# SERVITIZATION: A SOUTH AFRICAN PERSPECTIVE

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According to Desmet, Van Dierdonck and Van Looy (2003:40) a survey of German and Belgium executives revealed that "over 90 per cent of all manufacturing companies believe the development of services is crucial for maintaining and improving their competitive position". Seen in the context of a predominately global services economy many manufacturing institutions view services as a means for increasing their revenue stream and gaining a competitive advantage in the marketplace. As a consequence servitization within the manufacturing industry is gaining in momentum. A brief review of the existing servitization literature, however, reveals that few research studies have been undertaken to determine the management implications involved. A literature study was therefore undertaken to gain a theoretical insight into the management processes involved. With the insights gained from the literature research serving as background and as a source of reference, a research study of the servitization process, at a small to medium sized South African manufacturing enterprise, was undertaken. Some of the more pertinent findings emanating from this research study are presented in this paper. It is stressed that this study is restricted in context, scope and content in that it serves as a precursor to a far more in depth study to be undertaken during 2010.

*Key phrases: Servitization, transition from a manufacturing to a services dominant business model, services economy, services science, organisational culture, change management.*

## BACKGROUND

> "Modern corporations are increasingly offering fuller market packages or "bundles" of customer-focussed combinations of goods, services, support, self-service, and knowledge. But services are beginning to dominate. This movement is termed the "servitization of business" (Vandermerwe & Rada 1988:314).

The introductory quotation by Vandermerwe and Juan Rada (1988:314) stems from a paper published in the European Management Journal in 1988; the title of the paper being: "*Servitization of business: Adding value by adding services*". Little did they know at the time that they had in fact coined a term and concept that would gain significant relevance in an era where services have come to dominate the global economy. Schmenner (2009:431), while making reference to the paper by Vandermerwe and Rada, contends that the concept has antecedents that stretch back over 150 years. In very simplistic terms servitization may be defined as a process of moving from a fundamentally manufacturing enterprise to one that provides clients with an integrated bundle of products and services that collectively meet the needs of clients. This collective offering is also termed to be a "value proposition" as it provides client with a greater sense of value in the realisation of a specific need or problem that they need to address. For many years the manufacturing of products played the dominating role in most countries economy. Agriculture and manufacturing, within this era, were the central focus of both researchers and management practitioners alike. Increasingly corporations started to

add value to their products by means of the addition of services offered to clients in relation to the products, typical services being that of training in the use of the product and maintenance of the product itself. The value offering thus made available to clients by these essentially manufacturing institutions therefore constitute a "bundle" of products and associated services.

The ensuing statement of Desmet *et al* (2003:40) originates from a survey conducted among executives from manufacturing institutions in Germany and Belgium: *"over 90 per cent of all manufacturing companies believe the development of services is crucial for maintaining and improving their competitive position*"**.** It would appear to portray a global trend, as services have become the dominant sector within the global economy and manufacturing institutions need to gain a competitive advantage within a very competitive marketplace (Akosile 2008; Fitzsimmonds & Fitzsimmonds 2008:3; Spohrer, Maglio, Bailet & Gruhl 2007; Quinn, Doorley & Paquette 1990:58). Consequently, manufactures are seeking alterative means to increase the opportunity for competitive differentiation and according to Magnusson and Stratton (2000:1) many have found they could do so by means of innovative bundles of products and services offered to clients. The difficulty they are confronted with in adopting such a strategy, however, is one of how to best manage the transition. Gebauer and Freiedli (2005:70-71) contend that "*most companies find it extremely difficult to manage the transition successfully*". Magnusson and Stratton (2000:2) in a similar vein claim that the "*complicated issue is how to proceed with the transition*". It would thus appear to constitute a challenge for many a traditional manufacturing institution and it would seem that information within the management literature, as to how to proceed, is largely fragmented and relatively limited in both scope and content.

In order to gain an insight into the servitization process interviews were therefore conducted with executives from a small to medium sized South African manufacturing institution that had adopted a servitization strategy to learn from their insights and experiences in its implementation. In effect therefore the research study underpinning this paper is analytically-descriptive in nature and in essence qualitative and not statistical in nature. It compliments a literature research that was undertaken to gain greater clarity as what a servitization process all entails. The insights gained from the interviews conducted need to be considered with due regard to the very limited extent of the research, the information having been derived from a single South African institution within a very specific industry, namely that of gate access security. Many of the key findings, however, seem to correlate with the findings of a more comprehensive servitization research study undertaken by Magnusson and Stratton (2000:1). It is suggested that this to a degree provides the findings with a sense of validity. This notwithstanding it is stressed that a more extensive multi-

institutional study is required before any more generalisation of the findings can be made.

## THE RATIONALE FOR SERVITIZATION

There are a number of very pertinent reasons for the move from being fundamentally a manufacturing entity to one that produces both products and services. In the first instance clients are increasingly tending to purchase products for which installation, training, repair and maintenance services are offered, either by the manufacturer or associated services providers. It in a sense offers them peace of mind, in that they can get assistance should it be needed. Secondly, in a very competitive marketplace with so many institutions offering products that are very similar in function, it is possible to differentiate the value offer made to clients on the basis of innovative services (Brax 2005:144; Magnusson & Stratton 2000:23). The underlying rationale of the differentiation is one of gaining a competitive advantage (Desmet *et al* 2003:44). Thirdly, the manufacturing industry has reached a significant level of maturity and the ability to achieve greater efficiency and economies of production has significantly decreased (Magnusson & Stratton 2000:1; Neu & Brown 2008:233). This has placed a limitation on their ability to increase profit margins as a result of increasing economies achieved in manufacture. The addition of services therefore enables institutions to extend and increase their revenue generating capability and consequently overall profit margins (Gebauer & Friedli 2005:70; Oliva & Kallenberg 2003:160). Lastly, as previously alluded to the very nature of the global economy and marketplace has changed and there are increasingly new opportunities for institutions to extent their services offered, the accent being not to restrict the services to product related services only, but broaden their horizon (Neu & Brown 2008:233; Quinn *et al* 1990:58).

The realities associated with a changing marketplace is well demonstrated by the fact that Vodacom, MTN and Cell C, are all able to provide clients with a very similar and excellent range of cellular phone products, they are however also able to innovatively differentiate their services offering provided to clients in order to gain a competitive advantage in a very competitive marketplace. The range of products and services offered and clients' experience of the service encounter and the costs associated with these product, services bundles could therefore collectively determine whether a specific institution is able to capture a significant share of the market or not. The example used of the cellular phone service provider industry is not unique in this regard and the principles involved are equally applicable within may other industries.

Within the motor vehicle industry there has been a similar tendency to provide clients with a maintenance contract for a fixed period of time with a kilometre distance

restriction, but the principle is essentially the same, namely one of not only selling clients a vehicle, but a bundle of services as well (Desmet *et al* 2003:41). As stressed by Desmet *et al* (2003:41) clients are no longer merely purchasing a car they want a guarantee that it works, they want ease of repair, and they want a 24 hour information desk. The total cost of ownership over the period concerned, that is to say the costs of the vehicle, warrantee and maintenance services therefore assumes relevance. In some industries the services component could be quite substantial and provides the manufacturers with an additional source of revenue. Seen over the life cycle of the product, from manufacture to eventual phasing out of the product the services component can exceed the original purchase price of the product itself (Desmet *et al* 2003:43). This accentuates the financial aspect that is increasing driving the servitization process. As we will still see in the ensuing discussion servitization entails far more than merely adding layers of services around products offered.

Servitization at its very core entails a completely different way of thinking about the products and services offered by the institution, as constituting a business solution or value offering that meet the needs of clients (Desmet *et al* 2003:41). It also necessitates a change in the way the institution functions and does business. The very infrastructure of the institution needs to be adapted to support the services that are offered. A very significant change in this regard is the move from a product transaction orientation to the incorporation of a services relationship way of conducting the institution's business operations. It is a change that has a very pertinent organisational culture implication, as it entails a change in the way things are done and therefore in the values, beliefs, norms traditions and business philosophy of the enterprise. It also goes without saying that this certainly will necessitate that managers and staff need to acquire a completely new set of additional skills, that to a large extent are rather significantly different from that traditional required in a manufacturing setting (IFM &IBM 2008:4). Perhaps even more pertinent is the fact that the traditional business model itself needs to change as it reflects the business logic underpinning the institution's strategy and operational activities. The underlying theme is clearly one of complex systemic change, that in an early stage may tend to be evolutionary in nature, but as time goes by and the services related aspects become more disruptive to the existing manufacturing operations a more intentional and purposeful management of the servitization process will become far more imperative. In this chapter the objective will be to gain greater clarity and insight as to some of the more pertinent aspects associated with the management of the servitization process.

## SERVITIZATION: A BUSINESS MODEL PERSPECTIVE

> "Businesses find it difficult to transform from a product to a service business model (the servitization process). Part of the transitional challenge is being able to articulate what a service business looks like and what its constituent elements are. It is seen as a significant challenge to create a language that can be used to define and describe service businesses, their component elements and how they fit together" (IFM & IBM 2008:25).

The IFM & IBM, (2008:25) introductory statement captures a fundamental dilemma associated with servitization, namely the need to redefine the institution's business model, which defines the underlying logic of its operations. Magretta (2003:87-88) captures some of the essential questions that need to be answered in the development of a servitization business model by asserting that: *"A good business model answers Peter Drucker's age-old questions: Who is the customer? And what does the customer value? It also answers the fundamental questions every manager must ask: How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to the customer at an appropriate cost?"* The model itself serves as a visual presentation of the organisation's business logic and reflects the unique circumstances of the organisation itself. It in essence describes what a company offers its customers, how it reaches them and relates to them, through which resources, activities and partners it achieves this and finally, how it earns money (Osterwalder 2004:334). It is contended by Osterwalder (2004:338) that a business model can be described by looking at a set of nine building blocks:

1 Customer segments: Our groups of customers with distinct characteristics.

2 Value proposition: The bundles of products and services that satisfy *customer segments*' needs

3 Distribution channels: The channels through which the institution communicates with its customers and through which it offers a value proposition.

4 Customer relationships: The types of relationships the institution entertains with each *customer segment.*

5 Revenue streams: The streams through which it earns revenues from its customers by means of value creating and customer facing activities.

6 Key resources: The key resources on which the business model is built.

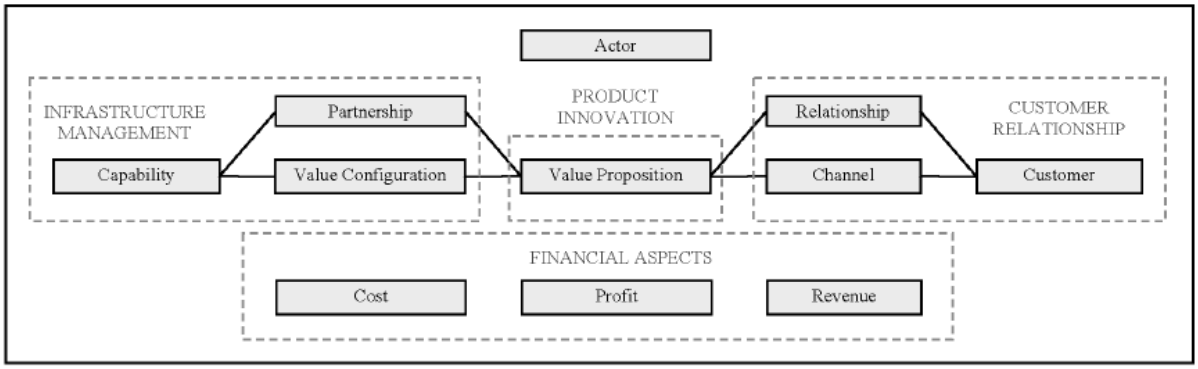
7 Key activities: The most important activities performed to implement the business model.

8 Partner network: The partners and suppliers the institution works with.

9 Cost structure: The costs incurred to implement the business model.

These building blocks are structured into a four component business model framework which provides a visual representation of the "business story" or way the company operates in the marketplace to gain a competitive advantage. The framework is derived from extensive research conducted into business models by Osterwalder (2004:338), as part of a PhD dissertation, and is presented in figure 1 below. Servitization instinctively implies a shift from a manufacturing product based business model to one that incorporates services as a dominant component of an institutions' value proposition. It therefore necessitates a change in the way business is conducted and consequently a change in the culture of the institution itself.

**Figure 1: A business model framework**




Source: Osterwalder 2004:338

Magretta (2002:88) claims that creating the new business model it is a lot like writing a new story that describes how the institution will function. The strength of adopting a business model approach in planning and managing the servitization process is that it focuses attention on how all the elements of the system fit into a working whole (Magretta 2002:90). It is important to stress that the business model does not remain static, but is constantly evolving as the institution adapts to changing business conditions in the global economy and marketplace. A static model implies a sense of death as no change or development takes place, implying the eventual demise of the institution as its interaction with clients, stakeholders and communities become dysfunctional.

The framework in effect visually describes the "value proposition" the institution offers to clients with the objective of generating profitable and sustainable value streams for the institution itself, while taking the infrastructure required therefore into consideration as well as the relationship networks that need to be established. From a servitization perspective the value proposition constitutes the bundle of products and services that the institution can offer to clients. It is contended by Cusumano (2003) that "a common assumption underlying the preference for a products-oriented

business model is that a company cannot easily offer both standardized products and customized services and be equally good at such different kinds of businesses". While products and services are fundamentally different, the strategic choice for managers is not quite so clear cut and Cusumano (2003) claims that the difference and interrelationship between products and services is the first thing that managers and entrepreneurs need to grasp if they want to understand how to build a viable business for the long term in any industry. Services compliment the product offering and the accent therefore is on the collective value proposition and institutions that are unable to adapt to changing markets trends will be outmanoeuvred in an increasingly competitive marketplace.

Clearly, it is no longer a viable option for manufacturing institutions to ignore competitor strategies, which present clients with an integrated product services value proposition. One of the most fundamental implications of adopting a servitization based business model is therefore the need to integrate the manufacturing and services related processes involved into a holistic business model. It is a model that has as its focus the need to customise the bundle of products and services, so as to meet the specific needs of clients. Gebauer, Fleisch and Friedli (2005:18), it would seem concur in this regard, in asserting that "the systemic identification of customer needs, constitutes an indispensable prerequisite". This by implication implies the need for understanding "who" the clients and potential clients are, as well as an understanding of their generic profile, as this will definitely have an influence on the marketing strategy.

It has been suggested that an important motivation for manufacturing institutions to implement a strategy of servitization has been the economic benefits to be derived there from (Gebauer & Friedli 2005:70; Oliva & Kallenberg 2003:160). The three key financial considerations depicted in the model are cost, revenue and profit (Osterwalder 2004:338). In order to determine the financial benefits that are in fact derived in practice Neely (2009:17,36) conducted an analysis of 10634 firms, of which 3196 (30.05%) had implemented a servitization strategy and found that while servitized enterprises had higher revenues, they generated lower profit margins than pure manufacturers. The cost difference between the two was described as being greater for servitized enterprises as a result of higher staff costs, and the need for addition infrastructure resources. While servitized firms generate higher revenues, they tend to generate lower net profits as a percentage of revenues than pure manufacturing firms. It therefore appears that they are unable to generate sufficient additional revenue to cover the additional investment in service provision (Neely 2009:36). Literature and anecdotal evidence, according to Neely (2009:36), attributes this to challenges associated with the need to engender a shift in mindsets,

timescales and business models, customer offerings, which is summarized in greater detail in figure 2.

**Figure 2: Explaining the Servitization Paradox: The Challenges of Servitization**

| | |
|---|---|
| Shifting mindsets | Of marketing – from transactional to relational marketing |
| | Of sales – from selling multi-million dollar products to selling service contracts and capability |
| | Of customers – from wanting to own the product to be happy with the service |
| Timescale | Managing and delivering multi-year partnerships |
| | Managing and controlling long-term risk and exposure |
| | Modelling and understanding the cost and profitability implications of long-term partnerships |
| Business model and customer offering | Understanding what value means to customers and consumers, not producers and suppliers |
| | Developing the capability to design and deliver services rather than products |
| | Developing a service culture |
| | Embedding all of the above into a service organisation |

Source: Neely 2009:35.

Further research is evidently required to determine if the profit situation could be improved by the implementation of appropriate interventions to manage each of these respective challenges. One of the first mentioned challenges, namely the transition from a manufacturing transactional to a services relationships orientation is particularly pertinent as relationship management is inherent to effective services management. De Wulf (2003:58) for instance pertinently contends that relationship marketing in services and profitability are distinctly intertwined. Fisk, Grove & John (2008:221) similarly notes that clients spend more and cost less to serve as relationships develop. Relationships, with the accent on the customer, also feature quite pertinently as a component of the business model in figure 1.

The point of departure for embarking on a servitization process would therefore be one of defining business model to be adopted. It will entail giving thought to all of the components encapsulated within the model and some of the challenges as briefly alluded to in this section. In the ensuing section a process review is undertaken.

## SERVITIZATION: A PROCESS PERSPECTIVE

Vandermerwe and Rada (1988:315-316) are of the opinion that "servitization of business in probably evolved in three overlapping stages", these being goods to services; goods + services; and goods + services + support + knowledge +self service. Suggested thus is an evolutionary as opposed to a revolutionary full scale transformation approach. The first stage implies that the institution's operational

activities are either centred on *goods or services*, the second stage is one of focusing on *both goods and services simultaneously*, while the third stage is one of providing a bundle consisting *of customer-focused combinations of goods, services, support, self service, and knowledge.* Clearly, the third stage includes additional aspects that could feature under the concept service per se, but that are separately lists as components of the bundle. They go on to suggest that "in looking at the evolution of "servitization" it is obvious that manufacturers have come in from the product end, whereas service companies have come from the service end" (Vandermerwe & Rada 1988:316). That may well be so but they do not really in their paper go very far beyond the strategic implications, the evolutionary process they refer to and the process differences involved, depending on where they are transforming from (i.e. manufacturing or services), in managing the process is not dealt with in any great detail by the researchers.

Baines *et al* (2007:1543) introduce the concept of a "product-service system" (PSS) as an "*integrated combination of products and services*" and in so doing suggest that the emphasis is on the "*sale of use*" rather than the "*sale of product*". From their research relating to popular definitions attributed to a product service system, as defined within the literature, Baines et al (2007:1545) conclude that it constitutes a "*product(s) and service(s) combination in a system to deliver required user functionality in a way that reduces the impact on the environmen*t". A significantly important statement also made by the researchers relates to the need for a shift from "product thinking" to "systems thinking" (Baines *et al* 2007:1545). Servitization in reality necessitates a change in the mental models or paradigms that managers have as to what constitutes an integrated manufacturing, product and services management system. The accent is therefore on clients purchasing the use of an asset rather than the purchase of a product, with all the risks and responsibilities traditionally associated with ownership being transferred to the supplier who retains ownership of the asset. This without doubt constitutes a major stride forward from the traditional product + services perspective. It certainly without doubt constitutes a very significant change in the manufacturing business model of the institution. Cited by Baines et al (2007:1543) is the total-care package offered to airlines by Rolls-Royce, whereby they purchase the use of a gas turbine engine rather than the turbine itself. Rolls-Royse therefore remains responsible for all maintenance and associated inspections of the turbine itself, over its full life cycle. This in particular entails a total cost "of use" as opposed to "ownership" emphasis. The bundle of services that accompany the product and the pricing of the product and services as a package holds major implications in terms of the marketing, design, implementation and management of the PSS.

As may be determined from the business model framework, the supporting infrastructure associated with what may be termed to be a "value proposition" offered to clients needs to be factored into such a very specific product and services package or bundle. The management and process considerations associated with such a "value" offering is complicated by having to integrate tangible product elements with intangible services elements, in order to met the very specific needs of clients. What is in effect offered is a complete "business solution". A business solution connotation implies the need for a very specific and innovative business model that will be quite different from a traditional view of merely adding a services layer to a product or vice versa.

Oliva and Kallenberg (2003:160) in conducting a research study of the management implications of the transition from products to services found that the literature is almost "*unanimous in suggesting to product manufacturers to integrate services into their core product offerings*". The rationale presented therefore, by Oliva and Kallenberg (2003:160), being the:

- economic befits to be derived;
- contention that services are able to generate substantial additional revenue;
- belief that services in general have higher margins than products;
- notion of services providing a more stable source of revenue; and
- conviction that within a competitive context services become more difficult to imitate and therefore in a sense provides the institution with a competitive advantage.

Neely's (2009:35) previously cited research finding in relation to the financial advantages tend to contradict some of the advantages identified by Oliva and Kellenberg (2003:160). Despite these apparent advantages the researchers found that with few exceptions manufactures transition to services tends to be slow and cautious (Oliva & Kallenberg 2003:161). Reasons for this cited by the researchers are the difficulty in making a mindset change, the difficult experienced in extending their range of competencies, the difficulty associated with deploying a successful services strategy, and the transition from a manufacturer to a service provider constituting major managerial challenges (Oliva & Kallenberg 2003:161).

Some of the pertinent observations made by Oliva and Kallenberg (2003:161) is that from a process perspective not only are new capabilities required but the very business model itself needs to change from a the transactional to a relationship based setting, and that is difficult to achieve. It may be concluded from this discussion that managing the transition entails both a mindset change, as well as

systemic changes that are multi-faceted in nature. Inherently this of necessity will entail that in managing the transition the skills base required will also extend in scope and nature.

Oliva and Kallenberg (2003:161) stress that one of the initial steps in managing the transition is the need to consolidate the services related activities within a single operational unit. According to Magnusson and Stratton (2000:25) most manufacturers offer a variety of services to clients without truly identifying what they are and often the services and products are bundled so tightly together that it is difficult to determine where one begins and the other ends. It is therefore not surprising that often the transition process to a services dominant orientation takes a evolutionary form, in that as clients need for additional services in relation to the product is accommodated the services component of the institution's activities gradually increase, until a point is reached where they are no longer being effectively managed or they start to disrupt the normal manufacturing activities of the institution itself. It is generally at this stage where the realisation takes place that the institution's business model is changing and that this implies a need for a re-evaluation of the institution's business model and the way it functions so as to address the new services related challenges that are now confronting the institution. Central to these challenges is the relationships related issues that gain in relevance and that are not as pertinent in the manufacturing operations setting. It is therefore no surprise to see that Baines *et al* (2007:1549) claim that there needs to be a shift to a value co-creation process whereby customers and end-users play a pertinent role in the design process and its implementation. They stress that "*a successful PSS needs to be designed at the systemic level from a client perspective and requires early involvement with the customer and changes in the organizational structures of the provider*" (Baines *et al* 2007:1549). Clearly, this is best achieved by means of a services orientated business unit.

The need to consolidate services and manufacturing operations within separate business units that will be able to interact, yet have very focused functional business related objectives is clearly articulated in the process model for developing services capabilities developed by Oliva and Kallenberg (2003:165). The model suggests that the initial step is one of consolidating services into a separate functional unit, the objective being to more effectively respond to services demands in the marketplace. The subsequent step entails the need for establishing an appropriate services infrastructure, and the step thereafter is described as one of expanding the relationship based services or process-centred services (Oliva & Kallenberg 2003:165). In each of the transition stages it is suggested by Oliva and Kallenberg (2003:165) that the institution needs to develop new capabilities; these would essentially not only be infrastructural in nature, but would also relate to extending

staff skills in scope. In this regard it aught to be noted that the skills required are multi-disciplinary in nature. Notably, Oliva and Kallenberg (2003:1656) identify two major challenges in managing this transition to services, the first being the required cultural change for a product/manufacturing institution to become services orientated and the second being a change in seeing services as being mere “add-ons” to becoming revenue generating streams in their own right.

Bowen, Siehl and Schneider (1989:75) accentuate the need for a framework that clarifies the concept customer service in a manufacturing context. Their model has the objective of defining the strategic options in adopting a services focused orientation and the organisational arrangements and resource allocation to support such a services related strategy (Bowen *et al* 1989:80). Many of the organisational considerations listed by Bowden *et al* (1989:80) have already been referred to in the preceding discussion, such as the need to address the climate and culture of the institution, the skills related issues involved and client participation in service design and implementation. Not specifically mentioned, however, is the fact that there are significant differences in the marketing of products and services and this consequently constitutes a very significant issue that needs to be taken into consideration in the management of a transition to a services dominant operational setting. As the services component of the institution’s activities increase so the relationship element also assumes far greater relevance and clients may well associate poor or superior services with the product itself, thereby directly influencing sales of the product itself. The relationships that are established with clients in services rendering therefore could well impact significantly on the perception clients have of the institution’s products. Clients tend to prefer to deal with the same staff members they have formed a sound and harmonious relationship with and it is factors such as this that complicates the functional design of the infrastructure in moving from a product transactional to a services relationship orientation. It is issues such as this that highlights the difficulties and far-reaching effects of moving from a manufacturing to a services dominant orientation.

It is not suggested that the preceding discussion presents a complete picture of the servitization process, it does however highlight some of the important aspects involved such as the need to revisit the business model of the enterprise, the need to establish separate manufacturing a services business units, and the need for a change in the culture, mindsets and thinking that have become will established in the manufacturing enterprise. In the ensuing section a correlation will be drawn between the theoretical insights gained from the literature and the servitization experience of a small to medium sized South African enterprinsigise.

## SERVITIZATION: A SOUTH AFRICAN SME PERSPECTIVE

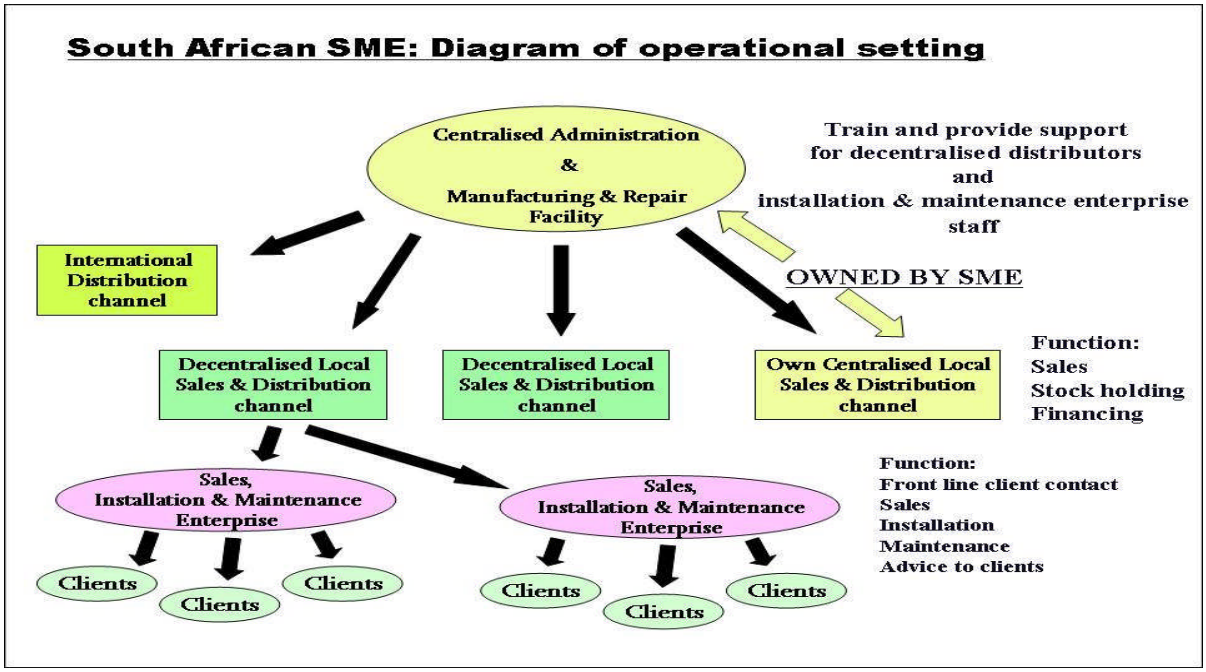
In order to draw a correlation between theory and practice a South African SME enterprise that had undergone a servitization process was identified and the owners were approached for an interview. The owners agreed to be interviewed, but for the purposes of this paper the name of the institution and its owners are kept confidential as the information to a degree is of a confidential nature. A far more extensive research initiative is to be conducted in the near future and once completed, with all the information having being verified by the owners concerned, the name of the institution concerned will be divulged.

The organisation selected to gain an insight into servitization from a South African perspective had its origins in very humble beginnings. The two owners of the enterprise are both engineers, the one an electronic and the other a mechanical engineer. They are related by family, the one being the brother in law of the other. They were requested by their father to manufacture and install a remotely operated security gate at his home. The success they had in accomplishing the task can be gauged from the number of subsequent requests they received for the manufacture and installation of a similar security access gate, first from other family members and latter from a far wider group of people. This resulted in a small manufacturing infrastructure being set up in a garage at one of their homes. As the number of requests increased quite dramatically the number of units that needed to be manufactured and installed reached the point where they could no longer deal with the demand on their own and the manufacturing facilities soon reached a point where it could not keep up with the demand for the product. Their ability to also install the units further placed a constraint on the operations involved. The result was that they in 1986 had to acquire a larger premises and infrastructure for the manufacture of the various components of the gate access system. So successful was this endeavour that they since then have had to move to larger premises every five years.

From the very start their accent was on manufacturing, what one of the owners termed to be, the “perfect product”. Asked to define what he meant by the perfect product he indicated it was one that meet client needs at an appropriate cost, was reliable, relatively easy to install, operate and maintain. One of the key aspects of their success appears to be the quality associated with the product. The design of the product, as it improved over time, took the ease of installation and subsequent of maintenance into consideration as well. The accent on ensuring the quality of the product has resulted in extensive testing of components that are procured and as they are manufactured, as well as the final product once assembled. The enterprise for all intent and purpose assumed a primary manufacturing orientation, but the need to get the product distributed, sold, installed and maintained implied a need for a

business model that would address not only the manufacture of the products per se. The model selected was one of using regional distributors and a large number of small independent installer and maintenance enterprises, who would deal with the sale, distribution, installation, maintenance and repair issues. The distribution and installation flow diagram is presented in figure 3. The diagram is based on a narrative description of the process by the owners concerned.

**Figure 3: Operational Diagram**




Source: Own research.

The enterprise itself, while its core business is essentially one of manufacture, has acknowledged that it needs to provide a significant number of services to its product range. These services in the first instance relate to training of distributor sales staff, as well as staff of smaller installation, maintenance and repair enterprises. As previously alluded to, the installation enterprises are small operations, with a very limited number of people who sell a security access solution to clients and install, maintain and repair the systems concerned. They are thus in direct contact with the client. They in turn purchase the products from regional distributors. The Manufacturing institution therefore essentially only sells to the regional distributors. These regional distributors do not only keep one manufacturer's products, but products from a number of manufacturers who to all effect and purposes are in competition with each other. Recently, the institution has also branched out into the international marketplace by selling it products to a range of international distributors, which in turn acts as agents for its products in the countries concerned.

The manufacturer is often confronted with having to provide clients with product information. In addition they are often requested to provide end users with information relating to possible enterprises that could be contacted for the installation, maintenance and repair of the products. When difficulties in repairing of systems are encountered by installers they also generally contact the manufacturer. The typical services that the manufacturer therefore needs to provide are far more than the training aspect referred to. The institution needs to be able to do deal with fault finding and actual repairs to units that are brought to the factory, as well as providing both installers and end user clients with information and advice. The owners indicated that this required a separation in functional terms of manufacturing and support services. A separate services unit was therefore established to deal with marketing and services support. This would seem to support the finding emanating from the literature research that one of the first servitization actions required was a separation of the two functions. Even fault finding and repairs to units are completely separated from the manufacturing division to avoid disrupting the manufacturing process. In some cases this necessitated a duplication of testing equipment.

From a very early point one of the key difficulties encountered was one of keeping track and contact with clients who had purchased and had the units manufactured by the manufacturer installed on their premises. The manufacturer had little control over the activities of the installers and poor services rendered by them would have a very definite impact on the products. Competition was the name of the game, right from a regional distributor level down to the actual installers of the units concerned. The manufacturer largely needed to differentiate its offering from that of competitors and in so doing it focused on quality and functionality of the product itself; ease of installation; training of all the people down the value chain involved in the marketing, selling, installation, maintenance and repair of the products concerned. It services role was therefore essentially one of supporting all the entities involved. Product research and development in line with the vision of manufacturing the perfect products has been an ongoing quest, one that takes the forever evolving and changing needs of clients, as well as the environment into consideration. From this description of the institution's operational activities and its business model itself, it would be seen that maintaining sound relationships with all the roll players involved would be essential. This is an aspect that was largely confirmed by the owners of the institution. All the staff who came into direct or indirect contact with the various roll players involved needed to be aware of the importance that sound relationships played in the total process. The culture of the institution thus surfaced as a very definite determinant influencing the relationship management processes.

The institution's management team, while being very engineering orientated, has needed to gain sensitivity for dealing with the additional so called human relations or

people sensitivities involved. The accent therefore is not one of merely designing and manufacturing the perfect product, but also one of providing the best support service possible to all involved in the downstream value chain activities that culminate with the eventual clients who purchase the gate access security system. Effective communication forms an important means of relationship management, yet the manufacturing institution's management has very little direct influence or control over all the intervening entities between itself and the client at the end of the value chain. Poor services or relationships established down this value chain could seriously impact on product image and future sales. It is acknowledged by the organisation that *"the successful operation of any automation depends to a great deal on the installation"* and thus the accent on making sure that installers have a good knowledge of all the products and know how to install them. Various innovative solutions were therefore sought to solicit feedback from the client with regard to the product itself, its functionality and the support services provided by all the intermediaries involved. One such means was the need to register the product warranty with the manufacturer after installation. It not only provided the institution with client contact details, it served as a means of determining client perceptions relating to service support and the relationships that were formed in the process. The point made by the owners during the interview was that the numerous intervening variables involved in the establishment of sound relationships with clients made this an extremely difficult process to monitor, influence or manage. This difficulty is an aspect that did not emerge so pertinently during the literature study.

As part of the servitization process, that has evolved over time, the manufacturer has had to put in place an appropriate physical support facility and infrastructure. The facility incorporates a marketing unit where the products of the organisation may be viewed and are demonstrated. It also incorporates a training facility for both distributor staff as well as the staff from the numerous small installation enterprises involved. Then there is the fault diagnostic and repair facility that caters for and assists both installation/maintenance/repair staff and clients in cases where they could either not diagnose or determine the actual problem with the product or were unable to make the required repairs themselves. In order to facilitate fault detection electronic diagnostic components have been built into the products, so as to facilitate on site repair of faults that may develop over the space of time, particularly in relation to the electronic components of the gate security access system. These notwithstanding a significant number of product units are returned to the manufacturing plant itself. As one of the executives noted, having the new products marketing and demonstration facility in close proximity to the repair facility may not be ideal because of the impact that it would have on clients seeing units returned for repairs, but on the other hand it does provide them with a sense of understanding

that in the event of problems being encountered they can obtain assistance. It also means that staff can be used interactively and consequently more effectively to deal with the two departments concerned. The executive concerned stressed that the key issue was one of providing a high standard of service during the service encounter.

As may be determined from the discussion the buddle of products and services that the organisation provides is clearly defined in terms of its business model, as are the channels through which product marketing and distribution takes place. In this regard it is important to note that the organisation makes extensive use of an Internet web-based communication system. Central to the marketing of the product for instance is a web-site that has been designed to not only market the product, but also answer questions frequently received by clients.

## CONCLUDING SUMMARY

An important conclusion that may be drawn from the discussion is that merely adding layers of services to products, so as to increase an institution's revenue generating capability or improve its competitive position in the marketplace, is hardly an appropriate solution. Services are so different in nature from products and the processes involved are so multi-faceted and multi-disciplinary in nature that the establishment of a separate services unit is without doubt deemed to be essential as part of the servitization process. Underpinning this reality is the nation of a need for a very fundamental change in management's mental models of how things are done within the institution, as it moves from a manufacturing enterprise to one providing products and services. In effect it entails a culture transformation that is not achieved overnight.

While theory, as reflected in the literature study, largely correlates with the insights gained from practice it would appear that there are aspects which could be context specific that are not adequately addressed within the literature. Further research will, however, be required to substantiate this. This research paper is in essence based on a preliminary investigation undertaken at the University of Pretoria's Graduate School of Technology Management and may be deemed to be a prelude to a far more extensive research study to be undertaken in 2010. The more extensive research study could well provide new and additional insights that were not uncovered during this study, which was essentially very restricted in context, scope and content.

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