

IT/IS Outsourcing Relationship Factors in Higher Education Institution: Behavioral Dimensions from Client Perspectives

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Abstract—Higher education institutions are increasingly opting to outsourcing methods in order to sustain themselves and this creates a gap of literature in terms of how they perceive the relationship. This research paper attempts to identify the behavioral and psychological factors that exist in the engagement thus providing valuable information to practicing and potential clients, and vendors. The determinants were gathered from previous literatures and analyzed to formulate the factors. This study adopts the case study and survey approaches in which interviews and questionnaires are deployed on employees of IT-related department in a Malaysian higher education institution.

Keywords—Higher education institution, information technology, outsourcing, relationship.

I. INTRODUCTION

THE demography within an organization took an evolutionary change since the introduction of outsourcing concept to industries. It rewrote traditional way of conducting a business in which all the activities were carried out internally to the idea of a network organization or even a virtual organization, in which fewer and fewer operations were performed within the firm [16]. IT outsourcing is also growing at a rapid rate throughout North America, Europe and increasingly across Asian economies [3].

IT outsourcing was originated from the professional services and facility management services in the financial and operation support areas during the 1960s and 1970s. Today's IT outsourcing frequently involves a much greater range and depth of services than in the past, with an increasing number of IT functions being transferred to IT service providers. According to [17] and [40] IT outsourcing is a form of privatization that generally refers to a higher education institution's decision to contract with an external organization to provide an IT traditional campus function or service.

Yet, authors from [25] claimed that outsourcing is very

much different from privatization although they both have common characteristics. Firstly, the outsourcing engagements for goods and services are not forever as it is often lined in the contract agreement the period after which the contract ceases while privatization is generally termed as once-and-for-all sale of state owned assets. Secondly, outsourcing does not necessarily involve the transfer of physical assets while privatization does. Outsourcing usually involves the procurement of a specific service. Thus, we took the liberty to redefine IT outsourcing as a form of agreement that generally refers to a higher education institution's decision to contract with an external organization to provide an IT-related campus functions or services.

A. Background of Research

The Information Technology (IT) function refers to the various hardware, software, networking and data management components necessary for a system to operate. Meanwhile the term Information System (IS) could be described as any organized combination of people, hardware, software, communication networks, data resources, and policies and procedures that stores, retrieves, transforms and disseminates information and functions in an organization [39]. As more firms look to outsource their business components, the need for a more dynamic approach towards managing outsourcing relationship is inevitable. Relationship management is important especially for firms or institution vying for long-term affiliation.

Most of the Malaysian higher education institutions outsource the following IT/IS elements:

- i) Wired/wireless network
- ii) Portal/website
- iii) Internet/intranet security
- iv) E-mail Services (Staff and Students)
- v) Database/legacy system
- vi) System Application
- vii) E-Learning

B. Research Problem Statements

Information technology (IT) outsourcing has become more pervasive, the need to manage IT outsourcing relationships on a long-term basis has become more important [33]. As indicated by [4], successful relationship management is still a

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critical issue in which both practitioners and academicians search for instrument to measure relationship quality.

A survey by [24] showed that many clients considered switching vendors due to various causes such as lack of satisfaction with the performance of the vendor, conflicts based on typical agency problems, or newly emerging conditions and needs. Switching vendors, especially during the course of contract execution, involves a lot of transition costs including early termination costs, switching costs, redeployment costs and relocation costs [33]. Due to the growth of criticality and risks of large outsourcing transactions, both outsourcing service providers and their respective clients need to understand what makes IT outsourcing successful [10], thus it can be more beneficial for companies to nurture and maintain long-term high-quality relationships with their current vendors through persistent contract renewal. Clear understanding of these crucial factors would enable wise decision making when it comes to creating as well as continuing an outsourcing partnership.

Reference [49] also argued that inadequate service by contractors can affect the campus community in myriad ways such as uncomfortable teaching facilities and lack of skilled technical staff to manage network. This could slowly affect the core areas of the institution itself due to inefficiency. Another research by [31] states that there is lack of skill within public organizations to manage and monitor outsourced functions. This research could provide some insights on the reality of this statement in the Malaysian higher education context.

Another study also showed most organizations do not gain the advantages they expect from their outsourcing engagements [3]. They also argued that IT outsourcing has not brought the benefits to the organization in contrast to its purpose thus there is a need to properly manage the determinants influencing successful IT outsourcing engagement. Only few researchers have focused on the issue of relationship duration as a client can minimize the transition costs only through a longer term relationship with a single vendor [33]. There also a very limited amount of data or statistics about outsourcing in higher education and the need for such data have been recognized as more institutions turn to outsourcing [19].

A senior IT manager from a Malaysian higher education institution claimed that apart from these problems there are other complications which arise after a contract is signed such as insufficient after sale services. Yet the more serious setback is vendors pulling out of contract due to inability to fulfill the contractual agreements especially in periods of fluctuating and volatile economy.

There are currently limited researches done on IT outsourcing in Malaysia and far fewer researches could be found on the factors of IT/IS outsourcing especially ones delving into the perspective of higher education institution as clients.

Thus, in this study, the researchers try to identify several important factors from client perspectives that may have an

impact on the duration of IT outsourcing relationships. It would provide some clarification and insights into how a psychological contract is depicted by an institution. Thus, this research serves as an expansion of IT outsourcing literature in the area of governance of outsourcing engagements associated with the duration of outsourcing relationships.

C. Significance of Research

With all the above limitations, we believe that our study makes significant contributions to research and practice.

1. Managerial perspective

- a) Improve partnership cohesiveness as both sides would understand each others' needs and vision especially for long term commitment.
- b) Companies can enjoy significant benefits from making right choices in terms of renewing, continuing, or terminating their contracts with their current service providers and guidance to them in this area will be tremendously helpful.

2. Practitioner perspective

- a) Serve as preparatory guide for future planning for outsourcing.
- b) Better understanding of critical factors to ensure successful partnership.

3. Theoretical Contribution

- a) Clarification and rearrangement of the available constructs: complex constructs from the relationship literature, like communication, are delineated in the proposed model (formal vs. informal as well as quantitative vs. qualitative aspects of communication)
- b) Identification of new constructs (e.g. complexity and specificity of the outsourcing object will influence the relationship quality)

II. LITERATURE REVIEW

A. Concepts of IT/IS Outsourcing

Various IT researchers and academic scholars came up with diverse definitions of IT/IS outsourcing in their works. Reference [7] defined it as the organizational arrangement instituted for obtaining IS services and the management of resources and activities required for producing these services. Another study by [50] stated that IT outsourcing involves transferring IT assets, leases, staff and management responsibility for delivery of services from internal IT functions to third-party vendors. In line with [12] work, [28] defined outsourcing as the contracting of various IS functions such as managing of data centers, operations, hardware support, software maintenance, network and even application development to outside service providers.

B. Elements of IT/IS Outsourcing

IT outsourcing relationships it is often a requirement in the engagement that a relatively intimate relationship should be established between the outsourcing company and the outsourcing vendor [27]. Reference [4] stressed that

successful relationships management is still a critical issue to both practitioners and academics and its further highlighted by [18] that managing a successful IT outsourcing is both a demanding and rewarding activity. The latter also stated that moving toward a matured relationship should be the goal of a relationship. IT outsourcing relationships can be separated into four different engagements as identified by [35]:

- i. Single vendor - single client – typically for simple functions or update of some information system components;
- ii. Single vendor - multiple clients – is usually to application development when a single vendor assure the implementation and maintenance for multiple business with comparable features;
- iii. Multiple vendors - single client – can be found at the large companies which outsource entire information system development and maintenance to the different provider; and
- iv. Multiple vendors - multiple clients – can be seen on e-business context where multiple companies on the value chain co-operate. In this context, each business could contract one or more partners from value chain to outsourcing IT.

According to a Chief Information Officer from a Malaysian institution of higher education, there are several criterions that they evaluate in choosing an outsourcing vendor. They are listed as follows:

- i) Product Brand reputation
- ii) Quality of offered services
- iii) Vendor outsourcing experience
- iv) After sales services
- v) Price

A successful relationship requires a combination of soft-based and hard-based relationship management [13]. According to [36], the building and structuring of the IT outsourcing relationship is constructed around two main elements:

- i. The formal contract that specifies the task requirements and obligations of each party in written form; and
- ii. The behavioral and psychological contract that is based on the parties' mutual beliefs and attitudes.

Reference [26] identified the process cycle in higher education institutions based on a survey done by EDUCAUSE Centre for Applied Research (ECAR) which separates into 5 different processes as shown in Figure 1 in Appendix A and its details are summarized in Table I.

TABLE I
SUMMARY OF IT OUTSOURCING PROCESS IN HIGHER EDUCATION

Phase	Processes
1) IT Problem Identification and Evaluation	Determine the IT functions which can be managed more efficiently through outsourcing and performing risk and benefit assessment on it.
2) Consensus	Reduce resistance towards the

Building	outsourcing decision by building consensus with all affected by it and including them in the process. Study on state and local policies regarding outsourcing.
3) Planning and Vendor Selection	Plan implementation schedule by evaluating operation timing and duration. Select vendor carefully by ensuring that their capabilities and experience meets institution needs.
4) Implementation	Prepare the Service Level Agreement (SLA) along with the contract. Responsibilities of both parties should be clearly identified and understood by both sides.
5) Post-Implementation Assessment	Progressively evaluate the outsourcing execution and realign according to contract specification should the implementation deviates from its target.

C. Implications of IT/IS Outsourcing Towards Public Higher Education Institution

TABLE II
IMPLICATIONS OF IT OUTSOURCING

Implications of IT/IS Outsourcing	Author(s)
Enabling existing staff to concentrate on core activities on organizational specializations, focusing on achieving key strategic objectives, lowering or stabilizing overhead costs, and thereby gaining cost advantage over the competition, providing flexibility in response to changing market conditions, and reducing investment in high technology.	[29], [42], [22]
Enables members of client organization to learn or acquire the needed knowledge from the other organization.	[32], [22]
Decrease the product or process design cycle time, if the client uses multiple best-in-class suppliers, who work simultaneously on individual components of the system, as each supplier can contribute greater depth and sophisticated knowledge in specialized areas and thus offer higher quality inputs than any individual supplier or client.	[51]
Added advantage from the entrepreneurial or technological developments of the service provider.	[42]
Noticeable increase in the number of IT functions that are now outsourced over the past few years, giving clients the option of selecting from the masses	[35]
Outsourcing non-core processes allow firms to increase managerial attention and resource allocation to those tasks that it does best, the core business.	[14], [19]
The increased demands of students in a technological age have outstripped the ability of universities to keep up. Thus, by outsourcing	[19]

key functions such as IT, institutions are able to create cost savings while also providing improved service.	
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D. Factors Affecting IT/IS Outsourcing Relationship

Elements of a Formal IT/IS Contract: According to [3] when a decision is made to outsource, both the client and vendor were usually eager to quickly get the relationship underway. Nonetheless, some circumstances like changes in business direction, changes in economic situation and the introduction of new technologies throughout the outsourcing period may have caused difficulties in managing the contractual relationships [3]. Consequently, outsourcing contracts will need to be properly outlined to address any disputes which may arise. Researchers from [2] argued that detailed contracts have high rates of success and there is also need to continuously anticipate future needs into the contract.

Service contracts such as IT outsourcing contracts mostly involve Service Level Agreements (SLA). SLA is defined as a formal written agreement developed together between client and vendor that specify a product or service to be provided at an agreed level so as to meet business objectives. Once the overall outsourcing deal is negotiated by lawyers and in place, SLA is added as an addendum to the overall contract that contained the project-specific terms and conditions negotiated by outsourcing managers from client and vendor firms in order to provide a specific way to manage outsourcing relationships [37]. Thus, in order for both parties to benefit from their (SLA), the negotiations should establish a common understanding about the level of services, responsibilities and guarantees involved.

Elements of an Informal Behavioral and Psychological Contract: [15] classified an outsourcing relationship as an ongoing linkage between an outsourcing service provider and customer or client organization that has a long-term orientation and a mutual recognition. The benefits attained by each firm are at least in part depended on the other firm. The ultimate goal of any relationship is to be successful as it translates to an effective relationship in which both participants gain benefit. Relationship has often been noted as a major feature of IT outsourcing [17]. Partnership can reduce the risk of inadequate contractual provision, which may be comforting for clients about to outsource a complex and high cost activity such as IT [17]. Reference [7] indicated in their taxonomical research of the need for further research into how the client and vendor interact with each other within a relationship.

To understand this concept of behavioral and psychological factors, [34] developed three differing theoretically supported models which were built upon their previous venture in 1999 in which they researched a model based on partnership quality. They found the model based on behavioral-attitudinal theory as the most effective after obtaining data from 225 senior IS executives of Korean firms. Figure 2 in Appendix A illustrates the developed model.

Authors of [13], after reviewing five outsourcing relationship models, proposed their own extended outsourcing relationship model to provide an improved understanding of the factors affecting the success of an outsourcing agreement. They studied both from the perspective of client as well as the vendor of a relationship but it was a case study in which only a singular Australian client and vendor was interviewed separately. Although the results from this research were valid, it was limited to only one outsourcing relationship. Thus, their findings could not be generalized in other domains. Figure 3 in Appendix B demonstrates the extended model created. Thus, after identifying the different factors of behavioral and psychological contract elements from various authors, the following table was created.

TABLE III
DETERMINANTS OF IT OUTSOURCING RELATIONSHIP FROM CLIENT PERSPECTIVE

Determinants	Author(s)
Mutual understanding	[4], [21], [16], [3], [28]
Communication quality	[4], [20], [3], [13]
Mutual Trust	[4], [32], [21], [20], [36], [3], [28], [46], [34]
Commitment	[4], [20], [28], [34]
Conflict	[4]
Flexibility	[4], [21]
Cultural compatibility	[4], [3], [13]
Forbearance	[4]
Informal communication	[4]
Knowledge sharing	[4], [20], [28], [13]
Regular communication	[21]
Cooperation	[21], [20]
Stewardship behavior	[18]
Reliability	[10], [28]
Consensus	[15]
Assurance	[10]
Dependence	[20], [34], [13]
Collaborative participation	[20], [13]
Management support	[3], [6], [36], [13]

III. THEORETICAL FRAMEWORK

A. Proposed Conceptual Model

The proposed conceptual model is built from the determinants identified in TABLE III. Cross-reference of individual determinants with their respective authors were also tabulated in Appendix C.

TABLE IV
WORKING DEFINITION OF THE DETERMINANTS

Determinants	Definitions	Related Reference
Communication	The formal and informal sharing of information or meaning between IS outsourcing service receiver and vendor	[47]
Communication	Status of the efficiency and	[4]

quality	effectiveness of information exchange between partners.	
Informal communication	That which remains when rules and hierarchies, as ways of coordinating activities, are eliminated and people meet out of role.	[4]
Regular communication	The extent to which both parties habitually communicate with each other with regards to the IT outsourcing activities and processes.	[21]
Commitment	The willingness of the parties to exert effort and devote resources in order to sustain an ongoing relationship.	[15]
Reliability	The extent of how the vendor positively responds to issues that continuously emerge throughout the engagement.	[10]
Assurance	Behavior of one party in which it acts positively towards the relationship to give confidence to the other in regards of its services.	[10]
Consensus	The extent of general agreement between the parties. Effective consensus requires consensus on multiple levels.	[15]
Trust	The expectations that a party will act predictably, fulfill its obligations, and behave fairly even when the possibility for opportunism is present.	[15]
Mutual trust	Belief of a firm that the partner firm will perform acts that will result in positive outcomes for the firm and not take unexpected actions that would result in negative outcomes for the firm.	[4]
Mutual understanding	Degree of understanding of behaviors, goals, and policies between partners.	[4]
Conflict	Represents the overall level of disagreement in the working partnership.	[4]
Flexibility	Bilateral expectation of willingness to make adaptations as circumstances change.	[4]
Dependence	The extent to which the partners can influence each other as well as the extent to which they depend on each other. It develops through both partners perceiving mutual benefits from their interaction.	[34]
Cultural compatibility	Closeness of behavior patterns, values and norms within a partnership.	[4]
Forbearance	Forgoing of certain behaviors that are not in the best interest of both	[4]

Cooperation	Undertaking complimentary activities to achieve mutual benefits.	[15]
Knowledge sharing	The extent to which critical information is communicated between the partners. Closer relationships should result in more frequent and more relevant information exchanges	[34]
Stewardship behavior	The help and guidance given by vendors of the relationship to its client especially in newly formed relationship in regards of the IT outsourcing activities.	[18]
Collaborative participation	The level of involvement of both partners in the outsourcing relationship. Active participation of the partnership members plays a major part in enhancing the long term sustainability of the partnership.	[13]
Top management support	How well executives from each partner understand and support the partnership.	[13]

In the proposed model, the determinants are divided into five dominant categories identified in previous literatures; communication, commitment, trust, flexibility and cooperation. These categorizations are mainly influenced by findings of [13], [15] and [34].

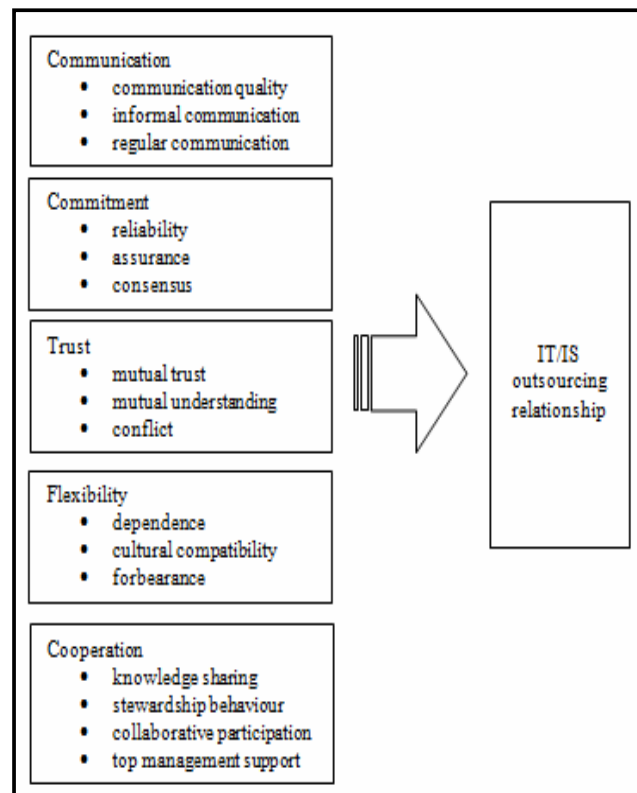


Fig. 4 Proposed conceptual model for IT/IS outsourcing relationship factors in higher education institution

other related researches including from the vendors perspectives.

IV. CONCLUSION

A. Discussion

The discussions in this paper are part of an ongoing research by the researchers. This paper has highlighted the importance and impact of conducting the said research as well as identified the behavioral and psychological relationship factors existing within the higher education institution outsourcing framework which is beyond the boundaries of a traditional contract agreement between the client and their vendor. This paper also lays out the foundation for subsequent phase of the research. The continuing research will extend the work of this conceptual paper to investigate in depth the dimensions as well as effectively helping open up avenues for

APPENDIX A

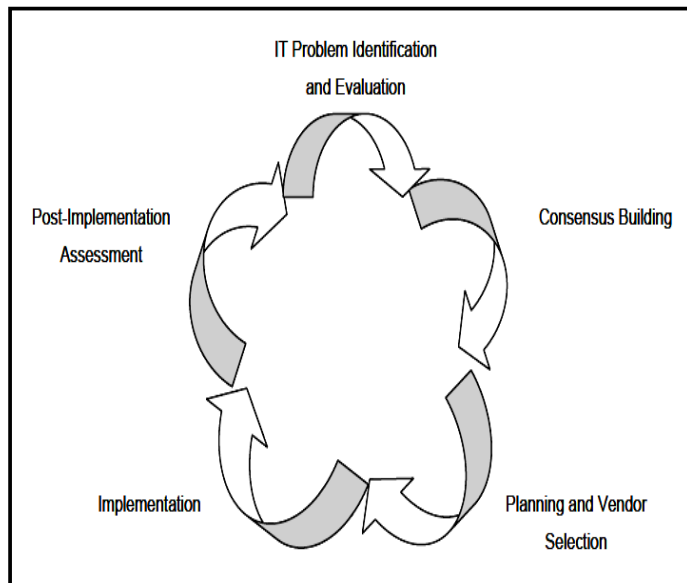


Fig. 1 IT Outsourcing process cycle in higher education
Source: Kancheva (2003)

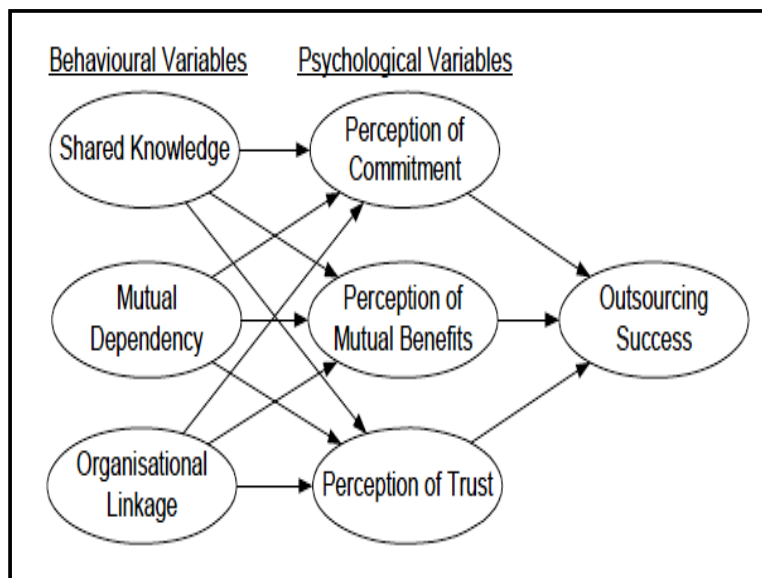


Fig. 2 Model based on behavioral-attitudinal theory

Source: Lee and Kim (2005)

APPENDIX B

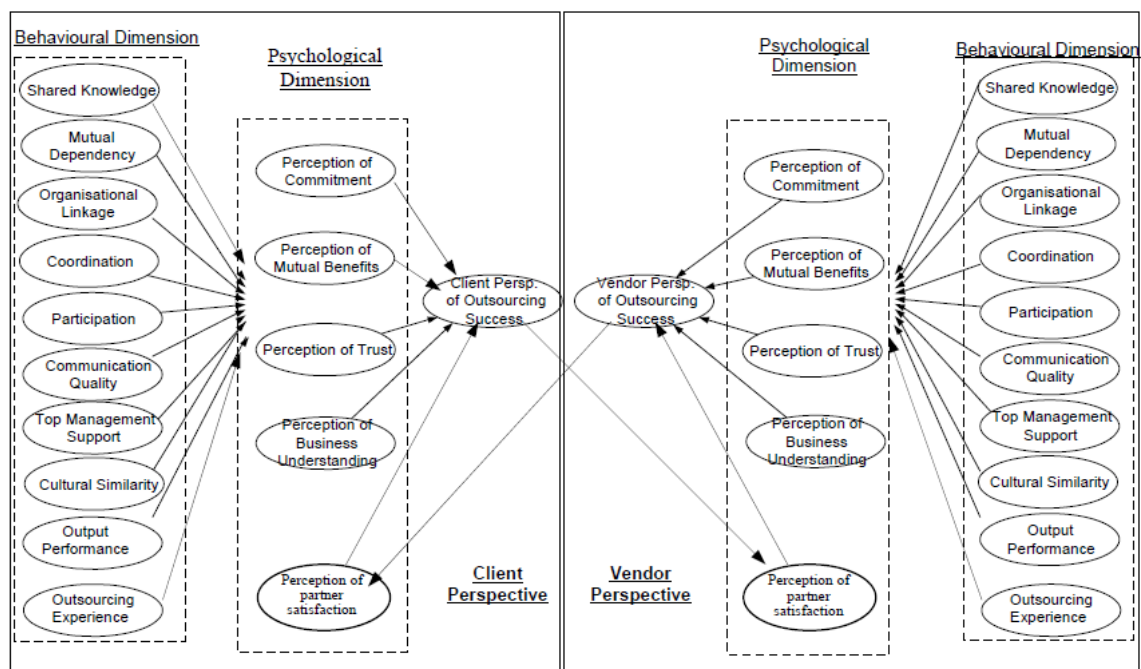


Fig. 3 Extended outsourcing relationship model

Source: Fleming and Low (2007)

APPENDIX C

DETERMINANTS OF IT OUTSOURCING IN HIGHER EDUCATION INSTITUTION

Determinants	References																				
	Birks et al. (2007)	Blumenberg et al. (2008)	Cong and Chau (2007)	Dahlberg and Nyrhinen (2006)	Fleming and Low (2007)	Goles and Chin (2005)	Gonzalez et al. (2005)	Gottshalk and Solli-Sæther (2006)	Han et al. (2007)	Hancox and Hackney (2000)	Hues (2007)	Husnayati Hussin et al. (2006)	Kishore et al. (2003)	Lee (2001)	Lee and Kim (2005)	Mohd Adam Suhaimi et al. (2007)	Nam and Goo (2007)	Nguyen et al. (2006)	Rajabzadeh et al. (2008)	Söderström and Lennetholt (2006)	Sun et al. (2002)
Regular Communication	✓					✓				✓	✓							✓	✓	✓	✓
Top Management Support	✓				✓		✓									✓			✓		
Mutual Understanding		✓			✓	✓	✓			✓				✓							✓
Communication Quality		✓			✓				✓												
Trust		✓				✓			✓			✓		✓			✓				✓
Conflict		✓									✓			✓							✓
Cultural Compatibility		✓			✓	✓												✓			
Forbearance		✓																			
Commitment		✓							✓			✓	✓	✓			✓	✓		✓	✓
Mutual Trust			✓		✓	✓			✓			✓	✓	✓			✓	✓			✓
Flexibility		✓				✓															
Informal Communication		✓																			
Knowledge Sharing			✓		✓				✓			✓	✓	✓				✓			
Reliability				✓								✓	✓	✓							
Consensus		✓				✓															
Assurance				✓																	
Dependence					✓																✓
Stewardship Behavior																					
Collaborative participation					✓	✓			✓	✓					✓						

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