A framework for offshore vendor capability development

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Abstract. Offshore outsourcing is a common practice conducted by companies, especially in
developed countries, by relocating one or more their business processes to other companies
abroad, especially in developing countries. This practice grows rapidly owing to the ease of
accessing qualified vendors with a lower cost. Vendors in developing countries compete more
intensely to acquire offshore projects. Indonesia is still below India, China, Malaysia as main
global offshore destinations. Vendor capability is among other factors that contribute to the
inability of Indonesian vendor in competing with other companies in the global market.
Therefore, it is essential to study how to increase the vendor’s capability in Indonesia, in the
context of global offshore outsourcing. Previous studies on the vendor’s capability mainly
focus on capabilities without considering the dynamic of capabilities due to the environmental
changes. In order to be able to compete with competitors and maintain the competitive
advantage, it is necessary for vendors to develop their capabilities continuously. The purpose
of this study is to develop a framework that describes offshore vendor capability development
along the client-vendor relationship stages. The framework consists of three main components,
i.e. the stages of client-vendor relationship, the success of each stage, and the capabilities of
vendor at each stage.

1. Introduction
Offshore outsourcing – relocating one or more functions to third party from other countries especially
developing countries – is a major trend and there is still ample room for continued growth [1]. The
global market size of outsource services from 2000 to 2014 tended to increase steadily and in 2014 the
revenue of outsource services reached US$ 104.6 billion [2]. This practice grows rapidly owing to the
ease of accessing high qualified vendors with a lower cost in developing countries.
The huge market of offshoring attracts vendors in developing countries to compete in this business,
therefore vendors from developing countries compete more intensely to become a main player. There
are many offshore destinations around the world. According to the report issued by Gartner, Indonesia
is one of the most favourite offshore destinations, but it is still below other countries in Asia such as
India, China, Malaysia [1].
It is not easy to achieve offshoring success. The success can be elusive and studies have shown that
a low percentage of outsourcing relationships are considered success, at least 50% of outsourcing
relationship are terminated early [3]. A 2012 global outsourcing and insourcing survey conducted by
Deloitte Consulting LLP, found that 48% of companies had previously terminated an outsourcing contract, 24% indicated a less-than-satisfactory rating for their most recent outsourcing initiative [4]. In information technology sector, empirical research suggests that information technology offshoring is not always successful because of low quality of the software being developed, inability to build the necessary human and social capital, a lack of commitment, cultural clashes, poor communication and high turnover [5]. These findings show that offshoring will always be challenging. Vendor companies must develop their capabilities to cope with these challenges. Therefore, it is essential to study vendor capabilities especially in Indonesia in order to increase the position of global offshoring destination. One of the most outsourced function is information technology [6, 7]. This paper will focus on information technology vendor capabilities.

Previous studies on the information technology vendor’s capability were mainly focused on substantive capabilities which is related to abilities to perform and deliver a project. Those studies did not consider the dynamic of capabilities due to the environmental changes. In a dynamic environment, vendors must be able to respond changes that occur in the client or environment [8-10]. In order to be able to compete with competitors and maintain the competitive advantage, it is necessary for the vendors to develop their capabilities continuously. The capability development is a comparison of the capability level at different points in time [11]. Therefore, the purpose of this study is to develop a framework that describes offshore vendor capability development along the client-vendor relationship stages. In this study, we will consider vendor-client relationship stages as time points in describing the capability development.

2. Literature Study

2.1. Capability

Firms must develop their strategies to reach a superior position in the market. There are two approaches in developing a competitive advantage [12]: (1) the competitive forces approach – it emphasises on the competition intensity in the industry and market segment that determines the profit potential; and (2) the capabilities approach – it locates the sources of a defensible competitive position in the distinctive, hard-to-duplicate resources the firm has developed.

Winter [13] defines an organizational capability as a high-level routine that together with its implementing input flows, confers upon an organization’s management a set of decision options for producing significant outputs of a particular type. Capability can be divided into two types [10, 13]: (1) substantive/ordinary/operational capabilities – organizational capabilities that permit a firm to make a living in the short term and to solve a problem; (2) dynamic capabilities – capabilities that enable a firm to modify substantive capabilities or to change the way in solving a problem.

Wernerfelt [14] developed an approach for developing the resources-based strategy. This approach has been used extensively in many fields, and one of them is information system field. Wade and Hulland [15] showed that resources approach can be used as a framework for evaluating the strategic value of information system resources.

Resources at a given time could be defined as those tangible and intangible assets which are tied semi-permanently to the firm [14]. Wade and Hulland [15] defined resources as assets and capabilities that are available and useful in detecting and responding to market opportunities or threats.

Firms must create their resources difficult to be imitated, transferred, or substituted to achieve the competitive advantage [14, 15]. Resources based view emphasises on firm’s specific capabilities and assets as the determinant of firm’s performances [16]. Resources form the basis of unique value-creating strategies and their related activity systems that address specific markets and customers in distinctive ways, and so lead to competitive advantage [17].

Resources could be divided into two components [15, 17]:

- Substantive/ordinary/operational capabilities: organizational capabilities that permit a firm to make a living in the short term and to solve a problem.
- Dynamic capabilities: capabilities that enable a firm to modify substantive capabilities or to change the way in solving a problem.
1. Assets. Assets are defined as anything tangible or intangible that serve as inputs to a process or outputs of a process. This component is easy to be duplicated by competing firms, therefore firms will be difficult to use this component as a sustained competitive advantage.

2. Capabilities. Capabilities which can include skills or processes are defined as repeatable action patterns in using assets to create products through transforming inputs into outputs. Capabilities can provide firms the sustained competitive advantage and serve as a critical driver for firm’s performances.

The resources approach does not explain how the competitive advantage can sustain in the rapid environment changes [17]. Many established firms have followed this approach, but it is not sufficient to sustain the firm’s competitive advantage [16]. Dynamic capabilities are required to drive resources creation, evolution, and reconfiguration into a new competitive advantage [17].

Teece et. al. [16] defined dynamic capabilities as firm’s abilities in integrating, building, and reconfiguring their competence as a response to environmental changes. The similar definition was proposed by Eisenhardt and Martin [17] which defined dynamic capabilities as a process of resources integration, reconfiguration, acquisition, and release for following and creating market changes. Zollo and Winter [18] added that dynamic capabilities were required not only as a response to environmental changes, but also as a way to reach a better effectiveness through creating and modifying operational routines. Zahra et. al. [10] defined dynamic capabilities as abilities in integrating firm’s resources and routines in the manner envisioned and deemed appropriate by its principal decision-maker.

Based on the dynamic capabilities view, the sustained competitive advantage requires the exploitation and development of firm’s specific current capabilities to respond to environmental changes [16, 17]. Factors that determined firm’s competitive advantage include [16]:

1. Process. Capabilities adhere to organizational processes and have three roles:
   coordination/integration (a static concept), learning (a dynamic concept), and reconfiguration (a transformation concept).
2. Position. The competitive advantage at a certain time is formed by assets. Assets include knowledge assets, reputational assets, and relational assets.
3. Path. The competitive advantage is reached through evolutionary path. Where a firm can go is a function of its current position and the path ahead.

2.2. The vendor-client relationship
A firm, in conducting its business, can not be independent of inter-organizational relationship with various motivations such as access to a new technology, economic scale, complementary skill [19]. The inter-organizational relationship like a vendor-client relationship is not static. Inter-organizational exchanges developed and adapted over time [8]. The relationship between a client and a vendor could change over time due to external environmental changes and client’s internal demand changes [9]. Vendor-client relationships have moved from being independent and potentially adverse to long-term, continuous and complex [20]. The relationship starts formally through mechanistic exchanges and moves to be adaptive along with the growth of confidence, trust, and work method [8]. The complexity of inter-organizational relationship needs separate analysis between an overall relationship and an individual episode which build the relationship [21].

Ford [21] analysed the process of relationship building and development over time which is divided into five stages i.e. the pre-relationship stage – related to new vendor evaluation without involving the commitment to a vendor, the early stage – involves a negotiation of initial project between a client and a vendor, the development stage – the stage in which the number of projects performed by a vendor increases and the commitment increases through adaptation process, the long-term stage – marked by the joint interest and the large scale of project deliveries, and the final stage – achieved in the long time and the institutionalization is established.
Dwyer et al. [22] divided stages involved in building a client-vendor relationship into four stages i.e. the awareness stage – recognition of a potential partner existence, but there is no exchange between the client and the vendor. The exploration stage – the exchange takes place and the vendor gives direct benefits to the client, the expansion stage – both parties receive many benefits and the interdependence gets stronger, the commitment stage – an unlimited relationship is established.

Day [23] proposed the continuum of exchange process which starts from transactional exchanges (the client and the vendor focus on standard product exchanges on the right time and competitive price to collaborative exchanges (joint commitment developed to achieve long term benefits).

Gottschalk and Solli-Saether [24] proposed the following three stages of relationship building i.e. the cost stage – the agreement of contract is established to facilitate exchanges and to prevent frauds, the resource stage – vendor’s resources can be accessed by the client, the partnership stage – the collaborative effort is conducted to achieve joint goals.

Mirani [25] stated that the path for client and vendor relationship building included three stages i.e. the contract stage – clients outsource several application development to offshore vendors for lower costs, the network stage – the interdependence of client and vendor increase and a tighter cooperation and a higher trust are required, the hierarchy stage – a structural hierarchy is developed by the client to control the vendor.

In this study, a ‘three-stages’ inter-organizational relationship building process is proposed. The stages include the transactional stage – this stage is related to the realization of project/contract and the vendor must be able to deliver the output which matches or exceeds client’s expectations at first time, the relational stage – at this stage, the vendor acquires projects without through a bidding process because the vendor has had the trust of the client, the partnership stage – the vendor and the client have a commitment to a long term relationship and both parties collaborate to reach joint goals.

The following table shows the comparison of relationship stages from previous studies and this research.

| Table 1. Stages of inter-organizational relationship. |
|------------------------------------------------------|
| Ford [21] | Dwyer et al. [22] | Day [23] | Gottschalk & Solli-Saether [24] | Mirani [25] | This Study |
| The Pre-relationship | The early relationship | The development | The long-term relationship | The final relationship |
| Awareness | Transactional | The cost stage | Contract | The transactional stage |
| Exploration | | | | |
| Expansion | Value-adding | The resource stage | Network | The relational stage |
| Commitment | Collaborative | The partnership stage | Hierarchy | The partnership stage |

3. A Framework for capability development

This framework is developed for describing the development of offshore information technology vendor capabilities along the stages of vendor-client relationship. A firm tends to build the long-term relationship with its clients to acquire benefits from this relationship i.e. price-insensitive loyal customers and hard-duplicated relationship by competing firms [23]. The long-term relationship
between vendor and client can not be built instantly, it needs stages in which both parties will pass through [8, 21-25].

3.1. A general framework

Each stage involves various activities in order to achieve its goals. A firm must have substantive capabilities to perform activities effectively [16, 23]. Substantive capabilities are required abilities to complete tasks at each stage in solving problems or producing outputs [10, 13]. These capabilities are resources which determine firm’s competitive advantages and performances [15, 17, 23]. Stage activities determine substantive capabilities and these capabilities influence the success of each relationship stage. The success in the early stage will determine the future of the relationship. The advancement of relationship will be followed by the growth of project, the development of interaction between both parties.

The vendor-client relationship is not static and can change over time due to external environment changes or client’s demand changes [9]. The vendors must be able to adapt to changes and develop their substantive capabilities along the development of vendor-client relationship [8]. The progression from one stage to the next stage requires firms to modify their substantive capabilities due to changes of stage characteristics such as the type of project, relationship mechanisms, goals. Vendors must have learning process to develop its capabilities [10, 18].

Based on the explanation presented above, the proposed framework for capabilities development can be seen in figure 1.

![Figure 1. A framework for capabilities development](image)

Chan et. al. [26] described the relationship between Foxconn and Apple in the context of vendor-client relationship development. We use their study to illustrate our proposed framework. Foxconn, one of the largest companies in the world, manufactures various electronic products for giant electronic companies such as Apple. The firm has 12 main business groups which compete on speed, quality, engineering service, efficiency, and added value to maximize profit. Two business groups i.e. iDPBG (integrated Digital Product Business Group) and iDSBG (innovation Digital System Business Group) are dedicated to serve Apple.

iDPBG was established in 2002. At the beginning, it was only a small business group handling Apple’s contracts. This group assembled Macs and shipped them to Apple retail stores in the United States. Later, the relationship was developed. Apple ordered more Macs and iPods to Foxconn. In 2007, Apple gave more trust to Foxconn by ordering the firm to assemble the first-generation iPhone. From 2010, the firm acquired more orders by manufacturing iPads. To increase the firm’s
competitiveness, Foxconn modified its organization by establishing iDSBG in 2010 when the firm acquired the iPad contracts. iDSBG now primarily manufactures Macs and iPads.

Foxconn’s capability is a key success factor for building a long-term relationship with Apple. The firm’s key capabilities include manufacturing capability – firm’s abilities to manufacture complex products quickly [27] and human resources management capability – firm’s abilities to provide the needed human resources in order to complete the contracts well. These capabilities contribute toward the low-cost and fast contract completion.

Changes occurred during the relationship between the firm and clients such as global financial crisis in 2008. To respond this change, Foxconn cut prices on components such as connectors and printed circuit boards, and assembly, to retain high-volume orders. The firm accommodated Apple’s squeeze while continuing to reduce labour expenditures, including cuts in wages and benefits. Besides the environmental changes, the client-sided changes also occurred such as the change of iPhone screen design 4 weeks before the product launching schedule. This change required an assembly overhaul and production speedup.

The Foxconn-Apple relationship setback occurred when Apple shifted some iPhone and iPad orders to another company due to the Foxconn employee suicides in 2010 which caused by a poor work condition. The firm improved the worker relationship by establishing the worker council and increased the worker wages.

Foxconn responds the relationship dynamics by modifying its capabilities. To develop its manufacturing capabilities, Foxconn invested heavily to expand its facilities in China, Mexico; bought a stake in Sharp in order to be able to make screen better and cheaper [28]. Foxconn has been striving to accelerate manufacturing automation amid rising labour costs and workplace disputes, and to free human of the dirties and most dangerous jobs [29]. The firm also developed its human resources capability. The significant development of human resources capability is the creation of worker councils that give the employees a way to voice their concerns directly [27]. That is the novel way in which the company is trying to communicate with those workers [27].

3.2. A framework for offshore IT vendor
Previous studies have identified capabilities of offshore information technology vendor. We will categorize these capabilities based on Day’s category i.e. [12]:
1. Inside-out capabilities. These capabilities are activated by market requirements, competitive challenges, and external opportunities.
2. Outside-in capabilities. These capabilities connect the processes that define the other organizational capabilities to the external environment and enable the business to compete by anticipating market requirements ahead of competitors and creating durable relationships with customers, channel members, and suppliers.
3. Spanning capabilities. These capabilities are needed to integrate the inside-out and outside-in capabilities.

Table 2 summarizes the capabilities of offshore information technology vendor from previous studies.

According to previous studies, offshore IT vendor must have capabilities i.e. relationship management, client business understanding, project management, human resources management, and software development in order to reach the vendor-client relationship success. There may be dominant capabilities which determine the success of vendor at each stage of relationship. The development of capabilities will make the different level of capabilities at each stage of relationship in which the higher stage will require the higher level of capabilities.

The transactional stage is an early stage in building the long-term relationship. The vendor will be at the transactional stage if it can acquire the project from the client. The characteristic of acquired project at this stage usually is a small-size project with clear requirements [30]. At this stage, the vendor has an obligation to complete and deliver the project to the client. The vendor must ensure that the delivered project fulfils the requirements. The success of this stage can be measured from the
fulfilment of requirements written in a contract. This stage is very critical because the client can evaluate the actual vendor’s abilities to carry out the client’s project and the client’s satisfaction will determine the continuance of relationship. The vendor must be able to deliver a client’s project in a good quality and on time. In the context of information technology outsourcing, software quality is affected by vendor’s software capability [31-33]. On time delivery is affected by process efficiency [34] in which project management capability contributes to high process efficiency achievement [31, 33].

| Table 2. Capabilities of offshore information technology vendor |
|----------------------------------|--|--|--|
| Category | Capability | Definition | Issue |
| Outside-in | Relationship management | Abilities to build and to preserve the trust of client | Client needs fulfillment [30, 32, 35] Communication [30, 35-40] Relationship maintenance [32, 41] Intellectual property protection [37, 42] Culture and language diversity [37, 42] Commitment [40] |
| Client business understanding | | Abilities to understand the client’s business and to align the vendor’s operations with client’s operations | Understanding of client’s needs, wants, and behaviours [32, 37, 38, 42] Business domain knowledge [31, 35, 37, 43] Industry experience [37, 42] Alignment of vendor’s activities with client’s goals [36, 43, 44] |
| Spanning | Project management | Abilities to plan, execute, and control the project | Project definition [30, 40] Arrangement of offshore and onshore activities [30] Project estimation [30, 39] Metric design [39] Project control [45] |
| Inside-out | Human resources management | Abilities to recruit, manage, and direct firm’s staffs | Recruitment and retention [37, 42, 44] Job design [44, 46] Staff rotation [30] Team collaboration [30, 37] Staff turnover management [30, 36] Staff development [36, 39, 42-44] Knowledge, ability, and skill [38] Conflict resolution [47] Supervision [46] Intrinsic needs fulfilment [46] |
| Software development | Abilities to design, develop, and deliver software | Software design, development, and execution [31, 33, 35, 36, 41, 42, 44] Quality control [33, 36, 37, 42, 48] Information system delivery [32, 36, 37, 39, 42] Methodology development [36, 38, 39] Technology mastery [37, 42] |

To move to the next stage – the relational stage, the vendor must be able to develop their capabilities because of the different characteristics between the transactional stage and the relational stage. The relational stage is characterized by a bigger-size, more-complex, less-clear project. The vendor needs the capabilities to achieve the goals of the relational i.e. the direct project acquirement without passing through a bidding process (as a manifestation of the client’s confidence) and the high service delivery which excels the client’s expectations. The vendor-client interaction becomes more intensely in the relational stage. The vendor must arrange the team’s work time in order to be compatible with the client’s work time due to the time zone difference between the vendor’s location
and the client’s one. Along with the bigger-size and more-complex project, the project completion may involve in-house activities which are performed at the vendor firm and external activities which are performed at the client firm. The project team will be dispersed at different locations. It is not easy to manage the dispersed team [49].

The vendor must be able to develop its previous capabilities in order to move from the transactional stage to the relational stage. The earlier interaction at the transactional stage provides the information about the client such as the client’s culture, the client’s business. The vendor must be able to acquire and exploit the client-related information in order to develop its relationship management capabilities. Due to the more complex project, the vendor must increase their technical capabilities through various ways such as sending the staffs to the external training centre (acquiring and exploiting the knowledge from external sources) or expanding its software development methodology (identifying and using the technology development). At this relational stage, the vendor can receive more projects from the client so that more staffs involved in this stage than in the earlier stage. To manage human resources effectively, it is needed the human resources management capability.

At the relational stage, the vendor-client relationship can be advanced to the higher stage i.e. the partnership stage. This relationship advancement also requires the vendor to develop their substantive capabilities due to the development of relationship characteristics. The partnership stage is characterized by a strong personal relation, common goals, collaborative relation [21-24]. The success of this stage includes economy outcome, trust and commitment [24]. The trust and commitment can be manifested in the common investment from both parties.

The vendor must be able to contribute to the client’s business development at the partnership stage which requires the client business understanding capability. The vendor’s contributions to the client’s business development may include the improvement of software design, the change of vendor’s organization structure as a response to a client’s requirement, the development of software development methodology.

Based on the above explanation, we propose the framework for IT vendor capabilities development that can be seen in the figure 2.

![Figure 2. A framework for IT vendor substantive capabilities development](image-url)
4. Conclusions
The stages of long-term vendor-client relationship building from the vendor perspective consist of the transactional stage, the relational stage, and the partnership stage. The main purpose of each stage includes: to complete the project and deliver it to the client at the transactional stage, to develop the client’s trust at the relational stage, and to establish the commitment from both parties at the partnership stage.

Vendors must have the capabilities to achieve the goal at each stage. These capabilities include relationship management, client business understanding, project management, human resources management, and software development. The higher stage requires the higher capabilities. The passage from the lower stage to the higher stage requires the vendor to develop its capabilities.

The proposed framework is developed based on a literature study and has not been validated empirically. Further study will be conducted to validate the framework through a number of case studies. In the future study, the dominant capabilities at each stage which determine the success of that stage will be identified.

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