

**The significance of branding in the brand choice of end  
users in the medical industry:**

**A case study of the B.Braun brand from an Irish perspective**

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Signed: *Magdalena Dittin*

Date: *1st September 2010*

## **DEDICATION**

To everyone who believes that nothing is impossible.

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# **ABSTRACT**

## **THE PROBLEM**

Branding in the medical device field is a largely neglected topic for academics despite a growing industry. Moreover, though not utilised by marketers in this industry in the 20th Century, a shift towards the use of branding has started to become visible. This neglect was explained by HBS Consulting (2003) by a lack of proof that healthcare workers are influenced by branding activities. Healthcare workers do not want to be perceived as influenced customers in this sensitive industry. In order to examine this issue, a study was conducted to test what 'brand' in general means to Irish healthcare workers. The main focus of this study was on corporate branding and how it influenced product perception (product branding). The study was based on a case study of the company B.Braun Medical Ireland.

## **METHODOLOGY**

The sample size was 101 people, consisting of Consultants, Nurses, Registrars and other healthcare workers who agreed to participate in this quantitative study. The anonymous questionnaire was posted to the 30 biggest public hospitals in Ireland. To analyse the results the chi-squared test was used.

## **CONCLUSION**

The study tried to cover all of Aaker's brand equity dimensions. The study showed that brand awareness in the medical industry is very strong. Respondents agreed that, not only are they familiar with brands, but also are able to correctly indicate products they associate with certain brands. The results showed that medical staff are influenced by branding activities, even though they were reluctant to admit it. To support these points, respondents were asked about the quality of branded products. Over 42% did not see the difference in quality between branded and non-branded products, and over 45% remained neutral in answering this question. However, the same respondents placed a big trust in branded products when it came to serious (life-threatening) cases – almost 60% of respondents answered that they preferred to

use branded products in serious cases, and 60% of respondents agreed that they trusted branded products. This contradiction provides evidence that Irish healthcare workers trust branded products and perceive them as better so as not to jeopardise a patient's health.

Therefore it was concluded that branded products are perceived as better quality products despite the fact that the majority of respondents were unable to identify any difference. This might be because healthcare workers do not want to be perceived as costumers manipulated by company promotional activities.

The supposition that consumers from the medical industry are influenced by branding activities in the same way as consumers from other industries would appear to be true.

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# CHAPTER 1

*"Don't limit growth by thinking of a brand as 'standing for' one thing in the same way that a picture delineates a particular place or person. Think of your brand as a 'tool' that can, and should, have several uses and applications. A brand does not have only one 'meaning'. A brand's meaning is the combination of all its uses and values".*

*(Wittgenstein, on brand in Braun, 2004)*

## 1. INTRODUCTION

Macrae and Uncles (1997) stated that 1988 was the "year of the brand", but since then the concept of branding became a more complex issue. Nowadays a brand does not only incorporate the name or logo of the company, it is a promise, and it is an added value to services or products.

By the end of the 20th Century brand promotion became more of a necessity for companies in every market. In particular, branding in the medical devices industry experienced a noticeable shift at this time. For years, there was an assumption that the medical industry was different in terms of advertising and promotion, and consumers in this market were not influenced in the same way as customers in other markets (HBS Consulting, 2003).

The medical device industry is one of the fastest growing industries in the world, rising from the value of \$130 billion in 1997 to \$225 billion in 2003 (HBS Consulting, 2003). The market drivers for this industry are an ageing population and increased demand for new technologies. These factors were sufficient in themselves to grow the value and size of the medical devices market, however times have changed and this industry noticed a shift in their marketing activities. Now branding of medical devices is a must. The HBS report listed a few factors that influenced this shift.

The first factor is emerging markets, such as Eastern Europe and Asia/Pacific. These markets are not demanding in terms of high-tech technology, but rather are focusing

on good quality basic devices at a reasonable price. At this end of the technology scale there are many competing companies selling similar equipment and this is where branding can play a crucial role, as its main function is to increase the sales in a saturated market.

Another factor is consolidation, which allows the medical devices companies to lower costs and offer providers 'one-stop shops' through broadened product lines, and price concessions through increased volume. In 1995 there were 88 acquisitions and in 2002 there were 104 in the first three quarters of the year. This means that the number of major companies in the market is diminishing whilst their product diversity is increasing, making greater competition.

Despite the rapid development, little mention has been made of branding of medical devices in academic literature. The main focus of academics seems to cover primarily the pharmaceutical industry and hospital branding, but not medical equipment. This study definitely contributes to branding literature adding to this neglected topic and showing how branding medical devices influences Irish healthcare workers.

In Ireland a population of over 4.3 million people represents a small but advanced market for medical devices. In the past 20 years, Ireland experienced an economic upturn which attracted many medical firms from the USA and elsewhere. This made the country one of the world's leading exporters of medical equipment. In contrast, there is very little locally owned manufacturing. A number of small high-tech companies have been established, principally in order to offer regulatory support services and contract manufacturing to multinationals. At the same time Ireland invested in large-scale renovation and redevelopment of the healthcare industry.

This study examined the brand awareness of B.Braun Ireland, one of the branches of a leading medical device manufacturer worldwide, and originally from Germany.

The purpose of this study was to identify if branding medical devices in Ireland is beneficial for the company and if Irish healthcare workers are influenced by brand promotion activities.

The focus of this study was on public sector hospitals. All public hospitals in Ireland are run under the Health Service Executive management; there are 51 public hospitals in Ireland. There are also voluntary public hospitals, most of whose income comes directly from the government. Voluntary public hospitals are incorporated by charter or statute and are run by boards often appointed by the Minister for Health and Children.

This study examined 30 of the biggest public and voluntary hospitals in Ireland, excluding maternity hospitals, orthopaedic and children hospitals. The chosen hospitals make their own decisions regarding purchasing, which allowed this study to give a clear and objective picture of their purchasing decisions.

According to King (cited in De Chernatony, 1992) customers prefer branded products because they have added-value and when customers recognise this added-value they can decide whether it is something they need. They will then be prepared to pay a premium price.

The purpose of this study was to better understand brand perception in the medical industry. A quantitative research method was used. The questionnaire was developed in order to test the five listed hypotheses, designed to help better understand the effects of branding:

**H1: Healthcare workers are affected by branding activities**

**H2: Corporate branding activities influence perceptions of branded products in the medical industry**

**H3: Positive perception of branded products in the medical industry does not lead to loyalty**

**H4: Branded products are perceived as better products than non-branded**

**H5: Healthcare workers differentiate brands in the same product group**

The questionnaire was posted to 150 Irish healthcare workers who make independent decisions regarding product purchasing. In order to analyse the results, the chi-squared test was used, and the opinions were tested in regard to sex, profession and years of experience.

In order to structure my thesis I used Aaker's five dimensions brand equity theory. The first, theoretical part explained Aaker's theory and also corporate branding. The second part focused on the B.Braun company, and the company branding activities were explained according to Aaker's five dimensions. The third part explained the research methodology including the research philosophy and statistics. The Conclusion section summarised the results, also in Aaker's five dimensions.

The primary recipient of this thesis is Dublin Business School. I believe this study on brand awareness in the medical device industry is a unique approach to the thesis topic. The medical industry is different from other markets, as all suppliers first have to comply with the Irish Medicine Board, which dictates the first selection of the players in the market. When this is achieved, suppliers start their marketing activities including promotion and advertising. This kind of industry is sensitive in its nature, as very often human life depends on the equipment manufactured and sold. Irish healthcare workers responsible for purchasing are equipped with sufficient knowledge and understanding of products and their associated brands. Through this study I hope to show that their brand perception is linked to quality. Buyers will therefore consider branded products before non-branded ones as they would not be willing to compromise patient care.

The second recipient is B.Braun Medical Ireland. The company wants to be perceived as the first choice for all healthcare workers and promotes their product features as innovative and safe. From the company point of view, this study is beneficial as it aims to answer the question: How is the B.Braun brand perceived and how does it differ from others brands on the market?

Currently I work for B.Braun Medical as a Marketing Executive, which enables me to obtain information regarding their brand promotion and other marketing activities. The company has not conducted this kind of study in Ireland before, which makes this research fresh and unique. It is my hope that the findings of this study will assist

the B.Braun Management in their assessment of the market and their decisions relating to market expenditures.

## **CHAPTER 2**

### **2. THEORETICAL FRAME**

*In this chapter I attempt to present the theories pertaining to my thesis. The theoretical framework concerns branding concepts and other relevant theory linked with the topic. The theoretical framework is the base for the empirical findings and analysis in the thesis.*

#### **2.1 The origin of brand**

“A brand is a name, term, sign, symbol or design or a combination of any of these, intended to identify the goods and service of one seller or group of sellers and to differentiate them from those of competition” (Keller, 1993).

Branding refers to the customer’s perception and their opinion of the performance of the product. To better understand this concept I quoted JWT’s Stephen King: “a product is what the factory makes; a brand is what the customer buys” (Berenstein, 2003).

The name ‘brand’ originated from the Germanic word ‘brandr’ which referred to the mark made by burning a mark with a hot iron. Its usage was first noted in 1552 (The Oxford English Dictionary). In the initial phase, a brand was used as a mark of identification for animals, but its original inspiration to help customers easily differentiate products, came from craftsmen who used it to mark handcrafted goods in order to recognise their source (Keller, 1993).

Moore and Reid (2008) claimed that brand and branding are as old as known civilisation. Explaining their theories the authors stated that there are two key roles played by brands. The first role is as a conveyor of information (origin and quality); the second role is a conveyor of image or meaning (status/power, value). Brand and branding are multidimensional constructs and have become more complex through

time. In order to distinguish the shift to greater complexity, the authors suggested proto-brands (based on the meaning 'earliest') and brands.

One of the proto-brands the authors listed is the Harappan craftsmen who worked in stone and bronze and created little square seals on pottery, which they sold to merchants. It is assumed that it was the intention of trademarking. The Harappan civilisation from Indus Valley dates back to 2250-2000 BCE. Further, the author suggested that the marking on the seals were used for informational purposes in trade, showing origin of manufacture. Following Keller's (1993) understanding of brand, which considers intangible and abstract qualities in addition to the more concrete, the authors suggested to call it "proto-brand".

Another example of proto-brand came from The Middle Bronze Age (2000-1500 BCE) from China, where Anyang, site of the northern-eastern part of Henan Province, had a kinship ("Zu") structure but were owned and ruled by a king. "Zu" had their own family crest with names like "pottery", "flag", and "cooking pot" and "wine vessels". These crests were able to convey basic information regarding origin (location of the particular "Zu" town) and quality, no doubt regulated on some level by the king (Moore and Reid, 2008).

The Iron Age (825-336 BCE) in Greece brought a development of entrepreneurial culture. Back then branding became used more consciously as a way to distinguish between entrepreneurs and, as such, the use of imagery in branding began to thrive. Some vases carried painted inscriptions that indicated who made them. Mottos were also used extensively on Greek pottery in order to give more elaborate information to the potential buyer. A motto on a cup imported to Italy from Rhodes might be considered as history's first recorded commercial advertisement: "Nestor had a most drink-worthy cup, but whoever drinks of mine will straightaway be smitten with desire of fair-crowned Aphrodite" (Murray, 1993, cited in Moore et al., 2008). Interestingly, using Aphrodite, the goddess of love, beauty and sexual rapture might be seen as sex appeal, commonly used in contemporary branding.

## **2.2 The theoretical background of brand**

Until late in the 20<sup>th</sup> Century, branding was associated with consumer goods and services. Today this term is widely used to describe anything connected with identity and reputation (Barrow and Mosley, 2006).

Moore et al. (2008) concluded that brands for modern civilisation involve both the informational characteristics of the ancient proto-brands, and the more complex image characteristics of modern brands including status/power.

Today, in the 21<sup>st</sup> century, the HBS definition seems to best describe a brand:

“The brand is the company, it is the product, it is the company’s reputation, it is the company’s philosophy, it is the company’s weapon and shield and it is the distinguishing feature of the company and its product”.

Also there was criticism that there is no such thing as a brand, only multi-meaning benefits, or a buzzword that could mean everything yet nothing of substance (Jevons, 2005).

Today, in an era with advanced technology and heavy competition in every field, there are few differences between competing offers. The unique selling proposition (USP) is no longer valid and being replaced by the emotional selling proposition (Aitchison, 1999). This is treated as an opportunity to influence a customer’s emotion to achieve brand differentiation. According to Fan (2005), conventional branding believes the ultimate aim of branding is to gain a favourable position in the minds of consumers and distinction from the competition. A successful brand is believed to bring financial value in terms of higher sales or premium prices. As Thjomoe (2008) claimed that most people cannot evaluate the relationship between price and quality for many products, then we can assume that brand perception is the answer. Fan (2005) summarised the objectives of branding as follows:

To dominate the market (to reduce or eliminate competition); to increase customer loyalty (by increasing the switch cost); and to raise the entry barriers (to fend off potential threats).

Branding is now used in many sorts of context; politicians, pop stars, and sports stars all have a form of brand identity. Having a branded product or service will help to market a product as there is trust in the brand. It would be safe to say that nowadays branding is a necessity; it is an investment for any company.

Branding in the medical industry has a shorter history. In the early 20<sup>th</sup> Century a brand was only associated with the name of the company and the descriptive name for the device. One of the earliest examples of branded medical devices is the Rorstrand Inhaler manufactured in 1874. This device was a ceramic vessel that could be filled with water and herbs and inhaled by people with chest problems. Since then, most of the medical device manufacturers did little to brand their products unlike manufacturers from other markets.

The companies who believe that their products are so technologically advanced, or that their customers are so sophisticated that they will not be influenced by branding, are myopic. A major problem with the medical devices industry, in terms of branding, is that companies believe that they have a branding strategy, when in fact the majority do not, or their branding structure is disorganised and does not bring any benefit to the company. The reason for this failure in branding might be that companies wrongly understand what branding really means. Many are of the opinion that brand is a name associated with a product or the company itself. In fact this is only one of the physical manifestations of brand.

Another reason for the lack of branding was the assumption that customers of medical devices are physicians and they are not affected by branding activities in the same way as other consumers (HBS Consulting, 2003). In the 21<sup>st</sup> Century this assumption began to be challenged.

The companies with more foresight realised that physicians and nurses can influence purchasing decisions and in turn, branding can influence all of these people. The

assumption that physicians differ from other consumers has been shown to be incorrect (HBS Consulting, 2003).

It is logical to expect that physicians will have pre-conceived ideas about a product and this would influence their decision prior to making a purchase. Holt (cited in Basu et al., 2009) argued that branding focuses on shaping perceived value of the product as found in society. In the case of the medical industry, branding also aims to give long-term value, enabling its target audience to associate with its message. Hence some medical device companies began to change their approach towards branding, as they realised that it can bring a number of benefits:

- Decreased administration costs
- Increased customer belief in the company
- Increased sales
- Increased company value

All of these benefits originate from a companies reputation, association, perceived quality and other factors. These intangible factors are the foundation for every company's brand equity.

### **2.3 Brand equity - main different concepts**

Most scholars defined brand equity as an additional value that a brand gives to a product or service. Brand equity is a complex matter and can be considered as intangible. David W. Cravens (2006) defined brand equity:

'A brand is a set of brand assets and liabilities linked to a brand, it is name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers.'

The advantage of brand equity is that it enables managers to consider specifically how their marketing activities improve the value of brand in the minds of their consumers (Liao, 2000). Further, Cravens (2006) claimed that within the marketing

literature, a consumer based brand falls into two groups: consumer perception (brand awareness, brand associations, perceived quality) and consumer behaviour (brand loyalty, willingness to pay a higher price). Both suggested groups are examined later in this study.

Table 1. Main concepts of brand equity

<b>Author</b>	<b>Concept</b>
<b>Mahajan Rao (1991)</b>	Mahajan in Liao (2000) claimed that customer-based brand equity could be measured by the level of the customer's perception.
<b>Farquhar (1990)</b>	Farquhar maintained that brand equity is reflected by the change of consumer attitude while purchasing a product.
<b>Aaker (1991)</b>	Measuring the five dimensions of brand equity.
<b>Keller (1993)</b>	Adopted two approaches (direct and indirect) to measure brand equity, emphasising brand awareness and brand image. The indirect approach to identify potential sources of costumer-based brand equities; direct approach focuses on consumer response.
<b>Farquhar and Ijiri (1991)</b>	Examined the corporation's marketing efforts on its brand directly.
<b>Lassar et al. (1995)</b>	Consumer-based brand equity is the driving force for financial gains to the firm.

## **2.4 Brand recognition from the consumer point of view: Aaker's Brand Equity Model**

Brands are images associated with logos, words and other kinds of symbols. They are projected by our minds when we come into contact with a product or a company. Once these have been 'stored', these inner images shape our attitude – positive or negative – towards a company and its products and services. In purchase situations, this store of experience retained in image form helps consumers to make decisions (Aaker, 1991).

Jevons (2005) stated that brands mean something to consumers. The brand distinguishes a product from its unbranded counterpart and this reflects in consumer perceptions and feelings.

A well-known brand can easily help a customer to make a purchasing decision, as the brand can be perceived as a “convenient summary” of the product, for example the customer’s feeling and knowledge of the product. Romaniuk et al. (2007) suggested two approaches which can be used to achieve brand differentiation. The first is when the consumer perceives that a brand offers something that other brands do not; the second is through brand superiority, where the consumer knows other brands have the same attribute, but perceive one brand to be better than the others.

A brand therefore adds emotional differentiation to the product features and this benefits and can influence purchasing (Griffiths, 2008).

Meenaghan et al. (1995) summarised the brand function for the customer into three levels:

- Convenience (low level) – eases the decision-making. Consumers are facing a range of alternative products and are likely to pay more if they heard about the brand and its added values. The brand awareness helps with the decision. Consumers are more likely to buy the branded products if they know it fulfils their expectations.
- Guarantee (higher level) – branding operates here as an offer of better quality or unspoken guarantee.
- Personal statement (highest level) – brands operate at their highest level when the choosing of particular brand shows that the customer is also making a personal statement.

To better understand the connection between customer and brand, I am going to use Aaker’s Brand Equity Model (1991) which divides the assets of brand equity into five dimensions (see Figure 1). These categories can be considered as the cornerstones and crucial ingredients for enhancing brand equity. It is fundamental for marketers to create a strong link between these five dimensions in order to gain consumer’s trust. This model is the standard template for researchers and spans the entire spectrum of brand equity.

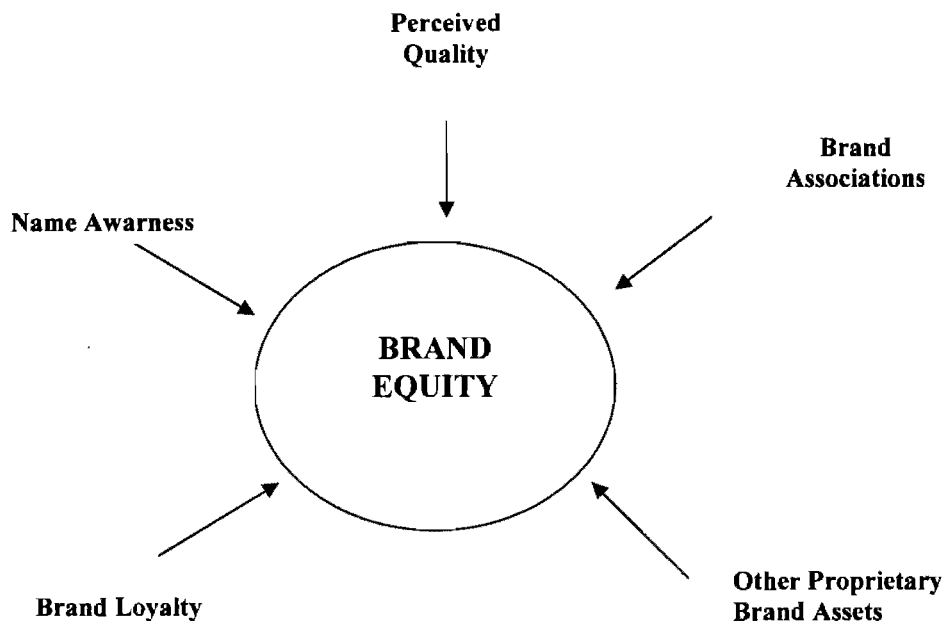


Figure 1. The Brand Equity Model. Source: Adapted from Aaker (1991)

### 2.4.1 Brand awareness

A well-known brand is more valuable than a non-brand, or a lesser-known brand. Pelsmacker et al. (2004) stated that consumers have more faith in a well-known brand. Brand awareness also leads to more customer interest and can enhance the effectiveness of marketing communications.

Aaker (1991) argued that brand awareness is the ability of a potential buyer to classify the brand's membership within a specific product class. The connection between the product and the product class is the key component for the successful brand. The brand with the highest recognition rate in a product class has a huge advantage in terms of the benefits from its promotional activities.

Keller (1993) argued that brand awareness consists of brand recognition and brand recall performance. Brand recognition relates to the consumer's ability to confirm the brand when given only a cue. Brand recall refers to the consumers' ability to retrieve the brand when given the product category. Further, the author stated that brand awareness plays an important role in consumer decision-making for three reasons:

Firstly, it is important that the consumer thinks about the specific brand at the point of purchase. Secondly, brand awareness can affect decisions about brands, even if there are essentially no other brand associations. Cited in Keller (1993), the “likelihood model” of Petty and Cacioppo suggested that consumers make choices on brand awareness considerations when they have low involvement, which could result from either a lack of consumer motivation or a lack of consumer ability. The third reason suggested by Keller is that brand awareness affects consumer decision-making by influencing the brand associations in the brand image. The author further stated that a necessary condition for the creation of the brand image is that a brand has been established in memory.

It would be safe to say that brand awareness is crucial in the Brand Equity Model. Focusing on medical industry branding, it is noticeable that there is no difference between medical and regular consumer brands, as Griffiths (2008) suggested that medical brands need to behave like the most successful consumer brands and that may mean taking a global approach to branding through advertising and identity. Further, the author claimed that advertising should be regarded as the key medium for transferring brand values to the customers.

The first medical advertisement was placed in 1923 (Griffiths, 2008) and since then the industry has witnessed numerous medical advertisements. Undoubtedly the advertising is the best-proven medium to create awareness. Gregory (2003, cited in Pettit, 2005) called it the “single biggest drive”, but this also created discussion on how it really works in the medical industry. Paswan (2000) suggested a few answers: it stimulates brand awareness, reinforces favourable customer attitudes, plays a defensive role and creates an edge over the competition.

When brand awareness is achieved, the next task for the brand marketer is to retain customers. Brand loyalty is the real asset to a Company, not the brand itself (Pelsmacker et al. 2004).

## 2.4.2 Brand loyalty

Companies invest considerably in strategies to ensure that they develop brand loyalty among their customers, thus giving them a competitive advantage in the market share.

De Chernatony et al. (2003) defined brand loyalty as a measure of a consumer's attachment to a specific brand and is a function of several factors such as the perceived quality of the brand, its perceived value, its image and the commitment the consumer feels towards it.

Customer satisfaction is positively linked to customer loyalty: 1) A satisfied customer is likely to stay with the company and continue to buy from the company over a longer time; 2) A satisfied customer is more likely to tell others about their positive experience, which would generate new accounts for the company (Naumann et al., 2009). In agreement, Egan (2008) proposed a simplified model – Return on Relationship:

**Customer satisfaction → Customer retention → Company profitability**

Figure 2. Model of Return on Relationship according to Egan

However many academics have a different opinion, suggesting that customer satisfaction is not necessarily a good predictor of customer behaviour (Szymanski and Henard, 2001). Their research indicated that satisfaction explained less than 25 per cent of repeated purchases.

Hence, we can assume that customer satisfaction is not always a predictor of brand loyalty. A customer who consistently chooses the same brand is the perfect customer and having a numerous customers of this kind creates a dominant position for the company. Customer loyalty is linked to a cost saving strategy, as it is estimated that the cost of attracting new customers can be six times bigger than the cost of retaining existing customers (Pelsmacker et al., 2004).

An interesting view on brand loyalty was suggested by De Charnatony et al. (2003). The authors argued that consumers using two brands in a short period of time should not be considered “disloyal”, suggesting that it would be more realistic to consider it in terms of consumers having a repertoire of brands in a particular product field and switching between these brands. Further, the authors suggested a measure of loyalty based on purchasing behaviour over time, which reflects the degree of satisfaction existing customers have with the brand.

The opposite of brand loyalty is brand parity. It occurs when consumers perceive that most goods or services within a product category are essentially the same (Clow et al., 2009). Consumers believe the various brands have identical benefits and as the authors suggested, that quality in this case is not a major concern because consumers believe that any differences are minor. The result is that criteria such a price, availability or a specific promotional deal have the biggest effect on the purchasing decision. Clow et al. (2009) advised that marketers should generate messages to suggest that clear differences do exist and lead consumers to believe that a given company’s products are not the same as the competitions.

### **2.4.3 Brand quality**

Perceived quality is the consumer’s judgment about the overall product. This is not necessarily based on the actual product features. Aaker (1991) argued that perceived quality is essential in enhancing brand equity in the long term. The biggest advantage of perceived brand quality is that a company can charge a premium price. Aaker (1991) ultimately claimed that perceived quality has a direct influence on the purchasing decision and on brand loyalty.

A brand, which consumers perceive to be of superior quality than other brands, makes it easier for the marketer to charge a price premium. De Chernatony et al. (2003) pointed out two factors that need to be taken into account when the brand quality is considered. First, is that perceived quality rather than actual quality is what counts. Consumers are often unable to evaluate the quality of a brand and use clues to assess its performance. The second factor is that quality is assessed by consumers on a relative basis. They evaluate brands against other brands. The authors suggested that consumers should be interviewed regularly to enable managers to understand

how their brands are perceived. Also marketers need to work continuously to improve brand quality, as markets become more mature and competitors try harder to emulate the leader.

#### **2.4.4 Brand associations**

According to Aaker (1991), brand association is anything in a person's memory linked to a specific brand.

The brand association structures can be conceptualised in different ways: associations can be hard, i.e. tangible/functional attributes such as speed or user-friendliness. Associations can also be soft, such as trustworthiness, fun or excitement. Associations can also be derived from the corporate image of the company's product.

According to Keller (1993), brand associations can be classified into three major categories of increasing scope: attributes, benefits and attitudes.

Attributes are defined as descriptive features that characterise product or service – what a consumer thinks the product or service is, or has (for instance: physical composition, price information, user imagery).

Benefits are the personal value consumers attach to the product or service attributes – that is, what consumers think the product or service can do for them. Furthermore, the author distinguished them into three categories according to the underlying motivations to which they relate: functional benefits (basic motivation like safety), experiential benefits (they satisfy experiential needs such as sensory pleasure and variety) and symbolic benefits (relate to needs for social approval or personal expression).

Romaniuk et al. (2007) suggested another two major functions of associations. The first is to act as a suggestion to recall a brand name from memory. The second is to help in the brand evaluation process leading to selection. Keller (1993) pointed out three desirable characteristics of brand associations: favourability, strength and uniqueness. It depends on the company strategy how they are going to achieve brand differentiation. From the brand equity perspective, consumers expect that a high equity brand will offer something other brands do not (Romaniuk, 2007). That would

suggest that building perceived brand uniqueness is a useful and important strategy for maintaining and improving brand performance.

Aaker (1991) pointed out five values of brand associations:

- Help process/retrieve information
- Differentiate/Position
- Reason-to-Buy
- Create positive attitudes/feelings
- Basis for extensions

Keller (1993) noted that not all associations for a brand are relevant and valued in a purchase or consumption decision. Even if consumers have an association in memory it may only facilitate brand recognition or awareness, or lead to an assumption about the quality, but it may not always factor in a purchase decision. Further, the author claimed that brand associations might be situationally dependent and vary according to the individual's goals.

#### **2.4.4.1 Image and Positioning**

Aaker (1991) defined the brand image as a set of associations that are organised in a consequential order. Each association is like a piece of a puzzle and all associations categorised into one group communicate a meaning that the consumer can identify according to his/her preferences.

Reynolds and Gutman (1984) argued that a well communicated brand image should help establish a brand's position, protect the company from competition and therefore enhance the brand's market performance.

The brand positioning is the foundation for the following brand image. Gardner and Levy (1955) argued that long term brand success originates and depends on the marketers' abilities to select and highlight the association that creates the image into a meaningful appearance and to be consequent and maintain the image over time.

The fact that the B.Braun brand has managed to maintain their position over many decades seems to support their research.

#### **2.4.4.2 Symbols and Logotypes**

The symbol is the key to differentiate between brands. The crucial factor for the successful logo/symbol is the ability to link the companies and the brands core competencies into a symbol that distinguishes the company. As Aaker (1991) stated, the symbol itself is not valuable, it is the consumer perception of symbol/logotype that is important. Further, the author claimed that symbols and logotypes are easier to remember than for instance a piece of paper with all the attributes written down and they are major tools to gain and enhance awareness of the brand.

Further explanations on how image/symbols influence customer behaviour are included in the Corporate Branding section.

#### **2.4.5 Other Proprietary Assets**

These vary depending upon product, market and situation for examples: trademarks and patents, strong distribution relationships, and corporate integrity.

#### **2.4.6 Relationship between brand awareness, perceived quality and brand loyalty**

Yoo et al. (2001) claimed that brand awareness, perceived quality and brand loyalty have a significant positive effect on brand equity. Aaker (1991) stated that consumers who have positive associations towards brands are likely to develop a positive perception of quality and vice versa. Also high consumer brand awareness leads to strong brand associations. Atılğan (2005) concluded in his study that brand loyalty is the most influential dimension of brand equity and suggested that concentrating on brand loyalty should not undervalue the effect of brand awareness and perceived quality to brand loyalty. As Keller (1993) stated, a high level of brand awareness and a positive brand image should increase the probability of brand choice, as well as producing greater consumer loyalty and decrease vulnerability to competitive

marketing actions. Further, the author claimed that a high level of brand awareness and a positive brand image also have specific implications for the pricing. Consumers with a strong, favourable brand attitude should be more willing to pay premium prices for the brand. The influence of brand awareness on consumer choice is explained more in the Consumer Behaviour section.

All factors: name awareness, perceived quality, brand association and brand loyalty are the foundation for stimulating the overall brand equity. Name awareness and perceived quality are strongly connected to brand associations, which can lead to brand loyalty. From my point of view, brand equity can be perceived in two categories: adding value to the company (brand loyalty leads to repetitive purchasing and increased sales) and also adding value to the customer (perceived quality); thus all dimensions are equally important in building strong brand equity.

Aaker also mentioned that there are five other considerations for building strong brand equity: a clear identity, a corporate brand, integrated communications, a good customer relationship, and symbols and slogans, which were explained earlier on. To better understand brand phenomena I narrowed my theoretical research to corporate brands. This study examines the corporate brand and also looks into product brand to test the influence of corporate branding on product purchase.

## **2.5 Corporate branding**

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Following Aaker's considerations I am now going to focus on the corporate brand that this study is based on. As De Charnatony et al. (2005) argued, the brand strategy is based on a corporate identity program which provides a clear vision about the firm's mission. Further, the authors claimed that any corporate identity program is supported by core values, culture, logo and promotional work. To enhance the assets of the company as a brand, it is important to involve the company to act as "ambassadors". Knox (cited in Morsing et al., 2001) claimed that product branding is not enough in contemporary competition. One of the issues facing companies today is adding more customer value, increased service level, faster innovation and decreasing brand loyalty. To manage those challenges, the corporate strategy is the

next step. Keller (2000) named this “a strategic market weapon”. Among academics and practitioners there is a visible shift from the branding of products towards corporate branding (Souiden et al., 2006). Raj et al. (2008) defined corporate branding as a product of millions of experiences a company creates – with employees, vendors, investors and customers – and the emotional feelings these groups develop as a result. A strong corporate brand creates, manages and fulfils high expectations among its many audiences. Corporate branding can be described as the process of creating, nurturing and sustaining a mutually rewarding relationship between company and its stakeholders. Further, the authors explained that corporate branding employs the same methodology and toolbox used in product branding but it takes a step further into the boardroom.

It is important for this study to recognise the difference between corporate brand and product brand. Balmer et al. (2003) acknowledged some main differences:

- Corporate brands are fundamentally different from product brands in terms of scope and management
- Corporate brands have a multi-stakeholder rather than customer orientation
- Different responsibility

One of the key differences between product and corporate brands is management responsibility. Corporate brands tend to be managed by company owners, founders, chief executives; product brands are managed by a brand manager or marketing manager. The second difference is target market. While product brands mainly target customers, corporate brands target all stakeholders including customers. The third difference is that company brand is an important element of company strategy and concerns senior managers. In contrast product brand is a sole concern of middle management. Another difference is the role of the employees. In corporate branding human resources have an important role in transmitting the values of the company between internal and external environments, as was mentioned earlier, De Chernatony et al. (2005) called them “ambassadors” (Balmer et al., 2005).

Raj et al. (2008) listed also communication mix, importance and misconception to better understand the difference between product and corporate branding.

Corporate branding requires integration of internal and external communication and also creating coherence across different channels. Most corporate brands use the umbrella advertising strategy, projecting their corporate identity rather than product features. In terms of importance, the authors further concluded that corporate branding is very important to the company because of the greater reach of corporate brands relative to product brands, and that the strategic importance of corporate branding lies not only in its positioning of the company in its marketplace, but in creating internal arrangements that support the meaning of the corporate brand.

Raj et al. (2008) also mentioned the misconceptions of corporate branding, which is very often, but wrongly, referred to as an exercise where the company logo, the design style and colour scheme are changed.

Further, the authors claimed that corporate branding strategy can add significant value in terms of helping the entire corporation and the management team to implement the long-term vision, create unique position and leverage on its tangible and intangible assets.

### **2.5.1 Resource-based view of the corporate brand**

To better understand the success of corporate brand I use Balmer et al.'s (2003) resource-based view. The authors proposed this view based on the proposition that firms are heterogeneous in terms of their resources and capabilities to achieve advantage over the competitors. These resources have to be rare, durable, inappropriable, imperfectly imitable and imperfectly substitutable.

The valuable resources have to be rare so that competitors cannot easily purchase it in the marketplace.

Durable means that the resource's value does not depreciate quickly, as Grant (1991) observed that corporate brands tend to fade relatively slowly.

Inappropriability means that company can capture the major share of the profits that flow from it. In other words, it means that a firm cannot lose profits from a valuable resource to another entity or person. Collis and Montgomery (1995) argued that some tangible resources are subject to bargaining by a variety of stakeholders such as

customers, suppliers and employees, but corporate brand cannot be bargained, because it is largely intangible.

Imperfect imitability implies that it is highly difficult for a competitor to recreate the resource for two major reasons: First is that brand is patented by the corporations, and the second, and perhaps more important, is that the underlying essence of the corporate brand is intangible and therefore difficult to copy.

Finally, the imperfect substitutability suggests that new technology or paradigm keep the company modern and strong. This resource would require investing on an ongoing basis in enhancing the factors that create value and help to differentiate the brand.

### **2.5.2 Corporate brand architecture and advantages**

There are many advantages of the corporate identity programme, like: sustained point of differentiation (it creates emotional involvement of customers) and better coping with brand life cycle (brand has to be adaptable). Also Anisimowa (2007) argued that corporate branding brings a substantial advantage to the firm in terms of economies of scale and lower total costs of promotion. That organisations are increasingly shifting to differentiate themselves through associations, values and emotions symbolised by the whole corporation, explains the importance of what consumers think of a company (Hatch and Shultz, cited in Anasimowa, 2007).

Olins (1989) proposed three brand structures (strategies):

- The monolithic structure – where the firm's name is used across its entire portfolio and the same message is carried across all the firm's lines.
- The endorsed structure – when products are clustered into particular groups which are recognised as a part of the corporation, yet which offer different benefits.
- The branded structure – when the firm uses a series of brand names showing no relation to each other or to corporation.

However Saunders (1990) criticised this structure for not including some of the complexities of brand, such as the predominance of nested branding (Aaker, 1991).

Kowalczyk et al. (2002) stated that corporate brands can add value to products, and association of the corporate and product brands will be beneficial, and in turn, enhance consumer awareness of both the corporation and its product. This view is also supported by Aaker (1991) who argued that corporate brand influences consumer evaluation of the product brand. Against this argumentation is Kay (2006) who stated that corporate branding frequently has little impact on consumers and may not affect demand for product or service offerings. Further, the author claimed that consumers may have problems with corporate brands and view companies as driven solely by greed. Many customers see cause-related promotions as simply an attempt to raise sales, not to make a social contribution.

To better understand the corporate brand I used Souiden et al.'s (2006) four sub-constructs of corporate brand: name, image, reputation and loyalty.

The first construct, the corporate name recognition, measures how widely the name is known (Kowalczyk et al., 2002). Gregory (2003) stated that corporate name strongly affects the corporate image (cited in Souiden et al., 2006); Aaker (1991) suggested that it could be used to increase communication efficiency.

Likewise, Andreassen et al. (1998) stated that corporate image; the second sub-construct can affect consumer behaviour influencing the perception of quality, consumer's evaluation of satisfaction and customer loyalty. The corporate image is described as the overall impression made in the consumer's minds (Kotler, 1991). The importance of the corporate image is also found in the study of Bhattacharya and Sen (2003) who claimed that a good corporate image helps in making the consumers more attached to the company.

The third sub-construct is the corporate reputation, which refers to the perception of the company's attributes; it is also defined as the degree of trust in a firm's ability to meet customer's expectations (Nguyen et al., 2001). Gray and Balmer (1998) argued

that the corporation's reputation can influence the willingness of consumers to either provide or withhold support from the company and its products.

Regarding the fourth sub-construct, Souiden et al. (2006) stated that there should be a distinction between corporate loyalty and brand loyalty. Corporate loyalty can lead to consumer loyalty for all products of the company; the opposite situation is not always true. Rust et al. (1995) argued that an increase in customer's satisfaction leads to an increase in their loyalty to the firm and that loyalty leads to an increase in their purchases.

Souiden et al. (2006) highlighted the importance of corporate branding in shaping consumer's product evaluation; all fourth sub-constructs have a significant impact on consumers.

Also Newman (2001) supported this view, claiming that that use of corporate brand in the launch of new products increases the success rate by 20 per cent and saves by 26 per cent the cost of a new product launch.

The view of Kay (2006) seems to be logical in this debate; he argued that companies couldn't leverage their corporate brand if corporate activities are not strongly associated with their products and services.

Because B.Braun implemented endorsed brand structure, it is crucial for the company to enhance the corporate strategy, as customers are likely to perceive products through the company image. The corporate branding is one of the dimensions of brand equity and should be part of the branding strategy. The Latin phrase *Vultus est index animi* captures the nature of corporate brands and means: "The expression on one's face is a sign of the soul". The corporate brand is exactly the face of the organisation.

Consumers are motivated by many factors when they choose brand and in the next chapter I tried to explain the consumer decision-making process.

### 2.5.3 Brand and the consumers' buying process

To better understand consumer behaviour it is important to notice the fundamental shift in what customers perceive as value, and this is challenging the way that business activities create customer value. Since the Second World War, customers have relied on a familiar and trusted brand name as the antidote to the perceived risk of the product or service failing to provide its basic functional benefits (De Charanatomy and McDonald, 1998). At a psychological level, a trusted brand minimises the risk that the image created for customers using the products or service falls short of that desired. In the late 1990's, there was a growing gap between brand values and customer value, with the latter stemming increasingly from processes outside the remit of marketing, such as supply chain leadership and customer relationship management (Christopher, 1996). When the value offered to customers does not meet their expectations, a company faces a stark choice, change or fail.

Today's customers are highly sophisticated and confident in their own ability to decide between products and suppliers' offers (Mitchell et al., 2003 in Knox, 2004). In most markets, the customer can choose between a large number of high-quality products made by renowned companies. In the current economy, value is no longer exclusively created by marketers branding what their organisation wishes to produce. From the customer's point of view, value is created when the benefits (perceived quality) they receive, exceed the costs of owning it (perceived sacrifice), (Knox, 2004).

It seems that perception is the key to a successful brand. This theory is supported by Fournier (cited in Thjomoe, 2008) who claimed that the brand has no objective existence at all: it is a collection of perceptions held in the mind of the consumer. Further, the author suggested that the brand is a construction in the customer's mind and consists of two dimensions: 1) The product and its perceived performance; and 2) The brand image (the consumer's psychological perception of the brand). It is the combination of the two that is creating brand equity and influences the brand usage.

Bird et al. (1970) pointed out that there are three types of usage group for any brand in the market. The first is "current users"; these are consumers who currently have

the brand in their stock. The second is “past users”; who used the brand in the past, the third group is “never tried”, those who have not had an experience with the brand. In this chapter I am focused on the consumer behaviour towards brand; why they do or do not choose a brand and what this choice process looks like.

Most consumer behaviour theories incorporate the idea that consumers evaluate brands according to their positive and negative aspects (e.g. Lussier & Olshavsky, 1997; Ajzen & Fishbein, 1980; Bagozzi & Warshaw, 1990). Winchester et al. (2007) suggested that consumers use memories about brands in some way to select brands from the wide range of alternatives. Further, the authors argued that the consumer choice process should be considered as two stages: first, is identifying the suitable options of preferred brand (consideration); second, is to choose an option from the consideration set (selection). To better understand this process I used the theory of De Chernatony.

#### **2.5.4 Consumer decision process according De Chernatony et al. (2005)**

One of the theories why consumers choose a brand is “the expectancy-value model”. In this model consumers are motivated by two variables: the degree to which they expect a favourable outcome. The other one is the value they ascribe to a favourable outcome (De Chernatony et al., 2005).

In reality, a consumer’s motivation is more complex and depends on many factors like economic resources, and the ability to seek, store and process brand information. Further, De Chernatony et al. (2005) claimed that consumers do not acquire perfect information, hence they proposed a consumer decision-making process where consumers seek and evaluate small amounts of information to make brand purchases:

Significant perceived brand differences	<b>Extended problem solving</b>	<b>Tendency to limited problem solving</b>
Minor perceived brand differences	<b>Dissonance reduction</b>	<b>Limited problem solving</b>
	High consumer involvement	Low consumer involvement

Figure 3. Typology of consumer decision process (De Chernatony et al. 2005)

De Chernatony et al. (2005) stated that **extended problem solving** occurs when consumers are involved in the purchase and where they perceive significant differences between competing brands. It is characterised by consumers actively searching for information to evaluate brands. During the evaluation process, the brand beliefs are formed and those beliefs shape an attitude towards brands. It is crucial for the brand marketer to identify what customers are looking for and communicate this as powerfully as possible.

The **dissonance reduction** occurs when consumers make a choice without brand beliefs and when they are confused by the lack of clear differences. In this type of brand purchase decision, consumers change their attitude after the purchase. De Chernatony et al. (2005) suggested that when consumers are unsure about which brand to choose, promotional materials are crucial to increase the chance that a particular brand will be selected.

Another type of brand buying behaviour is **limited problem solving** and occurs when consumers do not perceive that purchasing of certain products is important and they see only minor differences between competing brands. The consumer is likely to choose a brand based on cost benefit. In this situation it might be beneficial to position the brand as functional and problem solving.

De Chernatony et al. (2005) argued that when a consumer feels minimal involvement, they are unlikely to be motivated enough to search for information. So

even when there is a significant difference between brands, consumers are less likely to be concerned about that difference. That's why it is crucial for branded products to protect their look and avoid competitor's similar looking brands.

Another factor which may influence consumer behaviour towards brand is uniqueness, mentioned earlier by Romaniuk et al. (2007). Unique associations are considered to be valuable because thinking that only one brand has an attribute (real or perceived), makes the decision process easier for consumers. Perceived uniqueness indicates that the consumer only associates one brand with an attribute, even though other brands may offer the same features. Romaniuk (2007) explained that the reason for perceived uniqueness could be due to a specific experience with one brand offering something but missing the information about a competitor brand, or exposure to advertising that sends the message about the unique feature.

Because this study describes phenomena in the medical industry, it is necessary to mention another factor that influences consumer behaviour. Basu et al. (2009) argued that health status reflects human behaviour; hence decision-making processes might depend on prevention or cure. Further, the authors suggested that even if the message is recognised as problematic in the medical industry but it does not fit with the way people see the problem, they may not be convinced to buy the product. In this case health education programs attempting to persuade changes in knowledge level, might be a solution. Bandura (cited in Basu et al., 2009) argued that the perceived ability of a person to control his or her environment, motivation and capabilities, is the driving force for health behaviour.

The buyer's behaviour described above concerns the individual. Because this study looks at a business-to-business approach, it is necessary to examine if the theory above also applies to industrial purchasing decisions.

### **2.5.5 Industrial customers and their purchasing decisions**

One of the earliest analysis of how industrial customers make purchasing decisions was Robinson, Faris and Wind's 1967 "buy grid" or "buy class" model. It was

suggested that there are three types of purchase situations – straight rebuy, modified rebuy, and new product purchase – and that a purchasing decision is a process of a few phases: identification of a need, identification of alternative solutions, evaluation of the alternatives in a purchasing decision (Monat, 2009). Further, the authors argued that there is more to customer purchase decisions than just pure logic and that organisational, psychological and social factors must be considered. Webster et al. (1972, cited in Monat) acknowledged that industrial buying decisions are not purely rational but are influenced by emotions and perceptions. This theory completes Aaker's brand equity theory that consumers make decisions based on associations, which are psychological and are in the memory of the consumers.

Also Yin et al. (2004) stated that the customer behavioural system is complex, involving the interaction of behaviours, emotions and thoughts. There are three elements:

- Behavioural – having to do with activity and doing – the hand.
- Affective – having to do with feelings, emotions, values – the heart.
- Cognitive – having to do with thinking and believing – the head.

Cope (2003 cited in Yin) formulated a model based on three independent processes where no one part can change without another part changing (see Figure 4).

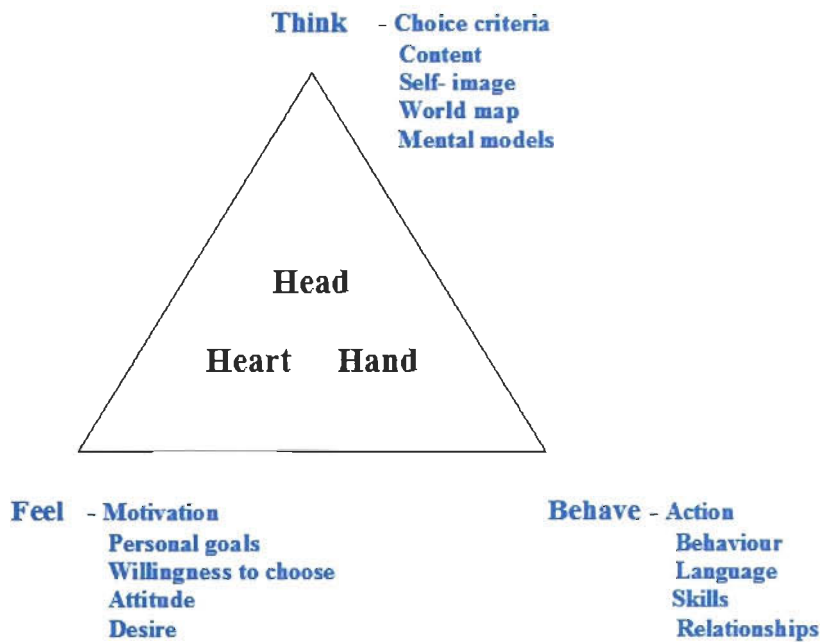


Figure 4. Three independent processes (Cope, 2003)

Taking into account Cope's and Monat's studies, it is safe to conclude that in the business-to-business approach, the decisions are made also with emotional involvement. This could be an indication to brand marketers to consider psychology as a tool for promotional activity. Individual and industrial consumers are influenced by the same factors: like relationship, attitude and content.

Analysis of consumer behaviour would not be complete without considering consumer behaviour during the recession time. Because this study looks into a case study of B.Braun Medical in real time, i.e. in recession time, it is necessary to take into account these circumstances.

### 2.5.6 Consumer behaviour during recession

As Jackson et al. (2009) argued, the impact of the recession reflects psyche, which means a fundamental change in relationship between consumer and brand. Further, the authors claimed that consumers questioning the credibility of institutions, seek more information, and they demand transparency from brands. Consumers are also

increasingly willing to bargain, which might affect the process of De Chernatony et al. (2005), mentioned earlier. Extended problem-solving may turn into limited problem-solving, which automatically leads to brand switch.

Also Flatters et al. (2009) suggested four key trends which are being accelerated by a recession: a consumers demand for simplicity, a call for ethical business governance, a desire to economise and a tendency to flit from one offering to another.

To conclude, as Roy (2008) suggested, brands are able to maintain and even boost growth of volume and value in difficult times on the strength of investments in consumer research, innovation and NPD that would allow staying close to the changing nature of consumer demand. Further, Roy claimed that recession offers a significant opportunity to re-position competitiveness as it is one of the few times that consumers actively consider their brand choices.

## CHAPTER 3

### 3. EMPIRICAL STUDY

*Following the literature review, this chapter presents how branding theories are applied by the B.Braun Company. This chapter is structured into the five Aaker's brand equity dimensions and shows the practical side of the theory. Also this section includes the findings from the research study on brand perception, in general, by Irish healthcare workers.*

#### 3.1. The B.Braun company overview

To better understand the branding activities of B.Braun, it is crucial to show how theories are applied by the company. As a case study I chose B.Braun Medical, Ireland which is one of the international branches of B.Braun, Melsungen.

As was mentioned earlier, the company is a manufacturer of medical devices worldwide. The headquarters are located in Germany where the strategic decisions are made, however every branch is allowed to make independent decisions, which are tailored to the local requirements (glocal approach).

B.Braun has a 170-year history, and is considered as one of the world's leading suppliers of healthcare products in over 50 countries. However, for the purpose of this thesis only the Irish branch was examined.

The Irish branch of B.Braun was registered in 1980 and since then B.Braun has established a respectful position within Irish market.

In 2003, the company adhered to a uniform guiding principle which consequently led to enhancement of the B.Braun brand. All activities were strictly subject to the new guideline; consequently made visible in the company message to the customer using green colour for brochures and products, and also emphasis on the safety and innovation which B.Braun provide. As B.Braun states "Expertise is their stock in trade, an asset that they deploy in a goal-directed fashion and add to on a continuous basis".

This study examined corporate branding and tested the influence of this on a specific product. For the purpose of this study I chose the B.Braun IV catheter Vasofix Safety that is a model example of corporate branding.

### **3.1.1 B.Braun corporate branding**

Raj et al. (2008) suggested that corporate branding employs the same methodology used in product branding but it is developed in the boardroom. This theory is noticeable in the B.Braun strategy. The company aim to be perceived as an innovative and safe company, which is stated in their mission. This approach is also visible in the product branding of the IV catheter Vasofix Safety. This product is widely used in almost all hospital wards and it is subject to the main promotional activities of B.Braun, such as the National Needlestick Injuries Conference.

Needlestick injuries are identified as one of the biggest threats facing people working in the healthcare setting. They are increasingly recognised as a serious hazard, exposing workers to deadly viruses and other blood borne pathogens. In Ireland thousands of needlestick injuries are suffered by healthcare workers at the front line of care delivery, suffering potentially devastating psychological, medical, career and financial consequences. The human and economic impact upon healthcare productivity is also appreciable (HSE, 2008).

Further the HSE report showed that the incidence of blood borne viral infections has increased dramatically in Ireland in recent years, with growing concern of the specific risks posed by HIV, hepatitis C and hepatitis B, which can all be transmitted through needlestick injuries.

B.Braun took initiative introducing the safe IV catheter which eliminates the risk of needlestick injuries, showing the innovation in the company corporate strategy. Another initiative strongly linked to this approach is the organisation of the National Injuries Conference by B.Braun, which is also the part of the product branding. The main aim of this event was to draw more focus upon the medical, ethical, economic and legal issues facing healthcare workers and their healthcare environments and also highlighted the need for use of safety products like the IV catheter Vasofix Safety.

This example supports the Raj et al. (2008) theory about the same approach within product and corporate branding. It also shows how these two strategies might blend together, blurring the boundaries between corporate and product branding.

To show how B.Braun branding activities are competing in the market and determine if they are effective, I used Aaker's Brand Equity Model. In the next section of this study I include the results of the questionnaires about brand perception in general, like brand and quality, brand and price and brand and associations.

### **3.1.2 B.Braun name awareness**

Aaker (1991) discussed name awareness as crucial in order to define the brand's uniqueness. B.Braun has been selling medical devices in Ireland for almost 30 years and is therefore a well established brand within the healthcare market. This empirical study found out how substantial the name awareness is and what the associations with this brand are.

According to the B.Braun philosophy, "sharing expertise" means sharing medical know-how and skills in a process of interaction with business partners for the advancement of healthcare.

As a part of their strategy, B.Braun, Ireland are involved in a number of educational meetings. The company is sharing its expertise by organising an annual symposium for peripheral anaesthesia and a needlestick injury prevention conference. Those two meetings have become characteristic initiatives in the healthcare industry and the name B.Braun is popularised through these meetings.

The conducted study revealed that over 63% of respondents know the B.Braun brand (see Chart 1). The name awareness dimension of brand equity is closely linked to another of Aaker's dimension: brand associations. As was explained in the Customer Behaviour section, the choice of the brand is dependent on associations in the customer's mind.

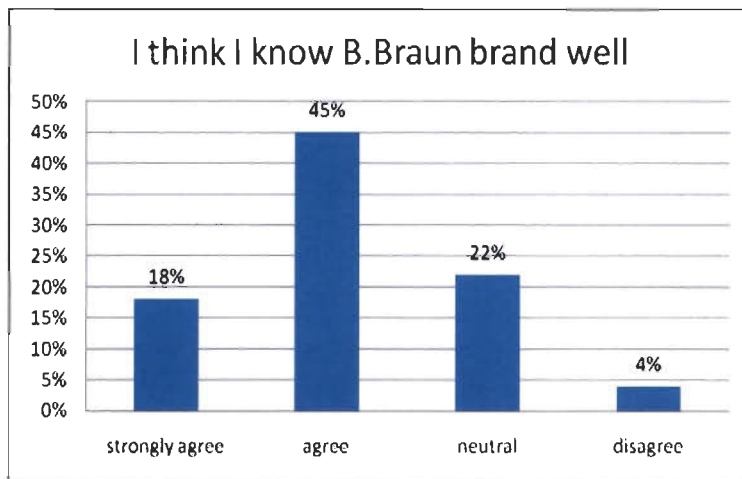


Chart 1: Results of the survey question "I think I know the B.Braun brand well"

The mission of the company is being associated with safety and innovation. Hence one of the most important meetings organised by B.Braun is The Needlestick Injuries Conference. B.Braun manufacture safety cannulas devices which prevent users from accidental injuries when drawing blood and administering injections. Hence this study analyses the perception of Vasofix Safety cannulas. This product choice was the best to show how corporate branding influences perception of a single product.

### 3.1.3 Brand associations

In a highly sensitive area such as healthcare, trust and reliability are central to consumers' positive or negative attitudes towards companies. As a family company, B.Braun is in a position to convey these values with particular credibility. All B.Braun's activities are focused in order to be associated with trust and reliability by customers (see Figure 5).

As was stated earlier, a brands name is strongly connected with associations. B.Braun position themselves as an innovative and developing company and enhance their identity through the concentrated statement:

**B.Braun – the Knowledge Company**

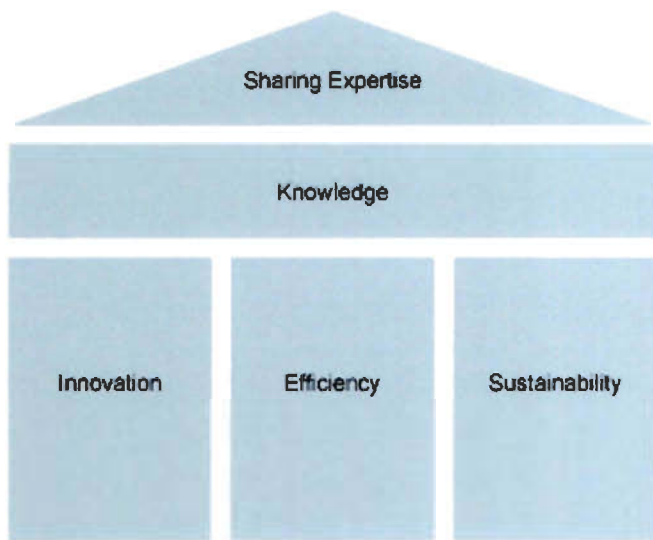


Figure 5. The B.Braun values

### The brand value: Innovation

Innovation refers to B.Braun’s products, services and processes in their day-to-day operations.

As Rotfeld (2009) argued, innovation can make branded products worth a higher cost, until the innovation is imitated by all competitors. This approach is implemented by B.Braun, thus all products are charged at a premium price, especially when introducing new, innovative products.

The study showed that over 56% of respondents associate the B.Braun brand with innovation (see Chart 2).

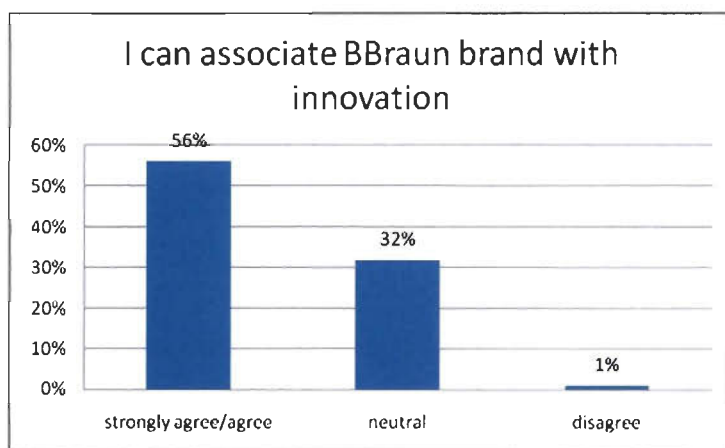


Chart 2: Results of the survey question "I can associate the B.Braun brand with innovation"

### **The brand value: Efficiency**

Efficiency refers to the opportunity to provide support to healthcare. This phenomenon is connected with customer service which is not the subject of this study.

### **The brand value: Sustainability**

Sustainability refers to the reliability and dependability that B.Braun offers its employees and customers. This phenomenon is directly linked to reliability, which was one of the variables in the questionnaire.

As Chart 3 below shows, over 58% of respondents rely on the B.Braun brand.

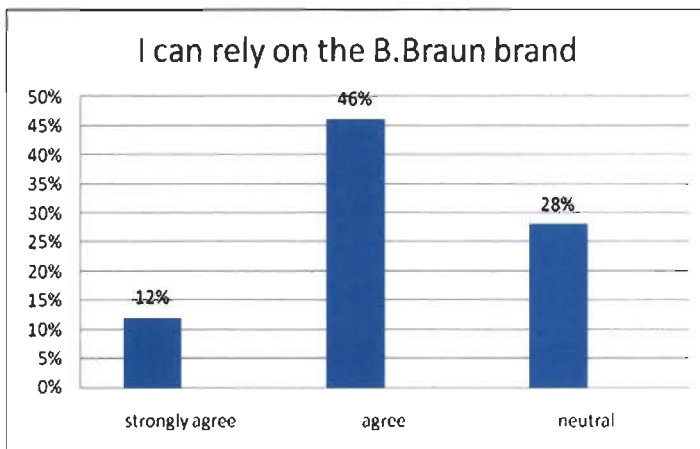


Chart 3: Results of the survey question "I rely on the B.Braun brand"

A specific brand association is defined by MacInnis and Nakamoto (1990) as a benefit that differentiates a brand from its competitors. This study attempted to define what the brand associations are towards B.Braun and if they make a difference to Irish healthcare customers.

Another association that B.Braun aim to achieve is linking the company to specific products. This study is focused on the Hospital Care division, where the main

products are infusion pumps, cannulas and total parenteral nutrition. This study showed that most of the surveyed respondents associated the B.Braun company with these products – 90% of respondents associated the company with their main products like the pumps, IV catheters and nutritional solutions.

### **3.1.4 Perceived Quality**

Quality within the healthcare industry is key. A company who is established within the market place and perceived as a provider of high quality safe goods is considered as a quality supplier. The healthcare industry is highly regulated by the Irish Medicines Board who award licences to supply products in the Irish Market to companies who can prove that they comply with EU regulations, thus ensuring only safe, high quality products are available on the market.

Good quality is a key factor for repetitive purchasing (Aaker, 1991), but also in the case of B.Braun, it is the key to a good reputation. Hence B.Braun aim to provide the best quality products. As Schlitz (cited in Aaker, 1991) stated, if a company loses its resources and money, but retains its reputation, it can always be rebuilt, but if it loses reputation, nothing will bring it back. The Irish medical industry, including doctors, purchasing managers and hospitals managers is small, and negative word-of-mouth can easily jeopardise B.Braun's effort in the Irish market. Another factor that influences purchasing is the reputation of the company within the industry. Companies who have experienced product complaints or even recalls of products may encounter a negative perception of their brand in terms of their quality and therefore lose market share. A company like B.Braun who's brand is established within the market with a good reputation for safety and quality and 'sharing expertise', attracts customers more easily than a company who's brand is not yet established.

As the B.Braun philosophy states:

"Our pre-eminent concern as a manufacturer of medical products is the well-being of mankind. We are keenly aware of this responsibility, which forms the basis for the

planning and operation of B.Braun manufacturing processes. We also place great emphasis on the highest standard of quality”.

Because the medical industry is of delicate nature, it is mandatory that quality is the main focus for the company, as B.Braun pledge: “The most important pillars in achieving these objectives by B.Braun are high-quality raw materials, modern technologies, strict attention to hygiene and a highly qualified workforce”. This statement about the Quality Assurance shows that B.Braun brand marketers are aware of the importance of this dimension in their branding strategy.

This study showed that quality within the medical industry is an important factor. Over 48% of respondents associated branding with quality, only 28% didn't associate this dimension with branding. This clearly indicates the brand parity among healthcare workers mentioned earlier by Clows et al. (2009). This phenomenon is caused by the consumers' belief the various brands have identical quality and in this case is not a major concern because consumers believe that any differences are minor.

### **3.1.5 Brand loyalty**

B.Braun aim to deliver the best quality products and this leads to customer satisfaction. However, as Szymanski et al. (2001) suggested, customer satisfaction is not necessarily a good predictor of customer behaviour and this is noticeable in the Irish medical industry. Taking into account just the B.Braun brand, it is clear that brand loyalty isn't high in terms of repetitive purchasing. It is strongly connected to the HSE saving policy, especially now in recession times. As earlier indicated, over 48% of respondents linked branded products with quality, thus this study attempted to examine if customers were willing to compromise this for a less known brand or non-branded products.

The study showed that over 44% of respondents do not agree that the quality of branded products and non-branded products is the same. This is also supported by company's sales statistics which indicate that B.Braun customers are loyal in

purchasing the pumps and total parental nutrition, but not in the IV catheters, which is a subject of this study.

As the study showed, over 43% of respondents agreed that they would use any version of IV catheter (see Chart 4).

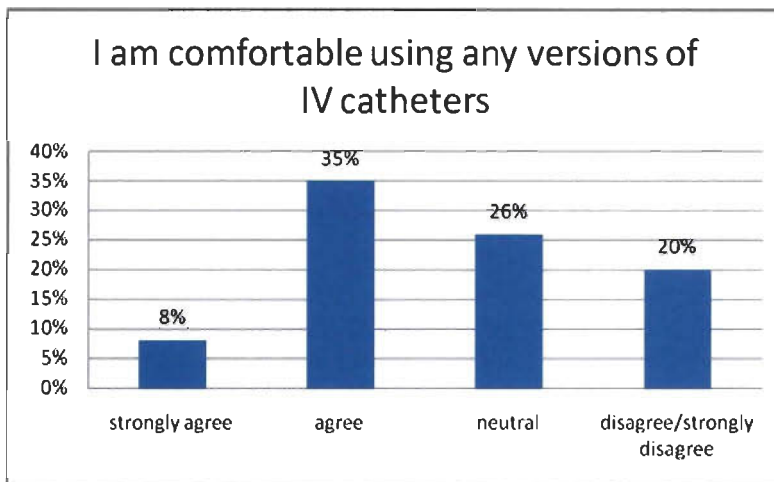


Chart 4: Results of the survey question "I am comfortable using any version of IV catheters"

Also when the B. Braun brand of the IV catheter was indicated, 48% of respondents agreed to be comfortable using other brands of IV catheter, other than B.Braun.

This result is supported by the perception of this product by the respondents: over 48% agreed that the B.Braun catheter would be as effective and safe as a competitor's IV catheters.

### 3.1.6 Symbols and logotype



Figure 6. The B.Braun logo

The B.Braun logo is a so-called word-and-symbol trademark containing the corporate name as well as a graphic element (the line). It is the lowest common denominator in internal and external communication, and therefore is treated as the

most important element of the corporate design. Along with its function of identifying the source, the logo also works as a symbol to convey the brand values of the company.

As was mentioned before, according to Aaker (1991), a symbol itself is not valuable, it is the consumer perception of a symbol that really matters. Hence the logo or symbol should only be the short message conveying B.Braun's attributes.

"Sharing expertise", describes the company's brand promise, which is the basis for the activities of all B.Braun employees. This applies to interactions within the company as well as to behaviour towards customers and partners.

Along with the logo, the B.Braun green corporate colour is a central element of their visual appearance. It ensures that target groups can clearly identify B.Braun in all media and activities, while also differentiating the B.Braun brand effectively from its competitors.

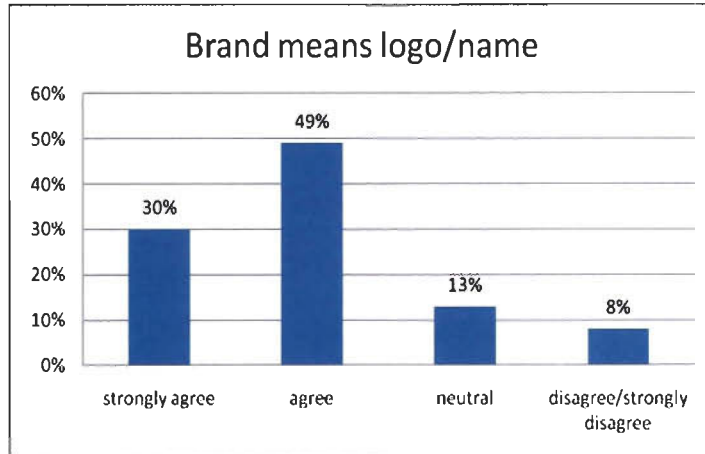


Chart 5: Results of the survey question "Brand means logo/name"

This study showed that 79% of respondents associate brand with logo. This is a very strong indication that logo is a reflection of total perception of a brand. It would be safe to conclude that the name awareness dimension is the strongest when it comes to the recognition of the brand.

The B.Braun brand strategy is clear and concise, and as Aaker's brand dimensions showed, the company actively cultivates all brand dimensions, which indicates that the brand strategy is treated as a priority within the company.

The purpose of this study was to examine branding in the brand choice in the medical industry. The study showed the significant impact of B.Braun branded products in the purchasing decisions of Irish healthcare workers. The research questions asked about the brand awareness and brand associations of a particular product – the IV catheter – which is the subject of main promotional activity within the company. The research questions are analysed in detail in the next chapter.

## CHAPTER 4

### 4. RESEARCH METHODOLOGY

*This chapter provides a description of the research methodology used. First, the research philosophy is described as well as the research approaches. It is explained why particular research methods are used. This section includes the explanation of the chi-squared method. The research questions, used to support the hypotheses, are explained, as is how the data was collected. Finally, issues concerning the validity and reliability of this thesis are discussed.*

In order to determine the most suitable philosophies and methods for research and sampling, it was necessary to review all possible options. Below I have discussed the available research techniques and my reasons for choosing specific elements in my research.

#### 4.1 Research philosophies ✓

For this study, selecting the overall research philosophy was the choice between two alternatives proposed by Easterby-Smith et al. (1991): positivist and phenomenological.

The positivism paradigm is focused on facts and testing hypotheses and the phenomenological paradigm focuses on meanings and developing ideas through induction. The main difference in terms of the role of the researcher is the level of involvement in the research. The positivist philosophy assumes that the researcher is independent. With the phenomenological philosophy the researcher is directly involved in the study.

Zawawi (2007) argued that positivists look at the social world as something external and its properties should be measured through objective methods. Further, the author claimed that objective research is usually associated with quantitative methods. This method is explained in the next section.

For this study, the best fit was to follow the positivist paradigm:

- The hypotheses were formulated and tested by the researcher
- It produced quantitative data that fits well with the case study approach, which is explained later in this chapter
- Data is objective: the quantitative data was gathered in the objective process due to the level of involvement of the researcher
- The location was natural, taking a large sample

## **4.2 Research approaches**

Research can have two elements which are based on: an empirical and non-empirical approach. The non-empirical method is searching and reviewing the literature on the subject.

For the empirical approach, there are three main dimensions:

- Qualitative/Quantitative
- Deductive/Inductive
- Subjective/Objective

According to Hussey and Hussey (1997), there are four different types of research: exploratory, descriptive, analytical and predictive. Further, the authors claimed “whatever the purpose of the research, empirical evidence is required.” They defined empirical evidence as “data based on observation or experience.”

This thesis was designed to take into account both the empirical and non-empirical research approaches. The non-empirical approach was used to structure and execute the empirical research.

### **4.2.1 Qualitative/Quantitative approach**

Another choice for this study was to adopt a proper empirical research method. Myers (1997) distinguished between those two research approaches:

“Quantitative research methods were originally developed in the natural sciences to study natural phenomena. Examples of quantitative methods are now well accepted in the social sciences and include survey methods, laboratory experiments, formal methods and numerical methods such as mathematical modelling. Qualitative research methods were developed in the social sciences to enable researchers to study social and cultural phenomena. Examples of qualitative methods are action research, case study research and ethnography. Qualitative data sources include observation and participant observation, interviews and questionnaires, documents and texts, and researcher’s impressions and reactions.”

For the purpose of this study, the quantitative approach to data gathering was used. This selection also fits with Hussey and Hussey’s (1997) views about the objectivity of the study. Zawawi (2007) argued that the quantitative approach is the most numerical and is designed to ensure objectivity, generalisability and reliability.

To test the hypotheses, I surveyed the healthcare workers and analysed the data using the mathematical chi-squared test, which is explained later in this chapter.

#### **4.2.2 Subjective/Objective approach**

The choice between the extent to which the researcher is subjective (involved in or has influence on the research outcome) or objective (independent) is crucial for the validity of the research. As Easterby-Smith et al. (1991) argued, the “traditional assumption that in science the researcher must maintain complete independence if there is to be any validity on the results produced”.

The study for this thesis was conducted objectively; none of the respondents were influenced by me as a researcher. The anonymous nature of the study also assured the objectivity of the conducted research.

#### **4.2.3 Deductive/Inductive approach**

The choice between the deductive and inductive research approach has been discussed by Hussey and Hussey (1997) who defined deductive paradigm as a “study

in which a conceptual and theoretical structure is developed which is then tested by empirical observation; thus particular instances are deducted from general influences.” Deductive research is a study in which theory is tested by empirical observation.

Further, the authors explained the inductive research: “is developed from observation of empirical reality, thus general inferences are induced from particular instances, which is the reverse of the deductive method since it involves moving from individual observation to statements of general patterns or law”, (Hussey and Hussey, 1997).

In this study I used a deductive approach with the emphasis on a conclusive approach, which is explained in detail by Malhotra et al. (2006) in the next section.

#### **4.2.4 Types of research according to Malhotra et al. ✓**

To choose the type of research for this study, I have explored Malhotra et al. (2006) who proposed two methods of research: exploratory versus conclusive.

The primary objective of exploratory research is to understand phenomena. The information needed for this type of research is loosely defined and the process is unstructured and flexible. The main focus of this exploratory research is the use of qualitative methods.

The conclusive method of research aims to measure the phenomena and the information needed is clearly defined. The research process is formal and structured. For this type of research the sample size is large and the main method used is quantitative research. The quantitative research uses data analysis collection techniques for example questionnaires. The data is then analysed to produce graphs and statistics that create numerical data. I used this method because I believed this would enable me to analyse the opinion of a large number of people in a clear and objective manner. A quantitative method is controlled and structured and examines few variables on a large number of entities (non-comparative technique). The non-

comparative technique consists of continuous and itemised rating scales (Malhorta et al., 2006). I chose the itemised rating scale of Likert, which is easy to construct, administer and understand. A hospital environment is very busy most of the time; hence an in-depth interview wouldn't be practical. For this reason I conducted a structured questionnaire, which allowed me to measure the results accurately.

Malhotra et al. (2006) stated that conclusive research design may be descriptive or casual.

My chosen method is descriptive research, which describes market characteristics. Because this method is pre-planned and structured it applies to a large sample of people. The target population for my study was selected by using single cross-sectional design, where there is only one sample and information from this sample is obtained only once.

### **4.3 Research design** ✓

#### **4.3.1 Proposed hypotheses**

In this descriptive research the following hypotheses were tested:

**H1: Healthcare workers are affected by branding activities**

**H2: Corporate branding activities influence perceptions of branded products in the medical industry**

**H3: Positive perception of branded products in the medical industry does not lead to loyalty**

**H4: Branded products are perceived as better products than non-branded**

**H5: Healthcare workers differentiate brands in the same product group**

The first hypothesis looked at the consequences of the shift of brand promotion in the medical industry. The assumption that healthcare workers aren't affected by brand promotion was questioned. I tested whether medical staff are as influenced as consumers in other markets, hence:

For H1 I asked about the branded companies who operate in the Irish medical market to which B.Braun are direct competitors. The knowledge and listed associations would indicate that healthcare workers know brands and see the difference between them, which would lead to the conclusion that healthcare workers are affected by brands activities.

For H2 I asked how respondents perceived B.Braun in general. The answers indicated if the company effort to be perceived as an innovative and safety products provider company is achieved.

To test H3 I asked about the correlation between the quality of branded and non-branded products and if the respondent would compromise quality by choosing the branded product over the non-branded one.

For H4 and H5 I asked the respondents about the IV catheter. These questions were designed to determine if the healthcare workers see the difference between the brands in the same product group. I chose this product, because I believed it could show best what respondents think about brands. The B.Braun IV catheter competes in the market with three other large competitors, who have strong positions in the industry.

#### **4.3.2 Questionnaire design**

A research questionnaire (Appendix 1) was constructed around these hypotheses. It consisted of four sections: General (position, years of experience and gender), Brand (trust, price, quality associations), Company Awareness (listed branded companies) and Product Awareness (for the purpose of this study I decided to examine the IV catheter since this product is used in almost all hospital wards and it was a subject of the main promotional activities of B.Braun).

As previously mentioned, to design the questionnaire I used the Likert scale, where respondents had to indicate a degree of agreement and disagreement. Each question had five response categories, ranging from “strongly agree” (1) to “strongly disagree” (5). Some questions were open-ended asking about associations with other companies. This was done to avoid leading questions. The answers for these open-ended questions were taken into account but they were not included in the chi-squared analysis which is explained in the Analysis section of this chapter.

A pilot study of this questionnaire had been run before the actual survey: the questionnaire was reviewed and accepted by both my tutor of Research Methodology and the Business Unit Managers in B.Braun Medical.

#### **4.3.3 Sample**

In order to choose the most appropriate method of sampling I have used research proposed by Malhotra et al. (2006). There are two sampling techniques proposed in this research which are classified as non-probability and probability. In a probability procedure each element of the population has a known chance of being selected for the sample. The selection procedure is classified into a simple random sample, a stratified sample and a cluster sample (Saunders, Lewis and Thornhill, 2003).

Further, the authors explained non-probability sampling, which gives the researchers some discretion in selecting the population. This procedure is classified into convenience sample, judgment sample and quota sample.

I decided to choose the probability technique, which is more representative and has a greater generalisability.

From the B.Braun customer database I had randomly chosen at least one consultant, one nurse, one registrar and one supply manager (stratified random sampling). The questionnaire, along with a return stamped envelope, was posted to 150 healthcare workers in 30 of the biggest hospitals in Ireland. I determined the sample size via the 95% confidence interval formula based on 8% sampling error:

$$n = [1.96^2 (50 \times 50) / 8^2] = 150$$

A total of 101 people responded to this survey, 63 of which were female and the remaining 38 being male. The amount of years working experience ranged from 3 to 36 years with an average of 16.13 years working experience. The position of the respondents was categorised as follows:

Table 2. Respondents categorised by professions

Consultant	21
Data Manager	1
Nurse	40
Registrar	14
SHO	8
Other	17

I believe this sampling technique allowed me to generate precise results as the decision makers differ depending on the hospital or hospital ward and the chosen sample was the most adequate to my research.

Also I believe that this chosen representative sample gave me an indication of the overall healthcare worker's consumer behaviour and the results can be deemed a reliable representation of all Irish hospitals.

#### 4.3.4 Statistical procedures required by the data

Because I decided to use a quantitative research method, the method to analyse the survey had to be statistical.

I examined one sample, and following Malhotra's (2006) suggestions, determined that a few statistical analyses are suitable for this study: Frequency distribution, chi-squared and Kolmogrov-Smirnov. In the questionnaire, there are a few variables; hence I chose the chi-squared as the most appropriate one for this study. This method is one of the statistics associated with cross tabulation. The cross tabulation

technique describes two or more variables simultaneously that have a limited number of categories or distinct values.

The chi-squared method is used to find out if there is a significance difference between expected and observed frequencies. The null hypothesis,  $H_0$ , is that there is no association between the variables. The test begins by computing the cell frequencies that would be expected if no association were present between the variables, given the existing row and column totals (Malhotra et al., 2006). To calculate the chi-squared statistic the expected cell frequencies ( $f_e$ ) are compared with the actual observed frequencies ( $f_o$ ). The greater the discrepancies between the expected and observed frequencies, the larger the value of the statistic. The formula to calculate chi-squared is as follows:

$$\chi^2 = \sum_{\text{all cells}} \frac{(f_o - f_e)^2}{f_e}$$

A chi-squared test was conducted to test the null hypothesis that the opinions of males and females are the same against the alternative hypothesis that the agreement level between men and women differ. The null hypotheses were tested also in respect of hospital position of the respondents.

A restriction on the chi-squared test is that it is only accurate for sufficiently large numbers of counts (usually more than 5 in each cell of a table), for this reason I combined disagree and strongly disagree into one cell in the table so that I could get a more accurate result for the test.

#### **4.3.4.1 The significance level**

To test the hypotheses it was crucial to determine the significance levels of the study. To make sure that the results are valid I supported my hypothesis testing by a standard level of significance, which in research is 5% ('alpha'). The significance level was determined in each case from the chi-squared value in conjunction with the number of degrees of freedom, which was used to calculate a '*p-value*' (McLaughlin, 2003). When the result was significant to 5%,  $p \leq 0.05$ , the null hypothesis was rejected. If the result was not significant,  $p \geq 0.05$ , the null hypothesis is retained. By

employing a 5% ( $p \leq 0.05$ ) significance level, there is only a 5% chance of rejecting a null hypothesis when it is in fact true.

## **4.4 Validity and Reliability** ✓

Saunders et al. (2003) defined the validity and reliability as a tool to lessen the risk of prejudice in the study. Further, the authors explained the difference between reliability and validity: reliability is concerned with whether the result is the same as what others would have observed, while validity is concerned whether the findings reflect the reality.

### **4.4.1 Reliability**

Malhotra et al. (2006) stated the reliability can be defined as the extent to which measures are free from random error,  $X_R$ . If  $X_R = 0$ , the measure is perfectly reliable. Saunders et al. (2003) listed four threats to reliability: subject or participant errors, subject or participant bias, observer error and observer bias.

Subject or participant error can appear when stress or physical conditions influence the respondents when answering the questionnaire. In this study, the reliability of the survey may be reduced due to the lack of time in busy hospital environments. I tried to eliminate this threat by posting the questionnaire, so the respondents could fill in the questionnaire in their own time.

The second threat, subject or participant bias, had been eliminated by the anonymous nature of the questionnaire. There was a risk that participants could discuss their answers with others and by that contaminate their response, however I believed this risk is insignificant in this case as the main recipients of the questionnaires were decision makers and working in different departments were unable to partake in consultation.

Saunders et al. (2003) stated that observer bias is the greater threat to reliability and may appear as a result of interpreting the answers. Some of the respondents stated

that they are not influenced by the branding activities but also admitted that they prefer to use branded products.

#### **4.4.2 Validity in the empirical method**

I tried to design the questionnaire to answer my research questions and I believe that the outcome of this dissertation can only be used in this context. I cannot say that the results can be generalised to all Irish healthcare workers, as the sample is too small to apply to the whole medical population in Ireland, however it undoubtedly gives a better view on how Irish healthcare workers perceive branding activities and branded products.

#### **4.3 Ethical issues**

The questionnaire was distributed along with a consent letter which indicated that the participation in this research was voluntary and anonymous. The explanation was made of how the data would be collected and the aim of this study. I remained objective during the research.

## CHAPTER 5

### 5. ANALYSIS

*This chapter analyses the collected data. The quantitative data includes p-values to all of the research questions to answer the hypotheses. The analysed data shows the differentiation in opinions in regards to sex, profession and years of experience. To make the analysis more clear, this section is structured according to the tested hypotheses.*

Although Johnson (1953) argued that descriptive methods indicate only norms, not standards and shows only practices rather than causes, in my opinion, this research method was the most suitable for my study, as it allowed me to describe the behavioural characteristics of healthcare workers, for example their usage of branded products and their perception of the brand itself.

#### 5.1 Testing hypotheses

The first hypothesis looks at the consequences of the shift of brand promotion in the medical industry. The assumption that healthcare workers were not affected by brand promotion was questioned, hence:

##### **H1: Healthcare workers are affected by branding activities**

To test this hypothesis I asked about the branded companies who operate in the Irish medical market to which B.Braun are direct competitors. The results indicated that healthcare workers know brands and see the difference between them, which would lead to the conclusion that healthcare workers are affected by brand activities.

Table 3. Responses relating to the knowledge of brands

	Baxter	B.Braun	Becton Dickinson	Fannin
Strongly Agree/Agree	93%	81%	28%	67%
Neutral	4%	8%	10%	8%
Disagree/Strongly Disagree	5%	12%	64%	35%

A majority of respondents know the brands and differentiate them, which supports the first hypothesis that healthcare workers are affected by branding activities.

Testing the knowledge of Baxter brand by respondents in respect to sex showed that there is no significant difference between the sexes as the  $p$ -value was 28.7%; also there was no significant difference in opinions according to position in the hospital as the  $p$ -value was 6.8%. However in respect to years of experience the  $p$ -value is less than 0.01% which indicated that there is a difference in the distribution between opinions and work experience.

Testing the knowledge of the B.Braun brand in respect of sex, the  $p$ -value was 11.2% which indicated no significant difference between the sexes. The  $p$ -value in respect of years of experience was 6.2% which suggested that there was weak evidence in favour of the null hypothesis that there was no significant difference between years of work experience and knowledge of B.Braun. The  $p$ -value in respect to position in the hospital was 0.23% which suggested that opinions differ between hospital role. The knowledge of B.Braun brand is the highest among Consultants (20%) and Nurses (31%), whereas only 9% of Registrars knew the brand.

Interestingly, testing the knowledge of Becton Dickinson in respect of sex ( $p$ -value 0.38%), years of experience ( $p$ -value 0.01%) and position in hospital ( $p$ -value 0.03%), showed that there are differences in every distribution. However this may be due to the small sample. The results showed that more females (15%) knew the Becton Dickinson brand, also respondents with more than 16 years of experience showed a more significant knowledge of this brand (27%). The knowledge of this

brand was the highest among Consultants (13%) and Nurses and Registrars appeared to have very low knowledge of this brand, respectively (6%) and (1%).

The results of knowledge of the Fannin brand showed significant differences between the sexes, the  $p$ -value was 0.05%, showing that more males knew this brand compared to females.

The  $p$ -value with respect to years of work experience was 3.1%, so there was weak evidence to suggest that knowledge of Fannin was different with this respect. People with a lot of years experience tend to know the Fannin brand more than others. It appeared that a greater than expected number of consultants knew the Fannin brand as the  $p$ -value was 2.5%, which supported the alternative hypothesis.

The study supported the hypothesis that healthcare workers can see the difference between brands and also associate companies with specific products. A majority (85%) of respondents answering for the open questions correctly associated brand with certain products.

The second hypothesis explored how branding activities influence the perception of products. It would be expected, that brand associations have a significant impact when choosing products. The objective here was to examine how the brand is perceived by customers and why they choose the particular brand. Hence:

## **H2: Corporate branding activities influence perceptions of branded products in the medical industry**

This hypothesis tested only B.Braun brand awareness in respect of reliability, image of being friendly, safe and innovative, as those attributes are the main features in the corporate branding of the B.Braun company.

Respondents were asked if they thought that B.Braun are obviously different from the other competitive companies (Baxter, Fannin, Becton Dickinson), and 38% agreed with this statement, whereas 49% remained neutral. The level of significance (for sex, 14.4% and for work experience, 64.6%) indicated that sex and work experience did not make a significant difference in opinions. However the  $p$ -value in

respect of position in the hospital was 3.3%, and showed that a significant amount of Registrars are either neutral or do not agree that B.Braun is different. Taking into account that only 9% of the sample was Registrars, then the sample is too small to be conclusive. Among the other professions there was also no conclusion to be drawn as an equal amount agreed and disagreed.

The majority of respondents (58%) agreed and strongly agreed that they can rely on the B.Braun brand. The *p*-value for sex was 84.9%, for years of experience was 17.4% and for position in the hospital was 18.9%. This indicated that those factors did not make significant difference in opinions.

The B.Braun brand aims to be perceived as user-friendly, hence this variable was tested. 56% of respondents agreed and strongly agreed that B.Braun is user-friendly with no significant difference in respect of sex and work experience; however the *p*-value for position in the hospital was 2.2% which indicated that there was a significant difference. Looking at the data it appeared that Consultants and Nurses appeared to agree that B.Braun is user-friendly, more than other positions.

The perception of being safe and innovative are other features that B.Braun aim to convey. The respondents were asked if they associated the brand with safety and innovation. 56% agreed and strongly agreed with this statement and also 56% associated B.Braun with innovation. Testing the significant levels, there was no evidence that opinions differ in terms of sex, work experience and position in the hospital for either variable.

It can be concluded that the results support this hypothesis. The knowledge of brand and its attributes are significant in the medical industry. The B.Braun corporate branding succeeds, as a vast majority perceived the brand as user-friendly, innovative and safe, which plays a crucial role in the purchasing decision process. Those features of medical products are a must in a modern medical environment.

The third hypothesis looked into loyalty in the medical industry. It was expected that brand loyalty within this industry was low. The purpose of this hypothesis was to

examine what compromises are made and why, if one brand is chosen over other brands, or non-branded products are chosen. Hence:

### **H3: Positive perception of branded products in the medical industry does not lead to loyalty**

The majority of respondents (63%) agreed and strongly agreed that they prefer to use products of a well-known company. This test did not support the null hypotheses that opinions differ in respect of position in the hospital ( $p$ -value 8.5%) and years of experience ( $p$ -value 16.5%). However the  $p$ -value for sex was 0.92% which supported the alternative hypothesis that the opinions of men and woman with regard to using well-known products differ and that significantly more females disagreed with this statement than males. However no respondents strongly disagreed, and of those that disagreed 12 were female and 0 male. This violated the assumptions of the chi-squared test as there were not sufficient counts in each cell, meaning that the results of this test may not be accurate. This maybe due to the small sample size and further research would be suggested in this case.

Because the purchasing decisions are constrained by the HSE policy it is very common practice to switch brands in Irish hospitals. The purchasing decision may reflect savings policy, especially during the recession.

When the respondents were asked if the quality of branded and non-branded products is the same, 42% disagreed and strongly disagreed with this statement, 45% remained neutral. This test indicated that healthcare workers did not perceive branded products as better quality. It can be concluded that in this case healthcare workers do not feel that they compromise quality when choosing between branded and non-branded products. However 59% of respondents agreed and strongly agreed that they preferred to use branded products only in serious cases.

The significance level did not show evidence that there were differences in opinions in regard to sex (the  $p$ -value 90.6%), position in the hospital ( $p$ -value 56.1%) and years of experience ( $p$ -value 19%). This contradictory result could be an indication that healthcare workers perceive the branded products as better quality so not to

jeopardise the patient's health, even though they responded differently in the previous question.

When respondents were asked if the lower cost is a good reason to use a non-branded product, 44% agreed with this statement and 36% disagreed with this statement. The significance level did not indicate a difference in opinions in regard to sex, years of experience and position.

Looking deeper into this result, it is clear that the third hypothesis cannot be supported. There is no evidence that the relationship with the brand leads to loyal behaviour. As was expected, the loyalty level in the medical industry is low and switching brands is very common to save cost, except in 'serious' cases, where it appeared that the healthcare workers would choose branded over non-branded products. This is connected with trust, which was tested in the next hypothesis.

The fourth hypothesis examined the perception of branded products. Because of the unique nature of the industry, the best quality standards are required. The perception of quality is examined in greater detail. Also trust is tested in this hypothesis. It would be expected that Irish healthcare workers choose branded products over non-branded, hence,

#### **H4: Branded products are perceived as better products than non-branded**

When respondents were asked if brand means quality, 38% agreed with this statement. The  $p$ -value for sex was 87.4%, for position in the hospital was 23.4% and for years of experience was 7.3%, which indicated that the distribution of opinions is the same across these variables. However when it came to medical products, only 12% agreed that branded and non-branded products are of the same quality. This could be an indication that the medical industry is perceived differently than others. The  $p$ -value for sex is 24.4% which supports the hypothesis that men and women have the same opinion towards the quality of branded and non-branded products; also the  $p$ -value for position and years of experience is not significant to support the null hypothesis. The  $p$ -value for position in the hospital is 11.7%, for years of

experience is 28.3%, which indicated that there was no difference in opinions in regard to these variables.

As was earlier stated, 59% of respondents agreed they preferred to use branded products only in serious cases which I linked to trust. The majority of respondents (62%) agreed that they trust branded products, which also supports the hypothesis that healthcare workers perceive branded products as better quality when using in serious cases, despite that 42% were against this statement. The test did not show differences in opinions in regard to sex ( $p$ -value 94.2%), position in the hospital ( $p$ -value 30.7%) and years of experience ( $p$ -value 25.3%).

The tested hypothesis is accepted, it could be concluded that healthcare workers perceive branded products as better quality since they prefer to use them in serious cases. Also a high percentage of trust in branded products indicated that those products are perceived as better.

Similarly, it would be expected that healthcare workers differentiate brands in the same product group. For the purpose of this study the IV catheter brand awareness will be tested. This product is widely used in almost every hospital ward, and currently on the market, there are three other strong branded competitors. Hence:

##### **H5: Healthcare workers differentiate brands in the same product group**

To test this hypothesis I asked if the recognition of the brands is important when using the product. The majority of respondents (62%) agreed and strongly agreed with this statement.

The  $p$ -value for sex was 57.9%, for years of experience was 21.98%, which indicated that those did not make a significant difference in opinions. The opinions varied in regard to position in the hospital,  $p$ -value 2.8%, which supported the alternative hypothesis that opinions differ between professions. However the value may not be truly representative because of small sample size.

Other questions to test this hypothesis were designed around the IV catheter (Vasofix Safety) product. It was important to determine if the healthcare workers see the

differences between the brands in the same product group. I chose the IV catheter because I believed it would be able to show best what respondents think about brands.

The B.Braun IV catheter competes on the market with three other large brands and it was important to establish that respondents were aware of this. 74% of respondents answered that they were aware that there are many brands' version of the IV catheter. The *p*-value for sex was 44.5% and for years of experience was 6.9% which indicated that there was no significant difference in regard of these variables. However the test showed that opinions differ in regard to position in the hospital – *p*-value was 0.19%. This indicated that a significant number of Consultants and Nurses who cannulate, were aware that there were many IV catheters.

Although there are many other brands, it is crucial to say that not every catheter is the same. What makes the B.Braun catheter unique is the safety feature which prevents users from needlestick injuries. The safety clip is a patented innovation and, as was mentioned before, safety is one of the most important branding activities within B.Braun.

Respondents were asked if they would feel comfortable using another brand instead of the B.Braun catheter and 48% of people agreed with this statement, and 23% remained neutral. The significance level did not show a difference in opinions between sex (*p*-value 46.2%), years of experience (*p*-value 11.9%) and position in the hospital (*p*-value 10.5%). Furthermore, 48% of respondents agreed with the statement that other brands like Baxter, Fannin and Becton Dickinson would be as effective and safe as the B.Braun catheter Vasofix Safety. The significance level in these two variables did not show a difference in opinions in regard to sex, years of experience and position in the hospital.

This test indicated that this hypothesis is accepted, showing that healthcare workers differentiate the brands in the same product group; and, as was stated earlier, 62% of respondents thought that recognition of brand is important when using a product. However their decision regarding the usage of the IV catheter showed different results. As was mentioned before, the majority of respondents cannot see the difference in quality between branded products and non-branded products. It can be

concluded that the IV catheter is a very common and simple device used on a daily basis and is not directly connected with life-saving products. Even so respondents agreed that B.Braun products are safe, user-friendly and innovative, but when the question was in comparison to other brands of the IV catheter product, respondents perceived all branded catheters in the same way.

## CHAPTER 6

### 6. CONCLUSION

*This chapter presents the main findings and conclusions based on research conducted in this thesis. The purpose of this conclusion is to explain how the five Aaker's dimensions of the B.Braun brand are perceived by their customers. Finally, implications for management and future research are presented.*

The initial idea of this thesis was to examine the significance of branding activities among Irish healthcare workers. Today brand plays a crucial role in the market in every industry and following Griffith's (2008) belief that medical brands should approach their customers like consumer brands, reversing, I assumed that consumers from the medical industry are influenced by branding activities the same way as consumers from other industries. Hence I decided to test if medical branding is effective and how Irish healthcare workers perceive it.

During my thesis I studied different theories. I conducted a survey with questions regarding the brand perception in general and the perception of the B.Braun company, which was an excellent example of medical branding for my case study. I used Aaker's five dimension branding equity to structure my thesis. In the theoretical part I explained Aaker's theory; in the empirical part I described the B.Braun branding activities according to Aaker's dimensions and my conclusion part is also structured in this order.

#### **Brand awareness**

The study showed that brand awareness in the medical industry is very strong. Respondents were not only agreed that they are familiar with brands but were also correctly able to indicate products they associate with certain brands. So not to lead respondents, those questions regarding to particular brands where open and respondents were asked why they know brands. The majority of respondents know

the brands and see the difference between them. As was stated before, B.Braun has had a presence in the Irish market for thirty years, hence there was an assumption that brand awareness will be high in the industry. Over 81% people know the company B.Braun and 84% of respondents correctly associated the company with the products, which leads to the next of Aaker's dimensions: Associations.

### **Associations**

B.Braun aim to be perceived as an innovative, user-friendly and safe company. The main platform for the distribution of these attributes is the Sharing Expertise tag, which is also part of the company logo. The majority of respondents correctly associated B.Braun with the other main products like pumps and parenteral nutrition, which were not mentioned in the questionnaire. Also many respondents pointed out the educational support of B.Braun. As was mentioned before, the company organise a conference and symposium for healthcare professionals. Aaker (1991) stated that one of the main values of brand associations is a creation of positive attitudes and feelings. It can be concluded that the company achieved this.

### **Brand loyalty**

It was assumed prior to the study that loyalty in the medical industry is low. The result of the survey showed that over 44% of respondents were willing to switch from branded products to non-branded products because of lower cost. It is clear that loyalty is challenged by the current economic climate as hospital purchasing decisions are constrained by HSE policy. However, the study covered only one product, the IV catheter, which can be considered as a simple and easily replaceable product in comparison to the other of B.Braun's main products like pumps, where much more cost is involved (including training, instalment and servicing). This could be an indication for further research to examine the loyalty for different products of the one company. De Chernatony (2003) linked loyalty with quality stating that brand loyalty is a measure of perceived brand quality, which is another dimension of Aaker's brand equity.

The low level of loyalty might be also the consequence of the lack of risk perception. As Basu et al. (2009) suggested, even if a message is recognised as problematic in

the medical industry (needlestick injuries), if it does not fit with the way people see the problem (the risk of needlestick injuries is relatively low); they may not be convinced to buy the product.

### **Brand quality**

The study showed that almost 40% of respondents associated brand with quality and over 60% of people trust branded products. It was concluded that Irish healthcare workers perceived branded products as better quality and the majority of them preferred to use them in serious cases. Only 38% of respondents associated brand with quality, however 59% agreed that they preferred to use branded products in serious cases. Hence it was concluded that branded products are perceived as better quality. This contradiction was further explained in the next paragraph.

In my survey, I tried to cover all dimensions and I found enough information that enabled me to analysis this study. When I was conducting my study I realised that medical staff are influenced by branding activates, even though they were reluctant to admit it. To support my hypotheses I asked respondents about the quality of branded products. Over 42% did not see the difference in quality between branded and non-branded products, and over 45% remained neutral answering this question. However there is a big trust in branded products when it comes to serious cases (life-threatening). Almost 60% of respondents answered that they preferred to use branded products in serious cases; also 60% of respondents agreed that they trusted branded products. This contradiction is a clear indication that Irish healthcare workers trust branded products and perceive them as better so as not to jeopardise patient health.

It was concluded that branded products are perceived as better quality products despite the answers regarding the quality showing different results. It might be also a consequence of healthcare workers not wanting to be perceived as costumers manipulated by company promotional activities.

The assumption that consumers from the medical industry are influenced by branding activities the same as consumers from other industries was confirmed.

These days' customers have a good knowledge about brands and their purchasing decision is strongly linked to associations with the brand. I examined the perception

of B.Braun, and most of the respondents associated the company with safety, innovation and reliability, which should be considered as a big success. The main focus of B.Braun is safety and innovation regarding to products and services they provide. This study showed that the brand strategy is successful. In my study I examined one product which is the best example of innovation and safety – the IV catheter. Despite that most of the respondents saw the B.Braun IV catheter as similarly effective and safe as competitors' products, it doesn't undermine the successful results of branding activities. As Romaniuk (2007) stated, brand differentiation is achieved even when consumers know that other brands have the same attributes, but perceive one brand better than others. This effect was found in my study. Even though costumers did not see the difference between the B.Braun IV catheter and the competitor' IV catheter, still over 56% of respondents did agree that the B.Braun brand is user-friendly, safe and innovative. Also almost 40% agreed that B.Braun is obviously a different brand, while 49% remained neutral.

Taking into account the results of this study I had to agree that Brand has Power. This power is the name, associations and quality planted in customer's minds. All the Aaker's dimensions create a unique perception of the company and their products. The focus of this thesis was on corporate brand and how this influenced product perception. Following Kowalczyk (2002), who argued that corporate brand adds value to products and can be beneficial, I concluded that this was achieved by B.Braun Medical. The company mission is to be perceived as a safe and innovative organisation and who share expertise with their customers. Furthermore I concluded that this corporate branding influenced the healthcare workers. As a result it is safe to say that medical staff do not buy IV catheters, they buy safety, innovation and reliability.

## **6.1 Implications for future research**

This research has presented an insight into the company's brand perception in the medical industry. The area of research included a few brands on the market, however it would be interesting to further explore how certain products of one company are

perceived by the customers. As this study showed, even if the corporate brand perception is positive, it might not be the case in a certain product group.

My research has showed that branding in the medical industry is very important and influences consumer behaviour, which could be an indication for the brand managers of B.Braun. It showed that the branding strategy achieved the expected results.

Also it could be suggested for a further study to survey a bigger sample, as the correlation between the distributions of opinions and sex, and between opinions and years of experience did not always give a definitive answer.

## CHAPTER 7

### 7. SELF-LEARNING PROCESS

In the beginning of my journey when I started thinking about the possible thesis subject, many interesting topics came to my mind. I thought to focus my study on advertising or strategic marketing, but my thoughts were always coming back to the original idea – branding.

When I decided on the idea for my thesis, I wanted it to be a unique study; because I knew only then could I really enjoy it. The choice of the industry and company was simple as currently I am working as a Marketing Executive in B.Braun Medical. At first I thought that it would be easy, having access to company data, which could easily help me with the crucial information about real brand strategy. Also I was sure I wouldn't have any problems in accessing academic journals. The data concerning B.Braun was not the problem during my journey, however finding relevant academic journals regarding branding in the medical devices industry was difficult. In that moment I felt close to changing my topic, as I knew I would not be able to support my hypotheses with academic articles.

However I found the article of Kowalczyk (2002) who stated that customers in the medical industry should be approached in the same way as customers from other industries. This article I now consider as my 'light at the end of the tunnel'. I thought, if the author suggested this hypothesis, then I could assume that healthcare workers are affected by branding in the same way, and I decided to test how big this influence is.

To structure my thesis, I used Aaker's brand equity dimensions, and here I feel that I have to express how much I enjoyed reading this book. It is not an exaggeration to say that Aaker shaped all my work during this thesis. I believe that this book not only helped me to organise my thoughts during my research but also helped me to understand the complex idea of branding.

Working in a company where branding is an everyday activity, I knew that this tool is essential for the company. However I did not know what is behind branding. I probably was like most people who associate branding with logo, but during the work on my thesis I realised that branding includes much more, or even everything. Starting with the brand name and logo, this is clearly a job of the designers. Moving to the quality, this dimension is strongly associated with research and development and the manufacturing process. Also brand association is not only the advertising; it is a big process of positioning the brand in the customers mind. Then all became clear that branding is a complex process and is created by all divisions within the company.

During my journey searching about branding, I came to a dilemma about product branding and corporate branding. I was not sure if it was the same or if these are two totally different concepts. The big help was Keller's (2002) article which simply stated that corporate branding is the next step from product branding, and the difference between both concepts is in scope and management. That moment was another milestone in the working process.

After my theoretical research I knew that the next step was the empirical part when I had to conduct a survey. Having the theoretical background I knew what I had to ask to obtain answers for my hypotheses, however that was a long and stressful time designing the questionnaire. It was difficult as it was the first research I had to conduct and I did not know what to expect from the beginning (distribution of the questionnaire) to the end (if I would receive any response!). Fortunately, during my research I experienced big help from the respondents who were willing to take part in my study, which allowed me to conduct my survey. There was an idea to organise a focus group but I knew it would not give me the picture of real market preferences if I surveyed only a few people. The questionnaire allowed me to perform my study on a large number of healthcare workers.

I have learnt a lot during the work on my thesis. I realised not only what branding really means, but also how important it is in the market. It is important from two points of view: it adds value to the company and it adds value to the customers.

My learning process would not be complete if I did not include the learning style, best explained by Honey and Mumford (1982, cited in Pedler). They recognised four learning processes:

1. Activists – they learn best from new experiences and challenges. They like problem solving excitement and situations where new ideas can be developed without constraints of policy and structure.
2. Reflectors – they learn when they are allowed or encouraged to watch or think on activities. They carry out careful, detailed research and need time to think before acting.
3. Theorists – they explore methodically the associations between ideas, events and situations. They best learn from activities where what is being offered is a part of a system or theory.
4. Pragmatists – they learn best where there is an obvious link between the subject matter and a “real life” problem. They like to have a chance to try out and practice techniques with coaching or feedback from a credible expert. They also like to implement what they have learned.

Analysing those learning processes I came to the dilemma if I was an activist or pragmatist. It was a new challenge for me; I developed my own hypotheses and actively led my research study, which made me an activist. On the other hand, working on my thesis I had seen the practical advantages of my study. The results could be easily implemented into the branding strategy. It showed not only how the company brand is perceived but also gave the indication on how it could be improved, which made me a pragmatist.

Concluding my self-learning process I had to admit that this journey was an incredible experience for me as a student and as an employee. As a marketing student I acquired knowledge about branding which broadened my mind, and paraphrasing Kotler (2005), who said that everything is marketing, I can say that branding is everything. As an employee, this learning process helped me to realise how big an effort is behind every name and logo. It is an effort not only by managing directors in the boardrooms, but is an effort of every employee, in every day work in every division.

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## **APPENDICES**

**Cover Letter**

**Research Questionnaire**

Magdalena Litwin  
Dublin Business School  
No. student: 1275800  
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mob.087 7471541

26 April 2010

Dear Sir/Madam,

I am a student in Dublin Business School in Marketing and currently I am doing a research for my thesis.

The topic of my thesis is:

**"The significance of branding in the brand choice of end users in the medical industry"**

I would very appreciate your help in filling in this questionnaire which would take only 5-7 minutes.

This study looks at some common variables in the study of business methods. The survey has been designed to provide information for my Business Masters thesis examining the relationship between these measures. All research conducted by DBS students is done for the purpose of meeting course requirements.

Please help me by answering these questions. Please say what you really think and try to be honest and accurate as possible.

All responses will be treated with the strictest sensitivity and are anonymous. Do not write your name on this booklet. You may withdraw from participation at any time.  
Thank you for cooperation.

If you would require any further information regarding this study, please free to contact me or my tutor:

Lecturer: Gary Prentice  
Head of MA in Addiction Studies  
Psychology Lecturer  
DBS School of Arts  
Dublin Business School  
13/14 Aungier Street  
Dublin 2  
Tel: 00353 1 4178731

Kind regards,

*Magda Litwin*

## General

1. What is your gender?

- Male
- Female

2. How many years of the working experience do you have?

\_\_\_\_\_

3. What is your position?

Consultant \_\_\_\_\_ Registrar \_\_\_\_\_ Nurse \_\_\_\_\_ Other \_\_\_\_\_

## Brand

4. Brand means logo/name?

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

5. Brand means quality?

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

6. Brand means higher price?

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

7. Recognition of the brand is important when I use product

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

8. I prefer to use products of well known company?

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

9. I trust branded products?

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

✦ 10. I have an influence on purchasing the products?

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

X 11. Quality of branded product and not branded product I use is the same?

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

X 12. I prefer to use the branded products than non branded product in serious (life threatening) cases?

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

X 13. I feel that lower cost of non branded product is a good reason to use it instead of branded product?

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

### X **Company awareness**

14. Do you know Baxter brand?

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

I know this brand because.....

15. Do you know BBraun brand?

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

I know this brand because.....

16. Do you know Becton Dickinson brand?

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

I know this brand because.....

17. Do you know Fannin brand?

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

I know this brand because.....

If you answered *no* at question 15, the questionnaire ends here.  
Thank you for your cooperation.

**The following questions are all about *BBraun brand*. Can you please give your opinion about the following questions?**

18. I think I know *BBraun brand* well.

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

X 19. The main products/services I associate with *BBraun* are

.....

X 20. *BBraun Brand* is obvious different then others brands (eg. Baxter, Becton Dickinson, Fannin)

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

21. I can rely on the *BBraun brand*.

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

22. The overall image of *BBraun brand* is user friendly.

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

23. I can associate *BBraun brand* with safety.

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

24. I can associate *BBraun brand* with innovation.

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

## X Product awareness

25. I am aware that there are many brands versions of IV catheters available.

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

26. I am comfortable using any versions of IV catheters available generally.

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

27. I would feel comfortable using other brand than BBraun brand of IV catheters (e.g. Vasofix, Safety).

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

28. I think that other brand like Fannin, Becton Dickinson or Baxter would be as effective as the BBraun products (e.g. Vasofix Safety).

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

29. I think that other brands like Faninn, Becton Dickinson or Baxter would be as safe as the BBraun products (e.g. Vasofix Safety).

strongly agree	agree	neutral	disagree	strongly disagree
1	2	3	4	5

30. I use BBraun *brand* mainly because:

- it's my own decision
- it's my supervisor's decision
- I use what is available in the stock room

Other comments:

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