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Global Outsourcing Strategy: Product Development Perspective

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Abstract

World economic recession, globalization of business environment and advances in technologies pushing manufacturing firms for the adoption of outsourcing strategy in their product development processes. Nowadays, firms are realizing that being alone in product development process do not provide them any differentiation in their production lines. The objectives of such approach are not only for cost effectiveness and focus on core competition but firms adopt outsourcing for a distinct marketing edge and to score over their competitors. In this paper, strategic views of outsourcing in manufacturing industries are critically analyzed and discussed with the potentials and pitfalls of this approach.

Keywords
Globalization, outsourcing, product development, business environment, customization

1. Introduction

Growing demands for customized product and constant pressure on cutting down production cost pushing manufacturing firms to consider various strategic options to stay in global competitions. Most strategic options demand for collaborative Product development (PD) process, which might be distributed or co-located based on functionality. Changing business environment, stiff competition and declining market shares challenged firms to expand into new markets, introduce new and innovative products and implementing latest technology to their PD processes. It is today's reality that manufacturing firms alone do not contribute for product differentiation successfully and therefore harness for outsourcing their 'non-core' activities. These realizations have been aroused due to shorter product life cycle, technological obsolescence, increasing design and engineering complexity and rapid advances in design and engineering technologies.

Outsourced product development (OPD) strategy could a way of utilizing an organization's resources in an efficient way and incurring new thought, bringing additional skills and know-how. OPD may be defined as to subcontract 'non-core' components or activities of a product to potential suppliers or manufacturers in order to gain economic advantage for any business institution. This strategy provides prospect for boosting productivity, where technology, skills and approaches are transitory in the contemporary market circumstances. It has obtained approval as a reliable strategy for product development companies [1]. OPD ensures with a comparatively low risk and higher benefit prospect for boosting productivity, profitability although it needs careful planning and monitoring of the partner companies at all stages of development.

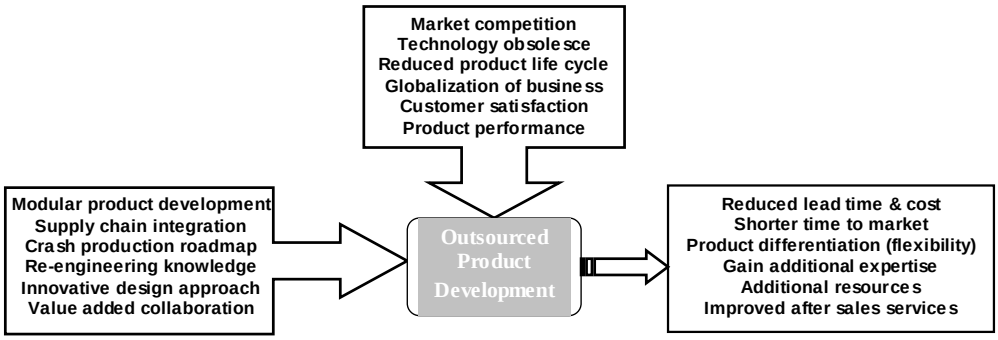

Figure 1: Various factors, implementation issues and outcomes for OPD

The major driving forces of outsourcing are not only cost efficiency, management risk and access to diverse technology and talents but also to optimize application investment, achieve cost variability and transfer management and maintenance of core business focus [2]. Figure 1 displays various factors for OPD, implementation issues with possible outcomes. It is noticed that OPD involves in analyzing market competitors, defining product and/or technology road maps, targeting industry trends for production process with target outputs. In PD process, as much as 80% of time is taken away by management while less than 20 % of time is dedicated for designing and execution process. It is therefore, crucial to save this costly management time in order to achieve companies' profitability and finding adds-on PD features. In OPD most of the developmental works are diversified and distributed among supply companies, which naturally decreases the load of companies' management personnel.

Diversification of product characteristics is an important issue in today's mass customized world. Customers are very much concern about product individualization or personalization of their products. This objective may be achieved by developing and extending firm's capabilities to build the foundation of new but related product families. This approach helps manufacturing firms to offer a large variety of products to suit individual customer needs. In order to acquire such objective, firms need to consider their in-house functional capability versus outsourcing possibilities within their operational processes. Before adopting outsourcing decision, firms need to critical cost analysis and strategic business functions among their product design and development processes. The underlying idea is needed to check out whether outsourcing of production process brings gains for firms in terms of lower costs and higher benefits of specialization in upstream and downstream production or not.

The outline of this paper is organized as follows: Section 2 provides necessary theoretical background while in Section 3 discusses the effects of outsourcing on PD. Various perspective between modularity and outsourcing is presented in Section 4, whereas, Section 5 illustrates some limitations of this approach. This paper is concluded in Section 7 with future research direction.

2. Theoretical Background

Today's leading multinational companies are turning toward cost effective R&D which employs of global networks of partners. Companies like Dell, Hewlett-Packard, Motorola and Phillips have started buying complete designs of some of their components from Asian developers and branded them with their own names. Asian manufacturers have become key players in almost all technological devices such as; laptops, high definition TVs, MP3 music players, digital cameras and so on. European and North American firms are relies on Asian partners to co-develop almost everything from components to complete products within their own specifications [3, 4]. Furthermore, a substantial growth in the outsourcing of activities in industrial countries is the most recent form of a greater division of labor.

Global leading manufacturers are turning towards a new approach of innovation which integrated among distributed suppliers globally [5]. To cope up with this trend, firms need to ensure the product innovation in a partnership attitude rather than isolated from the suppliers [6, 7]. This is especially popular in data-processing industry and has spread to other areas. The R&D unit of the firms need to collaborative and informative with the corresponding suppliers in case of outsourcings. Firms' innovation activities must be controlled and ensured for the betterment and prosperities for future development with higher customers' satisfaction. Strategic outsourcing encourages

manufacturing firms to be innovative in their production line through gathering enough knowledge and expertise from their outsourcing subcontractors [8, 9].

In general, outsourcing is considered to save money, frees up costly resources and sometimes improves quality [10, 2]. In such consequences, many people think that outsourcing is a strong trend that will continue as product development firms refine their processes and seek to become more efficient and cost effective. Such growing interest of outsourcing has created a strong debate on the costs and benefits of industrial fragmentation. Within multinational companies, a recent strand of research tries to investigate the governance of costs between specialized upstream and downstream producers [11]. Various consultants can be hired to guide firms through the process, they, however, can not be the decision-makers but provide necessary support through information [12].

3. Influence of Outsourcing on PD

In product development phase firms harnessed for faster time-to-market, reduced development costs and quality products which offer firms competitive edge to the market place. In order to achieve such objectives, companies need to launch successful PD approach, which hinges heavily on cautious planning, unambiguous characterization and effectual communication. This is particularly important if a firm moving towards the outsourcing of their PD process. In outsourcing, firms need to close association with offshore development team, where technology, skills and approaches are momentary [13].

There are various reasons to adopt outsourcing approach but the crucial question is when this approach makes sense for a firm. One of the most plausible and important reason is to acquire expertise within the firm which is not currently available [14]. Other reason might be due to sudden rise in demand that exceeds the firm's existing resources and capability. In both such situations, OPD is an excellent way to plug in the need for expertise and fulfill the capability. However, the protection of all proprietary information of a firm needs to be ensured before implementation of OPD process.

With OPD approach, it is crucial to control different methods, protocols and resources for communicating and managing the outsourcing firms. Various tools, resources and plans are needed for gaining, storing and using knowledge and information transfer among outsourcing firms [15]. Figure 2 displays required interactions between manufacturing firm and its supply networks for managing outsourcing activities. OPD should intrinsically be a business decision where firms' growth and prospects are fits with their business models and strategies. Reaching the right decision to determine whether or not to outsource, what to outsource and the goals to be accomplished are important steps in the process.

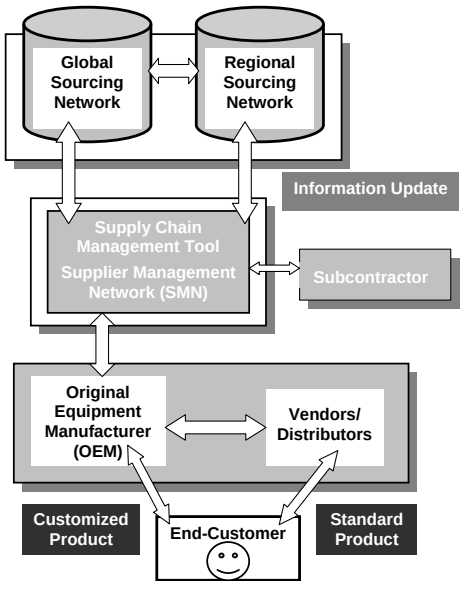

Figure 2: Integration of OEM with required sourcing network

One of the pertinent reasons to outsourcing is to minimize costs in the development of products. It considers being a better and cost-effective measure to maintaining necessary capabilities within a firm, which might include employee cost, overhead expenditure, supporting costs and risks costs [16, 17]. After analyzing the cost benefit from most of the firms, it is concluded that OPD teams cost less than maintaining comparable internal product development teams. It is therefore, recommended that firms that do not usually outsource should periodically do so in order to improve performance and capability of their internal product development teams.

4. Perspectives of Modularity and Outsourcing

The growing tendency of module-based product development increases the possibilities of outsourcing in firms. In modular phenomenon, components or parts are designed and developed in distances places which are finally assembled in the firms' own sites. In such strategy, product architectures need to be clearly and concisely defined which are then forwarded to the outsourcing firms in order to develop the separable parts or functionalities. It has to be ensured to implement very flexible product architecture so that any changes in the development process could be done efficiently with minor risks.

In modularity, traditional integrated architecture is changed towards a more flexible and controllable modules. Each module carries individual functionalities that are needed for the specific product. In most instances product development processes are generally a combination of both integral and modular architecture. This mixing of modular-integral dichotomy is conceptually powerful in terms of functional containment with product development activities. In module-driven development process, various implementation issues as shown in Figure 3 need to be articulated by the OEMs before moving towards outsourcing. Following these procedural settings, different modules could easily be outsourced from different regions within a country or from different countries.

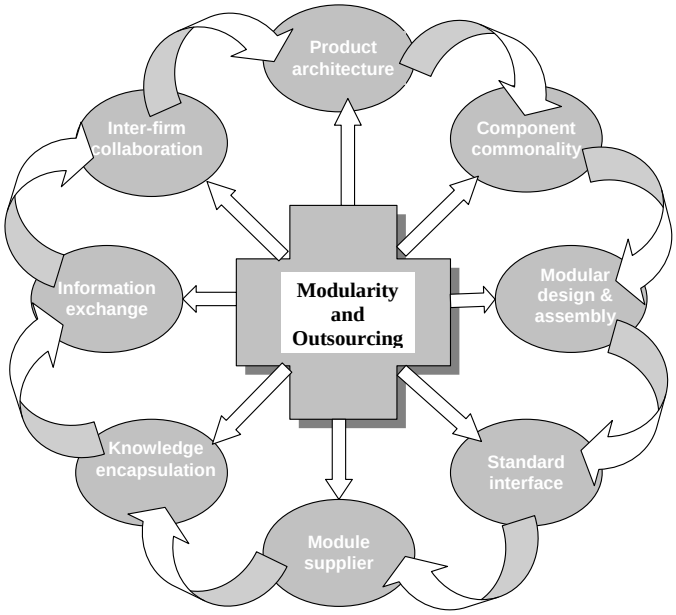

Figure 3: Implementation issues between outsourcing and modularity

Before adopting outsourcing strategy, firms have to critically analysis of their product development architecture in terms of effectiveness and costing of their developed modules. After finalizing the optimal number of modules, the next crucial step is to decide the cost effective modules to outsource. The outsourced modules have to be ensured for higher reliability and interchangeability in order to develop the quality products. The life cycle of a product solely depends on how good the interfacings of different interacting modules are with each other.

In outsourcing of modules, OEMs (original equipment manufacturer) may consider outsourcing design and development only, production and assembly only or in both could be considered [18]. A module supplier could be given full responsibility for the ordered module or OEM could share the responsibility with the supplier for ensuring

quality and reliability. It is recommended to as close geographic proximity as possible in order to facilitating the interaction and communication between module suppliers and OEMs.

5. Constrains of Outsourcing

Although outsourcing decision offers a lot of benefits for a firm, but unfortunately there can be downside to applying this strategy if do not have adopted carefully. This strategy often loss firms production flexibility that may caused by different possible problems such as; dependency over outsourcing company, evolve new requirements than the ones initially thought, different charges which were not planned at the beginning of the business process etc. This strategy may be unfavorable due to loss of competitive edge, problems in contract renewal and contractual misunderstandings.

There are also other concerns of outsourcing among firms such as; job protection, intellectual property protection, technology transfer and so on. Outsourcing often faces barriers which refer to the hesitance or fears of losing control, flexibility and confidentiality of client information. In most of the technology driven company outsourced products and services taking business intelligence outside of the enterprise which are still proving to be substantial. There are also rises the complexities of data management during outsourcing and all this information required being confidential.

In outsourcing, there are often several minor issues arise such as language problems, accent problems, political instability, change in laws and regulations, labor laws, cultural issues, and so on which needs to be worked out in terms of better working environment. Another issue arises due to different time zone which breaks up the consistencies of working environment among distributed teams worldwide [19]. Outsourcing decreases the responsibility among team members and evolves the attitude of get it done anyway. This attitude hampers company's good will and affects customers' satisfaction.

Although the products or services received through outsourcing are cheaper in terms of cost but the quality and reliability often are not up to the mark at company level which deteriorate the selling with poor customers' satisfaction. Outsourced products are often less innovative as the components are done in separate places which are predominantly driven by small group of individuals. Firms are overcoming this critical roadmap of the product development by integrating teams in desperate organization. All the above mentioned circumstances are the significant barriers and limitations to implementing outsourcing strategy globally.

6. Conclusion

Today's product development processes are mostly based on outsourcing principle which has caught the imagination of entire business world. Often firms outsourced their product development process in order to manage cost, reduce time-to-market, boost bottom line and save time for core activities. This phenomenon is generally considered due to acquiring expertise, tools, resources and plans for gaining, storing and using expertise knowledge. Standard cost optimizations processes are generally prompted through applying this phenomenon in various industrial sectors. Other occasions, various strategic needs such as dispense with some centers located at critical geographical regions have bearing on the option for outsourcing.

Firms are adopting outsourcing phenomenon to achieve better time to market, minimize risks, access the latest technology with comparatively cheaper rate, improve return on their product development investment and improve the overall competitiveness of their products. Industries can overcome competitive market challenges through specialist knowledge of innovation, reducing design cycle times and introduction of new products through outsourcing engagement. It is increasingly being evaluated and regarded as a viable option for more strategic business functions; however care must be taken through critical evaluations among different production processes before implementing this strategy.

Although, this strategy is considered beneficial for business success but there are some limitations to its implementation too. Among all the barriers, most importantly, outsourcing transfer confidential business knowledge and strategy, breaks up the cultural integrity and norms among regions or countries, possibility of physiological clash between OEMs and suppliers and so on, that might often shift the business target from its tracks. In this respect, further research could be carried out to study on a case to case basis among outsourcing companies in order

to investigate the suitability or applicability of outsourcing strategy in fulfilling possible business excellence. Future research can be carried out to measure different metrics related with outsourcing principle.

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