DOES EMPLOYEE ALIGNMENT AFFECT BUSINESS-IT ALIGNMENT? AN EMPIRICAL ANALYSIS

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ABSTRACT

The aim of this paper is to investigate if employee alignment will influence the business-IT alignment in organizations. We measured employee alignment through perceived organizational trust, perceived communications on business-IT strategies to employees, perceived employee commitment to business-IT strategies and perceived knowledge on business-IT strategies. Structural equation modelling (SEM) is used to test the model and hypotheses in this research. The findings from this study indicated that perceived organizational trust, perceived communications on business-IT strategies to employees and perceived knowledge on business-IT strategies have a positive and significant relationship with business-IT alignment of organizations. This study addresses the lack of empirical research by investigating whether employee alignment would improve an organization's business-IT alignment.

Keywords: IT, Employee Alignment, Business-IT alignment, IT strategies, Indonesia.

INTRODUCTION

With increasing competition and globalization, business nowadays have to operate efficiently and effectively. With the introduction of information technologies (IT) and Internet, most companies are now leveraging on IT as part of their strategic business tools. In order to address the global competition, manufacturing organizations are now taking advantage of advanced IT to improve their supply chain [31]. IT tools such as customer relationship management (CRM) systems, supply chain management (SCM) systems, Enterprise Resource Planning (ERP) systems and business intelligence tools are being used by companies to ensure that they can achieve competitive advantages over their rivals by providing shorter lead times, introducing new products more frequently and responding to customer service and product requirements more rapidly [4].

Although the benefits of IT are no longer a business secret, many organizations are still facing issues with IT implementation. One issue faced by organizations is that it difficult for them to achieve long term benefits through the adoption of IT [41]. Studies have shown that as many as one third of software failed to delivers that it is intended [19]. One reason for this is the lack of business-IT alignment. It is found that the problem of aligning business and IT strategies is one of the five main problems faced by IT managers [42]. Past studies have attempted to address this by looked into various aspects of organizations factors such as the communications between the business executives and IT executives, the involvement of IT personnel in forming business strategies, and the support from top management on IT. However, there have been few studies which attempt to investigate if employees' alignment with business-IT strategies will improve the alignment of business-IT strategies in organizations. As Boswell et al. [7] stated, employees' alignment with organizations' strategies are important for the successful execution of the strategies. Yet, there has been very little attempt to investigates if employees are aligned to the business-IT strategies and whether their alignment will determine the success of business-IT alignment. Furthermore, most studies presented on business-IT alignment have been conducted in developed nations. In developed nations, there are less resistance for the employees to adopt IT strategies when compared to countries which are still new to IT and might resist the idea of strategic IT implementations.

Therefore in order to bridge the gap in existing literatures, this paper attempts to investigate the relationships between employees' alignment and the business-IT alignments of organizations located in Indonesia. We have chosen companies in Indonesia due to the fact that Indonesia is one of the fast growing developing countries in Asia. Furthermore, Indonesia main economy contributions are still from the agricultural and manufacturing sector. They are able to attract many foreign investments due to their low labour cost. However, other countries such as China and Vietnam are now competing with Indonesia using low cost strategies. In the long term, it would be difficult for Indonesian firms to compete just based on lower labour costs than its competitors. There is a need to improve efficiencies in the businesses and this can be achieved via IT implementations. Results from this study can provide useful insights to decision makers of other companies in other fast developing nations such as China, Vietnam, India and Malaysia. The next section will provide the literature review for this study. Research model and hypotheses development are discussed after the review of literature. This is follow by the methodology and discussion of results sections. Lastly, conclusion and implications as well as limitations and future suggestions for the study are discussed.

LITERATURE REVIEW

Business-IT alignment

Business-IT alignment addresses how much do the IT and business systems are in harmony with one another [15]. How to align business and IT strategies has been a question that both practitioners and academicians have been trying to answer for many years [56]. This question is important to organizations as they invest heavily into IT to improve their business performance. For example, large IT projects such as ERP implementations require successful business-IT alignment [9]. Yen and Shen [63] in their studies stated that it is important to align ERP with the competitive priorities of companies. Successful alignment will also allow companies to maximize its investments in IT and achieve harmony with their business strategies and plans [49].

Business-IT alignment is defined as "the process and goal of achieving competitive advantage through developing and sustaining a symbiotic relationship between business and IT" [18]. The goals of business-IT alignment include ensuring that the IT strategy is aligned to a company's broader goals and objectives, delivering effective and efficient IT services which meet company's needs, and to ensure IT offerings and services are aligned to the business goals [59]. De Haes and Grembergen [18] stated that although the ideas for business-IT alignment are very comprehensive, the real challenge is how organizations can achieve the strategic alignment required.

Past studies on the alignment between business and IT strategies have focused mainly on the benefits that can be gathered from the alignment, or how to achieve such alignment [1]. Papp [49] reviewed the performances and alignments of more than 500 companies over a period of 5 year period and suggested that a regression model can be developed to measure the financial performance of organizations and the level of alignments between their business and IT. Raymond and Bergeron [51] decided to study business-IT alignment based on e-business. Their study which surveyed 107 Canadian manufacturers found that e-business alignment is able to improve the growth, productivity and financial performance of companies. Lee et al. [37] developed a socio-technical framework in their study of business-IT alignment and found that the alignment which resulted from socio-technical arrangement in companies' infrastructure will improve business performances. Henderson and Venkatraman [34] also stated that organizational benefits will be achieved if IS and Business strategies and objectives are aligned.

Given the positive outcomes that can be achieved if business and IT strategies and objectives are aligned, many practitioners and academicians aimed to find ways to improve such alignment. Past researchers have developed various models to investigate the factors that influence or hinder the success of business-IT alignment. Teo and King [61] for example, found that business competence of IS executive is able to account for more than 9% of variation in the degree of alignment between business and IS planning. Luftman and Brier [41] in their study with over 500 companies across 15 industries found that some of the main enablers and inhibitors of successful business-IT alignment include senior executive support for IT, understanding the business, IT-business relationship and leadership. Luftman and Brier [41] further suggested that although there is no single comprehensive strategy that will allow firms to achieve and sustain business-IT alignment, the enablers and inhibitors of alignments have remained quite consistent. Gregor et al. [30] found that an

organization's enterprise architecture will enable the alignment of business strategy and IT. Teo and Ang [60] proposed the critical success factors for the alignment of business and IS plans. Their studies showed that some of the important critical success factors include top management commitment to the strategic use of IT, IS management knowledge about business, and top management confidence in the company's IT department. Gutierrez et al [32] compared the factors affecting alignments between SMEs and larger organizations. Their findings concluded that although SMEs and large organizations have different resources and IT expertise, the factors that influence the alignment of business-IT are the same regardless of organizations' size. The factors used in their study were communications between IT and business managers, the competency/value measurements which included the assessment of IT investment through the use of metrics, clear definitions of authority given for making IT decision, partnership between business and IT managers, organizations' readiness and the skills of companies' workers.

These existing literatures demonstrated that there were indeed many attempts to study on factors that can result in better alignment in business-IT strategies and planning. One of the most studied variables used by them is the organization factor (i.e. companies' size, IT governance practices, management support, business and IT managers' relationships). However, it should be noted that when IT, business strategies or plans are developed, organizations should also involve their employees. Gagnon et al [27] noted that in most organizational strategies, there is little understanding on the mechanisms by which individuals come to aligned with strategies. In this connection, it is important to consider the alignments of employees with the business-IT strategies and plans and to determine whether employee alignments will influence a successful business-IT alignment. The next section provides an overview of employee alignment.

Employee Alignment and Business-IT alignment

Employee alignment occurs when the employee's behaviour corresponds with their organizational strategy [27]. However, the question remains whether employees in the companies truly understand the directions and objectives of their organizations [6]. As early as 1954, management guru Drucker [22] has stated that in order for strategic alignment of organizations to occur, individuals within the company must behave in a contributory manner to support the strategic goals of the company [27], [22]. Gagnon and Michael [26] further elaborated that if employees have a supportive attitudes towards the strategic objectives of the company, they are more likely to make decisions that are consistent with these objectives.

Gagnon and Michael [26] argued that it is important to include individual actors such as employees instead of focusing on organizational level and the associated outcomes when studying business strategies. Although their study was based on strategies in general, a successful business-IT alignment is no difference in terms of its success which depended very much on the alignment of the employees within the organizations. Boswell et al. [7] similarly noted that it was important to align employees to the organizations' business strategies to ensure that the strategies can be successfully implemented. However, there is currently a lack of empirical models which focuses on the relationship between employee alignment and business-IT alignment. Our research proposed such framework which consists of the relationships between employee alignment and business-IT alignment. Our

study therefore proposed a research model that empirically examines this relationship. The justifications for including the proposed variables are explained in the next section.

RESEARCH MODEL AND HYPOTHESIS DEVELOPMENT

Perceived Organizational Trust

For an organization to be successful, it is important to have trust within the business organizations. This involved the trusts between the employees and the managers, as well as the employees with the organizations. Trust occurs when an employee willingly become vulnerable to another in exchange for a mutually beneficial outcome [27], [21]. In this study, we have adopted the definition of trust from whereby trust is defined as the employees' trusts on their leaders, the long term business-IT strategies proposed by their top management, as well as leaders from other departments.

Past studies have highlighted the importance of organizational trust in business-IT alignment. Eckerson [23] highlighted the importance of trust between business and IT departments for successful business-IT alignment. Dirks and Ferrin [21] found that when employees trust their top management as well as the organizations, it will have a positive relationship with the organizational commitment and the desired work attitudes. Reich and Benbasat [52] proposed that trust should be tested in the study of business-IT alignment. In line with past literatures, we hypothesize that:

H1: Perceived organizational trust will improve business-IT alignment in an organization.

Perceived communications on Business-IT Strategies to Employees

In order for a strategy to be successfully implemented, a good communication is essential [2]. A communication is successful if information is transferred from the sender to the receiver with the receiver fully understanding the information he or she received [2].

Luftman [40] stated that communication is one of the factors that can affect the alignment of business-IT strategies. Communications in organizations involved the exchange of ideas, sharing of information and knowledge between the IT and business managers, ensuring that those involved in both business and IT sides have an understanding on the firm's strategies, business and IT environment. An example of this is shown in Chong et al [13]'s study on how an organization that wanted to implement an industrial IT standard as part of its strategic plans was able to do so through good communications between the organization and its partners. Rockart et al [53] also mentioned that good communication will ensure that business and IT capabilities are able to be integrated into the business effectively.

Al-Ghamdi et al [2] studied how employees obtained information on corporate strategies and found that most employees surveyed were not happy with their present knowledge on corporate strategy and would like to know more. They found that employees who have worked longer in an organization were able to find more information on corporate strategies as they were able to communicate with the senior management, while junior employees often found that they were not able to have access to such information. When a corporate strategy is set by the top management, it needs the cooperation and executions from all employees. Therefore it is important that strategies are communicated to all employees regardless of their positions and experience in the company. Employees in the organization need to know the direction from the top management, and ifthe companies' strategies are communicated to them, they will feel involved and this will increase the chances of successful strategy implementation [20], [2], [57]. We therefore hypothesize that:

H2: Perceived communications on business-IT Strategies to employees will improve business-IT alignment in an organization.

Perceived employee commitment to Business-IT Strategy

Commitment research shows the challenges of aligning employees with organization strategies [27]. Commitment is defined
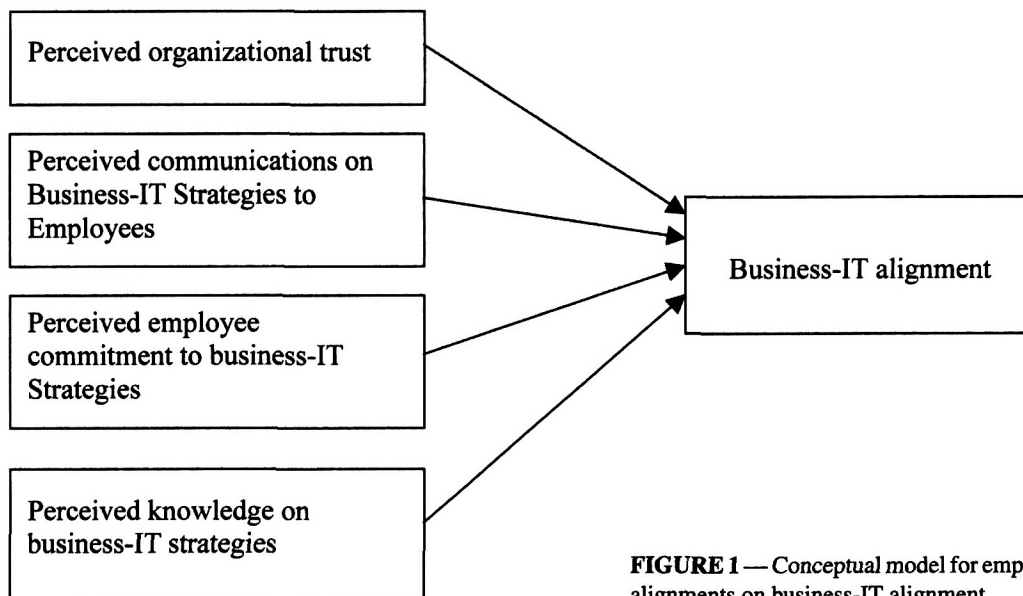

FIGURE 1 — Conceptual model for employee alignments on business-IT alignment

as the individual's attachment and willingness to support his or her organization [44]. Gagnon and Michael [26] stated that in today's business environment whereby the bonds between employees and their organizations could be short term, it is important that they are committed to the strategies set by the companies.

Wooldridge and Floyd [62] stated that in an organization, the managers need to be strategically committed. Our current business environment involves more team work, and therefore a committed manager who finds that his team members are not committed to the company or strategy will find it difficult to ensure the successful implementation of the strategies. When implementing business-IT strategies, the risk is that employees might resist the adoption of technology [12] and is not committed to the business-IT strategy.

Often, when forming a business-IT strategy, it involves implementing strategic IT tools in the organization. Such tools could be new to the organizations. Chen and Gupta [11] and Meredith [43] found that employee's lack of commitment is a barrier to the successful implementation of new technologies. They conclude that an important pre-requisite for technological change is employee commitment. Often, the major decline in employee commitment is also due to their resistance to technological change [5], [10]. Based on existing literatures, we hypothesize that:

> H3: Perceived employee commitment to business-IT Strategies will improve business-IT alignment in an organization.

Perceived knowledge on business-IT strategies

It is often being said that knowledge is a key foundation of competitive advantage for an organization [29]. In our research, we defined perceived knowledge on business-IT strategies as the employee's perception of their understanding of the organization's business-IT strategies. This definition is adopted from Gagnon et al [27].

Gagnon et al [27] stated that in order for an organization's strategic goals to be committed by the employees, the employees must have a clear knowledge of what the organization is trying to achieve. That is to say that employee should have a complete understanding of their organization's strategies and this understanding is consistent with those who created the strategies. Boswell and Boudreau [6] highlighted that in order for organizations to gain competitive advantages through their strategic goals, it is important that the employees achieved "line of sight". They went on to define "line of sight" as the "understanding of organizational objectives and how to contribute to those objectives". The same principles have been applied to this study. In order to for employees to be aligned to the business-IT initiatives of organizations, it is important that they have requisite knowledge of the organizations' overall business-IT strategies.

Although the relationships between employee knowledge and business strategies or strategic change have been studied in the past (e.g. [27], [50]), there is little empirical analysis that investigates the relationships between employee knowledge and business-IT alignment. In this connection, we hypothesize that:

> H4: Perceived knowledge on business-IT strategies will improve business-IT alignment in an organization.

TABLE I — Sources for constructs used in research

Construct	Sources
Perceived organizational trust	Costigan et al. [16], Dirks and Ferrin[21]
Perceived communications on Business-IT Strategies to Employees	O'Neil [48]
Perceived employee commitment to to business-IT Strategies	Boswell and Boudreau [6], Cliff and Jennings [14], Noble and Mokwa [45]
Perceived knowledge on business-IT strategies	Boswell and Boudreau [6], Darroch [17], Wooldridge and Floyd [62]
Business-IT alignment	Kyobe [36]

METHODOLOGY

Survey instruments and data collection

Survey instrument is used to test the research model and the hypothesis in this research. Following the advice from Luarn and Lin [39], we have adapted majority of the items for each construct from past literatures. The survey consists of 47 questions to measure the constructs in the study. The target population of this study are employees working in manufacturing companies in Bandung, Indonesia. Table I shows the sources of where the questions were adapted from.

In order to obtain data from the Indonesian manufacturing firms, we contacted the Jakarta Chamber of Commerce and Industry for a list of manufacturing companies in Bandung. We made phone calls to the list of companies behind obtaining agreement from 30 manufacturing firms who were willing to participate in this research. The organizations chosen were ideal for evaluating employee knowledge to their business-IT strategies as these organizations have recently begun to implement strategic IT systems such as ERP, SCM and CRM systems. A total of 500 hardcopy surveys were distributed to 30 manufacturing companies in Bandung, Indonesia. The surveys were translated into Bahasa Indonesia. Out of the 500 surveys distributed, 135 were received while 14 were incomplete. Therefore the total usable questionnaire in this study is 121 with a response rate of 24.2%. We have distributed the surveys to administrative employees working in various departments in the companies such as marketing, accounting, IT and human resources. Hair et al [33] stated that the appropriate minimum sample size for a research is to have 15 observations for each independent variable. As there are 4 independent variables measuring employee alignment in this study, a minimum sample size of 60 is needed. Since we have 121 respondents in this study, the sample size for this research is adequate.

Variable Measurement

Independent variables — employee alignment

The independent variables were derived from existing literatures as shown in Table I. Thirty-eight survey questions were used to measure the 4 independent variables in this study.

Each question was measured by five-point Likert scale. For instance, "1" denoted as strongly disagree, "2" denoted as disagree, "3" denoted as neutral, "4" denoted as agree and "5" denoted as strongly agree. Statements that were negatively stated were reversed coded during the analysis, such as the items for perceived cost. These negative worded items are important in reducing the response bias since the respondents have to read the items carefully in case they are phrased the other way round [24]. In order to ensure the reliability of the survey items used to measure the variables, reliability analysis using Cronbach's Alpha is applied. All the Cronbach's Alpha values are greater than 0.70 (i.e. perceived organizational trust (0.732), Perceived communications on business-IT strategies to Employees (0.759), Perceived employee commitment to business-IT Strategies (0.937), Perceived knowledge on business-IT strategies (0.913)), which concurs with the suggestion from [46].

Dependent variable — Business-IT alignment

The measurement for dependent variable is adopted from Kyobe [36]. We measure the business-IT alignment from the perceptions of the employees instead of the actual organizational business-IT alignment. For example, employees are asked whether they perceive if business plan takes into considerations of IT strategies. A sample of the survey questionnaire is attached in Appendix I. Similar to the measurements for the employee alignment, the 5 point Likert Scale is also used in this study. The Cronbach's Alpha value for the dependent variable is 0.742.

Data Analysis

The research model shown in Figure 1 was analyzed by using SEM. The data analysis was conducted in four steps:

1) Investigating the assumptions of multivariate analysis
2) Performing an exploratory factor analysis (EFA) with varimax rotation to determine the underlying dimensions of adoption factors.
3) Examining the measurement models for each factor using confirmatory factor analysis (CFA).
4) Testing the research model using SEM.

The above-mentioned steps are discussed in the following subsections.

Testing the assumptions of multivariate analysis

The skewness and kurtosis of our variables fall within the acceptable ranges of (± 1) therefore our data is normally distributed [25]. The correlation coefficients for the independent variables were less than 0.90 thus confirming that multicollinearity did not exist.

Exploratory Factor Analysis (EFA)

EFA with varimax rotation was performed separately on the employment alignment factors and business IT alignment in order to extract the dimensions of each construct. During this validation process, several items in the employment alignment factors that did not contribute to the Cronbach's alpha values of the scales were deleted, namely, the first (TRU1), second (TRU2), third

(TRU3), forth (TRU4), seventh (TRU7), eight (TRU8), ninth (TRU9) and tenth (TRU10) items of perceived organizational trust; the first (COM1), second (COM2), third (COM3), fifth (COM5), and eight (COM8) items of perceived communications on business-IT strategies to employees; the first (KNO1) to sixth (KNO6) of perceived knowledge on business-IT strategies measures were deleted due to poor factor loadings less than 0.5 on their respective latent variables [35], [55]. Table III illustrates the results of EFA. The Cronbach's alpha values ranged from 0.732 to 0.937, which are all well above the acceptable threshold 0.70 [47] and factor loadings, are statistically significant at p < 0.001 as shown in Table III.

Measurement Model — Confirmatory Factor Analysis

The measurement model included 19 items explaining four factors: perceived organizational trust (TRU), perceived communications on business-IT strategies (COM), perceived employee commitment to business-IT strategies (COT) and perceived knowledge on business-IT strategies (KNO). In relation to this study, the CFI indices for all the four factors are above 0.9 levels which implied evidence of unidimensionality [3]. As shown in Table II, all scales are within the accepted limits and composite reliability of all latent constructs exceeded the benchmark of 0.7 [46], implying that the measurement is acceptable. Table III illustrates the results of convergent validity and internal reliability for constructs.

The goodness of fit the measurement model was measured in terms of six common measures: using the ratio of χ^2 statistics to the degree of freedom (df), comparative fit index (CFI), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), normed fit index (NFI) and root mean square error of approximation (RMSEA) [54]. From Table IV, the observed normed χ^2 for this model was 0.295 with (p-value = 0.587 > 0.05) which is acceptable. Other fit indexed include the GFI = 0.999; AGFI = 0.988; CFI = 0.999; NFI = 0.997 are exceeded the recommended cut-off level of 0.9. The RMSEA = 0.000 which is below the cut-off level of 0.08 suggested by [8]. The combination of these results suggests that the measurement model appears to represent a very good fit.

Structural Model

The overall results of structural model analysis are shown in Table IV. The structural model has a well fit as determined from the Chi-square index (χ^2 = 1.319; p-value = 0.267 > 0.05) as well as other indices (GFI = 0.991; AGFI = 0.934; CFI = 0.994; NFI = 0.977; RMSEA = 0.052). All the model-fit indices exceeded

TABLE II — Latent constructs correlation

	SEM Correlations			
	COT	COM	TRU	KNO
COT	1.000			
COM	0.298**	1.000		
TRU	0.374**	0.547**	1.000	
KNO	0.289**	0.557**	0.455**	1.000

notes: n = 121; **p < 0.01; *p < 0.05; cot = employee commitment; com = communications; tru = perceived organizational trust; kno = employee knowledge

TABLE III — Instrument reliability and validity

Latent Constructs	Indicator	Standardized Loading	Average Variance Extracted*	Cronbach's α	Composite Reliability**
COT	COT9	0.846	0.603	0.937	0.938
	COT8	0.823			
	COT3	0.812			
	COT5	0.811			
	COT6	0.779			
	COT1	0.776			
	COT10	0.770			
	COT7	0.724			
	COT4	0.723			
	COT2	0.683			
TRU	TRU5	0.760	0.578	0.732	0.732
	TRU6	0.760			
KNO	KNO10	0.906	0.581	0.913	0.914
	KNO9	0.878			
	KNO8	0.848			
	KNO7	0.772			
COM	COM7	0.873	0.533	0.759	0.770
	COM4	0.648			
	COM6	0.645			
ISB	ISB7	0.805	0.504	0.742	0.751
	ISB2	0.658			
	ISB9	0.657			

cot = employee commitment; com = communications; tru = perceived organizational trust; kno = employee knowledge; isb = business-IT alignment

notes: *ave= $\Sigma\lambda i2/n$ (i = 1 ..n, λ = standardized factor loadings, i = observed variables);
**cr = $(\Sigma\lambda i)2/[(\Sigma\lambda i)2 + \Sigma\delta i)]$, ($\lambda i$ = standardized factor loadings, i = observed variables, δi = error variance)

their respective common acceptable levels, recommending the structural model displayed to represent an acceptable model fit to the data [38].

Hypothesis testing

The statistical significance of all the structural parameter values was examined to determine the validity of the hypothesized paths. The analytical results revealed that perceived organizational trust (critical ratio = 3.261; p < 0.01), communication on business-IT strategies (critical ratio = 3.181; p < 0.01) and perceived knowledge on business-IT strategies (critical ratio = 2.650; p < 0.01) were found to have a significant and positive relationship with business-IT alignment. Thus, the hypotheses H1, H2 and H4 were supported. Meanwhile perceived employee commitment to business-IT strategies (critical ratio = 1.196; p > 0.05) had no

significant relationship with business-IT strategies. Therefore, the hypothesis H3 was not supported. Table V demonstrates the hypotheses results.

TABLE IV — Measures of the model fit

Goodness of fit measures	Recommended Value	CFA Model	Structural Model
χ^2 test statistics/df	≤ 3.00[a]	0.295	1.319
GFI	≤ 0.90[a]	0.999	0.991
AGFI	≤ 0.90[a]	0.988	0.934
CFI	≤ 0.90[a]	0.999	0.994
NFI	≤ 0.90[a]	0.997	0.977
RMSEA	≤ 0.08[b]	0.000	0.052

sources: [a]Bagozzi and Yi (1998); [b]Brown and Cudeck (1993)

TABLE V — Hypothesis testing results

Hypothesis	Path	Std. Error	Critical Ratio	p-value	Remarks
H1	TRU → ISB	0.291	3.261	0.001**	supported
H2	COM → ISB	0.296	3.181	0.001**	supported
H3	COT → ISB	0.134	1.196	0.232	Not supported
H4	KNO → ISB	0.263	2.650	0.008**	supported

note: ** p < 0.01; cot = employee commitment; com = communications; tru = perceived organizational trust; kno = employee knowledge; isb = business-IT alignment

DISCUSSIONS OF RESULTS

The main objective of this research is to investigate whether employee alignment will affect the business-IT alignment in organizations. The results showed that 3 out of 4 hypotheses are supported. Perceived organizational trust (H1), perceived communications on business-IT strategies to employees (H2), and perceived knowledge on business-IT strategies (H4) are all found to have a positive and significant relationship with business-IT alignment of organizations.

We have taken the definitions of trust to include not only trusting their leaders, the business-IT strategies proposed as well as people from different departments. When an organization set its strategies, it is important that its employees trust the strategies and their top management. This is because strategies can only be successful when everyone is the organization believe in it, and not just the top management. In existing management literatures, it is found that perceived organizational trust is important for a strategy to be successfully executed and to improve business performances [28], [21], [26]. However, for companies nowadays, their strategies often involved both IT and business strategies, and it is important for the business and IT strategies to be aligned. In past research, trust has sometimes being mentioned as the trust between the IT and Business departments [23]. This is important as given that most employees in the IT department are viewed by the business departments as technologists who do not necessary have knowledge in business operations such as finance or marketing. For IT department, they might be more interested in the technologies than business operations. Given that for business-IT alignment to be achieved, both of these departments must trust and work with each other. Therefore companies should build up the trust of their employees in the business-IT strategies proposed.

Perceived communications on business-IT strategies to employees is found to have a positive influence on business-IT alignment. This is consistent with existing studies which has supported the role of communications in successful business-IT alignment [2], [40], [13], [53], [32], [48]. However, many of these existing studies looked at either communications on strategies in general, or communications between business and IT executives. When it comes to implementing business-IT strategies, it is not about the implementation from only these two departments. All the companies' employees will need to be aligned towards the strategies set forth by the company and will contribute towards ensuring the success of the strategies that the companies aim to deploy. Therefore it is important for organization that the business-IT strategies are communicated to all their employees, and this will help ensure the success of their business-IT alignment.

Whenever an organization sets its strategies, it is possible that only senior employees (in position or years of service) have knowledge on such strategies or know how to obtain information on such strategies. Certain junior employees might just do their job as they do not know what the organizations' goals are, nor will they find out from their managers [2]. Such cases showed a lack of communications as well as lack of knowledge for the employees which will hinder the long term success of the organization's goals. The result from this study shows that knowledge on the strategies is in fact important. This research supports existing studies on employee knowledge and business strategies and showed that the perceived knowledge on business-IT strategies is also important for business-IT alignment.

The result showed that perceived employee commitment to business-IT Strategies has no significant influence on business-IT alignment in organizations. This result is surprising because past studies have shown a positive correlation between commitment and performance of strategies [62], [45]. Our study however, has focused on administrative employees instead of management staffs. It is possible that the administrative employees' commitments are lower when compared to other studies which tend to have conducted with management staffs. It is possible that for Indonesian organizations, it is important to have a committed project champion who drives the project instead of needing the commitments of all employees for the success of business-IT alignments. Since employees nowadays tend to have worked for more than one company in their working life, they will not show a long term commitment to a company's strategies as shown in past studies. It is also interesting to note that Indonesia is different from many Asian countries that are steep in Confucianism. The Indonesian culture does not consider the future as being more important than the present [58]. Therefore long term commitments might not be viewed as significant by the employees although this needs further studies.

CONCLUSION AND IMPLICATIONS

The importance of IT in manufacturing is no longer debatable. However, how to achieve business-IT alignment is still a challenge for many organizations. This research examines the relationship between employee alignment and business-IT alignment. A model was proposed and empirically examined. Unlike past researches which have studied on factors affecting business-IT alignment, outcome of business-IT alignment, or focusing on managers from business and IT departments, this research has looked at business-IT alignment from the perspective of employees in general. We have also surveyed administrators who hold junior positions in the company. This is important because managers will often know the business and IT strategies in the company, but this cannot be always true for the other employees in the companies. The implications of this study can be divided into both practical and theoretical sides.

Practical contribution

This study has provided an empirical validation of the relationships between employee alignment and business-IT alignment. Most IT implementation studies have tended to neglect whether employees of all levels are align with the organizations' business-IT strategies. Furthermore, with IT strategies playing an important role in organizations' long term strategies, it is important that different units within the organizations are aligned to the business-IT strategies. Our results also provide strategies for organizations that want to improve their business-IT alignment. Firstly, they should build up the trust with their employees in terms of the goals and business and IT strategies of the company. This can be done by getting the employees involved and provide feedbacks when formulating the business-IT strategies. In many Asian countries strategies and decisions are made by the top management. However, if the employees do not believe in these strategies, it would be difficult for the successful execution of these strategies. For example, an organization might believe that a CRM system will help the organization to achieve competitive advantage. However, to ensure that the CRM system is useful, data needs to be collected and keyed into the system. Employees

who do not trust that CRM has benefits to the organizations might not put in the effort to collect or input the data. Managers also have a role to play as they need to explain the strategies to the employees and let inform them that the strategies will benefit all in the company. The managers should also communicate the strategies to all employees. The company can also ensure that the strategies are communicated to the employees via IT technologies. For example, the business-IT strategies can be posted on company's intranet which can be accessed by the employees. Employees should be able to communicate with their managers or top management with regards to the business-IT strategies. They should also feel that they can approach the management to discuss these issues. The company should ensure that all employees have knowledge on the business-IT strategies. This can in fact be achieved through good communications. In order to improve employees' knowledge on business-IT strategies, the company can implement a knowledge management system. The knowledge management system will ensure that employees can have easy access to information on their business-IT strategies and such strategies can be accessed anytime, anywhere. Inductions and trainings should also be conducted regularly to update the knowledge of the employees on the business-IT strategies of the organizations.

Our study was also conducted in a developing country. Most companies in developing countries are at an early stage of IT deployment. Therefore by focusing our study in Indonesia, the results will be applicable to other similar countries such as Malaysia, Vietnam and China.

Theoretical contributions

There has been little study which empirically evaluating the relationship between employee alignment and business IT alignment. We have proposed a model to investigate these relationships by employing SEM analysis. The model and results from this study is based on employees from various departments in the companies (i.e. Human resource, IT, Finance etc). We have also measured employee alignment from the perceptions of the employees instead of the top management. We believe that this is one of the few studies which have investigated the issue of business-IT alignment from the perspective of employee alignment. Our study has also developed and validated a multi-dimensional construct of employee alignment practices. This tool can be used by organizations to evaluate their current employee alignments' status.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

There were some potential limitations of this research. Our research was conducted in Indonesia and future studies can focused on other countries and even conduct a cross country comparisons to see if the results are consistent when set in different countries. The sample size for our study is also relatively small and we hope to include not only junior administrators, but also managers and blue collar workers in the organizations for future study. Our model has only included employee alignment. Future business-IT alignment studies can also incorporate other control variables such as organization factors and national culture together with the employee alignment used in this research. Lastly, a cross comparison studies can also be conducted to test if the models used in this study is applicable to other countries.

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APPENDIX I — SAMPLE ITEMS IN SURVEY

Perceived Organizational Trust

We believe in the strategies laid out by our senior management.

When employees express their point of view, they will be truly heard.

We trust each other to complete a job.

We are encouraged to share our ideas and feelings with others.

Conflicts in our views in company strategic directions will be dealt with in an appropriate and professionalism.

IT strategies are an important part of business strategies.

Business strategies can only be successful through a good support from IT strategies.

We believe that our ideas will be heard.

It is not a problem for us to provide ideas on feedbacks on companies' strategies.

All employees are responsible and will perform their job regardless of their department.

Perceived communications on business-IT strategies to employees

I am kept informed about major changes occurring within the company.

Information is shared in a timely manner from the company.

I am kept informed about reasons behind company decisions.

The information I receive from the company is complete.

I am kept informed about major changes occurring within my business/function.

Information is shared in a timely manner from my business/function.

I am kept informed about reasons behind business/function decisions.

I have the information needed to perform my job effectively.

The information I receive from my business/function is complete.

My business/function does a good job of communicating information to all employees.

Perceived employee commitment to business-IT strategies

I am willing to put in a great deal of effort beyond that which is normally expected in order to help the business be successful.

I am committed to the long term strategies set by my organization.

I feel loyal to the business.

I find my values and goals are compatible with the business' values and goals.

I am proud to tell others that I am part of the business.

There is much to be gained by participating with the business on a long-term basis.

I agree with the business' goals, plans and policies.

I really do care about the fate of the business.

Deciding to be involved with the business has had a positive influence on my life.

I understand and support decisions regarding the future of the business.

Perceived knowledge of business-IT strategies

I am willing to put in a great deal of effort beyond that which is normally expected in order to help the business become successful.

I am committed to the long-term strategies set by my organization.

I feel loyal to the business.

I find my values and goals are compatible with the business' values and goals.

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I really do care about the fate of the business.

Deciding to be involved with the business has had a positive influence on my life.

I understand and support decisions regarding the future of the business.

Perceived knowledge on business-IT strategies

People in our organization frequently spend time discussing customers future needs, visions and companies' strategies.

When people in our organization need information, they know who exactly to ask.

There are regular meetings between departments to discuss trends and developments.

We keep a database of customer information, business and IT strategies that is easy to access.

Information about customer satisfaction is disseminated to all levels of our organization.

We encourage people with similar interest to work together.

We manage to keep up-to-date with technological developments that could affect our business.

Information on new technological developments that affect our business is circulated.

We periodically review the likely effect of changes in technology on our customers.

We are quick to decide on how to respond to changes in technology.

Business-IT alignment

Business planners understand the value of IT to business.

Our business plan specifies the contribution of IT to the business.

Business plans revised whenever IT evolves.

Business managers participate in IT planning processes.

IT personnel participate in business planning.

IT opportunities prioritized on basis of business objectives.

We revise IT plans whenever business evolves.

IT personnel understand our business needs.

IT and business plans are prepared simultaneously.