesis.

What effect does adopting a prescribed model have on organizational success?

The final question asked executives about their views on the positive consequences of ITIL adoption. Executives’ surveys had five questions about the benefits. The results appear in Table 3. Executives tended to provide favorable answers across all items. The average response on the scale asking about ITIL helping business and IT stakeholders build confidence in new strategies was 4.07 ($SD = .794$). The mean response on the question about helping gain stakeholders’ commitment to adapt and execute new strategies was 4.07 ($SD = .828$). The mean response on the question about helping gain stakeholders’ support and involvement on new strategies was 4.08 ($SD = .829$). The mean response on the question asking about helping to adapt a set of rules to prescribe processes was 4.01 ($SD = .807$). The last question asked about adapting a standard system, metrics, and performance standards to track progress. The mean response was 4.01 ($SD = .822$). We propose the following hypothesis:

H_0 . Adopting a prescribed model has no effect on organization success.

H_A . Adopting a prescribed model has an effect on organization success

Table 3
Executives' Views on Organizational Success with ITIL

Question	<i>N</i>	<i>M</i>	<i>SD</i>
Adopting ITIL v3 helps an enterprise to gain both business and IT stakeholders' confidences and agreements in new businesses and strategies.	157	4.07	.79
Adopting ITIL v3 helps an enterprise to gain both business and IT stakeholders' commitment to adapt and execute new businesses and strategies	153	4.07	.83
Adopting ITIL v3 helps an enterprise to gain both business and IT stakeholders' support and involvement to create, adopt, and execution of new businesses and strategies	157	4.08	.83
Adopting ITIL v3 helps an enterprise to adapt a set of rules and regulations to prescribe processes throughout the organization.	156	4.01	.81
Adopting ITIL v3 helps an enterprise to adapt a standard system, metrics, and performance indicators to track the progress made throughout the organization.	158	4.01	.82

Table 4 shows how much the responses to the questions described in Table 4 correlated with implementation levels in an organization. The results show the higher levels of implementation were significantly associated with positive perceptions of nearly every potential ITIL benefit. The correlation between implementation levels and gaining stakeholders' confidence was .219 ($p = .001$).

Table 4
Correlations Between Organizational Success and Implementation

Question	τ	<i>p</i>	<i>N</i>
Adopting ITIL v3 helps an enterprise to gain both business and IT stakeholders' confidences and agreements in new businesses and strategies.	0.219**	0.001	157
Adopting ITIL v3 helps an enterprise to gain both business and IT stakeholders' commitment to adapt and execute new businesses and strategies.	0.147*	0.031	153
Adopting ITIL v3 helps an enterprise to gain both business and IT stakeholders' support and involvement to create, adopt, and execution of new businesses and strategies.	0.138*	0.041	157
Adopting ITIL v3 helps an enterprise to adapt a set of rules and regulations to prescribe processes throughout the organization.	0.142*	0.036	156

Adopting ITIL v3 helps an enterprise to adapt a standard system, metrics and performance indicators to track the progress made throughout the organization.	0.067	0.313	158
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Note. * $p < .05$. ** $p < .001$

The correlation with stakeholders' commitment to adoption and execution was .147 ($p = .031$). The correlation with gaining support for new business strategies was .138 ($p = .041$). The correlation with helping to adapt a set of rules to prescribe processes was .142 ($p = .036$). The final correlation between implementation levels and adapting a system of standards was not significant. The results failed to support the null hypothesis: "Adopting a prescribed process model has no effect on the organization" and instead supported the alternate hypothesis.

Conclusion

The results of the surveys showed the benefits realized by adopting and implementing a process model such as ITIL. The results showed implementing and adopting ITIL require support by management. Performing statistical analyses helped to obtain the best results for the data collected. The first were a chi-square test with a 5% confidence level performed to find the correlation between ITIL adoption and strategic alignment and a chi-square test between implementation levels and improvement items. The data collected for this study were categorical data. The chi-square statistic compares the observed count to the count expected under the assumption of no association between the row and column classifications. Researchers may use the chi-square statistic to test the hypothesis of no association between two or more criteria, groups, or populations, with observed counts compared to expected counts. According to the *Oxford Dictionary of Biochemistry and Molecular Biology*, a "chi-square test (χ^2) is a statistical test to determine whether an observed series of values differs from a series of values expected on a hypothesis, to a greater degree than would be expected by chance" [2, para. 1].

The second test was Kendall's tau to show correlations between organizational success and implementation of a defined process model. Kendall's tau is a measure of rank correlation. "Kendall-tau is a non-parametric correlation coefficient used to assess and test correlations between non-intervals scaled ordinal variables. Frequently, researchers use the Greek letter τ (tau) to abbreviate the Kendall tau correlation coefficient" [5, p. 14]. Rank correlation is an interesting method to assess and evaluate the data collection [22]. Kendall's tau is well known and broadly used to measure the degree of the relationship between variable [22].

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