

Association for Information Systems AIS Electronic Library (AISeL)

ECIS 2004 Proceedings

European Conference on Information Systems
(ECIS)

2003

IT Outsourcing Maturity Model

Olayele Adelakun

DePaul University, yele@cs.depaul.edu

Follow this and additional works at: <http://aisel.aisnet.org/ecis2004>

Recommended Citation

Adelakun, Olayele, "IT Outsourcing Maturity Model" (2003). *ECIS 2004 Proceedings*. 25.
<http://aisel.aisnet.org/ecis2004/25>

This material is brought to you by the European Conference on Information Systems (ECIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ECIS 2004 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

IT OUTSOURCING MATURITY MODEL

Adelakun, Olayele, DePaul University, 243 S. Wabash, Chicago, IL, USA,
yele@cs.depaul.edu.

Abstract

This paper presents a model for analysing IT outsourcing maturity in organizations. Organizations outsource their IT for reasons such as cost reduction, access to superior skill sets, focus on core competence, and strategic objectives. Organizations that outsource the development, operational and management of their IT activities to other companies are at various levels of maturity. This study identifies five levels of maturity based on literature review and informal interview discussion with practitioners. The five stages of maturity developed in this research are Insourcing, Forming, Storming, Norming, and Performing. These five stages of maturity are discussed in this paper and the implication for researchers and practitioners are identified.

Keywords: IT outsourcing, IT outsourcing maturity.

1 INTRODUCTION

Increasingly, organizations of all sizes are outsourcing their IT services and operations. Bendor-Samuel (2002) explained that the essence of outsourcing is to take important business functions that don't differentiate an organization and extracting value from them without investing time, money and talent. IT outsourcing is supposed to deliver lean, dynamic groups that respond quickly to business needs and opportunities. Some of the reasons for outsourcing include cost reduction, the need to improve IT performance, focus on core competence, intensive suppliers' pressure, cash infusion and strategic business advantage (Applegate, Austin and McFarlan 2003, Carmel and Agarwal 2002, Lacity and Willcocks 2001).

While some companies have been able to take advantage of IT outsourcing to reposition their organizations to achieve competitive advantage, others are still looking for the benefits from outsourcing. Some of the reasons why such benefits have not been achieved include poor staffing of the IT function, poorly writing service level agreements (SLA), lack of outsourcing experience on the client side, poor project management skill, poor technical infrastructure (especially in some offshore cases), and lack of trust (Jennex and Adelakun 2003, Lacity and Willcocks 2001).

Some organizations outsource their IT only domestically and some combine both domestic IT outsourcing and offshore outsourcing. Carmel and Agarwal (2002) explained that offshore sourcing of IT includes both offshoring to a third-party provider as well as offshoring to an internal group within a global corporation. Both domestic outsourcing and offshore outsourcing are predicted to continue to grow. Lacity and Willcocks (2002) predicted that the market for IT outsourcing will reach \$150 billion in 2004.

Organizations outsourcing their IT functions are at various levels of maturity. Some organizations have a lot of experience with outsourcing and some are just getting into it. Carmel and Agarwal (2002) develop a model for sourcing of IT functions offshore (SITO). The SITO model illustrates various maturity levels of organizations participating in offshore outsourcing. The outsourcing maturity model described in this paper extends the SITO model to domestic outsourcing, nearshore outsourcing and offshore outsourcing. The model discussed in this paper is significantly different from the SITO model in that it focuses primarily on domestic outsourcing while SITO focuses primarily on offshore outsourcing. Tuckman's (1965) stage model of team psychosocial development maturity (Table 1) was also helpful in developing the Outsourcing Maturity Model. Tuckman's (1965) stage model provides a good explanation for step-wise maturity. The outsourcing maturity model can be used to benchmark one organization against another.

The outsourcing maturity model developed in this paper (Figure 1) has five stages. Stage one is the Insourcing stage where organizations buy only a few IT functions or services from external vendors on short term contractual agreements. Only a few IT activities are bought from outside parties, generally less than 5% of the entire IT operation. Stage two is the Forming, or experimenting, stage. In this stage organizations engage in sporadic outsourcing of IT activities. Sourcing activities may be between 10-20% of the entire IT needs in the organization. Stage three is the Storming stage; it is regarded as a transition stage. At stage three organizations need to make a decision either to pursue outsourcing actively or to keep on experimenting. Stage four is the Norming stage. At this stage organization have already made a decision to pursue IT outsourcing actively and have established some norms, methods or processes for IT outsourcing within the organization. The reason for outsourcing could be either cost focus or desire to improve internal efficiency. Outsourcing could account for up to 40% of IT activities. The last stage is the strategic focus stage. In this stage IT outsourcing is part of the corporate strategy and it is not based just on cost reduction or IT improvement but is a strategic decision to use IT outsourcing within the entire organization as part of corporate strategy.

The rest of the paper is divided as follows. The research method is discussed in section two and the literature on outsourcing in section three. Section four presents the Outsourcing maturity model. The conclusion and future studies are discussed in section five.

Tuckman Stage Model	
Forming	The team gets together and gets to know each other. It clarifies roles, figures out the tasks and the objectives
Storming	Conflicts break out over roles, objectives, and task allocations. Different leaders, official or otherwise, are pursuing different goals
Norming	The team begins to form norms, roles, and protocols for working together. Some team cohesion may begin.
Performing	The team begins to perform well, working together towards a common goal. Conflicts are handled constructively.

Table 1. The classic Stage model of team psychosocial development maturity (Tuckman 1965, cf. Carmel, 1999).

2 RESEARCH METHOD

The initial model was developed based on literature review. The initial model was then discussed with five practitioners: One account executive from IBM, two application directors from CGEY, and two application managers from CGEY. The informal interview discussions were used to validate the theoretical model. The discussion focused on the interviewees' experience in the outsourcing industry. Based on the interview discussions, changes were made to the model. The final model is presented in this paper. The model was tested by using it to analyze the maturity level of ACB stores, a case study conducted in 2002.

3 OUTSOURCING OF IT ACTIVITIES

Lacity and Willcocks (2002) explain that customers outsource because they want flexible, low-cost and well-supported IT products and services to enable business objectives. Outsourcing of IT functions takes different forms, some of which include the following.

- One, Application Service Providers (ASP), in which the supplier owns, manages and maintains the IT assets (mainly software applications) that are delivered to multiple customers over the Internet (ASP Industry Consortium 2001, Kern and Willcocks 2002).
- Two, Business Processes Outsourcing, in which non core processes are transferred to another company which has a superior process capability that is leveraged across multiple vendors. Examples include human resources (HR) and payroll.
- Three, Application Services Management (APPS Management) in which an organization transfers the day-to-day operation of a set of IT applications to another company.
- Four, offshore outsourcing, in which the IT activity is transferred outside the clients' country to another country. India is currently the number one offshore country for the US and Western Europe. If the IT activity is transferred to a nearby country (e.g. Mexico or Canada in the case of US) it is referred to as nearshore outsourcing.

All the various types of outsourcing described above are based on the assumption that the external provider has a high capability to deliver better IT performance at a cheaper cost and better quality. Lacity and Willcocks (2001) note that the growth of IT outsourcing across industrial sectors and global regions is increasing with the US leading the IT outsourcing market. Success factors for IT outsourcing are generic in nature across industries and regardless of the type of outsourcing. However, the degree of importance may vary depending on the type of outsourcing. For example, people factors

(e.g. Language) may be more critical for offshore outsourcing than for domestic outsourcing. Jennex and Adelakun (2003) identified and grouped offshore IT outsourcing success factors into the following categories: people factors (e.g. language skill and project management skill), technical factors (e.g. telecommunication infrastructure and workers technical skill), client interface factors (e.g. trusting relationship), business infrastructure factors (e.g. service level agreement details) and regulatory factors (e.g. travel and visa restrictions).

Most organizations that successfully outsource their IT functions take a step-wise approach. Lacity and Willcocks (2001) warned that “organization seeking more radical transformation through mega-outsourcing face greater risk and challenges”. Few successful mega-deals can be found in the literature, example includes General Dynamics outsourcing arrangement with CSC (Seger, 1993). The next session discusses the outsourcing maturity model.

4 FIVE STAGES OF IT OUTSOURCING

The questions this model clarifies include:

1. Are there significant maturity differences between outsourcing organizations?
2. Is there an exemplar for achieving maturity?

The literature points out that various organizations have different outsourcing experiences. While some are struggling to still obtain the benefits from outsourcing, others have obtained such benefits and have even been able to use them to achieve strategic position in their industries (Carmel and Agarwal, 2002, Hirschheim and Lacity 2002). Figure 1 shows the various stages of IT outsourcing maturity.

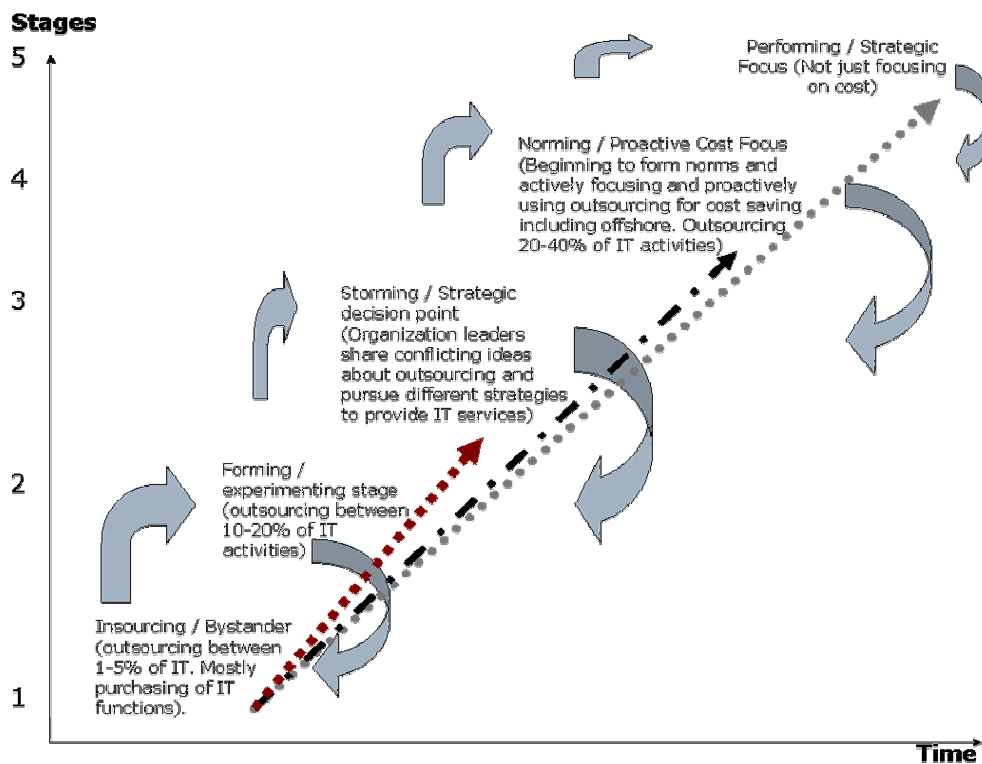


Figure 1. Outsourcing Maturity Model

4.1 Stage One of the Maturity Model (Insourcing)

Some of the organizations in this stage make a decision not to outsource their IT because they believe their internal IT department can perform as good as or better than an external provider. Another reason is that some organizations have been able to achieve lower IT cost by improving their IS management operations internally by improving on their management practices. Lacity and Hirschheim (1993) found that some outsourcing vendors offer lower bids based on efficient management tactics rather than on economics of scale. This finding is inconsistent with the outsourcing literature which portrayed the supplier as having a significant economy of scale (Bendor-Samuel 2002, p. 65) that they leveraged over several clients. Some senior managers and IT managers have been able to achieve significant cost reduction in their IT department by applying IS management strategies and tactics similar to the outsourcing suppliers.

Some other organizations in this category terminate failing IT contracts and bring back the internal IT department (See Lacity and Hirschheim 1993), while in other organizations the management body has a strong faith in their internal IT department because they have proven to be as good as or better than external suppliers in several cases. Any combination of the above explanations can contribute to reasons that some organizations are in stage one. Lastly, some organizations believe their IT department is cost efficient and are not willing to risk outsourcing for the fear of loss of control, management ordination overhead, cultural mismatch and security.

While most of these problems can be overcome, it may be difficult to eliminate them or argue that they are not legitimate reasons for not outsourcing. This is often made worse if there is no outsourcing champion at the executive level. Nevertheless, organizations at this stage still buy between 1-5% of IT functions from outside parties on a contractual agreement.

4.2 Stage Two of the Maturity Model (Forming)

Organizations in stage two are taking the baby steps. They are taking an ad hoc approach to outsourcing. IT outsourcing is sporadic within the organizational departments with no overall knowledge sharing enterprise wide. Organizations move to stage two from stage one especially when there is an executive champion promoting or pushing for IT outsourcing or when there is a high pressure to cut cost. The major driver for outsourcing at this stage is the need for cost saving and efficiency. The duration of stay at stage two depends on the culture of the organization and type of IT function outsourced. Some organizations move quickly to stage four through stage three while some regress to stage one. Organizations that remain in stage two for a long time most likely don't have a strong leadership support towards outsourcing for reasons stated in stage one. The sporadic outsourcing of IT functions would have to provide significant benefit to get senior management attention to act on it and pursue it proactively.

4.3 Stage Three of the Maturity Model (Storming)

Stage three is an important stage because the senior management will have to make a more serious decision either to pursue IT outsourcing more proactively or regress back to stage two for more experimentation. At this stage senior management should have a better understanding of IT outsourcing based on experimentations at stage two. Probably there is also a pressure from external providers to outsource. This stage is called the storming stage. Tuckman (1965) explains that teams get to a storming stage when conflicts break out over roles, objectives, and task allocations.

In this paper, stage three is called the storming stage because organizations need to develop a better method and process to pursue outsourcing which is often difficult (storming) for first timers. The ad hoc approach in stage two no longer works. The process of developing the roles and responsibilities of participating partners often involves clearly defining outsourcing objectives and conflict resolution.

Based on the discussion with practitioners, part of the problem at this stage is that the customers and the suppliers may have very different objectives. While the customer, on one hand, aims to minimize spending and wants to outsource only few IT functions, the supplier, on the other hand, wants to maximize profit and provide more IT functions to the customer. This stage could be made worse if the clients' senior management have different extreme opinions about outsourcing.

The duration of this stage varies from company to company. Nevertheless, it should not be a permanent stage; ideally it should be a transit state. There is also a tendency for this storming stage to reoccur at higher levels with varying degree of complexity. It is better for organizations to carefully plan for stage three of the maturity model and go through it to get to maturity stage four. In December 2001, Xerox-EDS ended their legal battle that started in 1999. A big part of the problem was lack of clearly defined operating processes, management processes, and conflict resolution processes (see Kevin, 1995).

Stage three is a given for any outsourcing arrangement. Conflict will come and it may break or make the outsourcing deal. This stage becomes more problematic if there is no trusting relationship among participating companies or if the leaders are pursuing significantly different agendas. Some organizations move up to stage four while others regress to stage two. Parkhe (1993) explained that stable, well-performing partnerships must have the following characteristics; right partners, conflict resolution, and trust. The literature (e.g. Fitzgerald and Willcocks, 1994; and Marcolin, 2002) points out that ideal relationship occurs when business and technical uncertainty are high and loose contracts are written. Successful relationships also occur when uncertainty is low and tight contracts are written. Stage three is missing from earlier outsourcing models (e.g. Carmel and Agarwal, 2002).

4.4 Stage Four of the Maturity Model (Norming)

Tuckman (1965) explains that teams in psychosocial development maturity begins to form norms, roles and protocols for working together which should lead to developing team cohesion. In IT outsourcing this can be interpreted as developing language, processes and working methods between the IT providers and the client. Stage four primarily means a number of management functions, roles and responsibilities have been developed and there is a champion in the organization that takes responsibility for the outsourcing project.

Organizations in stage four can have anywhere between 40- 60% of IT functions outsourced. Because of the higher degree of outsourced function, management takes an active approach to outsourcing. The main focus is still cost saving but they are willing to go up the ladder and also consider other types of outsourcing like near-shore and offshore. It is uncommon for organization to jump to offshore outsourcing from stage one. While it is possible, it is more risky because such an organization probably has not gone through a domestic storming stage and has not developed the domestic norms and practices for a successful outsourcing arrangement. Jumping from stage one to four therefore poses a high degree of risk.

Organizations positioned in stage four should be enjoying a significant amount of benefits listed in the literature. Therefore, they are encouraged to increase the percentage of IT function outsourced. Theoretically, organization in this stage should move to stage five but they could stay in this stage or move down to stage three especially if there are no well developed and documented methods and processes within the organization. This is possible if most of the outsourcing knowledge and relationship were shared only between the executive management from both companies. When the executives leave the organization the knowledge and relationships goes. Organization at maturity level four should be able to sign IT outsourcing contracts that outlive the executives that put the deals together.

4.5 Stage Five of the Maturity Model (Performing)

Stage five of the outsourcing maturity model is the highest maturity level in this model. Following Tuckman (1965) at this stage the outsourcing partners will have clear methods for problem resolution and all the partners are working together towards a common goal. This is a difficult stage to achieve because the client and the provider may be pursuing different outsourcing objectives. For example, the supplier would like to maximize profit and the customer would like to minimize cost, two often conflicting goals. However, some organizations have been able to achieve this level because management is not just focusing on cost reduction but considering outsourcing as part of a corporate strategy for achieving organizations' strategic objectives. Outsourcing is not limited to non-strategic systems (e.g. most legacy systems). At stage five total outsourcing of all IT functions is common (i.e. >80% of IT functions are outsourced) therefore there is hardly any IT development project done in-house. The suppliers are usually considered strategic partners and such a relationship is often referred to as strategic relationship. Non-strategic IT functions are contracted out and strategic IT functions are outsourced as a joint venture or as a strategic partnership in which both parties are sharing risks and rewards.

It is also common to see organizations in stage five of the maturity model engaged in different types of outsourcing: offshore, near-shore (i.e. close to the client's home country), offshore development and onsite development. They also use different outsourcing approaches like ASP, Application management and BPO (Business Process Outsourcing). Success at this stage requires a strong top management commitment, good relationships across many management levels, vendor's superior IT skill, and flexibility in the SLA. The literature points out that strategic IT outsourcing relationships are those in which both parties are sharing risks and rewards. Some organizations are at maturity level four but they think they are five, calling their relationship strategic even when there is no sharing of risk and reward. This paper takes the view that organizations at maturity level five should be sharing risk, reward and process knowledge among the participating companies.

4.6 Skipping Maturity Level

The interview discussion highlighted the possibility of skipping some maturity levels. Some organizations have jumped from level two to level four or five and some even from level one to level five. In most of these cases they fall back to level three (storming) to get back to level four or five. A major insurance company in USA did total outsourcing (i.e. >80%) to one of the leading IT outsourcing providers only to bring it back (total insourcing) within two years. They went through stage three and are now considering outsourcing again to another leading provider.

4.6.1 Case Study

ACB stores (not the real name) is in the trucking and storage business, operates in about ten cities and is headquartered in Chicago, Illinois, USA. ACB stores outsourced their entire network infrastructure to NetFra (not the real name). NetFra is a Network services provider. Both ACB stores and NetFra are considered SME (Small to medium size enterprise). The initial arrange was contractual, in which NetFra fixes ACB stores' network whenever it breaks. In 1999 NetFra made a proposal to ACB stores to take over its entire network infrastructure. After comparing the current network operating cost to the proposed price, ACB stores signed the contract. ACB stores had a very good contractual experience with NetFra. NetFra demonstrated superior technical skill and practices that are lacking in ACB stores. Based on this experience, there was no bidding and no detailed SLA was written. The outsourcing arrangement was based on trust. NetFra CEO referred to it as a strategic partnership because NetFra was responsible for ACB stores' entire network infrastructure and the top management of both companies have a good relationship.

Before the outsourcing arrangement was signed, ACB stores was in stage one of the maturity model. Neither ACB stores nor NetFra have been involved in IT outsourcing in the past, so neither have any experience on how to manage an IT outsourcing relationship. Conflict broke out after about one year into the deal because ACB stores assumed NetFra was responsible for other IT functions that NetFra believed were not in the contract. The problem was that the SLA was almost non-existent. For example, when ACB stores' network went down in 2001 due to a problem from SBC Ameritech (the telecommunications carrier), they held NetFra accountable. According to NetFra CEO ABC stores could not differentiate between a network problem caused due to external source (telecom carrier) or internal network failure. So having jumped to stage five they fall back to stage three, storming through the processes of developing the norms, conflict resolution and responsibilities. To make the situation worse the two executives that put the deal together were no longer in both organizations. ACB stores regressed back to stage two by insourcing some of the network functions and experiment only in two cities. They are now in the process of developing a detailed SLA. The finding in this case study is in line with the literature which suggests that detailed SLA be written when the degree of uncertainty is low in an outsourcing contract (e.g. network infrastructure management).

5 CONCLUSION AND FUTURE RESEARCH

These paper shows that organizations engaged in outsourcing are at various level of maturity. The model serves as an exemplar for organizations that would like to follow a step-wise maturity stage. Organizations that go through the maturity stage model have a lower risk of failure than organizations that jump to higher levels. Suppliers could apply this model to develop a realistic expectation of their client's behaviour and prepare to work with them to a higher maturity level. Clients could also use it to identify their position in the maturity level and plan on developing the necessary resources to position them at higher level if they choose to move ahead. Future research will develop an instrument to survey organizations at various levels of maturity across various industries.

References

- ASPIC (2001) Second Tracking Report on Customers. Application Services Provision Industry Consortium, January, www.aspic.com.
- Applegate, L.M., Austin, R.D., and McFarlan, F.W. (2003) Corporate Information Strategy and Management: Text and Cases. 6th Edition, Irwin;McGraw;Hill
- Carmel, E. (1999) Global Software Teams: Collaborating Across Borders and Time Zones, Prentice Hall, NJ, USA.
- Carmel, E. and Agarwal, R. (2002) The Maturity of Offshore Sourcing of IT Work. MISQ Executive Vol.1 No.2 June 2002.
- Bendor-Samuel, P. (2002) Turning Lead to Gold – The Demystification of Outsourcing. Edwards Executive Publication 2002.
- Fitzgerald, D. and Willcocks, L. (1994) Outsourcing Information technology: Contracts and Client/Vendor Relationship, Oxford Institute of Management, pp.1-20.
- Hirschheim, R. and Lacity, M.C. (2002) Four Stories of Information Systems Insourcing. Information Systems Outsourcing – Enduring Themes, Emergent Patterns and Future Directions, Eds. Hirschheim, R., Heinzl, A., and Dibbern, J. Springer 2002.
- Jennex, M.E. and Adelakun, O.A. (2003) Success Factors for Offshore Information System Development, Journal of Information Technology Cases and Application, Vol.5, No.3.
- Kern, T. and Willcocks, L. (2002) Service Provision and the Net: Risky Application Sourcing? Information Systems Outsourcing – Enduring Themes, Emergent Patterns and Future Directions, Eds. Hirschheim, R., Heinzl, A., and Dibbern, J. Springer 2002.
- Kevin, D. (1995) Xerox: Outsourcing Global Information Technology Resources, Harvard Business Review case. 195-158.

- Lacity, M.C. and Hirschheim, R. (1993) *Information Systems Outsourcing: Myths, Metaphores and Realities*, Wiley, Chichester, 1993.
- Lacity, M. C. and Willcocks, L.P. *Global Information Technology Outsourcing: In Search of Business Advantage*, Wiley, New York, NY, 2001.
- Marcolin, B. L. (2002) Spiraling Effect of IS Outsourcing Contract Interpretations. *Information Systems Outsourcing – Enduring Themes, Emergent Patterns and Future Directions*, Eds. Hirschheim, R., Heinzl, A., and Dibbern, J. Springer 2002.
- Seger, N.K. (1993) General Dynamics and Computer Science Corporation: Outsourcing of the IS Function. *Harvard Business Review case*. 193-178.