

Impacts of Outsourcing on Quality: A Case Study of an Electronics Sector

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ABSTRACT

Outsourcing is indeed the cutting edge innovation that has revolutionizes the world economics since past few decades by saving time, cost, effort and bringing innovation. As electronic sector holds a significant value in the economy and development of country, the electrical and electronic industry involves convoluted processes comprising proficiency in software as well as hardware. Increase of globalization has protracted the competition up to global level. Thus to compete and sustain in global market outsourcing is essentially required. The Electronics firms of Pakistan (Islamabad as a case scenario here) are considered as target population in this. The following comprehensive research study deliberate the different factors which influence the quality of Electronics firm while employing outsourcing and under which prospects the outsourcing is a profitable decision on the basis of qualitative analysis conducted.

Keywords: outsourcing, Electronic Firms, Globalization, Impact, Quality,

Introduction

Outsourcing is basically the process of assigning the work activities and task to the person or company outside the organization. In outsourcing the specified set of activities may get accomplished by hiring the third part (i.e., party other than customer and organization) in return of agreement benefits or amount. Modern era is considered as era of globalization. With the advancement of time a technology, globalization is increasing thereby increasing the competition. Every industry success and suffer depends on the basis of competition. Quality is the major force that is driving the competition. Due to fierce competition and rapid revolution in modern world the standard of excellence is not limited to particular region or area but extended to global level. Every firm has some specified specialty in which it can succeed. The major parameter of succession in particular domain is quality. Quality or quality management practices generally use to define an organized, standardized authenticated and integrated set of operational procedure and processes carried out throughout the production, manufacturing or designing process (Yeung *et al*, 2005). It has become essential for company to compete accordance to customer needs and expectation, quality standards, improved productivity and performance. Every company wants to excel the competition by providing better quality, unique and innovative strategies improvement in quality and productivity. To full fill all the requirements of excellence it is almost impossible for any firm to excel in quality, productivity, customer expectation, innovation by solely depending on its own resources. Thus this provided upsurge the need the employment of outsourcing or third party involvement. Outsourcing has been a significant topic of discussion in managerial, industrial and research practices. The trend of increased implementation of outsourcing can observe specially in the field of science and technology.

This research study is conducted to discuss and understand the effect of outsourcing on quality of Electronics industry of Pakistan. Almost all the developed countries have their economies depending heavily on Electronics Industry. A developed Electronics Industry will lead to progress and prosperity of other industries and will eventually result in increase in productivity.

Electrical electronics industry covers the wider domain of industry. It includes manufacture and implementation of remotely automated systems, security and surveillance systems, control and power conservation systems, Telecommunication and wireless system. The implementation and production of such system is usually a complex process involving multiple steps and expertise in both software and hardware technologies. Therefore, in order to compete and succeed in electronics market is a challenging task for any company or firm in electronics industry. This research aims to identifying the effect of outsourcing strategy on electronics industry of Pakistan. A survey based analysis of national level and private organizations of electronics have been conducted to deduce how outsourcing affects the quality, performance and productivity of industry. Main focus of this paper is on identification of core factors and condition of outsourcing, how the impact the quality of industry and under which circumstances it outsourcing would be preferable or not.

Literature Review

As globalization is increasing over the course of time and technology the practice of outsourcing is also increasing. It is unattainable for an organization to stay competitive while depending solely on its own resources. Outsourcing is a necessary solution to compete in rapid changing economy of modern world. Every organization has its own specific expertise in which it can be excelled. In today's competitive environment absolutely no organization can afford the level investment required to be excelled across its entire operation. In contrast to benefits of outsourcing it also has some draw backs or barriers including less control over the process operations, inability to meet quality service standards, misunderstanding in clarity of cost, negative customer feedback etc. Further authors concluded that organization must understand the situation or circumstances under which outsourcing could be beneficial. If the functions or duties to be outsourced are not core and would not affect competitive niche of organization moreover if its cost efficient then outsourcing is a good decision otherwise if it is affecting the competitive niche then must be in sourced (Senturan, and Palalić, 2009).

Outsourcing has gained much attention in managerial and academic practices and research. Though, it is an old practice but has gained significant importance since last two decades. Studies still doesn't provide a full implication of how it can affect the corporate performance and competencies of organization. The authors have selected the modern consumer electronic industry for implementation of this research. Cases of 3 of the leading firms USA's Emerson Radio., Japan's Sony and Philips from the Netherlands have been considered. An evolutionary model is developed in order to understand the link between the outsourcing and competences development. Although outsourcing is an economizing practice and can bring innovation but it can be destructive or unfavorable under certain circumstances. Considering the example of Philips industry, which had been a major player in field of consumer electronics. From Philips history and reputation in CE field it was apparent that should compete in DVD but due to excessive outsourcing of Phillips before the launch of DVD, Philips could not make it to compete in DVD market. Philips suffered due to unavailability of software. In case of consumer Electronics firms, the supplier's competences were considered to be more complimentary and conceding which in return generates the threat of forward integration by supplier. When such situations arise where outsourcing no longer remain beneficial, the decision of keeping the production in house would be more productive. Before outsourcing the firm is required to consider the circumstance of how it can increase

the productivity and performance without losing the competence. These constraints and threats require to be considered during the research and development stage before implementing the decision of outsourcing (Kotabe et al., 2008).

Outsourcing BPO has proved to be a critical mechanism for delivering excellent services to customers in the banking and financial services community [3]. There have been always is a continuous pressure on banks and financial institutions of higher returns on capital, effective drives on cost management, increasing market requirements and tougher competition from other market players (Ravi et al., 2011; Parker and Russell, 2004). In order to sustain their competitive capabilities, banks and financial institutions have been looking for ways to reengineer their internal processes and improve their service deal. That leads to turn their heads towards outsourcing and initiated an increasing trend for banks and financial institutions to outsource their operations to offsite processing locations to improve their business performance. Which results in setup of offshore branches by many global banks or financial institutions in South-East Asian countries such as Malaysia and Singapore to handle their operations (Gewald, 2010; Ravi et al., 2011).

Relationship of profit and outsourcing has been a topic of attention every time while employing the outsourcing in some business or industrial practice. The study had been carried out targeting the Electronic Industry of Ireland as focus group. During the survey detailed information regarding manufacturing and service related activities of 12 electronics sub sectors have been considered. According to the detailed survey report and analysis the outcomes of study exhibits that the relationship between profit and outsourcing mainly depends upon factors such as size. The research outcomes reveal that the firms that are larger in size in terms of employment size benefits more from outsourcing. Similarly, opposite results have been observed in case of smaller firms. Comparatively smaller firms appeared to have higher cost of transactions which does not made outsourcing beneficial in case of smaller firms (Ngamkroeckjoti and Johri, 2003).

Outsourcing can be defined or interpret as providing or disclosing the information and data regarding organizational activities to the vendor or third party. Conventionally it was used employed for streamlining the firms that were in poor financial state. But in competitive world of modern era the research and studies have suggested that outsourcing may lead to increasing and improving the overall performance of firm. Thereby upgrading productivity, better managing time constrains, quality and meeting customer need. Although according to most of the studies in various field of IT, telecom, electronics the outsourcing has proven to be more beneficial but in this study the writer has discussed some mistakes that often lead to failure of outsourcing as a result of survey based research he named them as seven sins of outsourcing (Görg and Hanley, 2004).

1. Choosing the unsuitable activity to be outsourced
2. Not selecting the inappropriate third part
3. Writing the contract that lacks major terms and agreements
4. Overseeing the personnel issues
5. Lack of control on outsourced activities
6. Overlooking the hidden costs of outsourcing
7. Not making or planning the exit strategies (terms and condition for leaving the contract)

Trend of outsourcing in Pakistan Electronic Industry:

The electronics industry existing in Pakistan can be generally grouped in the following categories (Baitheiem, 2008):

1. Defense Electronics
2. Industrial Electronics and Automation
3. Communication Electronics
4. Electronics/ Technical Services
5. Consumer Electronics.

These five sectors having the largest share in world trade are machinery, electronics, pharmaceuticals, automobiles, and agricultural products. All of these sectors are somehow related to Electrical & Electronics and can enhance their quality and productivity. Unfortunately, the Electronics

Industry in Pakistan has negligible contribution in the overall industrial output. As a whole manufacturing sector employs is only 13% of the labor force (Baitheiem, 2008). It is therefore evident that development of the country cannot take place without progress being made in the Electronics sector. But from the start of this decade positive growth starts to be observed in Electronics and Electrical technological sector. The R&D (Research and Development) production has significantly improved. A large number of private and sub government companies has taken an efficient initiative of developing the modern and highly required electronic and automation systems for defense as well as industrial purpose under the supervision of highly qualified Engineers improving the productivity in electrical electronics sector. Currently many small and large firms and organizations are contributing in developing a highly efficient.

1. Remotely automated system
2. Security and surveillance systems
3. Control and power conservation systems
4. Telecommunication and wireless system
5. Food and agriculture technology products and system
6. Healthcare and pharmaceuticals products and system

TABLE I: Literature related to impact of outsourcing in electronics sector

Authors	Year	Contribution	Limitations
Sermin Senturan & Ramo Palalic	2009	Outsourcing in Sustainable development	Outsourcing has barrier e.g lack of control over the process, customer dissatisfaction .e t c
Masaaki Kotabe, Michael J. Mo, Sonia Ketkar	2008	Role and impact of Outsourcing	Outsourcing may lead to threat of
Jerome Baitheiemy	2003	Description of seven major drawbacks of	Best practice could lead to successful
Holder Gorg & Adife Hanley	2004	Outsourcing Increase Profitability	Unable to define long run effect of
Hilmola,O.p,Holweg	2005	Outsourcing dynamics in Electronic sector	Industry specific Research

Joan Rhodes ,Peter Lok , Wilson Loh & Vincent Cheng	2014	Critical success factors of outsourcing	Limited due to cross-sectional nature. Larger sample could be better.
Ministry of Science and Technology	2016	Technology Foresight Exercise of Pakistan	Electronics industry negligible output in country's economy

Research Scenario

With the advancement of time and technology competition is increasing. To sustain the competition a firm must excel in all of the factors that are essential to be successful and sustain in global competition e.g. customer-satisfaction, quality, performance, productivity, profitability and innovation etc. Every firm has its own set of particular expertise. No firm can excel in all factors by relying solely on its own resources under a specified time constraint. Here arises the need of hiring third party of same domain and assigning a particular set of task under a specific time constraint or need to outsource the business or project activities and tasks.

Research Questions

1. What is the impact of outsourcing on performance of an Electronics firm?
2. What are the major risks and challenges faced by Electronics firm in outsourcing?
3. What are the conditions under which outsourcing would be beneficial form improving quality of electronics firm?
4. How outsourcing can be employed?

Research Objectives

The objectives of this research are:

- To understand the factors that affect outsourcing regarding outsourcing
- To identify the risk factors, constrains & challenges faced by Electronics firm

Theoretical Model

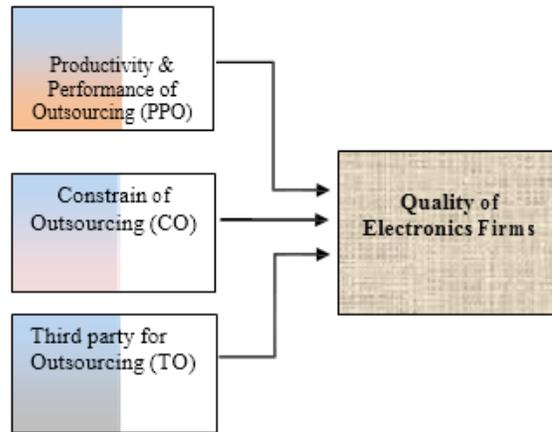


Figure 1. Proposed Model for Determination of Impact of Factors on Quality of Electronics Firms

Hypothesis

- H1:** There is a significant impact of Performance on Quality of Electronics firms
- H2:** There is a significant impact of constraints on quality of electronics firms
- H3:** There is a significant impact of third party for outsourcing on quality of electronics firms

Research Methodology

In the sector of electrical and electronics the most deliberated and controversial topic is effect of outsourcing. Since past two decades a considerable amount of research is being directed in the academic and business world of science and technology regarding employing of outsourcing in Electrical and electronics sector. This research evaluates impact of outsourcing in Electronic sector of Islamabad, Pakistan and its outcomes in term of quality, performance and productivity. This study is conducted on the basis of survey and questionnaire based analysis to determine the response and insecurity of Electronics based national and private level firms regarding employment of outsourcing. Data collection procedure of the following research is based on the survey analysis. The basic concept of this research is to determine the factors that are important for decision makers, Technical managers, analysts while employing the outsourcing. Present research study aims to provide the evident information of condition under which outsourcing

Validating the Proposed Work

In qualitative analysis, questionnaire based survey is conducted for affirmation and validation of hypothesis purposed. The purpose of conduction of research was to affirm whether the factor purposed in the model are consistent and authentic for improving the quality of Electronics firms and how each of the factor impact on quality. The target population (N=50) for this analysis is the decision maker, managers and technical analyst of various private and national

level electronics firms with in Islamabad Pakistan. The data of this survey is subjected to statistical analysis through SPSS and MS Excel.

Assessment and Discussion

On the basis of survey conducted, the results verified the validation of hypothesis to satisfactory level on the population of size is 50 (N=50). the resultant data results represent the view of quality analysts regarding impact of purposed factors on quality of Electronics firms.

TABLE II: Results of survey based analysis of impacts of outsourcing on quality of Electronics Firms

Factors effecting Quality of Electronics Firms	Positive (%)	Negative (%)	Neutral (%)
Productivity & performance of Outsourcing (PPO)	74	10	16
Constrains of outsourcing (CO)	5	70	10
Third party for Outsourcing (TO)	38	38	24

Conferring to proposed hypothesis, 74% of the analyst agreed that productivity and performance outsourcing increase the quality of Electronics firms, 70 % agreed that the Constrains of outsourcing negatively effects the quality while the third part for outsourcing can impact in both positive and negative manner to the quality of Electronics firm which comprehends that quality of firm improve or suffer depending upon the efficiency and effectiveness of vendor.

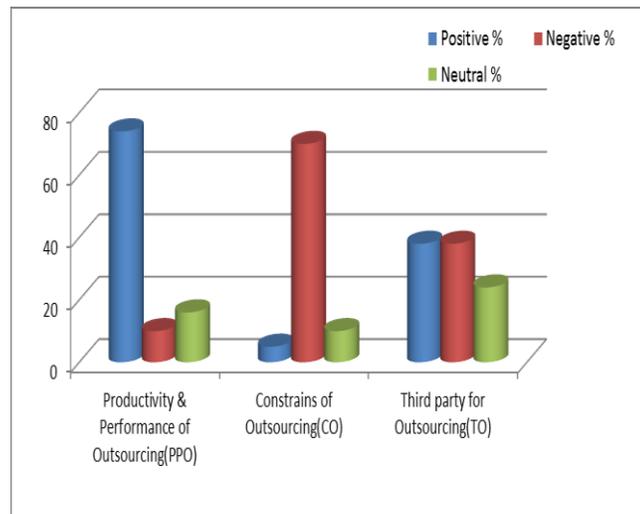


Figure 2: Comparative results of factors effecting quality of electronics firms

Conclusion

Quality has become the major force of driving and fueling the tremendous competition of Global market. In the following research study from the detailed data set, data revealed that there are three extensive factors significantly effecting the overall quality of electronics firm. There are certain circumstances in which outsourcing could be a profitable arbitration for enhancing the quality, such circumstances involves selection of most relevant third party as vendor for accomplishment of particular project. Whereas, the quality of an electronics firm can be maximized by overcoming the outsourcing constrains. The findings of study reveals that consideration and control of the proposed factors is essentially required for an electronics sector firm to sustain the global competition by raising the standard of its quality.

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