

## A Strategic Journey of Firm Transformation Towards a New Framework for Implementing Servitization Strategy

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### Abstract

*Servitization is one of the most critical business strategies for manufacturing firms in a developed economy. Today, many leading companies are offering an integration of services with their core products that comprises a significant shift in their underlying business models. The term 'servitization of business' was coined to describe this movement. This paper discusses the firm process transition from manufacturing to servitization under the viewpoint of research and development, procurement, production, sales and marketing, and after sales services. It is observed that the firm processes in manufacturing organizations are usually run by technology and resources, which is significantly different in service-oriented organizations, i.e., knowledge and skills. This paper also identifies the key factors of successful change processes towards servitization. The study results showed that the factors like, vision creation, mindset, leadership, communication, and anchoring the new service culture have significantly positive influence on company changes towards servitization of business. Based on those, this paper gives an empirical case study of International Business Machine (IBM) Corporation, which is a leading example of successful servitization in the field of information and communication technology (ICT) industry.*

### 1. Introduction

Nowadays, manufacturing in developed economies is under massive pressure as market is over-flooded by the same products in different brands, cutthroat competition, and rapid customer demand changes. In these circumstances, companies are shifting their

business from not only producing goods to offering an integrated package of goods and services. This movement has been termed as 'servitization of business'. This concept, first introduced by Vandermerwe and Rada [40], is now widely recognized as the process of creating value by adding services to products. Since the late 1980s, the adoption of this concept as a competitive business strategy of manufacturing firm studied by many authors [31, 32, 37, 42] who have highly focused on developing the process and its implications in product saturated market. As a result, many leading companies; GE, IBM, Siemens, Hewlett Packard, Fujitsu, NEC, Hitachi, to name a few today embrace this concept as a service-led competitive strategy, environmental sustainability, and the basis to differentiate itself from competitors who simply offer lower priced products.

Traditionally services provided by manufacturing organizations have typically been in the form of after-sales. Services such as installation, maintenance and repair have therefore generally been viewed as complementary to the primary business with the focus on selling products [3]. Hence, services have conventionally been considered as necessary add-ons to the core product portfolio. The more contemporary view is that manufacturing companies need to move towards a more extensive provision of services to remain its competitiveness in the current marketplace [13, 15, 32]. Wise and Baumgartner [42], for example, argue that companies in mature industries should be looking for service opportunities to achieve new growth and profitability.

Servitization is a bigger umbrella word for the transition of a firm from simply procuring parts and products to procuring services. Companies are adopting customer and service

centric strategies aimed beyond product supply and solution provision for the consumer's needs, due to the greater intricacy of products, flexibility of manufacturing infrastructure and the modularization trend [2].

However, more recently, a study have introduced the theory of enterprise transformation, which concerns change, not just routine change but fundamental change that substantially alters an organization's relationships with one or more key constituencies, such as, customers, employees, suppliers, and investors [34]. Basically, the organizational transformation is happened for proposing new value through products and services offerings or old value propositions provided in fundamentally new ways. More specifically, enterprise transformation is driven by perceived value deficiencies relative to customer needs and expectations. Consequently, enterprises increasingly need to consider and pursue fundamental change-transformation-to maintain or gain competitive advantages. Because, enterprises realize the declining of revenues and profit, failing to achieve anticipated enterprise growth, and exploitation of market and technological opportunities. These reasons are forcing them to change and often beliefs that it will enable remediation of such value deficiencies. But, the concern is how these value deficiencies will be approached? According to Rouse [34], generally, there are three broad ways to approach value deficiencies: (1) improve how work is currently performed, e.g., reduce variability, (2) perform current work differently, e.g., web-en-able customer service, and (3) perform different work, e.g., outsource manufacturing and focus on service. In all of these choices, the third choice is most likely to result in transforming the enterprise, which is motivated this research to seek and explain the notion of organizational process transition from manufacturing to services that form in two interdisciplinary areas.

Therefore, the main purpose of this research is to investigate the firm process transition from being a "product-centered" organization to being a "servitized" organization and identifying the factors that lead to change successfully. We take as a real-life example of a leading computer and technology firm, namely, International Business Machine (IBM) Corporation, USA. In this article, we develop a conceptual model of firm process transition under the viewpoint of research and development, procurement, production, sales and marketing, and after sales

services. We then validate this model by using empirical data collection from IBMers, and identify the key factors of successful change process towards servitization of business. As a result, we observed that when the firm states in manufacturing, they usually focus on technological innovation or product development and want to get quick return from the market. On the other hand, servitized firm focuses on market needs and expectations and more solution oriented to customers. However, we also found five significant factors of change processes that a company has to consider when moving from being a product-oriented organization to a product-service oriented organization. These are vision creation, mindset and strategy development, leadership and teaming, value sharing and communication, and anchoring a new service culture.

## **2. Servitization: Opportunity and Challenges**

### **2.1. Why manufacturing is going to servitize?**

Services are essential for the growth and competitiveness of manufacturing firms, as they can contribute to the increased demand and complement the sale or lease of tangible products [27]. Designing, building and delivering integrated product-service solutions can foster innovation within organizations and improve capabilities and processes. Howells [17] regards technological innovations related to information and communications technology (ICT) as key factors motivating high customization and service orientation in manufacturing companies [2]. The rationale for developing service operations, extending the services business and integrating products and services can be summarized by following view points that drive companies to pursue a servitization strategy; namely, financial, strategic, economic, marketing and environments.

a) Financial Benefits: Services retain potentially higher margins than products and generate substantial revenue from an installed base of products with a long life cycle [1, 18]. However it secures the company for regular income and balances the effects of mature markets and unfavorable economic cycles [4, 25].

b) Strategic Advantages: Service addition helps the firm differentiate from competitors, aids the consolidation and protection of the core

product businesses, and establishes intimate relationships with clients. Since services are more labor dependent and less visible rendering, and then more difficult to imitate, and hence a source of sustainable competitive advantage [15, 32].

c) Economic Pressure: Service roles in manufacturing sector are growing rapidly, as increased the share of services activities are necessary to produce goods [36, 44]. Also, the de-industrialization and increasing international division of labor between manufacturing and services led to the declining shares of manufacturing in developed economies.

d) Marketing Opportunities: Service component has great influence on purchasing decision and tend to induce repeat-sales, and by intensifying contact opportunities with the customer, can put the supplier in the right position to offer other products or services [25, 27].

e) Environmental Rationale: Services make sure the use of resources more rationally and proper way (Mont, 2005).

This study reveals that while servitization could lead to lucrative opportunities and revenues, the manufacturer's transformation to integrate products and services is tremendously complex, much more than suggested by the literature. This could possibly be due to the involved of costs and difficulties. The next part we discuss a comprehensive list of challenges associated with the implementation of servitization strategy.

## **2.2. Challenges in the implementation of servitization strategy**

The implementation of servitization strategy consists with significant cultural and corporate challenges that can be broadly categories into integrated product-service design, policies, process, structure, strategy and organizational transformation [4, 31, 32, 37]. The design of services is significantly different to the design products since, by their nature, services are fuzzy and difficult to define [37]. In consequence, the organization is struggle to integrate product and services and identifies a moderate size of packages for different target markets or clients. This may discourage companies to expand its business from manufacturing to service dimension, because they need to take account of competition outside the usual domain, unexpected rivals including their own suppliers, distributors, and customers [27, 32, 40].

A manufacturer considering service-provision or expansion of the service business is faced with dynamically changing market conditions, speedy response to client needs, requirement of rapid process turnaround times, and volatile demand. These issues challenge the supplier, and demand fabrication of new protocols and paradigms. Tackling the emergence of such challenges requires a competitively enhanced business strategy. However, manufacturers that decide on a service-oriented strategy have to adapt the necessary organizational structures and process [15, 27, 32]. Here, there are challenges in defining the organization strategy necessary to support the customer allegiance required to deliver a combination of product and services [42]. Adopting a downstream position, such as the provision of installed base services, organizations have to be service oriented and value services [32]. These organizations provide solutions through product-service combinations and tend to be client-centric and providing customized, desirable client outcomes organized around particular capabilities, competences, and client requirements [28].

Transforming a firm from product-domination to services-oriented total offering requires a continuous development of new services and management of customer productivity [26]. Services also present challenges in the form of integrated production, delivery components, and cultural movement. This culture is specific and different from the traditional manufacturing culture [27], and a shift of corporate mindset is necessary to take on services and priorities their development with respect to more traditional sources of competitive advantage [5, 32, 37]. This will require significant changes to long-standing practices and attitudes [13, 40]. For example, abandoning their product-centric structure in order to become more customer-centric [13, 14, 43]. Implementing these changes, companies are likely to meet resistance from areas within the organization where the service strategy is not understood or the fear of infrastructure changes [27]. Creating a service oriented environment and finding the right people for the service dimension is another big challenges. Particular skills like as, customer accessibility, solution oriented thinking are required to react appropriately in these circumstances – skills that must often be targeted in the recruitment process and develop over time. In order to provide a superior services, managers must be consider the

peoples in the organization as their main assets that is required in moving from manufacturing to service operations.

### **3. Qualitative Research Method: In-depth Interview**

We adopted an in-depth exploratory qualitative case study research approach [11]. The findings reported here are from a multinational information and communication technology (ICT) firm, hereafter referred to as 'International Business Machine (IBM) Corporation' that has been classified their business as the amalgamation of goods and services (Servitization). The company is one of the largest computer and technology firm in the world, which conducted its activities into five business segments, and acquired market from U.S. to Europe, Asia, Africa, Oceania, and many others part of the world. In accordance with the principles of process research, particular attention was given to unfolding processes of flux and transformation [23, 33]. The case study was presented as a 'thick description' to enable the reader to judge the extent to which the findings can be generalized to other organizations with similar characteristics [16].

The case study draws upon a prolonged engagement with the firm over one and half year period. We conducted a total of 17 in-depth interviews, separated into two distinct phases. Each of the interviews lasted between 60 and 90 minutes, and was recorded and subsequently transcribed verbatim. The interviewees were designated as the director of research and development, senior management consultants, marketing and communication managers, service engineers, operational managers, and service employees. In addition to primary data collection, the secondary data (company documentation and archival records) were collected as well, in order to achieve a theoretical triangulation [45]. The data were analyzed using a thematic framework initially developed from the relevant literatures. A coding framework was then developed, and used Nvivo software (QSR International) for managing the vast amounts of data, annotations and memos recorded within the transcripts [35].

The first phase of the research commenced in 2011. This was composed of 9 semi-structured interviews across the selected business units in Japan. The objective of this phase is to derive a conceptual model of firm process transition from

manufacturing to servitization based on in-depth interview under the viewpoint of research and development, procurement, production, sales and marketing, and after sales services. The questions focused on the respondents' career backgrounds, the history of company's current and previous activities, and their perception of the shift from manufacturing to service operations. Special attention was also given to the respondents' viewpoint on process transition and the evolving organizational structure. The second phase of the research was composed of a further 8 semi-structured interviews carried out in 2012. The interviews explored in depth changing processes of IBM and identified the key success factors for organization towards servitization of business. These factors are vision creation, mindset and strategy development, leadership and teaming, value sharing and communication, and anchoring a new service culture. However, internal and external documentation relating to the business is also examined for the purposes of corroboration.

### **4. Empirical Case Study: International Business Machine (IBM) Corporation**

International Business Machine (IBM) is the worlds leading computer and technology firm, and was established in 1911 that offers a variety of products and services in information and communication technology (ICT) industry. In the beginning, company started its operations by producing commercial scales and tabulators, and steadily expanded its activities in producing hardware products including mainframes, software, servers, and other storage devices. In 1975 IBM first released its personal computer to the market, but the sales were disappointing as the demand of personal computers was minimal at the time. It was not until 1980 that IBM tried again to crack the personal computer market. By then many other companies were already making the machines, and IBM was not able to gain immediate control of the market. By 1991 their stock price had reached the lowest point since 1983. From 1986 to 1993 IBM had taken \$28 billion in charges and cut 125,000 people from their payroll after avoiding layoffs for more than 70 years. In January 26, 1993, in the face of looming disaster, CEO John Akers resigned and Louis V. Gerstner was appointed as CEO of the following year.

After few weeks on the job, Gerstner identified the company's main problems and

indicated that IBM had lost of customer touch and trust, costs were out of line, the firm was too decentralized, confusing and contentious performance measurement systems, and they had stayed with their old strategy too long. On the other hand the market was too much crowded by the early 1990s, there were tens of thousands of companies in the computer industry that offered the lower prices products and more choices to customers even many of which lived for a few months or years, then disappeared. According to the industry trend and Gerstner's better understanding of customers' needs and on going business demand, he recognized that the market was shifting. The application of technology would become the key drivers of IBM not its invention. These insights led to a transformation that subsequently led IBM to exit the network hardware business, application software, storage, and personal computers to enter the services and develop a freestanding software business. After then to late 1990s, services were consistently growing 20-plus-percent a quarter. In 2001, services and software were \$35 billion and \$13 billion businesses, respectively, which combined represented 58% of total revenues and accounted for roughly half of IBM workforce. Since then, with Sam Palmisano to Virginia M. Rometty as CEO, IBM has continuing this remarkable shift to its business mix to more profitable segments, so that today, IBM has revenues of \$107 billion while more than 90% of its segment profit came from software, services and financing in the fiscal year 2011.

#### 4.1. Research Question

Servitization is now widely recognized as an increasingly relevant strategy for developed economies' manufacturers to improve their competitive advantage in the market. The existing literature describes why and how enterprises transform from one business provision to another or extend value with old systems. Change literature as we stated provides a considerable number of theoretical models, but there is no model or discussion for specific issue of servitization as a change process. Thus, the questions arise: what notion or how enterprises can transform it's process from being a "product-centered" to being a "servitized" organization? Which factors lead transformation effort the best chance of succeeding?

In order to achieve a methodological fit [10, 45] between the state of previous work, research method, analysis and expected contribution, we

adopted an exploratory single case study approach [38]. Given the theoretical immaturity of research phenomena the adoption of a case study is appropriate as it permits for a deep research enquiry and to come as close to the research phenomena as possible [9]. We focused on two key issues of investigation in order to achieve insights about the transformation of a product-service provider (PSS). We have first investigated the firm process transition under the viewpoint of research and development (R & D), procurement, production, sales and marketing, and after sales services. Secondly, we identifying the key factors of successful change process that specifically support the firm transformation in servitization context.

### 5. Enterprise Transformations and Organizational Change

The need to transform - change in fundamental ways - has long been a central element of the economy and society [6, 19]. Rouse [34] claim that the "enterprise transformation is driven by experienced and/or anticipated value deficiencies that result in significantly redesigned and/or new work processes as determined by management's decision making abilities, limitations, and inclinations, all in the context of the social networks of management in particular and the enterprise in general". Transformation can occurs both in external and internal contexts. The external context is partially driven by economy that affects markets, which in turn affect enterprises, e.g., regulation and taxation. The internal context of transformation is pursued through work process and yield work products, and incurring costs. There is a wide range of ways to pursue transformation such as, ends, means, and scope [34]. The ends of transformation can range from greater cost efficiencies, to enhanced market perceptions, to new product and service offerings, to fundamental changes of markets. The means can range from upgrading people's skills, to redesigning business practices, to significant infusions of technology, to fundamental changes of strategy. The scope of transformation can range from work activities, to business functions, to overall organizations, to the enterprise as a whole.

Now, the question might arise why enterprises need to transform? What processes can enable this transformation? According to

Rouse [34], there are basically four alternatives perspectives that tend to drive needs for transformation such as, value opportunities, value threats, value competition, and value crises. Transformation initiatives driven by external opportunities and threats, which tend to adopt strategy-oriented approaches, for example, markets targeted, market channels employed, value proposition, and offerings provided. However, there are other initiatives driven by competitors' initiatives and internal crises that tend to adopt operations-oriented approaches such as, supply chain restructuring, outsourcing and off-shoring, process standardization, process reengineering, and web-enabled processes. A summary table of these discussion is stated in the below.

**Table 1.** Value Deficiencies and Processes Enabler of Transformation [34]

	Description
Value deficiencies drive transformation	<ul style="list-style-type: none"> <li>- Value opportunities, e.g., the allure of greater success through market and technology opportunities</li> <li>- Value threats, i.e., the danger of anticipated failure due to market and technology threats</li> <li>- Value competition, which means the firm is influenced by competitors' transformation initiatives that ultimately creates the necessity of firm transformation for continuous success</li> <li>- Value crises that realizes the firm for steadily declining market performance, cash flow problems, and so on, which at the end push the firm transformation for surviving in the market.</li> </ul>
Work processes enable transformation	<p>Initiatives driven by external opportunities and threats</p> <ul style="list-style-type: none"> <li>- Market target is pursuing global markets such as emerging markets, or pursuing vertical markets such as aerospace and defense.</li> <li>- Market channels employ describes by adding web-based sales of products and services such as automobiles, consumer electronics, and computers.</li> <li>- Value proposition, e.g., moving from selling un-bundle products and services to providing integrated solutions for information technology management.</li> <li>- Offerings provided, i.e., changing the</li> </ul>

	<p>products and services provided, perhaps by private labeling of outsourced products and focusing on support services.</p> <p>Initiatives driven by competitors' initiatives and internal crises</p> <ul style="list-style-type: none"> <li>- Supply chain restructuring encourages simplifying the supply chains, negotiating just-in-time relationships, and developing collaborative information systems.</li> <li>- Outsourcing and off-shoring shows the firm an opportunity of contracting out manufacturing, employing low-wage, high-skills labor from other countries.</li> <li>- Process standardization defines as an enterprise-wide standardization of processes for product and process development, R&amp;D, finance, personnel, and so on.</li> <li>- Process reengineering acts as an identification, design, and deployment of value driven processes.</li> <li>- Web-enabled processes develop online and self-support systems for customer relationship management, inventory management, and so on.</li> </ul>
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Transformation involves resources allocation and management decision-making. The ability of an enterprise to redeploy its human, financial, and physical resources is central to the nature and possibility of transformation. Changing the tasks and activities of the enterprise, by themselves, relates to business process improvement. In contrast, changing the purpose, objectives, and functions of the enterprise is more likely to be transformational. The higher level of transformation, the more difficult, costly, time-consuming, and the changes will be risky. For instance, changing the purpose of the enterprise is likely to encounter considerable difficulties, particularly if the extent of the change is substantial. In many cases, for example, defense conversion, such change has only succeeded when almost all of the employees were replaced [34].

Nadler and Tushman [30] focus on how management addresses the more complex and difficult changes of re-orientation and re-creation in terms of diagnosis the problem, formulating a vision, creating a sense of urgency, linking change to core strategic issues, communicating and leading, and broadening the base of leadership, all in the context of mixture of planning and opportunism that includes redesign

of key processes and nurturing of investments as returns emerge over time. Consequently, the factors like values and culture [7], reward and recognition systems [12, 41], individual and team competencies [21], and leadership [22] have strong impacts on an enterprise's inclinations and abilities to pursue transformation. The following sections 5.1 and 5.2 describe how enterprise can transform from only producing goods to providing an integrated packages of goods and services, and identifying factors that lead the firm towards successful changes.

### 5.1. Process transition towards servitization of business

The process of servitization requires the implementation of various organizational changes, new processes, and strategies for transition from product manufacturing to a service-focused total offering. However, organizations encounter a business shift when

implementing service-addition, or increasingly adding-value to their core chain [40]. But, in spite of various difficulties or complexities involved with the process of servitization, it is observed in a long-term study of servitization research where researchers are suggested to manufacturer movement towards value extension through service addition and directed the firm transitions into relationship business model, new structure, service oriented culture, and knowledge based operation as well. In this section, we focus on organization's process transition, which is significantly different from those of pure manufacturing to servitization under the viewpoint of research and development, procurement, production, sales and marketing, and after sales services. When we determine the following differences based on in-depth interview of IBM professionals, we get a kind of conceptual model of process transition towards servitization of business, which can be illustrated as in figure 1.

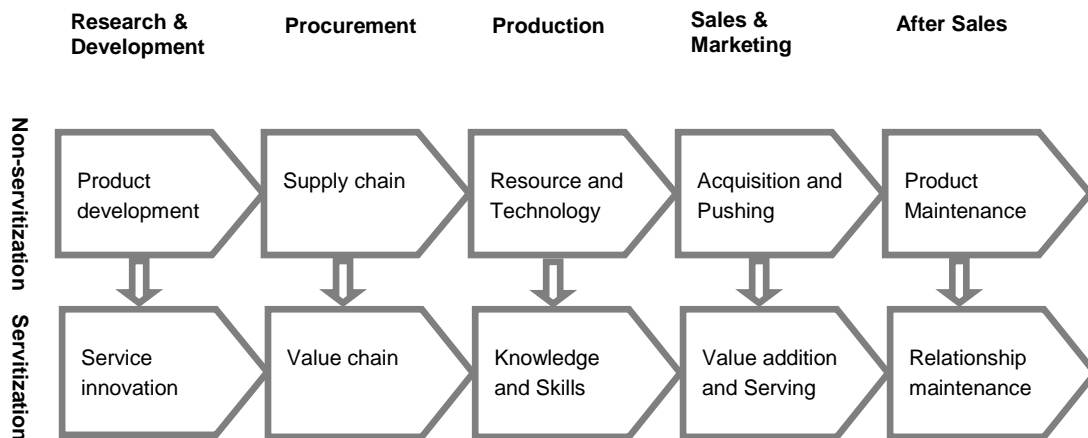


Figure 1. The concept of process transition (manufacturing to servitization)

The model contains two different processes of organization, respectively, non-servitization, and servitization that we describe in the following five viewpoints.

1. Research and Development: In manufacturing, it is observed that the research and development traditionally focused on product development, upgrading products quality and design, and improving process efficiencies, but they are less attentive to customer needs and expectations while servitization requires closing with customers, gathering customer experience,

observing buying behavior, and developing new and more value-added products and services that collectively meet the user needs.

2. Procurement: Generally, the procurement in manufacturing firm is highly concern on creating an efficient supply chain by which they can acquire or obtain raw materials, property or services at the operation level on-time at low cost. But in the case of servitization, it is observed that the firm considering it's supply chain concept as a value chain and creating an

additional values in the whole chain process from supplier to end users at more strategic level.

3. Production: The production in manufacturing firm mainly run by resources and where raw materials are the core components of producing goods, and technology works for increasing production efficiencies. On the other hand, the servitized firm conducted its operation through knowledge and skilled peoples who have customer accessibility, solution oriented thinking, and service oriented mentality for creating high quality and superior services. In addition to these, the service driven firms also concern about its internal and external capabilities that supporting for making services more smoother and on-time delivery to the clients.

4. Sales and marketing: The core objective of sales and marketing in most of the traditional manufacturing firms is pushing new products in the market and acquiring more customers into their accounts. In this regard, the firm set-up it's selling approach more transactional rather than relational, and target to gain short-term benefits for a certain period. But it is observed that the servitized firms are always attentive to find the customer needs and continuously developing services by adding new values to its products or services. In this provision, the firm is more solutions oriented, builds a relationship based selling platform, and is projected to achieve long-term business benefits.

5. After sales: Traditionally, the manufacturing firms are provided the services in the form of after sales services, such as, installation, maintenance, and repair, which primary focus is to sell the products. Basically, the firm does not maintain any contact or relationship with the customers after the transaction is finished once. On the other hand, relationship maintenance is one of the key parts of whole process of selling goods and services (servitization). In this case, the firms keep contact with customers at all times and

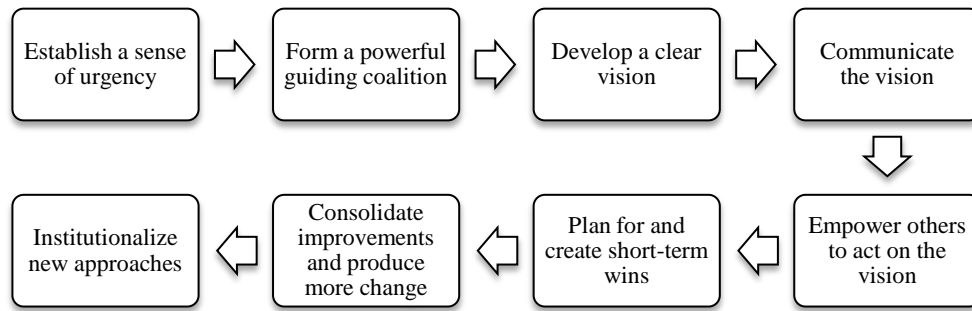
recognized their needs through better understanding. At the same time, the firms also consider them as a sustainable source of their revenues as well as the promoters of future businesses.

## **5.2. Change factors for implementing servitization strategy**

Identifying the key factors of change processes are an essential task for any organizational changes, such as, structural changes, policies changes, processes changes, cultural changes, or the extension of new business operations, and so on. Almost in every case, the basic goal is same: to make fundamental changes in how business is conducted in order to cope with a new, more challenging market environment. Thus, it is very important to identify the way of organizational changes and key finding factors that significantly influence on implementing firm's new strategy more effectively and efficiently. In this section, we analyze the firm's general change process developed by John P. Kotter [20], and build a conceptual model based on the review of servitization literature and our observation on the case study of IBM Corporation, which provides many insights of successful change process towards servitization of business.

In general, it is observed by Kotter's change processes [20] that suggested eight significant factors, which is crucial for any organizational changes; establish a sense of urgency, form a powerful guiding coalition, develop a clear vision, communicate the vision, empower others to act on the vision, plan for and create short-term wins, consolidate improvements and produce more change, and institutionalize new approaches that the company should consider for successful changes in the organization. The basic structure of change process can be drawn as in Figure 2.





**Figure 2.** The model for organizational changes [20]

Transformation is a process, not an event that many managers don't realize. It advances through stages that build on each other and completed by number of years. By understanding the stages of change and the pitfalls unique to each stage – company can boost their chances of successful transformation. The following table 2 describes the actions needed in each stage of change process and the reason – why transformation efforts fail.

**Table 2.** Stages of Transformation and Pitfalls

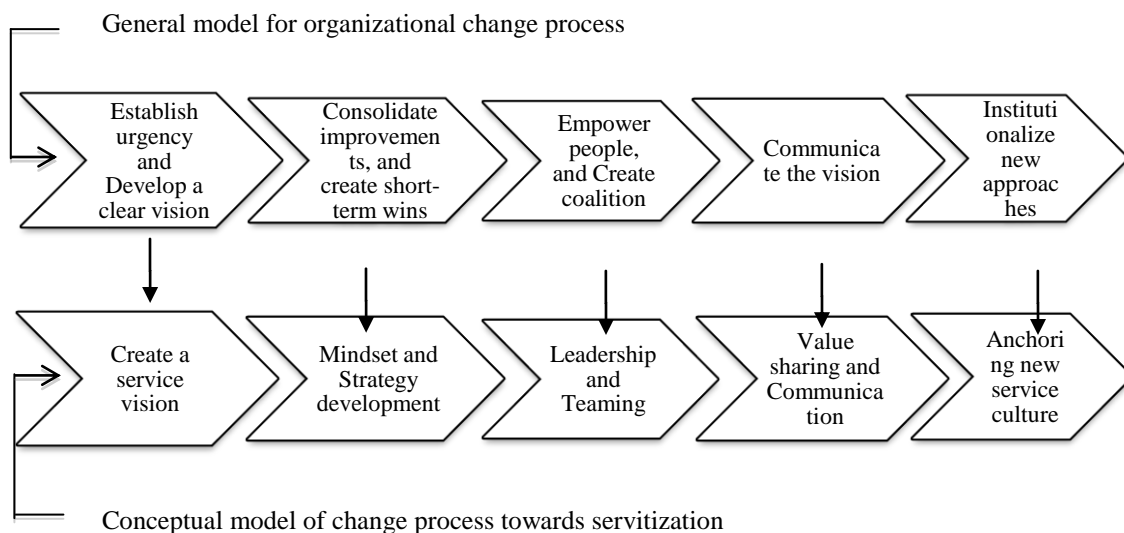
Stage	Actions Needed	Pitfalls
Establish a sense of urgency	- Examining market and competitive realities Identifying and discussing crises, or major opportunities	- Underestimating the difficulty of driving people from their comfort zones - Becoming paralyzed by risks
Form a powerful guiding coalition	- Assembling a group with enough power to lead the change effort - Encouraging the group to work together as a team	- No prior experience in teamwork at the top - Relegating team leadership to an HR

Develop a clear vision	- Creating a vision to help direct the change effort - Developing strategies for achieving that vision	- Presenting a vision that is too complicated or vague to communicate
Communicate the vision	- Using every vehicle possible to communicate that seriously undermine the vision - Teaching new behaviors by the example of guiding coalition	- Under communicating - Behaving in ways antithetical to the vision the vision
Empower others to act on the vision	- Getting ride of obstacles to change - Encouraging risk taking and nontraditional ideas, activities, and actions	- Failing to remove powerful individuals who resist the change effort
Plan for and create short-term wins	- Planning for visible performance improvements - Recognizing	- Leaving short-term success up to chance - Failing to score success

	and rewarding employees involved in the improvements	early enough
Consolidate improvements and produce more change	- Using increased credibility from early wins to change systems, structures, and policies undermining the vision - Reinvigorating the process with new projects, and change agents	- Declaring victory too soon – with the first performance improvement
Institutionalize new approaches	- Articulating the connections between the new behaviors and	- Not creating new social norms and shared values consistent with changes

	corporate success - Developing the means to ensure leadership development and succession	- Promoting people into leadership positions who don't personify the new approaches
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After analyzing the Kotter's general change process in along with the priorities of change factors suggested by servitization literature and our observation on IBM Corporation as an example of empirical case study, we developed a conceptual model of successful change process, which is more specifically influence on firm implementation of servitization strategy. In terms of emergency and a chronological viewpoint, we identified the following five key factors that are very important for those organization who are attempting to shift their business from manufacturing to service provision, such as, create a service vision, mindset and strategy development, leadership and teaming, shared values and communication improve, and anchor the new service culture (Figure. 3)



**Figure 3.** A conceptual model of change process toward servitization of business

At first, we focused on creating a clear service vision, which is very important in the beginning period of transition. When companies are thinking or deciding to shift their business from manufacturing to service provision, they should immediately share their clear vision with all employees to foster understanding. At the same time, employees need to know what the service vision and goal for customer service is and understand their responsibility to achieve that vision.

Mind-set and strategy development is its second crucial factor, which is one of three big challenges; time scale, and business model and customer offering described by Andy Neely [31] that affects the employee's approach in dealing with service provision. Oliva and Kallenberg [32]) also emphasized that servitization incorporates a mindset change from being "transaction- to relationship-based" selling approach. Before going to servitize, organization should set-up the mind of the people for new changes. If the mindset does not change toward the company's new direction then the behavior will not change, and if the behavior does not change then servitization made to the organization will not succeed.

The third transitioning factor is to create a strong leadership and teaming that combine with three key characteristics, respectively, living values, voice, and presence. After mindset-up into the company's new changes of product-service operations, the leader must involve the team early, communicate constantly what is going on, plan properly, and do not let up, then the team will likely treat as an opportunities and head the organization for successful changes towards servitization.

The next factor of this change process is to share values that the company stands for, such as central beliefs, norms, and attitude and development the communication in each level of the organization. It is also observed in the case study of IBM change processes, which emphasizes an effective internal communication is very important tool for sustaining the changes in servitization process that helps the organization to achieve its long run objective.

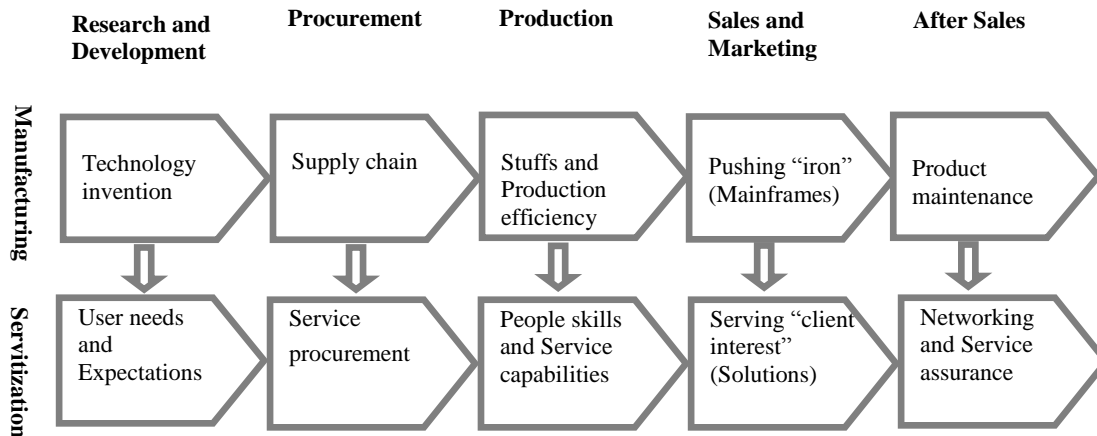
Anchoring a new service culture is the last factor that we clarified for an effective change process towards servitization. This is very important but challenging, as the culture in manufacturing firm is totally different compared to service-oriented firm, and people's natural inclination is to hold on to whatever feels familiar, even if confronted with better alternatives. But, in spite of apparent complexity and difficulty involved, changing the way people think is the most powerful means to ultimately change behavior, which in terms of servitization is deemed to be vital importance. Hence, it is important to show people how the new approaches, behaviors, and attitudes have helped improve performance. According to Kotter [20], the better way is to go in and articulate what must be changed, implement the changes, and then alter the culture around that.

## 6. Validation

In order to validate our conceptual model, we collect questionnaire data from IBM professionals who are performing in various distinguished positions within the organization, which is related to the investigation. The main objective of collecting data from the questionnaire is to get real insights from IBMers about the process transition and finding the key factors of successful change process towards servitization of business.

### 6.1. IBM process transition (Manufacturing to Servitization)

The notion of organizational process has been observed a significant shift since IBM transformed itself from manufacturing to service oriented new operations. In this part, we present the result of case study based on interview data and show the relevance of our conceptual model in shifting from manufacturing to servitization. The process transition of IBM is portrayed here in Figure 4 under the viewpoint of research and development, procurement, production, sales and marketing, and after sales services based on in-in depth interview of IBMers.



**Figure 4.** IBM process transition towards servitization

The model shows a significant change in IBM process between two different approaches of IBM business operations as a manufacturing and servitization that we briefly discussed in the following based on our findings from the interview with IBMers.

i. **Research and Development:** After taking the high profile servitization strategy in 1990s, the IBM's research and development section was shifting its focus from technology invention to application of technology and on-demand businesses, which main concern is to response the customer needs and expectations timely. Today they are investing approximately \$6 billions for R&D annually, most of which are developing for software and services.

ii. **Procurement:** In order to extend the IBM supply chain into value chain, they created their own globally integrated supply chain that provides a strategic advantage for the company to create value for clients and ensure greater efficiencies and lower costs. IBM spends around \$35 billions per year through its supply chain, procuring materials and services globally.

iii. **Production:** Considering the high quality and efficient services into the account, IBM has shifted resources toward building its capabilities and employee skills aiming to create superior services for its clients. They spent significantly more in staff and processes and the breadth and depth of the company's capabilities. More important, the company was brimming with talented people who had unique expertise. In the old IBM, it is observed that the all of IBM capabilities were of a business model that had fallen wildly out of step with marketplace realities. Commenting on whether IBM, a

hardware company could make a successful transition toward servitization, IBM CEO, Gerstner said, "Services are entirely different. In services, you do not make a product and sell it. You sell a capability and knowledge and this kind of capability you can not acquire".

iv. **Sales and Marketing:** In the case of sales and marketing, we believed that a successful company must have a customer or marketplace orientation and a strong marketing organization, but before shifting the IBM business into services in 1990s, there had never been any true marketing in the company. In IBM at that time the term "marketing" really meant sales. In June 1993, the company hired Abby Kohnstamm as the head of corporate marketing for IBM, and developed and implemented a key customer strategy that convinced customers and served their interest focusing on delivering value not just pushing "Iron" (Mainframes).

v. **After sales:** When IBM approached to servitization in 1990s, they offer a full range of after sales services to its customers including technical support, knowledge management and self-help solutions, training, consultancy, and so on, and transformed its resources toward building a strong client relationship. For example, when a customer bought something from the company, then trained their people on that product and got familiar with how to support it and maintain a continuous contact with the customers during product lifetime.

## 6.2. Key factors of IBM successful change process

This part discusses about the survey results based upon the questionnaire data. We separated the answers into five different key factors, such as; vision creation, mindset and strategy development, leadership and teaming, value sharing and communication, and anchoring a new service culture, which gave us more insights about IBM change process toward servitization of business.

At first we analyzed the vision factor. The results showed that the beginning of transformation toward servitization, IBM required on creating a service vision, and the first frame of that vision is to make the company profitable by continuing to be, in fact, the only full service provider in the industry. Luis V. Gerstner, the CEO of IBM quoted that “whatever hard or painful things you have to do, do them quickly and make sure everyone knows what you are doing and why”.

The second factor of this change process is mindset and strategy development. Since IBM transformed itself into a full range of service activities, they articulated their strategy in which services is a considerable component. They continuously develop this strategy turnaround the customer needs “on-demand business” that offering an open architecture, integrated process, and self-managing systems – selling computing services, not computers.

Leadership and teaming is the third factor that observed in IBM CEO Luis V. Gerstner. He articulates a clear and compelling vision of the importance of servitization strategy and the role it can play within the organization. However, the most important thing of his leadership is to collaborate the all business units and its executives and motivate them into company’s new changes and operations. In order to make sure efficient and effective workflows on new service vision, Gerstner turned his attention increasingly to the overall IBM team, top management team, and board of directors. He campaigned to rebuild the leadership team, give the workforce a renewed sense of purpose, and demanded the managers’ work together to re-establish IBM’s mission as a customer-focused provider of computing solutions.

The fourth factor is value sharing and communication development. In line with IBM’s basic beliefs: excellence in everything we do, superior customer service, and respect for the individual, Gerstner has given importance on

value sharing for efficient changes. Besides of group meeting, he also met with individuals and received their opinion and ideas for effective change process. At the same time IBM remade its board and senior management systems that opened up a clear and continuous communications with IBM employees. Gerstner mentioned that if employees do not know what is happening in the organization, if they do not believe a crisis exists, then, they will not make the sacrifices that are necessary to change.

The final factor is anchoring a new service culture. After reviewing IBM’s culture as a manufacturing firm, Gerstner proposed new principles for establishing a service oriented culture, such as, marketplace is the driving force, commitment to quality, customer satisfaction and shareholder value, focus on productivity, always in strategic vision, act with a sense of urgency, work together as a team, sensitive to the needs of all employees and communities. He also required some behavioral changes, namely, to move from product out - to customer in, from do it my way - to do it the customers’ way (provide real service), from value me - to value us, from attack the people - to attack the process, from rule-driven - to principle-driven, from fixed rewards – to variable rewards, from manage to morale –to manage to success, and so on.

## 7. Discussion

Servitization is now widely recognized as the innovation of an organization’s capabilities and processes, to better create value through a shift from selling product to selling product-service systems (PSS).

Servitization is not an easy strategic choice and that a manufacturer first needs to carefully design its service. To succeed with servitization a manufacturer is likely to need some new and alternative organizational principles structures and processes. This paper’s purpose is to propose a conceptual model of firm process transition, which is very challenging but important. This paper also identified the key factors of successful change process towards servitization. The most influential factor of strategic change process is mindset and strategy development turnaround the customer needs and expectations. Servitization or product to service transition is a change in mindset from the understanding of value as that created in the production and exchange of goods to one in which value is attained from the use of an offering aimed at achieving customer goals. This change of

mindset is based on service dominant (SD) logic as an appropriate philosophical for the development of service science.

The real value for example of the case of IBM Corporation, it was observed that the company is successfully transformed its business model from manufacturing to service orientation.

## 8. Summary and Conclusions

Servitization is an organizational strategic approach to its customer offerings that encapsulated both products and services by adding new values, which forces the firm transition from product-orientated to service-orientated new model, resource base to knowledge base operations, and continuous innovation towards fulfill the users needs. To be competitive, sustainable, and differentiate itself, it is one of the key strategic choices that the manufacturers embrace today for long run business perspective and increasing profitability.

Although servitization is a very important strategy for manufacturers in a developed economy, particularly in such a “customer-oriented” business world, but in some instances, this is a big dilemma for organization as in one hand, it offers to the firm lucrative benefits and alluring opportunities both in strategic and economic view point, on the other hand, it is high risks associated including structural changes, cultural shift and corporate challenges that sometimes discourage the firm from expanding the service dimension or even head the company to bankruptcy reasoning for inability to transform the firm into new processes and building its capabilities towards servitization.

In this paper, we developed a conceptual model of firm process transition from traditional manufacturing to service oriented new processes under the viewpoint research and development, procurement, production, sales and marketing, and after sales services. Based on related literatures and case studies, we observed that service driven institutions emphasizes some crucial cultural attributes which is very important such as innovation, value proposition, flexibility, customization and relationship maintenance while manufacturing firm’s main focus on product standardization, market acquisition, economies of scale and efficiencies. In order to transform the firm process successfully, we identified the most influential factors of strategic change processes; service vision creation, mindset and strategy development, leadership

and teaming, value sharing and communication, and anchoring the new service culture, which are undoubtedly very important for developing and implementing an institution’s servitization strategy.

We validate the concept of process transition by using an empirical case study of IBM Corporation. We found that the firm process in servitization is much more on customer oriented, strategy developed around customer needs and expectations, and aims to serve client’s interest including non-hardware depend services like, operations, solutions, training, and so on. Based on interview results, we also found that the firm successfully transformed its business model from manufacturing to service oriented total offering through its strategic leadership and knowledge base processes. They emphasized to create a vision, in fact, the only full service provider in the industry. In line with this, IBM also focuses on speed, strategy development and its execution, teamwork, and building a service culture that makes them as a successful servitized firm in the ICT industry. So, for those manufacturers that do see the provision of services as key to their future and planned to shift their business towards servitization, they should follow the concept of process transition as well as strategic change process that we found from this research output. To be both effective and efficient, manufacturers need to be able to understand the customer’s needs and expectations, and how their customers will value their services. Similarly, they will need to be capable for integrating businesses, cross-functional collaboration, configuring their products, technologies, operations, and supply chain to support this value offering.

The findings presented in this paper give more useful information about servitization and the related issues that can be a cornerstone for future research in this respective field. It is important to make further research on identifying the influence of organizational factors on implementing servitization strategy, which will be our next research topic.

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