A SECOND CHANCE AT LIFE?
ANALYZING CUSTOMER VALUE IN THE MEDICAL INDUSTRY

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BIOGRAPHICAL NOTES

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ABSTRACT

Purpose
This case reviews how a specialist medical organization in Europe has been able to build sustained positive market value by simultaneously focusing on a market orientation as well as a resource orientation.

Design/methodology/approach
The case study draws on market orientation, the resource-based view and customer value theories and uses interviews, internal company documentation and secondary research.

Findings
The case provides an analysis of how an organization has adopted elements of market and customer strategies to survive in an intensely competitive knowledge-driven industry. Findings show that effective differentiation for medical equipment is required to increase client adoption levels and the likelihood of purchase (by medical specialists and patients). From the case, it is apparent that the success of specialist medical devices depends on attention to customer value, as well as product and service quality. These are each driven by facets of resource and market orientations.

Originality/value
This study provides support for emerging research which demonstrates that a dual focus on the resource composition of an organization, as well as the focus on the provision of customer value are able to drive innovation and financial performance. It shows that organizations cannot limit their focus on one strategic orientation to be successful.

Keywords: medical innovations, market orientation, resource-based view, resource orientation, innovation performance, financial performance.
INTRODUCTION

Marketing medical innovations is a challenge that is often not adequately addressed with traditional product marketing tools. In fact, the customers are often patients with no choice of product as exists in the traditional marketing exchange. They do not choose the equipment; rather it is the medical professional who does so. The specialist in this case, is not motivated by an economic exchange, but rather the use of equipment that will best prolong the life of a patient. Despite this, medical specialists and practitioners are increasing made aware of equipment costs and hospital bottom lines, so they also need to be made aware of how best to obtain value from innovations, while simultaneously obtaining the best possible outcomes for patients. Hence, traditional marketing methods are often not useful for medical professionals to understand how to best increase the financial value of medical innovations and technology, or indeed how to take into account patient value.

We have seen that marketing has slowly evolved to address these imbalances. In fact, as spurred by the service dominant logic debate initiated by Vargo and Lusch (2004), marketing is recognising that intangible resources encompassing skills and knowledge as well as market orientation all play a role in the delivery of optimal service levels and corporate performance. We do not however have enough evidence to illustrate that this is reflected within organizations. This article reviews a case study that examines the innovation performance of a medical innovation for an organization in Europe. This case reviews how a specialist medical organization in Europe has been able to build positive market value by simultaneously focusing on a market orientation as well as a resource orientation. Thus, it provides a unique contribution to the literature in providing some qualitative evidence of the S-D logic in use.
The choice of life is a rare one when analysing the case of heart transplant patients who are in the final stages of a cardiovascular disease. Severe heart failure often takes place for patients who are unable to receive a heart transplant. HeartWare\(^\text{1}\) is a specialist innovation that provides transplant patients with the opportunity for an extended life. This unique product requires expert adoption (medical specialists) as well as consumer confidence (the heart patients and families). Hence, relationship building and a dual focus on the customer and organisational value are central to the success of the business. Based on current market value and competitor analysis, despite its small size, the manufacturer of this product is a formidable competitor in the market.

Hence, this paper reviews the role of a market orientation and a resource orientation in attaining innovation success. It uses ideas central to service dominant logic to do so. The first part of this paper reviews the role of service dominant logic, as well as a market and resource orientation. This lays the foundation for the research propositions that are presented. This is followed by a review of the exploratory methodology applied in this paper as well as the case examined in this paper. The key lessons from the case are presented, together with the conclusions drawn from the study.

**SERVICE DOMINANT LOGIC**

Service-dominant logic has moved marketing’s thinking away from the dominant product focus towards one centred on service provision. This service provision is dependent in on consumer participation in the creation of value through service experiences gained through the sharing of intangible resources (such as skills and knowledge) with suppliers. Accordingly, Vargo and Lusch (2004) called for researchers to recognise the role of “intangibility, exchange processes

\(^{1}\) The actual name of the innovation is concealed to preserve anonymity.
and relationships” (p. 2) which is central to this paradigm. Supported by noted academics, including Day, Gummerson and Hunt, in separate invited commentaries (2004), they go further to state that market orientation and resource-based view theories play a central role in understanding these dynamics. Moreover, they claim that information technology enables many of these concepts to become operationalised within the firm.

Vargo and Lusch (2004) synthesise their view of the S-D logic by stating that “increasingly, marketing has shifted much of its dominant logic away from the exchange of tangible goods and towards the exchange of intangibles; specialised skills and knowledge, and processes which … points marketing towards a more comprehensive and inclusive dominant logic, one that integrates goods with services and provides a richer foundation for the development of marketing thought and practice” (p. 2).

Central also to the understanding of this logic is the role of operant and operand resources. It appears that operant resources are analogous to intangible resource bundles from the resource-based view, which is largely dynamic in nature, while operand resources appear to be analogous to static resources, requiring deployment to become valuable for the firm as well as the customer. Operant resources thus are enablers, while operand resources are enabled. Hence, an understanding and application of the resource-based view is pertinent as this allows a firm to scrutinize their resource base.

This presents an interesting typology not unlike one presented by Paladino (2009), recognising the dual role of resource and market orientations in allowing an organisation to excel in innovation performance. “The service-centred view of marketing implies that marketing is a
continuous series of social and economic processes that is largely focuses on operant resources with which the firm is constantly striving to make better value propositions than its competitors” (Vargo and Lusch, 2004: 5). Hence, using this rationale, it appears that it is the existence of unique resource bundles that are the core to enabling a company to provide superior value to a customer through the development of their innovations. Theory demonstrates that this is plausible. Paladino (2008; 2009) provided preliminary empirical evidence to illustrate that a focus on the development, accumulation and deployment of a firm’s unique resource base will enable a corporation to provide customers with a valuable product and develop into ‘Financial Champions’. Firms must establish and develop resources that are needed to understand customer requirements and deliver promised value. This is consistent with the tenets of MO. This ability, together with appropriate resource bundles, will enable a firm to attain additional capital to increase its size or number of activities (Slater, 1997). This constant investment in resources encourages innovation within the firm and allows it to achieve satisfied employees and provide customers with quality products.

While this has been largely established for large organizations (with over 1000 employees), we do not have information or evidence to determine whether these precepts are relevant for smaller firms (that is, with fewer than 1000 employees). Thus, this article seeks to investigate whether elements of the service-dominant logic, visible through resource and market orientations, are evident in small organisations. A small firm operating in the medical sector was selected for the basis of this study. This industry is susceptible to constant changes, it is dependent on innovations, and firms within it need to provide value to end users to survive (ie. patients) as well as manage supplier relationships which are critical to the success of the innovation, especially as
these smaller organizations compete with formidable players. We now review the role and
importance of resource and market orientation in light of service dominant logic.

RESOURCE ORIENTATION

The resource based view (RBV) aims to clarify how a firm’s resources drive its performance in a
dynamic competitive environment (Collis and Montgomery 1995). It combines internal corporate
analysis with external environmental analysis, allowing managers to understand and analyse why
some companies are superior to others. Unlike market orientation, the RBV is primarily internally
oriented, in that its focus lies with the development and deployment of unique firm resources. It
is concerned with accumulating a unique resource base that is immobile and heterogeneous
(Barney 1991). Hence, firms devote efforts to generating a resource base that will be difficult and
costly, if not impossible, to imitate. It then uses this resource base to exploit any opportunities or
neutralise any threats that arise in the external environment.

Clearly established as a viable strategy, resource-based theory of strategy, or a resource
orientation (eg, Grant 1991; Paladino, 2007; Newbert, 2008), enables a company to identify and
develop its valuable resources. Applying a resource orientation allows organizations to identify
and manage operand and operant resources that are central to service-dominant logic. Resource
orientation also contributes to strategy by assisting companies to identify any pertinent business
interrelationships (Hitt, Ireland and Hoskisson 1995, Barney and Zajac 1994). Resource
orientation, which describes the degree to which a firm practices a RBV, is comprised of the
three dimensions of synergy, uniqueness and dynamism.
Especially pertinent to the medical sector which has just started to recognize and understand the role and importance of marketing, “a service-centred view identifies operant resources, especially higher-order core competences as the key to competitive advantage” (Vargo and Lusch, 2004: 12). For the medical sector dealing with heart transplant innovations, this includes not only the physical resources required to make the innovative equipment, but also the core competences of employees required to devise the innovations, the relationships with suppliers to supply unique components and the interactions with customer using the innovations to continually refine them. In fact, as advised by Vargo and Lusch (2004), “if firms focus on their core competences, they must establish resource networks and outsource necessary knowledge and skills to the network” (p. 13). These notions are central to the service-dominant logic. Thus, this strategic orientation is assessed at the same level of MO, an alternate strategic orientation. Thus we propose:

P1: A high resource orientation allows small firms to identify operant and operand resources
P2: Operand resources are necessary to provide a firm with the basis to compete, while operant resources are critical to the development of valuable innovations.

MARKET ORIENTATION

Market orientation (MO) is defined as “the organizational culture that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and thus, continuous superior performance for the business” (Narver and Slater 1990: 21). It is a MO that will guide the daily behaviors of individuals performing their jobs (Lichtenthal and Wilson 1992). MO permeates the organization, impacting all business activities and managers’ strategic thinking. MO encompasses a set of beliefs and behaviours that shape the organisation and its goals. Many researchers are increasingly referring to MO as a strategy, recognizing the impact
that its pursuit has on a firm’s long-term decision making strategies (eg. Greenley 1995; Ruekert 1992).

Applying MO allows a firm to engage with customers in their resource accumulation to ensure that they are involved in the creation of a valuable product. While this may appear that a company is being market led (Slater and Narver, 1998), it is in fact being proactive, not reactive. As recognized by Leonard-Barton (1995), market information perhaps represents the most critical information type to a technology-based organisation. In fact, these firms take the opportunity to observe their customers using their innovations in the customer’s environment to uncover information required to uncover latent consumer needs. These consumers are typically those with advanced needs compared to other members of the market. As such, these users tend to be early adopters and testers of these products and thereby contributing to the advancement of the market (Slater and Narver, 1998).

This is especially relevant in the medical sector where innovations are ultimately tested on patients to determine their viability. This is consistent with Slater and Narver (1998) who advocate that “to push out the boundaries of current product concepts it is necessary to put the most advanced technology possible directly into the hands of the world’s most sophisticated and demanding users. This type of exploration often leads to the discovery of new solutions to unexpressed needs” (p. 103). It is through collaborating and learning with patients that processes and innovations are refined (Vargo and Lusch, 2004) to maximise their benefit to patients and also, in this case further prolong lives. As noted by Slater and Narver (1998), this information is not typically available from traditional means of customer research. This leads to the formation of generative learning (Senge, 1990) which is critical to innovation development and ultimate
success, when supported by upper management. These initiatives result in co-creation of value that is central to the service-dominant logic. Thus we propose:

P3: A high market orientation allows small firms to engage in co-production with customers
P4: A high market orientation allows small firms to identify and achieve value for customers.

The literature demonstrates how MO focuses on the customer, competitors and functions of the firm as three distinct influences on a firm’s performance (Narver & Slater 1990), yet does not explicitly address the issue of firm resources. RO, on the other hand, views a firm’s resources and the competitive environment as the primary influences on its performance (Collis & Montgomery 1995). Unlike a MO, this approach is not specifically concerned with the customer. Rather the customer is taken for granted. Hence, these two orientations appear to be complementary, enabling a firm to acquire critical resources that will help a firm to build value for the firm and the customer, to ultimately lead to financial success (Paladino, 2009). Hence, they are indeed central to the precepts of a service dominant logic and its implementation within the organization. We now turn to how we examined these issues for our case study.

METHODOLOGY

Since this research stream is only recent, we were unable to collect longitudinal data to analyze the propositions put forward. Rather, in-depth interviews were selected as the appropriate methodology in this instance to allow us to gain in depth data from the respondents (Malhotra et al., 1996). Thus, a case study approach was adopted in the first instance. One organization was selected that operated in the medical sector in Europe. This organization specifically developed
innovations in heart transplant technologies. There are only three major competitors in this sector and due to the nature of competition; it was not feasible to obtain the participation of all three players, which are geographically located in diverse continents. Thus, the small firm selected employed less than 100 employees. It was selected to examine the research questions as it engaged in continuous product innovations in a highly specialist area, it was not the pioneer in the industry or the largest player. This is important as we explore why, despite these obstacles, the firm can still be defined as a successful player in the industry.

To determine the difference between successful innovations that have been sustainable over time and those which have not, an exploratory approach was adopted to identify the factors that drove the innovations and supporting processes of the firms. Senior managers and front line employees were interviewed to gauge the information required to assess our propositions. Specifically, information was obtained from the chief executive officer, the marketing director, and senior engineers working within product development teams. This allowed us to attain a well rounded perspective of the innovation processes taking place within the organization. These details were complemented by internal company documentation and secondary research.

Participants were interviewed regarding their assessment of the effectiveness of innovation processes, the role of employees and customers (this included medical specialists and patients) at different stages of the innovation process, as well as the role of customers and employees at the service delivery process. This allowed us to identify themes that were pertinent in the assessment of market orientation, resource orientation, and innovation performance for the organization. The questions were influenced by established scales developed by Kohli and Jaworski (1990), Paladino (2007), and Conant et al., (2001). Compared to traditional survey research, the
interviews provided the additional benefit of being able to clarify questions, elaborate on responses and generally gain greater depth in the insights attained from employees facing diverse challenges in product development. Hence, richer data was attainable as a result of the participant contributions.

FINDINGS

From the interviews, it was clear that a number of themes emerged that were largely consistent with the precepts of service dominant logic presented in this paper. This provides us with a preliminary indication of the role of market and resource orientations in enabling even small firms to identify value drivers to assist with innovation. It must be noted that success for this organization is determined not only by the traditional methods of adoption, sales, and profit (for example), but also in the interim measures of product quality (ISO) certification, locking in unique supplier relationships and patenting new processes and technologies with the view of increasing capacity of larger scales productions in future. So, all of these issues were taken into account when identifying key themes that emerged in the case.

The Role of Market Orientation and Service-Dominant Logic

An analysis of the organisation demonstrates how it has adopted elements of a market and customer strategies to survive in an intensely competitive knowledge industry with high entry barriers. Based on interviews, internal company documentation and secondary research, findings show that effective differentiation for medical equipment is required to increase client adoption levels and the likelihood of purchase (by medical specialists and ultimately patients).
The new invention that has been developed by the organization in this case provides a unique benefit to a specialist, niche market – the chance at a prolonged life for the heart transplant patient. To provide this benefit, it is essential that the engineers within the organisation are clear of the benefits sought by the patients, as well as the medical and technological difficulties in realising this benefit for them. It was imperative for engineers to share information and engage in continual information flows to address developmental barriers. In fact, there informal relationships between staff and no bureaucracy or multilevel company structures that would otherwise impede the flow of information.

To realise this innovation, it is impossible for engineers to work in isolation. Rather, the interviews clearly identified that there were four key relationships that were pertinent. There were between the: (1) doctor and the patient, to obtain the preliminary patient information that provided the basis of the innovation (information acquisition); (2) the engineers and the doctors (information dissemination), to determine how a technology could be used or created to address the customer problems; (3) the employees of the organisation, to enable for example, engineers to share information to create the technology, accountants to determine the financial viability of the creations and marketers to ‘sell’ the invention to medical specialists and hospitals and (4) the organisation and key suppliers, to lock in valuable and rare components for the invention. This cross functional team approach is a key component of service-dominant logic.

Furthermore, the organisation clearly continually gathered and reviewed information regarding customer perceptions of value to determine changes to the transplant device. This enabled them to continue generative learning and enhance the quality of the product as well as the customer experience. Problems in the weight of the artificial heart, the operational efficiency of the device
and related problems could only have been identified by customers post experience. This provides support for our fourth proposition that a high market orientation allows small firms to identify and achieve value for customers. These customer relationships have enabled the organisation to have a continued stream of information acquisition from them. Moreover, this customer participation enables the company to, in essence, co-produce the invention with the customer. This all has a direct impact on the customer experience. Hence, this provides support for our third proposition whereby a high market orientation allows small firms to engage in co-production with customers.

In fact, it is these problems that led to one of the organisation’s key strengths: its unique relationship with a supplier of a unique component that enhances the longevity of the invention to further prolong the life of patients, the ultimate source of customer value. The unique ball screw technology that is used to construct the device and the patent it carries, acts as unique source of advantage for the supplier. In fact, while only in the prototype phases of production, financial records demonstrated that the organisation was able to reverse its rate of cost increase while competitors still experienced rapidly increasing costs. In fact, after taking into account size effects, even the rate of increases in overall losses was lower for this competitor by comparison. So while these issues are clearly related to information dissemination and interfunctional coordination issues of a market orientation, they are also clearly related to elements of a resource orientation.

*The Role of Resource Orientation and Service-Dominant Logic*

These relationships have led the company and its suppliers to develop core competencies and skills that are unique to the organisation and provide it with an element of value. They are also
protected and not easily imitated by competitors. This provides a degree of uniqueness to the product, a key component of a resource orientation and also a source of customer value (Paladino, 2008). The knowledge flows are also a source of advantage for the firm (Johnston and Paladino, 2007). In fact, they are one of the most dynamic capabilities for an organisation that cannot be readily identified by competitors, nor easily or readily replicated.

The investments in information technology were clearly pertinent for this organisation to provide it with “the ability to learn and to store more information about the customer, which in turn gives the company more ability to customize its services and to develop customer [and stakeholder] relationships” (Rust in Day et al, 2004: 23). While information technology is deemed an operand resource according to Vargo and Lusch (2004), its ability to be used to generate learning and enhance knowledge and skills, signal its utility also as an operant resource. This enhances its overall value to the organisation in as much the same way valuable and unique resource bundles do for a resource orientation. This also provides further support to Rust’s (2004) assertion that information technology has indeed been a key driver that accounts for the marked shift away from physical products and towards service provision to provide customer value. Indeed, it is this technology that increases the ability of organisations to enhance their internal efficiencies in new product development (Cooper, 1994). This also provides support for our first proposition which predicted that a high resource orientation allows small firms to identify operant and operand resources.

While the information flows and supplier relationships remain a key source of value for the organisation, it is the interaction of all of these, together with positive employee relations that enables the company in this case to produce and refine a valuable and indeed necessary product.
These attributes, which are analogous to operant resources, also contribute to the creation of dynamic capabilities that span the entire organisation. Together with the open communication between functions within the organisation, decentralisation and the focus on quality, this organisation is able to maximise its resource use and adapt rapidly to changing circumstances. This should enable it to continue to grow as the company progresses the product from testing to commercialisation. This provides support for our second proposition that stated that operand resources are necessary to provide a firm with the basis to compete, while operant resources are critical to the development of valuable innovations.

**CONCLUSIONS**

This study provides support for emerging research which demonstrates that a dual focus on the resource composition of an organization, as well as on the provision of customer value is able to drive innovation and financial performance. This has also importantly been demonstrated in a small company setting. It shows that organizations cannot limit their focus on one strategic orientation to be successful. Few studies have used in depth interviews together with primary data to gain insights of a resource-based, or market-oriented strategy within a firm. Hence, this study provides a unique perspective to the extant literature.

From the case, it is apparent that the success of specialist medical devices depends on attention to customer value, as well as product and service quality. These are each driven by facets of resource and market orientations. Indeed, the case study organisation has been able to build positive market value by focusing on elements of a market orientation, as well as a resource orientation. This provides support for emerging research which demonstrates that a dual focus on the resource composition of an organisation, as well as to a lesser degree the focus on the
provision of customer value are able to drive innovation and financial performance (eg. Paladino, 2009).

This case study serves as an example of a small organization who has established unique relationships with medical professionals and patients, while also building a strong resource base which is difficult to emulate by its competitors. It further demonstrates that a focus on key resources can allow a company to develop a unique market offering that is difficult to imitate. While as a consequence of being constrained by financial resources precludes the organization in this case from being a market leader in the short term, its ability to be market oriented and resource oriented have clearly enabled it to become an effective innovator. These findings also support Newbert (2008) who claimed that a resource-based strategy is a critical method through which organisations are able to attain superior performance.

Theory predicts that market-oriented companies are more likely to be generative learners which is critical to innovations and is also essential to a technology-based firm. Market-oriented firms observe the product use in context. This helps to discover latent needs and drive generative learning. These firms work closely with lead users which have advanced needs compared to the rest of the market. Such firms engage in constant experimentation to continuously learn and unlearn intelligence (Slater and Narver, 1998). This case study provides further evidence of these notions.

**Future Research**

While the strategic orientations are important considerations for market success, so too are market entry decisions for innovative products. Lilien and Yoon (1990) have demonstrated that
“a delay in market entry to develop a higher quality product … enhances the likelihood of success” (p 579). They also established that the expertise was higher for firms when development time was longer and when market entry was delayed. This could have an influence for small as well as large organisations and future research should examine the effects of this.

Hence, Lilien and Yoon (1990) found support for the delay of market entry to enhance ultimate market success. It is these firms that according to Lieberman and Montgomery (1988) that tend to “seek a less confrontational, differentiated position” (p 55). In fact, as reinforced in a later article, Lieberman and Montgomery (1998) state that it is those organizations with strengths in manufacturing rather than new product development that tend to become later entrants but who may be able to develop valuable resources and capabilities over time not otherwise held by the pioneering firms. These resource advantages may enable them to succeed in the market place. While this is reflected in this case study, the effects of first movers versus late entrants was not examined. It would provide a useful area to examine in future.

Another issue to consider is whether dominant design will become an issue. It appears at least in the medical industry for this heart device that there is not yet a dominant design. So even though the case study site used in this article is not a pioneer, they would still be able to enter the market at the ferment stage (i.e., when there was not yet an established dominant design) and lead to the development of a superior product that becomes the dominant design. This would enable the organisation to significantly grow their market share (Tegarden et al, 1009). Again, this issue should also be examined in future research, perhaps in an alternative industry where a pattern of effects with multiple competitors could be determined.
It is consistent with our expectations that RO would independently impact financial performance but would require some customer focus through MO to significantly impact innovations. Here, management needs to be aware of perceived customer value and use this information to inform their innovation processes. Ultimately, whether large or small, an organization must be able to ‘balance’ a market and resource orientation to achieve a high degree of RO and MO simultaneously. While this case clearly reflects elements of a service-dominant logic, we call for future research to examine this in greater depth and across multiple industries to further our understanding of the evolution of the marketing thought and practice.
SELECT REFERENCES


