
Understanding buyer behaviour in software services – strategies for Indian firms

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Abstract: Buying behaviour in a business market is characterised by long cycle times, group decision making, participants from different functional areas and levels and sometimes divergent objectives, and changing roles of the participants during the buying cycle. The high levels of market and technological uncertainty of software services add to the complexity in the buying process. This paper draws upon extant literature on Organisation Buying Behaviour (OBB) to help understand the factors influencing the behaviour of the buyers of software services. It also recommends strategies for managers in software firms to market their services.

Keywords: software services; organisation buyer behaviour (OBB); buying centre; buying roles; buying process.

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1 Introduction

The revenues for the Information Technology (IT) software and services industry in India was estimated to be US \$15.6 billion in the year 2003–04. Exports, focusing on the highly competitive markets of the US, Europe and Asia Pacific regions, contributed US \$12.2 billion with the balance coming from domestic sales. The leading players in the industry have many of the Fortune 500 companies as their clients. The Indian software and services companies export to over 100 countries around the world with North America accounting for 62% of the exports, Europe 24%, Japan 4% and the rest of the world 10%. Thus, the players operate in a truly global environment.

A study by IDC/NASSCOM (National Association of Software and Service Companies) had forecast the global IT services market to grow from US\$394.8 billion in 2000 to US\$700.4 billion in 2005. The downturn in the global economy during the last

couple of years had its impact on the growth of the software industry. Many of the leading users of software services cut down their IT budgets and postponed their commitments to IT projects. Under these circumstances, an understanding of the behaviour of software services buyer will aid managers develop strategies to market their services.

The paper uses a model, which incorporates the characteristics of the software services, the buying situation and the factors influencing the buying process to develop propositions and recommend strategies.

2 Software services

Software services refer to software development and operations services sought by business buyers on a project basis. They include customised software development services as well as systems implementation and integration services [1]. Software services share the characteristics of many of the services, which are high in experience and credence qualities [2]. This has implications on the evaluation processes employed by the buyers and their buying behaviour. Some of the specific areas, where these differences occur, include information search, evaluation criteria, size and composition of the evoked set of alternatives, perceived risk, adoption of innovations, brand loyalty, assessment of value, and attribution of dissatisfaction [3].

High levels of market and technological uncertainty and competitive volatility are the some of the additional characteristics of software services which make the task more difficult for software marketers [4,5].

3 Buyer behaviour in organisational context

Research in organisation buying behaviour (OBB) has been strongly influenced by the three conceptual models of OBB published in the 1960s and 1970s [6–8]. The concepts of Make-Buy and Modified-Rebuy: the buying centre; the behavioural aspects of decision making; the joint vs. autonomous decisions, and conflict resolution in joint decision making were the focus of a significant number of research efforts in the last 30 years [9].

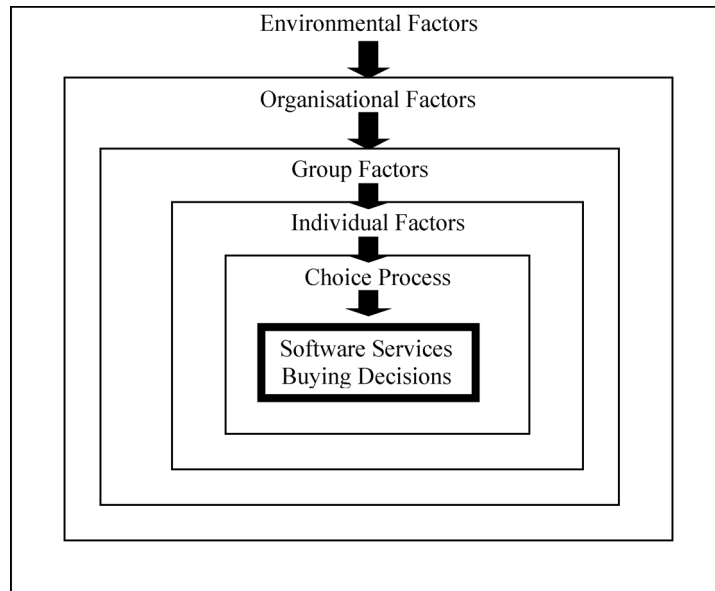
This paper draws upon the findings of the stream of research based on these models to identify the factors which have an impact on the buying behaviour in the context of software services. It specifically focuses on those aspects which are posited to be different on account of the nature of the software business. Organisational buying behaviour is influenced by the following four factors:

- 1 environmental factors
- 2 organisational factors
- 3 group factors, and
- 4 individual characteristics.

The choice process is another factor that influences the buying behaviour [10]. A diagrammatic representation of these factors is shown in Figure 1.

The following sections places emphasis on those areas, which are posited to be different during the purchase of software services.

Figure 1 Determinants of buyer behaviour in software services



Source: Adapted from [8,10]

3.1 *Environmental factors*

The main environmental factors affecting OBB have been identified as physical, economic, legal, technological, political and socio-cultural environment. As most of the business for Indian software firms come from developed countries in North America and Europe, the marketers have to understand the social and cultural context of these markets [11,12].

Uncertainty is an additional environmental factor, which influences the buying behaviour in software services. Uncertainty refers to information-related problems due to a lack of relevant experience with the product category or due to market conditions that impose demands on a buyer's information processing capacity [13,14]. As stated earlier, software services are characterised by high levels of market and technological uncertainty. Market uncertainty is about not knowing what the customers want from the new technology while technology uncertainty is about not knowing whether the technology or the firm providing it can deliver on its promise to meet needs [4].

Environmental uncertainty has the potential to drive many of the customers into interactions with fewer sources and also enter into alliances with service providers.

3.2 *Organisational factors*

Organisational factors influencing the buying process include organisational structure and size, technology orientation, organisational goals and tasks and degree of centralisation

[7,8]. Service firms dominate the existing customer base of the major Indian software service providers. Worldwide, service firms belonging to the banking, financial services & insurance (BFSI), telecommunication services, hospitality, retailing, airlines and healthcare have been the leading users of information technology. These firms continuously invest in upgrading their systems to improve productivity, deliver superior customer service and gain competitive advantage. Most of them have experiences of large scale implementations which were managed and run by internal IT departments. Thus they have the in-house expertise and experience, which play an important role during the buying of software services.

3.3 Group factors

Group factors relate to the nature and composition of the buying centre, role of the participants, interactions between the members, the influence processes, joint decision making and conflict resolution [7,8,10].

3.3.1 Nature of the buying centre & participants' roles

The software purchase usually involves many participants in the decision-making process. As the value of purchase increases, the number of people involved also tends to increase dramatically. Major buying decisions are made by the 'buying centre', which consists of individuals from across the organisation – each having an interest in the buying decision being made. Each of these individuals influences the buying process and they play different roles at different stages of the buying cycle. The five common roles in the purchase decision process include that of user, influencer, decider, buyer and gatekeepers [8].

Key participants include technical experts from the IT department, management across the vertical layer of the organisation and the user departments. Narayandas described the involvement of the CEO, CFO, VP MIS, VP Sales, VP Marketing, Sales Managers, Sales Representatives at different stages of the buying cycle of a Comprehensive Sales Automation System (CSAS) which required customisation and implementation [15]. The buyer of a data-warehouse solution had professionals from the IT department (experts), marketing (future users) and the invoicing department (managers of operational database) in the buying centre [16]. Thus the composition of this group varies widely across organisations making software purchasing decisions.

An additional participant in many of the software services buying unit is usually an outside technical consultant [15–17]. The involvement of the consultant is justified to reduce the uncertainty in the decision making process by providing the required expertise. Gathering relevant external information about the new technology and the capabilities of the firms that supply them is one of the key strategies for reducing technological and market uncertainty. But the search for this information is often very complex and consists of multiple and sometimes partly competing demands, which may be beyond the capabilities of the organisational individuals in the buying centre. Therefore, outside consultants become very important members of the buying centre in many organisations [17].

A marketing organisation will have to build relationships with the consultants as they come into the buying cycle much before many of the service providers and have strong influence on the project specification, evaluation of potential service providers and even

selection. Some of the large consultants also have their own service outfits e.g. Accenture, PwC (now part of IBM Global Services) which makes them a competitor in addition to being a powerful intermediary.

The buying centre may not be a formally identified unit and it is usually a set of roles assumed by different people for different purchases. The challenge for the software services marketer is to identify and know about the participants involved in the decision-making, each participant's relative influence and what evaluation criteria each participant uses. Sometimes, informal participants may actually make or strongly affect the buying decisions.

3.4 *Individual factors*

Although groups are involved in most organisational buying processes, the individuals comprising these groups play an important role. Individual factors like motivation, cognitive structure, personality, learning process and perceived risks influence the buying behaviour [8]. The psychological world of the decision makers includes background, information sources, active search, perceptual distortion and satisfaction with past purchase [9]. Other factors of interest include criteria used by different individuals to evaluate potential vendors, differences in attribute importance among them and differences in how individuals frame purchase decisions [18,19].

An additional factor, which impacts the buying behaviour of software services, is the concept of 'technology readiness'. The technology-readiness (TR) construct refers to people's propensity to embrace and use new technologies for accomplishing goals in home life and at work [20]. The notion of technology-readiness relates to people's mental attitudes towards technology. It relates to the propensity of people to embrace and adopt technology-based products and services for everyday use both at home and at work, so it is a measure of mental readiness and is an 'inherent personality trait'. Research conducted by Parasuraman [20] identified the following four facets of technology-readiness: innovativeness, optimism, discomfort and insecurity.

- 1 Innovativeness relates to a general willingness to experiment with new things and to be an 'opinion leader', i.e. 'spreading the word' to other people.
- 2 Optimism refers to positive feelings towards technology. Consumers who score highly on innovativeness and optimism are much more inclined to adopt technologies than are low scorers.
- 3 Discomfort relates to a general fear of technology and a feeling that technology is something that is controlling you rather than vice versa.
- 4 Insecurity also has to do with a fear of technology but it is much more transaction-specific e.g. fears about the security of one's credit card number in internet transactions.

Therefore, the last two factors, i.e. discomfort and insecurity, may be viewed as inhibitors of technology adoption. The research developed a technology-readiness index or TRI to measure people on these four dimensions. The TRI is an overall score that is an indication of the overall technology-readiness of the respondent.

Marketers of software services can use the TRI to identify and profile the constituents of the buying centre. This profiling will be useful in targeting the marketing messages

and the media to reach these individuals. The challenge, once again, is to identify and know about the participants involved in the decision-making in advance, as the buying centre may not be a formally identified unit.

3.5 The software services choice process

The buying situation determines the choice process. Broadly there are two types of software services buying situations:

- Customised software buying – The buyers have specific business needs which are sourced to software service providers after defining the broad parameters of the project. The service provider then offers the programming services and the client is generally billed for time and materials (T&M). Another model of customised software service involves design and project management. The client specifies the broad parameters for the project and the service provider develops the detailed project design, provides programming services, testing and delivery. These projects are generally performed on a fixed cost basis.
- Systems Implementation & Integration – These buyers would require services to customise, install and maintain packaged software platforms like SAP's enterprise resource planning or Siebel's CRM suite.

For most buying firms, the purchase of software services will either be a 'modified rebuy' or a 'new task' [8,21]. As the risk and costs are usually high in these situations, the number of participants in the purchase process is larger, information search is greater and the buying cycles are longer.

The business buying process is a form of problem solving and the buying situation is created when someone in the organisation perceives a problem, which can be solved through a buying action [8]. In a software purchase situation, this can impact a single department e.g. automation of the payroll or the entire organisation as in the case of an ERP solution. Depending upon complexity of the purchase situation, the buying process can extend over a period of time ranging from a few weeks to many months.

A very generalised buying process consists of the following stages [8]:

- 1 identify need
- 2 establish specifications
- 3 identify alternatives
- 4 evaluate alternatives
- 5 select suppliers.

But this sequential process is a simplification of the process encountered across organisations and for many buying situations. In some cases, these stages may not even be sequential and may have several steps, which are iterative [22].

An understanding of the stages employed by a buyer for its purchase has implications for the software services marketer. It helps the marketer develop adaptive strategies for communication with the participants who are involved at each stage. In the next section, we focus on those aspects of buyer behaviour, which are posited to be different for software services. We use this understanding to develop preliminary propositions on the key factors influencing buyer behaviour.

4 Discussions

Environmental factors: Malhotra *et al.* [23] built upon the SERVQUAL model [24] and studies by Hofstede [25] to highlight the difference in environmental factors including economic and socio-cultural factors which influence customers' evaluation of dimensions of service quality between developed and developing countries. Since the developed countries of North America and Europe are their main markets, Indian software firms need to appreciate the socio-cultural differences while seeking and conducting business in these markets. Most leading firms have set up offices in these countries and appointed local managers for business development to present a local face to their prospects and clients.

An additional environmental factor is the technological uncertainty of the software services. Technological uncertainty, as described earlier, relates to the capability of the service provider with respect to its ability to deliver on its promise and meet the needs of the customer. In business markets, trustworthy partnership is one of the mechanisms to reduce uncertainty [26]. Thus uncertainty will result in firms building close relationships with select service providers. Therefore, we propose that

PI: The greater the uncertainty, the greater is the reliance on select partners.

This has implications on the strategies employed by the Indian software service providers. The existing bonds between the client and incumbent service provider may be difficult to break for services perceived to be high on uncertainty. Therefore, an alternate approach will be to initiate work on standardised projects and low risk projects to establish credibility and then bid for more complex projects.

In software services, technological uncertainty has the potential of getting compounded by the 'country of origin' effect [27,28]. Many of the prospective buyers may have unfavourable beliefs and attitudes about the capabilities of firms originating out of a developing country like India. Therefore we propose that,

P2: The greater the uncertainty, the greater the likelihood of unfavourable beliefs and attitudes in outsourcing software services to firms of Indian origin.

In the last decade, the Indian firms have overcome this cultural bias by adopting world class quality standards like Software Engineering Institute's Capability Maturity Model (CMM) [29]. The CMM classifies the maturity of the software processes across five levels – level 1 to level 5, with level 5 being the highest maturity. At present, over 65% of CMM SEI Level 5 companies in the world are of Indian origin. In March 2003, NASSCOM identified 63 software firms with CMM-SEI Level 5 assessment operating out of India. Therefore, adopting quality standards will be an important element of strategy for all software service providers.

Organisational factors: Organisational experience with outsourcing will be a critical factor in the number of service providers as well as the nature of projects being assigned. General Motors (GM) represents an increasingly visible trend of large companies focusing on their core business while outsourcing IT to specialist service providers [30]. GM started its outsourcing journey in 1984 when it purchased EDS to outsource its entire IT activities. In 1996, GM spun off EDS but retained it as a single outsourcing vendor. GM has shifted from having 100% of its work done by EDS in 1996, to about 80% in 2003. They are now moving towards a model where GM will end up with three or four big companies and several more second-tier companies teaming with

each other and managing GM's business in a very highly orchestrated fashion by the year 2006. Thus we propose,

- P3:* The longer the organisational experience in outsourcing, the greater is the opportunities for software service firms to generate business.

Group factors: An outside technical consultant is usually an additional participant in many of the software services buying process [17]. The consultant helps reduce uncertainty in the decision making process by providing the required expertise. Uncertainty in decision-making refers to the extent to which a group (1) has enough information to make key decisions, (2) can predict the consequences of those decisions, and (3) has confidence in those decisions [31]. We propose that

- P4:* The greater the uncertainty in decision making, the greater is the likelihood of involvement of an outside consultant.

The consultants come into the buying cycle much before the service providers. They have strong influence on the project specification, evaluation of potential service providers and their selection. In the short term, the software service providers will need to build partnerships with these consulting firms. In the medium and long term, they will have to develop or acquire the skills to move up the value chain and offer consulting services. Many leading software firms like TCS, Wipro and Infosys have already adopted this double-pronged strategy.

Individual factors: At an individual level, technology readiness is a key factor, which relates to people's mental attitudes towards technology [20]. The greater the innovativeness and optimism of the individual, the higher is the propensity to adopt technology-based products and services. This will have impact on the criteria used by different individuals to evaluate potential vendors and differences in attribute importance among them. It is more likely to be objective measurable criteria like cost, quality and delivery [32].

- P5:* The higher the technology readiness of the individual decision maker, the greater is the chance for software service provider to enter into the consideration list of the buyer.

This provides opportunities for software service providers in segmenting and targeting the decision makers by highlighting their track record, quality processes and capabilities.

5 Conclusions

In a recent survey of 101 Chief Information Officers (CIO) in the US, majority of the respondents cited lower IT costs as the main reason for outsourcing offshore [33]. They further reported that the greatest savings were realised in the areas of labour costs and reduced project timelines/time to complete work. The survey identified India as the most frequently cited (89%) country for offshore outsourcing. Cultural differences (51%) was identified as one of their greatest challenges in offshore outsourcing. The majority of the CIOs surveyed said their offshore outsourcing contracts would increase in the coming year and that on average, offshore outsourcing contracts will increase by 18.7%. Currently, application development is the most frequently outsourced activity. These are

encouraging reports for the Indian software service providers. They can further leverage these positive indicators through an understanding of the buyer behaviour.

Environmental, organisational, group, individual factors and the choice process influence business software service buyers. The buying decisions result from the complex interactions of ever changing buyer-centre participants. An understanding of the factors that influence the buyer behaviour will help software marketers develop adaptive strategies to market their services.

The propositions, though preliminary and not exhaustive, have been developed through a review of literature in academic and business publications. Empirical testing of these propositions is proposed as a research agenda for the future. We hope that this article will lead to more research in this area of importance to the Indian economy in general and the software service firm in particular.

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