

# The Offshoring Stage Model: an epilogue

April 15<sup>th</sup> 2005

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## Introduction

Today, offshoring IT work can be seen as a managerial innovation since it involves introduction of a new practice. Once we recognize that it is an innovative action, by inference we can apply knowledge from other areas of innovation. All managerial and organizational innovations move through stages of maturity, acceptance, and diffusion.

The article begins with the word “today.” It is clear that we are still living through the early, formative years of the offshoring phenomenon. For example, the number of the largest American firms (the Fortune 500) firms that offshore IT work to India grew from 23 in 1990, to 100 in 1996, to 260 in 2002. As we are in the early years of this innovation, it is instructive to look at it from a *normative* view and hence the stage model is appropriate.

In this chapter I first reintroduce and describe the *Offshore Stage Model*. The SITO model was introduced by Carmel and Agarwal (2002). SITO is derived from the acronym for *Sourcing IT Offshore*. In 2005 Carmel & Schumacher modified the final stage of the SITO model somewhat. In the second section a survey of the model’s adapters and users is presented. The final section, the literature section, presents the context of various stage models in the social sciences and in the Information Systems literature.

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## The Model

The Offshoring Stage Model (OSM) is introduced in this section, but at the outset, several definitional issues need to be stated (which are consistent with Carmel & Agarwal, 2002; Carmel & Schumacher, 2005). First, in contrast with related outsourcing literature and models, the OSM makes no distinction between in-sourcing and outsourcing. Offshoring can be handed off to a 3<sup>rd</sup> party supplier (outsourcing) or to an internal subsidiary or development centre (sometimes called in-sourcing). Second, while the focus in this chapter is on *Information Systems* tasks (which, from an economic perspective are services provided inside or externally) the model also applies to product firms.

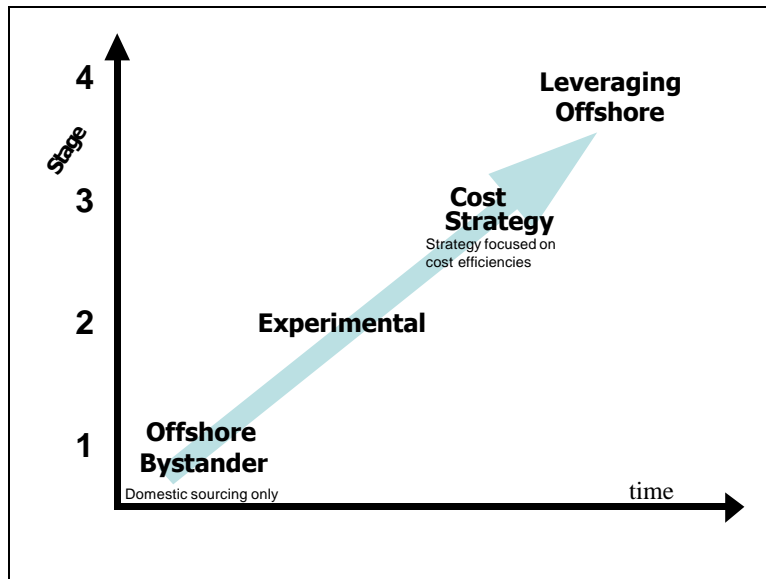


Exhibit 1: The Offshoring Stage Model

(as appears in Carmel and Schumacher 2005; which in turn is adapted from Carmel & Agarwal, 2002).

### **Overview of the four stages**

**Stage 1.** The company that does not (yet) offshore is the “Offshore Bystander.” Such a company sits on the sidelines and watches as many other companies are beginning the offshore journey or otherwise joining the offshoring bandwagon. The bystander company may not be completely inactive on the offshoring issue; for it may have managers who are lobbying internally for offshoring. The company may remain in Stage 1 because of offshore opposition or foot-dragging, or it may have gone through specific decisions to reject or defer offshoring.

**Stage 2.** The “Experimental” stage is a transition stage in which the company tests the offshoring waters. The duration of this stage is usually at least one year and may last several years. The decision is made to experiment for three principal reasons: to bring about organizational learning, to create internal buy-in to the innovation; and to reduce risks. Put differently, the experimental stage is simply a “go-slow” approach.

The company exits the experimentation phase when decision makers feel confident that they have gained the knowledge required to manage offshoring and are ready to invest more heavily in offshoring. A well-managed company measures its organizational results, especially the cost savings, before expanding offshoring activities and moving into Stage 3.

**Stage 3.** A company that is in the “Cost Strategy” stage routinely has in place offshore projects and processes. By this stage, the firm has corrected some early missteps from the Experimental Stage and expanded its offshore activity as measured by numbers of projects, staff, or budget.

This stage is labelled as Cost Strategy because the dominant objective in offshoring is cost savings. This factor is what drives nearly all companies to offshore. Companies in this stage should be regularly benefiting from cost savings in most organizational projects and processes that are offshored. A composite of studies (mentioned in Carmel & Tjia 2005) suggest that the cost savings range from 15% to 40% for companies offshoring at least one year.

Most companies that are offshoring IT will likely stay in Stage 3. This is stated explicitly because the principal objective for nearly all companies is cost savings, rather than other strategic goals. It is likely that most companies that are offshoring will not move into Stage 4, but will be content to continue in Stage 3. When the data were collected in the US in 2000-2001 and still today in 2005, there were few firms that moved beyond a cost focus. In other words, there are few companies that have moved to Stage 4.

Stage 4. Here, the company is leveraging offshoring strategically in ways that go beyond mere cost savings. The company is utilizing location-specific advantages that cannot be achieved by sourcing domestically. The three strategic advantages are: achieving speed, agility, and flexibility; building global networks for knowledge sharing; and deeper localization. These location-specific advantages stem from human resources at a location, from easier/closer links to various geographical locations, and from proximity to markets. These factors are called location-specific factors because, by and large, they cannot be moved. In other words, they cannot be relocated to Manchester or Munich. The offshoring company leverages these location-specific factors using its own know-how in order to create strategic value.

### ***Stage 4: Leveraging Offshore***

Carmel & Schumacher (2005) enhanced the SITO model by expanding the definition of Stage 4 and focused on the unique strategic goals that can be achieved from offshoring

that cannot generally be achieved through other means, such as outsourcing to a domestic supplier. Thus, Stage 4 is about strategic goals that are enhanced or unique to offshoring. These three strategic goals of Stage 4 are described here.

**1. Speed, agility and flexibility.** Offshoring to locations with a large labor supply allows firms to achieve quick ramp up time (the time get the project started) and reduced project duration (time-to-completion). While Americans and Europeans can also work fast, it tends to be much more expensive. Moreover, in Europe, quick ramp up for large projects is more difficult because labor is inflexible and largely immobile. Gathering engineers together from distant European locations is an unusual project.

Offshoring organizations can be speedier and more agile due to their large, motivated supply of labor. This is a labor force of young, driven software engineers. They work long hours, often sleeping at the office to get more done. Thus, the organizations offshoring to these destinations enjoy two advantages: the labor is inexpensive and workers are willing to put in long hours. Finally, they can ramp-up and respond to a business need within days instead of months. Infosys staffing illustrates the depth of the labor pool. Infosys, as one of the largest Indian providers, receives 900,000 job applications per year. When the company needs to staff more projects, it turns opens the labor pipeline a bit more.

Lastly, speed can also be achieved using follow-the-sun software development. By taking advantage of time zone differences, the offshore unit can accelerate a project: while the British workers sleep, the Asian offshore unit is refining the prototype and then passing it on for inspection, feedback and refinement at the end of their day.

**2. Building Global Networks for Knowledge Sharing.** Each of the international IT centres becomes a node in a global network. These locations collaborate, share knowledge, offer ideas to each other, learn from practices in other countries, and solicit small problem-solving solutions from each other. The global corporation can benefit from the richness of new idea and solutions that flow in from all its distributed locations.

**3. Deeper Localization.** Almost all software has to be localized to local language and culture. The closer you are to your customer, the deeper the localization. In strategic parlance this is called *local responsiveness*. Some companies localize by hiring foreign language experts at home. However, situating localization in the target market allows firms to better customize products to the local markets, particularly the large and more promising markets, such as India and China.

Stage 4 firms are defined in the OSM as only those that have strategic benefits that are unique to offshoring and cannot be gained through other means. What does this mean? Offshore outsourcing may also be used as a strategic opportunity to attain important operational goals such as reengineering internal company processes. Corporations have traditionally used the occasion of building a new information system as an opportunity to redesign wasteful, inefficient corporate processes such as account processing and

customer approvals. Over the years these opportunities for organizational transformation also coincided with outsourcing.

In other words, many of the innovations that result from outsourcing or organizational changes are not unique to offshoring, because there are no strategic locational advantages to the offshore geographical locations, the offshore providers, nor the offshore labor. In particular, the offshore providers have no unique advantages in organizational transformation. Offshore providers have not developed advantages in various vertical fields and industries relative to the American or European firms with which they compete. In particular, the high quality processes practiced by Indian providers (e.g., CMM Level 5) are not to be confused with the ability to innovate the client's performance or system capabilities.

## **Offshore Stage Model: adaptations, uses, and similar models**

The offshore stage model is useful classification and used for applied academic research (Rottman & Lacity, 2005; Kaiser and Hawk, 2004), But the more interesting usage has been its adaptation in industry. Practitioners value these frameworks to understand where their firm is at the moment, where is the competition, and what they can do to move forward. As one CIO of a large US corporation told this author: We are in Stage 3 and I want to figure out what we have to do to move to Stage 4. In this sense, stage models are motivational tools: they drive performance.

### ***Adaptations in Industry***

Forrester and Meta Group, both IT consultancies, adapted the Carmel and Agarwal (2002) model, changed the *stage labels* somewhat and added to it in a number of ways. See Table 1. First, Forrester Research (McCarthy, 2003) used the Carmel and Agarwal model (2002) in a briefing in offshoring evolution and approaches to offshore governance. The 4 Stages were not labelled as a stage model but rather as a *migration* model. Immediately after the Forrester brief appeared, its key table, with the 4 stages, appeared in The Economist magazine (2003). The Meta Group adapted the OSM in its own way

Stage	SITO model Carmel & Agarwal (2002)	Forrester, 2003 (McCarthy 2003)	Meta Group 2004 (Lepeak 2004)
1	Bystanders	Bystanders	Watching/ Wondering
2	Experimenter	Experimenters	Testing the Waters
3	Proactive Cost Focus	Committeds	Swimmers
4	Proactive Strategic Focus	Full Exploiters	Deep Divers

Table 1: The morphing of the Offshore Stage Model

Both consultancies recognized that the stage model was more than a normative maturity model, but it was also an S-curve in disguise? S-curves show growth and diffusion. S-curves are useful for modelling and estimating diffusion of innovations. Thus, the Offshore Stage Model is also useful to measure offshoring *diffusion*. Since it was introduced in 2002, it has been used to estimate the ratio of large companies at each stage of the offshore progression as shown in Table 2. The rough estimates in this table, made by the two American research companies, indicate that only 10% of the largest US corporations were active in offshoring in 2003-2004 (that is, they were in either Stage 3 or Stage 4). Furthermore, about half of the largest American firms at that time did not offshore at all. In spite of the enormous attention to offshoring in the US in the early 2000s, offshoring was still rather limited.

	Percent of U.S. 1000 largest firms in this stage (2003-2004)		Percent of all software work which is offshored for a typical firm in this stage
	Meta Group	Forrester	
Stage 1	55%	50-60%	0%
Stage 2	33%	25-30%	5%
Stage 3	8%	5-10%	10-30%
Stage 4	4%	<5%	40-50%

**Table 2: The Offshore Stages Model as a measure of innovation diffusion. of US Fortune 1000 firms. Source: (McCarthy, 2003; Lepeak 2004). Table appears in Carmel & Schumacher (2005).**

## ***Other offshore stage models***

AT Kearney (2004), a management consultancy, introduced an offshore stage model that resembles the OSM described in this chapter. The model is labeled as a *maturity* curve but is used very much as a stage model, as a normative framework. The curve is indeed depicted as an S-shaped curve. It has five stages.

1. Contract labor
2. Small offshore pilots
3. Scale
4. Offshore as a key element of strategy
5. Transformed global operating model

The Kearney stages nicely parallel the offshore stage model here. Stage 1-3 are similar or somewhat similar to that of OSM. Kearney's stage 4-5 are somewhat similar to the OSM Stage 4.

## **Literature Review: Stage Models**

The Offshore Stage Model joins a very large list of stage models. Stage models are a common framework in the social sciences (and even the biological sciences!). One of the best known stage models in the social sciences is the Tuckman model of group maturity of Forming-Storming-Norming-Performing (first released in 1965; Tuckman and Jensen 1977). Elsewhere, there has been considerable work on stage models for young firms (SMEs) describing their growth. McMahon (1998) lists 43 stage models for SMEs; and separately, Persson & Goldkuhl (2005) examine various stage models in the development of public e-services.

Why then, do we see such a proliferation of such models? Stage models are powerful tools in understanding a phenomenon. Such models capture evolution and growth; they also reflect learning curves and diffusion. They are useful for both research and useful for practice. Practitioners value these frameworks to understand where their firm is, where is the competition, and therefore what they should do.

Within the IS area the best-known stage model is Nolan Stage Model (Nolan, 1973; Gibson and Nolan, 1974; Nolan, 1979) developed by Richard Nolan in the early computer era and subsequently revised over the years. Nolan (2000) wrote that a complicated technology would produce a body of knowledge within the organization. Assimilating these technologies required bold experimentation from which he derived the original 4 stages. The model depicts the classic S-shaped learning curve. The model attempts to depict the growth of management of IS resources within organizations during a period when IS was still relatively new to most organizations. Nolan's *Initiation* and *Contagion* depict the experimental stages of mistakes and misjudgements that are similar to the Offshore Stage Model's *Experimental stage*.

Later Nolan (2000) generalized his model further from one that describes IS absorption to one that describes the eras of computing, specifically the Data Processing era, the micro-computing era, and the network era. Each of these eras is then subdivided into the original four stages.

In developing the SITO model in Carmel & Agarwal (2002) we synthesized our own field data with the 4-stage model of Monckza and Trent (1991). The Monckza and Trent model was intended for all types of sourcing of goods and services, or using the more common term of the time: purchasing and procurement. The authors of this model titled it “Global Sourcing” which is significant since the term was just beginning to enter the lexicon at the time. The 1991 model is normative and there is no hint in it as to how it was derived. The Monckza and Trent model has the following 4 stages:

1. Domestic purchasing only
2. Foreign buying based on need
3. Foreign buying as part of a procurement strategy
4. Integration of global strategy

To conclude our literature review, we note that stage models have always been easy targets for criticism on many fronts: that they are heuristically constructed; that they are usually not validated; that they assume that each of the people, teams, or firms pass linearly through each and every stage; that they are incomplete and other (important) stages are not captured.

All of these criticisms have some validity, but at the end of the day, our collective understanding of phenomena would be poorer if we did not construct and use such models. It is also evident that these models are most potent at early stages of the phenomenon. Once the phenomenon is mature, there is less interest.

## Summary & Conclusions

The Offshore Stage Model is a normative model of a business innovation describing the stages of maturity that a user organization traverses as it masters and expands offshoring of its IT work. Coming relatively in the history of the innovation, the model has been particularly useful in its adaptation in industry. It migrated to an industry consultancy, and then its essentials appeared in *The Economist* magazine (2003). The lesson is that like the Nolan model, simple models that resonate, have a large impact. Like the Nolan model, the impact is partially motivational for practitioners: Where *should* we be?

Unlike other stage models, the OSM does not revolve around S-shaped curves and diffusion, though it is useful for measuring diffusion. Furthermore, unlike many stage models, the OSM does not suggest that most firms will move to the highest stage of the model. Rather, it envisages that most firms will move only to Stage 3.



The Nolan model is rarely discussed these days since its usefulness has waned. It described the early stages of an innovation, namely computer use within organizations. Now, 30+ years later, the innovation is well-diffused. Computing is no longer an innovation. This will be the fate of offshoring IT work some years ahead.

## References

- Carmel, E. and Schumacher, P. (2005). Offshore Strategy, in Carmel, E. and Tjia, P. Offshoring Information Technology, Cambridge: Cambridge University Press. 2005.
- Carmel, E. and Tjia, P. *Offshoring Information Technology*, Cambridge: Cambridge University Press. 2005.
- Carmel, E., and R. Agarwal, “The Maturation of Offshore Sourcing of Information Technology Work,” *MIS Quarterly Executive*, (1:2), June 2002, pp. 65–77.
- Diamondcluster (2004). *Global IT outsourcing study*, research report.
- *Economist*, Offshoring: Relocating the back office, Dec 11th 2003
- Gibson CF and R.L. Nolan, “Managing the Four Stages of EDP Growth”, *Harvard Business Review*, January-February, 1974, pp. 76-88.
- Kaiser, K., and S. Hawk, “Evolution of Offshore Software Development: From Outsourcing to Cosourcing,” *MIS Quarterly Executive* (3:2), June 2004, pp. 69–81.
- A.T. Kearney (2004). *Selecting IT Activities for Offshore Locations*. Research report.
- McMahon, R.G.P. Stage Models Of SME Growth Reconsidered, Research Paper Series: 98-5, The Flinders University Of South Australia, 1998.
- Monckza, R.M. and Trent, R.J. “Global Sourcing: A Development Approach,” *International Journal of Purchasing and Materials Management*, Spring 1991, v27 n2 p2(7)pp. 2-8.
- Nolan, R. Information Technology Management from 1960-2000. *Harvard Business School* teaching note. 9-301-147. June, 2001.
- Nolan, R. Managing the computer resource: A stage hypothesis. *Communications of the ACM* 16, 7 (July 1973), 399-405.
- Nolan, R.L. Managing The Crisis In Data Processing, *Harvard Business Review*, March-April 1979, pp. 115-126.
- Persson, A. and Goldkuhl, G. Stage-models for public e-services - investigating conceptual foundations *2nd Scandinavian Workshop on e-Government, Copenhagen, February 14-15 2005*
- Rottman, J., and Lacity, M., "Twenty Practices for Offshore Sourcing," *MIS Quarterly Executive*, Vol. 3, 3, 2004, pp. 117-130.
- Tuckman, B.W. & Jensen, M.A.C. (1977) Stages of small group development revisited. *Group and Organizational Studies*, 2, 419-427