

**MEASURING AND BUILDING THE SOUTH AFRICAN WEATHER SERVICE
(SAWS) BRAND EQUITY**

by

XOLILE MABUSELA

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DECLARATION

I declare that this thesis is my own, and that it has not been submitted previously as a dissertation or thesis for any degree at any University.

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ABSTRACT

The SAWS is interested in demonstrating the economic and social benefits of the products or services it provides to the public, industries and other organisations. It is also important for the organisation to carry out ongoing performance assessment of public and commercial weather services to ensure that these services are efficient and effectively meeting the public's and customer's needs and contribute to longer term commercial and societal objectives.

Some other National Weather Services has developed "Service Charters" which detail their pledge of performance to the user communities, specifically, customers and the general public. These service charters provide a brief overview of the services provided, a commitment of performance against specific targets and a commitments to consult and identify a means by which the customers and the public may register their concern. As a result the service charters has become an important component of the Weather Services branding measurement strategy.

The acceptance of the SAWS products or services by the public and other weather users depends on a number of factors. Scientific accuracy is just one of those factors. Also the health of the SAWS depends on the perceptions from full spectrum of weather users ranging from individual citizens, media, aviation,

marine, industry, government departments, construction companies, and insurance. These perceptions include those about requirements, accessibility, availability, accuracy, timelines, utility, comprehension, sufficient and packaging. The objective is to ultimately measure performance from the user perspective and identify user's needs. It is also to measure the acceptance of the services provided from such dimensions as expectations, understanding, importance, satisfaction, and utility.

This study has been framed within the hypothesis that the SAWS brand associations are not strong, not favourable and not unique to create a positive brand. It has come critical to assess the level of customer awareness and familiarity with the SAWS brand so as to improve the dissemination mechanisms of the weather forecast information. Based on a literature review, two types of brand association are identified. One is product association including functional attribute association and non-functional attribute association. The other is organisational association including corporate ability association and corporate social responsibility association. It has been found that, the greater the number of the core brand association, the higher the brand equity.

The feedback received on the questionnaire and interviews directed at awareness and familiarity with the SAWS brand indicated that, a need exists to educate the public and potential customers about the products and services of the SAWS. Of paramount important is the improvement of the SAWS dissemination mechanisms and partnerships with other scientific research organisations. This will enable the SAWS to reach a wide range of the public and weather users and to safeguard property and life of all South Africans.

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LIST OF ABBREVIATIONS

ASMET	African Satellite Meteorology Education and Training
COMET	Cooperative Program for Meteorology Education and Training
CSIR	Council of Scientific and Industrial Research
DEAT	Department of Environmental Affairs and Tourism
EMA	Egyptian Meteorological Authority
EUMETSAT	European Organisation for the Exploitation of Meteorology satellite
ICAO	International Civil Aviation Organisation
IMTR	Institute for Meteorological Training and research
IOC	International Oceanographic Commission
IPCC	Intergovernmental Panel on Climate Change
IWRM	Integrated Water Resources Management
KMD	Kenya Meteorological Department
KMS	Kenya Meteorological Society
MetService	New Zealand Meteorological Service
MSC	Meteorological Service of Canada
NWSs	National Weather Services
SABC	South African Broadcasting Corporation
SADC	South African Development Countries
SASAS	South African Society of Atmospheric Sciences
SAWB	South African Weather Bureau
SAWS	South African Weather Service

SWOT	Strengths, weaknesses, opportunities and threats
UCAR	University Corporation for atmospheric Research
UK	United Kingdom
UNDP	United Nation Development Programme
WMO	World Meteorological Organisation

CHAPTER 1

INTRODUCTION

1.1 Background

The South African Weather Service (SAWS) is promulgated by the SAWS Act No.8 of 2001 of parliament and the World Meteorological Organisation (WMO) to be the authoritative voice of floods, and severe weather warnings to all South Africans as well as weather related matters to interested parties like farmers, individuals, and business organisations. Its challenging task is to make sure that it creates a strong brand and manage it so that it maintains the loyalty of its customers and the general public.

The primary factor is to understand what the SAWS brand represents and then make sure everyone works together to build the brand. Marketers argue that, one of the definitions of a brand is that it is a promise made and a promise kept. It is further argued that companies do what they say they are going to do. As a result their brand will become a trust mark that can be relied on. Many companies including the SAWS are unsure if they are brand owners or a brand in their own right. Hence marketers are asking a single question to these companies: whether they add value to their range of brands, product and services? If the answer is yes, the next question they ask is: what are they doing about it?

1.2 Branding objectives

A brand is a distinguishing name and or symbol intended to identify the goods or services of either one seller or a group of sellers, and to differentiate those goods or services from those of competitors (Aaker, 1991).

A brand thus signals to the customer the source of the product and protects both the customer and the producer from competitors who would attempt to provide products or services that appear to be identical. Kim and Chung (1997) argue that a distinguishing characteristic of modern marketing has been its focus upon the creation of differentiation brand association to accentuate the bases of differentiation. This idea has been to move beyond commodities to branded products to reduce the primary of price upon the purchase decision. Once the SAWS brand is strong enough consumers will associate the value of the SAWS products or services with the brand.

A strong SAWS brand can convey either a positive or a negative message about the product to the consumer hence it needs to be measured, managed, and continually monitored properly so as to maintain its strength.

1.3 Importance of measuring and building a brand

Markinor-Sunday Times Top Brands Survey report (2003) suggests that, the ultimate measure of any brand's worth is its ability to sustain sales from loyal customers. The survey report indicates that, to get to this point, a brand first needs to establish itself in a prominent position in the mind of the customer and then build favourable attitudes. Finally, if the attitudes are positive they should lead to favourable purchase behaviour.

Andy Price, a partner at marketing strategy consultant, Yellowwood Brand Architects, indicated in the Top Brands Surveys that, customers are very savvy operators, and are perfectly capable of understanding the distinction between low price and good value. He continues by saying, the question of brands it's a matter of trust. But none of the brand winners in Top Brands Survey of 2003 are lowest priced brand in their categories. In fact they might all be considered premium brands, and certainly they all face cheaper competitors.

1.4 Brand Equity

In most marketing research, the term brand equity is used to summarise all of the various assets which are part of a brand. Among the assets of a consumer product manufacturer are the brand name and its portfolio.

Following Aaker (1991, 1996) the value which is built and embedded in the brand name consists of the following features: brand loyalty, awareness, perceived quality, association and other proprietary assets. The value of having a brand name confers certain advantages on the owners of the brand. Loyal customers will repeatedly prefer a product or service because branded goods have a reputation for quality.

Literature also reveals that building brand equity is not a marketing effort but branding should be taken on by the entire organisation. In the case of the South Weather Service (SAWS), it should be from the people that take weather data observation, to the person who issues the weather forecast, to every person in every functional department at the weather service. The brand is a reflection of the SAWS that has given birth to it, and every effort that is taken to produce and promote it should be done with the vision, mission, goals, and objectives of the SAWS in mind. If the SAWS have no mission or vision the brand will have no direction. Communication to customers will be inconsistent and the brand will likely fail.

1.5 Brand goals

Literature reveals that, in the development of a brand, developing goals provides the future basis for evaluating that brand. These goals are not typical goals like those that would be included in a business or marketing plan e.g. profit margin, market share etc. Brand goals include topics such as achieving a certain level of

brand loyalty, brand name/mark awareness, perceived quality, and/or sundry brand associations.

1.6 Brand measurements

The focus on consumer behaviour has led to an offering of measures such as overall preferences, perceived value and a measure of utility or satisfaction that is an intangible value (Myers, 2003). Myers has found three components of brand equity as:

- Perceived value
- Brand dominance; and
- Intangible value.

He defines perceived value as the value of the brand, which cannot be explained by price and promotion. He further found that brand dominance ratio provides an objective value of the brand's ability to compete on price and intangible value as the utility perceived for the brand minus objective utility measurements.

Preston, 2003 editor of SA's premier resource on brands and branding once highlighted that branding has grown up; it is no longer referred to as an organisation principle for business. It's a means to align an organisation behind a customer-centered idea. It is also, in most commercial entities, the most valuable asset (Sunday Times Business, 5 October 2003). Aaker (1991) agrees with Preston and further emphasised that the first taste of brand building exercise involves a market place audit.

He argues that, this provides a bench-mark for companies like the SAWS against other National Weather Services and also identifies how these companies are perceived and what credit they can be given in the market place. According to the Brand report of September 1999, a brand planning tool called the brand footprint can also be used in this bench-marking exercise. The brand report describe

the brand foot-print as a tool to create an impression in a consumer landscape and also serves to describe the brand simply, accurate and unequivocally.

1.7 Problem Statement

The South African Weather Service (SAWS) is the authoritative voice for drought and floods warnings in South Africa. It also operates the Aviation Meteorological Centre, a dedicated weather service to the aviation industry, from Johannesburg International Airport.

The SAWS is among the largest meteorological services in Africa and the only weather service in South Africa. It has 21 weather offices around the country, with regional forecasting offices at airports, all working towards providing comprehensive daily information on the weather. The SAWS cooperates well with the neighbouring countries and meteorological services around the world as a member of World Meteorological Organisation (WMO). It is however not popular within the South African public and the corporate.

The management of the SAWS has been highly concerned about this and need answers in the following:

- The public's position regarding weather services in South Africa and their use.
- What specific weather services are used by the public?
- The perception and attitude the public have on weather information issued by SAWS?
- Whether the public understands what SAWS stands for?

It will be therefore more difficult for the SAWS to strengthen its relationship and/or cooperation with other National Weather Services (NWSs) as well as international clients, if they have a poor brand positioning within the South African market.

It is of utmost importance for the SAWS to be accessible to the public and have a good reputation so as to strengthen its brand equity. This will also enable the SAWS to fulfil its mission of providing world class, efficient and cost-effective service to help safeguard life and property and improve socio-economic conditions for the benefit of all South Africans with particular focus on its customers and disadvantaged communities.

In order for the SAWS to acquire more customers, the SAWS need a marketing strategy that will not only publicise its image and change the mindset that links weather with the South African Broadcasting Cooperation (SABC), but also to build a strong SAWS brand equity.

It is hypothesized that:

H0: The SAWS brand associations are not strong, not favourable and not unique to create a positive brand image.

H1: Low level of customer awareness and familiarity with the SAWS brand weakens brand equity.

Null Hypothesis:

H2: Strong, favourable and unique brand associations of the SAWS create a positive brand image.

H3: High level of customer awareness and familiarity with the SAWS brand build strong brand equity.

1.8 Research Objectives

The research objective is to:

- Assess the effectiveness of the SAWS brand associations in creating a strong brand image.

- Evaluate the level of customer awareness and familiarity with the SAWS brand.
- Evaluate customer's perceptions and attitude about the SAWS brand.
- Identify a strategy that will build and maintain the SAWS brand.

1.9 Importance/Benefits of the study

The research will benefit the SAWS, by building their active and residual value to the customers, and the larger society through brand positioning of the service. Another benefit will be to identify how customers view the SAWS's brand so as to build a customer-focused organisation.

The research will also enable the SAWS to use the power of brand equity to improve quality management and to hear the views of its customers, public and the society at large so as to design improved new products for customer's satisfaction. By doing so the socio-economic benefits as outlined by the World Meteorological Organisation (WMO, 1995) will also be improved to ensure customer loyalty and dramatically increase long-term profit of the SAWS.

1.10 Conclusion

Although the SAWS is the only weather service in SA and arguably the most sophisticated in Africa its brand is not rated among the top brands in South Africa. The question that needs to be answered then is whether the SAWS has built its reputation on weather related matters so as to have loyal customers.

This research will therefore evaluate what people think about the SAWS brand and recommend a strategy that will improve or build the SAWS brand. A focus will be on how to build the SAWS brand using direct marketing, where participant observation and questionnaires will be used to gather information. The research will also look at the current status and visibility of the SAWS in terms of its

strategic intent, policies, human resource mechanisms that have a direct impact on employees, marketing, distribution, and pricing strategies as well as the current brand strategy.

The focus will be looking at all the building blocks of brand equity trying to identify gaps that hinder the SAWS to have strong brand equity.

CHAPTER 2

LITERATURE REVIEW

2.1 Meaning of brand

A brand is a distinguishable name and/or symbol intended to identify the goods or services of either one seller or a group of sellers, and to differentiate those goods or services from those of competitors (Aaker, 1991). Marketers argue that employees want to work for a company with strong brand image, a good corporate citizen, respected for its ethics and regarded by customers, and suppliers as the preferred brand not only in South Africa (SA) but across the world. The SAWS brand should signal to the customer the source of the product or service and protect the customer from competitors who would attempt to provide products or services that appear to be identical.

Keller (2003) also describe a brand as a product, but one that adds other dimensions, that differentiate it in some way from other products designed to satisfy the same need. He further refers to these differences as rational and tangible related to product performance of the brand or more symbolic, emotional and intangible, related to what the brand represents.

The National Weather Services (NWSs) have a number of different types of associations, and it is very important for the marketers of these weather services to account for all of them in making marketing decisions. Literature reveals that marketers behind some brands like Coca-Cola have learned this lesson the hard way. This is evident when Coca-Cola encountered problems during the introduction of 'New Coke' when they failed to account for all the different aspects of the Coca-Cola brand image.

In order to create a successful brand for the SAWS, Keller (2003) argues that it should entail all various elements together in a unique way. He further suggest that the products or services has to be of high quality and appropriate to customer's needs, the brand name must be appealing and tune with the consumer's perceptions of the product, the packaging, promotion, pricing and all other elements must similarly meet the tests of appropriateness, appeal, and differentiation. By creating perceived differences among products through branding and developing a loyal customer franchise, marketers create value for the firm. Thus a brand is a valued intangible asset that needs to be handled carefully. As Keller (2003) suggest, a brand is a signal of quality, symbolic device and identification of source of products or services to customers.

If customers recognise the brand and have some knowledge about it, then they do not have to engage in a lot of additional thought or processing of information to make a product decisions.

Literature also reveals that branding is about developing a name and image that can do quality and satisfaction, whilst at the same time takes account of individual lifestyles and beliefs. Cases like these still occur in South Africa more especially in rural areas, where most of the people still believe in traditional methods of predicting weather.

As a result, the SAWS faces a challenge of changing that mindset as well as integrating what the new technology suggests and the indigenous knowledge available in these areas.

2.2 Branding challenges and opportunities

2.2.1 Challenges

Keller (2003) has identified a number of branding challenges which are briefly described below:

Savvy Customers

This highlights the increase in consumers and businesses that have become more experienced with marketing and more knowledgeable about how it works. Consumer's information and support exists in the form of consumer guides, online websites, and son on. Other marketers believe what consumers want from brands have challenges.

They further argue that it is not enough for a brand to be just respected but companies like the SAWS must transcend brands to create trust marks.

Brand proliferation

Another important challenge in the branding environment is the proliferation of new brands in part spurred by the rise in line and brand extensions (Keller, 2003). As a result a brand may now be identified with a number of different products or services of varying degrees of similarity.

Media Fragmentation

The erosion or fragmentation of traditional advertising media and emergence of interactive and non-traditional media promotion, and other communication alternatives is also one of the important challenges in the marketing environment

Increase competition

One reason marketers have been forced to use so many financial incentives or discounts is that the market place has become more competitive.

Both demand-side and supply side factors have contributed to the increase in competitive intensity. Keller (2003) also find that, on the demand side, consumption for many products and services has flattened and hit the maturity stage, or even the declining stage of the product life cycle.

As a result sales growth for brands can only be achieved at the expense of competing brands by taking away some of their market share. On the supply side, Keller found that new competitors have emerged due to a number of factors such as brand extensions, deregulation, globalisation and low-priced competitors.

Increase costs

While the competition is increasing, marketers also find that at the same time the cost of introducing a new product or supporting an existing product has increased rapidly, making it difficult to match the investment and level of support that brands were able to receive in previous years.

Greater accountability

Marketers often find themselves responsible for making ambitious short-term profit targets because of financial market pressures and senior management imperatives. This may lead to marketers finding themselves in the dilemma of having to make decisions with short-term benefits but long-term costs. These different organisational pressures may encourage quick-fix solutions which perhaps adverse long-run consequences.

2.2.2 Branding opportunities

Marketers argue that brands can reduce risks in product or service decisions. According to Keller (2003) customers may perceive many different types of risks in buying and consuming a product a service. The following are the six risks identified by Keller:

- **Functional risk:** where the product or service doesn't perform up to expectations.
- **Physical risk:** when a product or service poses a threat to the physical well-being or health of the user or others.
- **Financial risk:** the product or service is not worth the price paid.
- **Social risk:** the product or service is embarrassment from others.
- **Psychological risk:** the product affects the mental well-being of the user.
- **Time risk:** the product or service results in an opportunity cost of finding another satisfactory product.

Keller also established that one of the other ways of handling these risks, consumers tend to buy well-known brands, especially those with which they have had favourable past experience. Brands which are unique and have personal meaning to consumers can enrich their lives and reduce the risks mentioned above.

2.3 Enduring brand leadership

According to Keller (2003) there are five factors that are key to enduring brand leadership.

He describes them as follows:

Vision of the mass market

Companies that have a keen eye for mass market taste are more likely to build a broad and sustainable customer base. These companies should stand significantly on research and development in order to design an affordable and effective products or services that can quickly become the market leader.

Management persistence

The 'breakthrough' technology that can drive market leadership often requires the commitment of company resources over long periods of time. Enough researching and testing phases can improve the market leadership of a firm.

Financial commitment

It has been proved that cost of maintaining market leadership is high because of the demands for marketing, research and development.

Companies should therefore aim for a long-term leadership rather than short-term profitability when introducing a product or service in order to enjoy enduring market leadership.

Relentless Innovation

As the competition is increasing from other firms and changes in consumer tastes, companies that wish to maintain leadership positions must continually innovate

Asset Leverage

Marketing studies reveals that companies can become market leaders if they hold a leadership position in a related category. The SAWS with diverse product and/or services in the field of weather can utilise this opportunity and become the leader in this category.

2.4 Brand Uncertainty

According to Ghosh and Chakraborty (2004) customer's limited knowledge of and experienced with brands has been empirically demonstrated by most marketing literature. They further argue that the lack of perfect information about brand attributes causes brand uncertainty and affects brand evaluations. The studies done so far that deals with the impact of brand uncertainty on brand perceptions focuses on the manner in which information is processed under uncertainty or the information search behaviour of consumers under uncertainty.

Ghosh and Chakraborty (2004) also found that these studies provide further evidence that brand uncertainty affects consumer perceptions.

However, they do not attempt to integrate brand uncertainty into a decision-making tool but look at how brand uncertainty is likely to influence brand attitude and preferences, which in turn impacts brand performance measures such as sales, market share, and profitability.

In their conclusion remark, they emphasize the fact that brand uncertainty causes uncertainty in attitudes and preferences. They also indicate that these uncertainties in attitudes and preferences can be incorporated in brand maps by representing brands probabilistically in the multidimensional attributes space of consumers. They also found that brand uncertainty causes variances in judgments involving the brand. Therefore, when comparing two brands the degree of variance in judgements is associated with the total amount of perceptual uncertainty about those brands.

2.5 Brand values and customer values

According to Knox (2004) it is only relatively recent that senior managers of companies have started talking about brands as assets and brand equity as a major component of their organisation's market value. Knox further argues that a brand is an entity that offers customers (and other relevant parties) added value based on factors over and above its functional performance. These added values, or brand values, differentiate the offer and provide the basis for customer preference and loyalty.

The key issue facing National Weather Services (NWSs) these days is how to build more value into products and services they sell in the face of product commoditisation, faster innovation, growing competition and more demanding customers. Knox (2004) found that at the heart of the matter is the fundamental

shift in what customers perceive as value, and this is challenging the way that business activities create customer value. Knox further acknowledges Keller's (2003) argument on the fact that brand values provide a promise of semenes and predictability.

To develop an integrated approach to these endeavours, the context of the brand has to change to embrace culture, know-how and organisational systems and processes, as well as products, if National Weather Services are to use the assets and capabilities effectively. Knox further indicates that without such transformation in strategic marketing thinking, traditional brand building activities are unlikely to create value.

2.6 Brand Equity Framework

Brand equity is defined by the Marketing Science Institute (Keller, 2003) as the set of associations and behaviours on part of the brand's customers, channel members, and parent corporation that permits the brand to earn greater volume or greater margins than it could without the brand name and that gives the brand a strong, sustainable and differentiated advantage over competitors.

According to Aaker (1991), brand equity is a set of brand assets and liabilities linked to a brand, its 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.

Keller (2003) also regard Customer-Based Brand Equity (CBBE) as the model that provides a unique point of view as to what brand equity is and how it should best be build, measured and managed.

He further highlight that the CBBE model approaches brand equity from the perspective of the consumer. The basic premise of the CBBE model is that the power of a brand lies in what customers have learned, felt, seen and heard about

the brand as a result of their experiences over time. The challenge of building the SAWS brand is to ensure that customers have the right type of experiences with its products or services and its accompanying marketing programmes so that the desired thoughts, feelings, image, beliefs, perceptions, and opinions become linked to the brand.

2.6.1 Sources of brand equity

According to Aaker (1991) customer-based brand equity occurs when the customer has a high level of awareness and familiarity with the brand and holds some strong, favourable and unique brand associations in memory. This is an indication that, the SAWS branding strategies to be successful and brand equity to be created, consumers must be convinced that there are meaningful differences in the products or services.

Keller (2003) further argue that establishing a high level of brand awareness and positive image in consumer memory in terms of strong, favourable and unique brand associations produces the knowledge structures that can affect consumer response and produce different types of customer based brand equity.

2.6.1.1 Brand Associations

Aaker (1991) describe brand associations as anything that is linked in memory to a brand. He asserted that the underlying value of a brand name often is the set of association-its meaning to people. Keller (1993) also defines brand associations as informational nodes linked to the brand nodes in memory that contain the meaning of the brand for consumers.

Chen (2001) argues that associations could be used as a general term to represent a link between any two nodes, which suggests an association in the

consumer's mind. Chen further indicates that associations come in all forms and many reflect characteristics of the ways brand associations can provide value.

There are variety of ways brand association can provide value to the SAWS. Among the ways in which associations create value to the SAWS and its customers are: helping to process/retrieve information, differentiating the brand, generating a reason to buy, creating positive attitudes/feelings, and providing a basis for extension.

Keller and Aaker both appear to hypothesize that consumer perception of brand are multi-dimensional yet many of the dimensions they identify appear to be very similar. The underlying value of a brand is often based upon specific association of "use content" such as heart attack prevention can provide a reason-to-buy which can attract customers. Such an association represents the product's meaning to customers. Brand associations represent bases for purchase decisions and for brand loyalty.

Aaker (1991) argues that not all associations need to be built but rather those that directly or indirectly affect consumer's buying behaviour. Aaker also mention product attributes (customer benefits) as an important class of associations, but also indicate that there are others that can be important in some contexts.

Chen (2001) asserted that brand association has been expanded by Aaker to include organisational associations. Although organisational associations, such as corporate image, have a long history in the marketing literature, there is a surprising lack of evidence on how, when and what types of organisational associations affect product responses.

Thus, it is also important to understand how the information consumers associate with a company affects their responses to the products and services offered by the SAWS.

Keller(1993) also asserted that the favourability, strength, and uniqueness of brand associations are the dimensions distinguishing brand knowledge that play an important role in determining the differential response that makes up brand equity, especially in high involvement decision settings.

Type of brand association

Aaker (1991) categorised brand associations into 11 types:

- (1) Product attribute;
- (2) Intangibles;
- (3) Customer benefits;
- (4) Relative price;
- (5) Use/application;
- (6) User/customer;
- (7) Celebrity/person;
- (8) Life-style/personality;
- (9) Product class;
- (10) Competitors; and
- (11) Country/geographic area

Chen (2001) argues that brand associations could be classified into three major categories of increasing scope: attributes benefits and attitudes.

Attributes as those descriptive features that characterize a product or service, what a consumer thinks a product or service is or has and what is involved with its purchase or consumption. Attributes can be categorised into product-related attributes, and no-product related attributes such as price, user and usage imagery, or brand personality. Benefits are personal values consumers attach to product or service attributes- that is, what consumers think the product or service can do for them. Benefits can be further distinguished into three categories- functional, experiential and symbolic benefits. Brand attitudes are defined as consumer's overall evaluations of a brand.

Brand identity is made up of these different types of brand associations, which can vary according to their favourability, strength and uniqueness.

2.6.1.1.1 Strength of brand associations

Keller (2003) has identified two factors that facilitate the strength of association to any piece of information. Firstly, personal relevance of the information and secondly, the consistency with which this information is presented over time. The particular association that are recalled and salient will depend not only on the strength of association, but also on the context in which the brand is considered and the retrieval cues that are present that can serve as reminders.

Keller further argued that, brand elements affect the strength and recallability of a brand. He highlights six criteria in choosing brand elements:

- Memorability;
- Meaningfulness;
- Likeability;
- Transferability
- Adaptability; and
- Protectability.

He also describe the first three criteria memorability, meaningfulness and likeability as “brand building” in nature. The latter three, however, are more ‘defensive’ in nature and are concerned with low brand equity contained in a brand element can be leveraged and preserved in the face of different opportunities and constraints.

Memorability

This brand element can be chosen to facilitate recall or recognition in purchase or consumption settings. In other words, the intrinsic nature of certain names,

symbols, logos and the like may make more attention getting and easy to remember and therefore contribute to brand equity.

Meangiffulness

This element is to enhance the formation of brand association. Keller illustrated two particular important dimensions or aspects of the meaning of a brand element as the extend to which it conveys the following:

- general information about nature of the product category and
- the specific information about particular attributes and benefits of the brand.

Likeability

The association suggested by a brand element may not always be related to the product or service. Thus brand elements can be chosen that are rich in visual and verbal imagery and inherently fun and interesting. Independent of its memorability and meaningfulness, how aesthetically appealing do consumers find the brand element?

Transferability

This concerns the transferability of the brand element in both a product category and geographic sense.

Adaptability

This concerns the adaptability of the brand element over time. Because of changes in consumer values and opinion, or simply because of a need to remain contemporary, brand elements often must be updated over time. The more adaptable and flexible the brand element, the easier it is to update it.

Protectability

This element concerns the extent to which the brand is protectable, both in a legal and competitive sense. Keller asserted that it is important to:

1. choose brand elements that can be legally protected on an international basis.
2. formally register them with the appropriate legal bodies, and
3. vigorously defend trademarks from unauthorised competitive infringement.

2.6.1.1.2 Brand association and value creation

According to Aaker (1991), marketers use brand association to differentiate, position, and extend brands, to create positive attitudes and feelings towards brands, and to suggest attributes or benefits of purchasing or using a specific brand.

However, brand associations are of more use to the customer than the marketer. The way a brand association creates value to the customer will depend on the customer's perception of value.

For each individual, reality is a totally personal phenomenon, based on that person's needs, wants, and personal experiences. Aaker also argue that, customers everywhere respond to images, myths and metaphors that help them define their personal identities. Thus, different customers will perceive reality differently.

Sheth and Mittal (2004) contends that although two individuals may be subject to the same stimuli under apparently the same condition, the way they recognise them, select them, organise them, and interpret them is a highly individual process based on each person's own needs, values and expectations.

Aaker (1991) identify a possible way in which brand associations create value to the customer by helping to process or retrieve information about a brand, generating a reason to buy, and creating positive attitudes or feelings.

2.6.1.1.3 Brand associations and value of product model

Brand associations help consumers judge the value of a product or service. For example, country of origin influences consumers in making judgements as to whether a product or service is of value or not. Consumers tend to have broad but somewhat vague stereotypes about specific countries and specific brands that they judge best (Cateora, 1996).

2.6.2 Corporate image

Keller and Aaker had identified innovation as the only corporate image dimension that enhanced the perceived fit of a corporate brand extensions and the evaluation of the product attributes from their experiment on the impact of corporate image on customer acceptance of a corporate brand extension (Chen, 2001). Moreover, an innovative corporate image had a substantial positive impact upon corporate credibility, making the firm appear to be more expert, more attractive and more trustworthy. According Chen (2001), Keller has also identified few of the most and useful organisational associations as society/community orientation, perceived quality, innovation, and concern for customers, presence and success both in local and global market.

The SAWS marketers should be aware of the fact that what consumers know about the company can influence their beliefs and attitudes toward new products or services issues by the company, and also the effects of corporate ability and corporate social responsibilities that can have upon consumer responses to the SAWS products or services.

Chen (2001) summarises the above analysis in the table below:

	Product associations		Organisational associations	
	Functional attributes	Non-functional attribute	Corporate ability	Corporate social responsibility
Aaker (1991)	-Product attributes -Customer benefits -Product class	-Intangibles -Customer benefits -Relative price -Use/application -User/customer -Celebrity/person -Life-style/personality	Country/geographic area	
Biel (1992)	Functional product attributes	Soft or emotional attributes	Functional corporate attributes	Soft or emotional attributes
Farquhar & Herr (1993)	Product category Product attribute Customer benefits	Use situation Customer benefits		
Keller & Aaker (1995)			Innovativeness	Environmentally conscious Community minded
Aaker (1996)			Perceived quality Innovation Presence and success Local vs. global	Society/community orientation Concern for customer
Chen (1996)	Perceived quality Functional feature	Symbolic Emotional	Innovativeness	
Brown & Dacin(1997)			Corporate ability	Corporate social responsibility

Table 2.1: Types of brand associations (Chen, 2001)

Based on the above literature, brand association can be categorized into product and organizational associations. Chen (2001) further divides product associations into two types namely, functional attribute associations (for example product attribute, perceived quality, and functional benefits) and non-functional attribute associations (symbolic associations, emotional associations, price/value, user/usage situation).

He further grouped organizational associations into corporate ability associations and corporate social responsibility associations.

Corporate ability associations being those associations related to the SAWS's expertise in producing and issuing its outputs i.e. the expertise of employees, superiority of internal research and development, and the resulting technological innovation, customer orientation, and industry leadership. Corporate social responsibility associations will reflect the SAWS's status and activities with respect to its perceived social obligations. Social responsibility will cover community involvement, cultural activity sponsorship, or increases its visibility in support of social causes through cause-related marketing.

2.7. Building brand preference

Consumer tastes and preferences for a brand might be built through one or more of six distinct modes as described by Alreck and Settle (1999):

- Need association- The brand is linked to one need through repeated association.
- Mood association- suggestive symbols are used to excite consumer's subconscious motives.
- Behaviour modification- Consumers are conditioned to buy the brand by manipulating cues and rewards.
- Cognitive processing- Perceptual and cognitive barriers are penetrated to create favourable attitudes.
- Model emulation- Idealised social lifestyle models are presented for consumers to emulate.

Alreck and Settle (1999) mentioned that these six modes are derived from the leading theories and perspectives on human learning that have evolved in the fields of psychology and social psychology. Need association essence is merely to present the brand name and a particular need, simultaneously and repeatedly. Constant repetition is the key. Those exposed to such conditioning eventually learn to associate the brand with the need.

This simple brand preference-building mode was (and still is) effective for creating brand name awareness, but of course it does very little else.

Mode association's objective is to imbue the brand with a positive aura, and it remains a popular consumer preference-building technique today.

Alreck and Settle (1999) highlight four main elements of a behaviour modification program as:

- Drive,
- Cue
- Response, and
- Reinforcement.

In this behaviourist model, learning is defined as: the increase in the probability of response (purchase) on cue as the result of previous reinforcement.

All this sound quite simple and straightforward, but in fact there are several principles and complexities that National Weather Services have to consider to use this preference-building mechanism effectively.

Alreck and Settle points out four most basic ground rules:

- The stronger the drive, the more quickly and completely the conditioning will be. The consumer may not respond on cue when there is no drive whatsoever.
- The cues should be as distinctive as possible. If they are not, consumers might generalise them to other responses, such as purchasing another brand.
- The easier it is for consumers to respond, the more likely they will be to do so. If price is too high or the purchase or use is too difficult, they may not but it.

- The reinforcement should be a strong, positive reward- the stronger the better. If they are punished, they are likely to learn not to buy or use the brand.

Cognitive processing is most likely to apply to conscious choices where the buyer is highly involved in the purchase decision processes. National Weather Services that use advertising and promotion will create positive attitudes towards their products or services.

These attitudes can be composed of two main parts:

- The consumer's knowledge or beliefs about the product, and
- Their positive or negative evaluations of it.

Alreck and Settle find that knowledge and beliefs are created by informative messages and further indicate the fact that such advertising or promotion has to overcome several, strong communications barriers:

- Selective exposure- consumers choose the media to which they are exposed, so only part of the audience will be exposed to any message.
- Selective attention- Despite exposure to a message, some consumers will merely ignore it, rather than paying attention to the message.
- Selective perception- Even when paying attention, some of the elements will be ignored some will be distorted and some will be added.
- Selective retention- some or all of the information that is perceived will be lost almost immediately, rather than being retained in memory.
- Selective recollection- At best, only part of what has been retained may be remembered later and perhaps no information will be recalled.
- Selective application- Rather than applying the information that was recalled, the consumer may ignore the recollection and act differently.

To penetrate these communication barriers most of the literature suggest that National Weather Services should use media that will reach their target audience, with sufficient frequently to provide repeated exposure.

Cook, School Navigator at Vega, argue that a strong brand can be built through the use of report card, and highlights that the reward for this brand report card will:

- Provide everyone with a sense of meaning and direction.
- Act as a magnet to attract and keep customers and talented employees.
- Provide opportunities for ongoing publicity.
- Enable loyalty and trust.
- Simplify choices for employees and customers by removing fear, uncertainty and doubts (Sunday Times Business, 5 October 2003).

Keller (2003), also indicates that building a strong brand, according to the Customer-Based Brand Equity (CBBE) model, can be thought of in terms of a sequence of steps, in which each step is contingent on successfully achieving the previous step. He further argues that all the steps involve accomplishing certain objectives with customers both existing and potential. The steps Keller mentioned are to:

- Ensure identification of the brand with customers and association of the brand in customer's minds with a specific product class or customer needs.
- Firmly establish the totality of brand meaning in the minds of customers by strategically linking a host of tangible and intangible brand associations with certain properties.
- Elicit the proper customer responses to this brand identification and brand meaning.
- Convert brand response to create an intense, active loyalty relationship between customers and the brand.

Zeithaml and Bitner (2003) also highlights that, a strong brand will build customers loyalty. They describe brand loyalty as a means of economizing decision effort by substituting habit for repeated, deliberate decision, functions as device for reducing the risks of customer decisions. If the SAWS follows what the theory suggests, its brand loyalty will allow them to gain knowledge of the customer's tastes and preferences, and a customer may exhibit brand loyalty to cultivate a satisfying relationship with them.

2.8. Customer behaviour on choosing a brand

Sheth and Mittal (2004) distinguishes three major foundation of customer behaviour (perception, attitudes and motivation) to explain their affects on individual choice of products or services. They further asserted that individual choice will also be influenced by personal factors. Thos are divided into two broad classes- personal traits and personal context.

Personal traits include those biological and physiological features a person is born with and that develop as a person grows whose origin derives from biological heredity. Sheith and Mittal further divides personal characteristics into tow types:

Individual traits (unique, biogenic and psychogenic aspects of individual) and group traits (biogenetic categories including race, gender and age).All these personal characteristics will have an affect on how customer's behave in choosing weather products or services.

Considering that individual's cultural background differ from one race to another and the fact that people are raised in different social environment and consequently attitudes, motives and choice of products or services may differ.

Sheth and Mittal also argue that when looking at companies, value placed on materialism and on simplicity versus indulgence, in permitting debt, and in the

extent to which the user, payer and buyer roles are blended or separated differs a lot. They demonstrated that whatever the direction of motivation for a customer to buy a brand, it manifest in three facets needs, emotions and psychographics. They also explained that needs are gaps between the desired and the current state and lend themselves readily to cognitive consciousness and appraisal.

Emotions are more autonomic and engender more personal experience whereas psychographics combine behaviours driven by both needs and emotions.

Schiffman and Kanuk (1996) indicated that marketers should try to position their brands so that they are perceived by the consumer to fit a distinctive niche in the market place- a niche occupied by no other product or service. It should also be remembered that all humans are equipped with means of gathering and processing information for purpose of survival. The need of information, need of understanding the world around them, and need for knowledge are derivative needs, that is, needs in the service of the basic need for survival and safety (Sheth and Mittal, 2004). They also argued that, a related concept is tolerance for ambiguity which refers to the degree to which lack of information or uncertainty makes a person conscious. Consumers intolerant of ambiguity are less likely to adopt new brands than those with a high degree of this trait.

2.8.1 Attitudes of consumers on brands

The preceding discussion has been concentrated on two aspects of customer behaviour: personal traits and context as the determinant factors on how consumers select brands. This section will be focusing at the customer attitudes as the main determinant of customer behaviour in making choice of brands. To this effect, customer attitudes definition will be provided and finally apply the three-component model to the SAWS products or services.

2.8.1.1 Defining customer attitudes

Sheth and Mittal (2004) define attitude as learned predispositions to respond to an object or class of objects in a consistently favourable or unfavourable way. There are several implications in this definition:

- Attitudes are learned, that is, they get formed on the basis of some experienced with or information about the object.
- Attitudes are predispositions. As such, they reside in the mind.
- Attitudes cause consistent response. They precede and produce behaviour; therefore attitudes can be used to predict behaviour. Such that if customers show a favourable attitude toward a new product, then marketers predict that when the new product is made available, the customer is likely to purchase such product.

Customer's attitudes then are essentially evaluations of brands. Customers evaluate these in terms of their goodness, quality, likeability and desirability. Attitudes are held by both domestic customers and business markets. In households markets, many customers hold an attitude towards sales person in general and business customers might hold an unfavourable attitude towards offshore companies or towards vendors as a group.

2.8.1.2 Three-component model of attitude

Sheth and Mittal (2004) describe three dimensions informing global attitude as cognition, affect, and conation or respectively knowledge, feeling, and action. When a customer holds certain attitude about a brand, typically such attitude is based on some knowledge and beliefs about the brand. The customer consequently has certain beliefs and motions towards the brand either negative or positive and as such the customer wants to act in a certain way towards, either to embrace it or reject.

The three components are individually discussed as:

2.8.1.2.1 Beliefs/cognitions

Cognitions or beliefs about brands are also beliefs held by customers about such brands. Beliefs are expectations as to what something is or is not or what something will offer or will not. Statements of beliefs connect brands to an attributes or benefit offered by that brand. Accordingly, a brand belief is a thought about a quality of the brand. Typically, customers would make purchase of foreign cars, for example German cars because of the belief they hold about German brands.

Beliefs can be put into three categories (Sheth & Mittal, 2004): descriptive; evaluative; and normative.

Descriptive beliefs connect an object or person to a quality or outcome; for example, BMW's offers superior performance.

Evaluate beliefs connect a brand or an object to likes and dislikes, preferences, and perceptions; for example statements like, this car's interior colour is practical. Normative beliefs invoke moral and ethical judgements in relation to someone's acts. For example, high emission in cars is viewed as environmental degradation.

Affect

Affect is the feelings a person has toward a brand or the emotions that specific brand evokes for the customer.

Conation

This is the action a customer takes towards a particular brand such as purchase or not purchasing.

2.8.1.2.2 Hierarchy in Attitude

Given the three models of attitudes (Sheth & Mittal, 2004) described above, what is the relationship between these? Do customers always follow the hierarchy of cognition, affection and action?

Market experts have addressed such questions by looking for an attitude of hierarchy. Attitude hierarchy refers to the sequence in which three components occur.

Learning hierarchy

This is the most common hierarchy. In the learning hierarchy, cognition comes first, affect next, and purchase or not purchase last. The learning hierarchy assumes that brand beliefs underlie our feelings towards the brand. Brand beliefs lead to brand feelings, which then cause brand purchase or avoidance.

Emotional hierarchy

Here the customer feels first, then acts and think last. Based on one's emotions, attraction or repulsion toward certain brands or person or things, one embraces or avoids them, buy them, and use them. These brands are learned through emotions. Thus, in this hierarchy affect comes first, cognition next, and cognition last.

Low-involvement hierarchy

The learning and emotional hierarchies are high-involvement hierarchies because the attitude object generates high involvement. Involvement is the degree of importance attached to a brand by the customer. It is how much owning the brand means or matters to the customers.

In contrast, low-involvement mode, where not much is at stake and it would not matter much if your attitude happened to be wrong.

Low-involvement attitude hierarchy refers to the sequence in which the three attitude components occur in a person's acquisition of attitude towards objects that are of low salience. This model has the sequence of conation, affect, and cognition.

2.8.2 Molding customer attitudes

Sheth and Mittal (2004) describe attitude molding as the marketer's tactic to form attitude towards a brand where there was none existed before and changing pre-existing attitude.

They further mention three avenues of attitude molding:

Cognitive Route Molding

This is where markets provide an association (Brand A has property X) about the product or service; if the customer accepts the association, then a brand belief is formed. Brand belief is a unit of thought that associates a brand with a property e.g. Volvo cars provide great safety features. When a brand belief is formed, the cognitive component of attitude is formed. This component then produces compatible affective and conative components.

Affect Route Molding

Affect molding appeals to the emotions of the customer by creating a connection between the consumer and the brand being promoted. This is true with certain cologne and food products.

Conative Route to Attitude Molding

This approach is usually employed during on-the-spot promotions, by giving incentives such as rebates coupons, tasting, cologne sprays testing, car test-drives and discount prices. These are intended to influence the customer's behaviour towards the brand.

Methods of influencing consumer behaviour directly are incentives, structuring physical space, business, procedures, government policy, and information structuring.

2.8.3 Functional Theory of attitude

Sheth and Mittal (2004) find that the process of forming theory doesn't fully explain the differences in consumer's attitudes and in people's willingness to change them. Some of this variation is related to the reasons behind people's attitudes.

They suggest that there is a functional reason for the difference in customer attitudes towards brands:

Utilisation function

This function is related to whether the brand serves some utility.

Ego-defensive

It is the behaviour of the customer held to protect a person's ego.

Knowledge

This attitude is related to whether the brand adds to a person's knowledge/

Value-expressive

Manifests one's existing values.

2.9 Conclusion

The measurement and management of brand equity have become a marketing top priority issue for companies including the National Weather Services.

Most articles assume that brand equity has an impact on a brand's performance; ergo brands should do everything feasible to increase their equity. However, it does not make sense economically to invest a firm's scarce resources in strategies to add value if the value does not translate into preferences and purchase behaviour.

National Weather Services needs empirical evidence of the consequences of brand equity. This study will demonstrate that brand associations, awareness and familiarity with the brand might contribute in brand equity building exercise for organisations.

CHAPTER 3

THE ROLES AND BENEFITS OF NATIONAL WEATHER SERVICES (NWSs)

3.1 Introduction

National Weather Services (NWSs) are really keen to improve their status and visibility in order to have a strong corporate brand image. In fact, some NWSs have frequently indicated that their current status and visibility are not sufficiently high to help their further development. World Meteorological Organisation (WMO) report (WMO,1995) indicates that status of the NWS is accorded by the nation, the public, the customers, the agencies and government and is granted not by mere virtue of the existence of the NWS, but earning as a direct result of high levels of NWS performance. Literature also reveals that a strong corporate image can also be an effective means to attract and motivate employees.

Keller (2004) find that a corporate image will depend on a number of factors, such as the products a company makes, actions it takes, and the manner in which it communicates to consumers.

Keller further suggest that the different response by customers, employees, other firms or any relevant constituency to the words, actions, communications, products or services provides good corporate brand equity in companies. The SAWS together with other national weather services should also follow what is suggested by Keller in order to build strong corporate brand equity.

This chapter will look at how National Weather Services can benefit the society and their visibility impact on the status and image of the company.

3.2 Status and visibility of NWSs

In the WMO report on the visibility and status of NWSs the following are some of the factors that may contribute to the lowering of the status, and diminishing of the visibility of these NWSs:

- International media and weather presentations expansions that cover the territory of the NWSs, and indeed the whole globe.
- Inadequately developed relationships with the national media, resulting in lack of interest by media, or occasional interest at the time of severe weather.
- Internet rapid expansion that makes weather information available from variety of sources, challenging the authority and visibility of NWSs.
- Lack of or inadequately developed and implemented public weather services programmes;
- Problems in maintaining high levels of timeliness, accuracy and skill in forecast and warnings; resulting in lowered credibility that erodes the NWS status and visibility;
- Problems in attracting or recruiting and retaining high quality staff; caused by external factors beyond the control of the NWS.

The World Meteorological Organisation (WMO) acknowledge the society's expectations on National Weather Services (NWSs) delivering of new products or services timeliness, accuracy, and quality and point out that the NWS need to find innovative ways to serve the demanding and fastidious public even in the face of reduce resources. As asserted in the WMO report the only sustainable competitive advantage any NWS has is its reputation.

3.3 Socio-economic benefits of National Weather Services (NWSs)

The WMO has recognised, for a long time now, the importance of addressing the topic of socio-economic benefits of (NWSs). Socio-economic benefits will enable NWSs to improve their status and visibility. The meteorology relevance to socio-economic development is described by WMO in four ways.

Firstly, any socio-economic development plan can be fully viable only if the country is assured of the public safety of its citizens and protection of their property from natural hazards such as severe weather systems. Secondly, sustainable development needs to consider that the quality of the nation's environment must also be maintained. Thirdly, in the formulation of any socio-economic development projects in the wide range of human activities, reliable climatic data must be available. Fourthly, the successful operation of such projects, once complete, will in many cases; require meteorological support for which provision must be made at the planning stage.

At present, there is some awareness of the impact that National Weather Services can bear upon various elements that contribute to socio-economic well-being, through the provision of information, products and services. However, what appears to be lacking is a clear and precise understanding of this impact. More specifically, there is a need to provide quantitative assessments of this impact. This could be considered as one of the urgent tasks of the NWSs. This can lead to an even greater appreciation of their role, a better definition of their capability, a consequently greater possibility of additional resources for strengthening of the National Services, and increased benefit to society.

WMO has consistently sought more specific actions that should be taken to ensure the continuing improvement of meteorological products and services as well as the assessing of the accruing benefits (WMO Bulletin, 2003). The objective has been to ensure that the level of services provided to policy-makers,

planners and citizens is raised to more effectively contribute to sustainable socio-economic development, safeguarding of the environment and the safety and security of citizens.

National Weather Services should, therefore, be able to present a well-founded case to their public and national authorities regarding the contribution to national development of their products and services, so that the public and the authorities in turn are convinced to give the necessary support for the continuing growth and development of the NWSs, as well as improving their brand image.

3.4 Customer value and National Weather Services

Customers today are highly sophisticated and confident in their own choice to decide between products and suppliers' offers; these days they need much less brand reassurance to validate their choices. From 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) argues that these components of customer value can be disaggregated further into benefits derived from the core product and customised serve against the purchase price and the consumer's transaction costs.

Brands can no longer command premium prices or even shelf space by virtue of advertising-generated awareness and affinity since the price of a brand is no longer what customers pay for it. Literature reveals that the real price includes everything the customer has to do to realise its value: time and money spent searching for the right product and sales outlet, travel and purchasing costs, consumption and disposal costs.

Knox (2004) asserted that marketing the organisation requires a very different approach from the convention of 4Ps product marketing.

He further argues that there are number of very good reasons for this. First, the National Weather Service's good name and reputation is at stake rather than the name associated with a product or service.

Second, the reputation of the NWS is much more challenging to manage than the single product, since it is constructed by customers from multiple reference points which extend well beyond the products and their projected images. Keller and Aaker (2003) agree and further highlight that the key elements of a company's reputation is derive from its commitments, values, policies and risk management.

Knox (2004) further suggests four components that organisations need to consider in developing their brand positioning in the supply chain:

- Its overall reputation- when the NWS engenders trust and commitment by being flexible, responsible and accessible as well as highly competitive.
- Product/service performance: This component is to do with the way customers perceive the NWS's products and service delivery. It is about the "moments of truth" customers experience in their day-to-day dealings with the NWS. .
- Product and customer portfolio: this involves organisation's market share in the market place.
- Networks: a strong network management will contribute to an increase in market share.

The WMO also recommend some factors for a successful National Weather Service:

- Development of a user focus- this addresses service excellence, service improvement, total quality management and continuous improvement. This will also enable the users to be aware of NWS constraints and capabilities since this knowledge is more likely to lead to realistic

expectations of the ability of the NWS to meet their needs, resulting in increased credibility and status of the Service.

- **Communication:** the content of the NWS product must be in a language and terminology used such that the user can understand it and benefit from it by taking appropriate action to safeguard life and property.
- WMO 1997 survey results showed that most common obstacle encountered in the progress of National Weather Services programmes was lack of user understanding.
- **Service delivery:** Effective dissemination and presentation of weather forecasts, warnings and other public weather products is essential to influence the users. Studies done by WMO has also shown that staff training in media skills and presentation techniques can result in a better public image of the NWS. Developments in science and technology continue to improve weather observations, communication, weather and climate predictions and television weather-casting technology. The NWS programme must harness these developments for service delivery.
- **Strong media relationship:** WMO argues that the key partnership with the media is an extremely important factor in the success of public weather service activities, since such collaboration and partnership will assist the NWS to get the message out in a timely manner, especially during severe weather.
- **National Weather Service staff training:** In NWSs where the size of the Service does not allow recruiting specialist staff to deal with service delivery issues, the staff should receive training beyond basic weather related topics so as to develop a more user-oriented attitude.
- **National Weather Service management training:** managers should also be trained to interact and consult effectively with users in application areas such as transport, agriculture, forestry and construction, since the visibility and credibility of the NMS is derived from application users.
- **Public education and awareness:** Another objective of the NWS programme is to "foster better understanding by the public of the

capabilities of the NWS and how best to use those services". WMO indicates that a weather-literate public is much more likely to judge the NWS performance positively, leading to enhanced of status and visibility.

- Coordination and cooperation with all sectors and institutions requiring weather services and who can also facilitate service delivery (e.g. the media), is recommended by WMO.
- Service evaluation: this involves two components verification and user-based assessment. Verification is the determination of the skill, accuracy and timeliness of products and services. Feedback from user-based assessments will enable the NWS to take action with respect to product definition, delivery mechanisms, research and development of product and services (<http://www.wmo.ch>).

3.5 World Meteorological Organisation (WMO) guidelines on the role and operation of National Weather Services.

A study conducted by WMO (1997) to assess the status of benefit definition in selected geographical areas has identified sectors in which National Weather Services should focus with most priority, i.e. transportation, agriculture, energy and water resources. It must also be mentioned that an economic framework for the provision of meteorological services was adopted by the Executive Advisory Group on the Role and Operation of NWSs, following inputs from the Expert Meeting on the Economic Framework for Meteorology that was held in Geneva, March 2002 (WMO, Bulletin 2003). On the basis of this framework, a set of guidelines addressed to NWSs, which indicated relevant areas of possible action has been prepared. The following are some of the work that NWSs needs to carry them further:

- NWSs should take the lead in facilitating and undertaking evaluation of the economic and social benefits of pertinent meteorological products and services; possibly in cooperation with other agencies (e.g. planning) in the country;

- Institutional capacity should be further developed to enable and/or facilitate continuing economic valuation. This includes the designation and training of appropriate personnel, as well as the study of various relevant methodologies and the collection of pertinent data for studies to be undertaken;
- Further development of curricula on, and provision of, training in meteorological economics; and
- Strategic alliance and interaction would be highly desirable and should be pursued, particularly in view of the interdisciplinary approach needed for socio-economic evaluations.

3.6 Conclusion

One of the outcomes of the WMO relates to the contribution of the safety and well being of people. Increased awareness and preparedness of peoples and society with respect to the wide range of natural disasters are through better availability of related information and warnings, including products provided by National Weather Services and, in turn, lead to reduction of loss of life and adverse socio-economic impacts, safer infrastructure and reduced vulnerability of society.

The WMO also seek to facilitate and assist NWSs in their efforts to carry out their work and related capacity building to enable them to play a leading role in their respective communities. This will also help the NWS to enhance the value of their products or services as well as build strong brand equity.

CHAPTER 4

ANALYSIS OF THE FOUR NATIONAL WEATHER SERVICES (KENYA, EGYPT, NEW ZEALAND AND CANADIAN MEOROLOGICAL SERVICES).

4.1 Introduction

In order to illustrate the impact of brand associations and company determinants an analysis of the four National Weather Services (NWSs) (Kenya, Egypt, MetService (New Zealand) and Canadian Meteorological Service (MSC) will be done. This will assist in understanding the current status and visibility of these NWSs and benchmark their brand associations with those of the South African Weather Service (SAWS) in order to measure and build a strong SAWS brand equity.

To fulfil this object an analysis of some of the different types of associations that are likely to be linked to corporate brand and can potentially affect brand equity of the NWS will be done. Company determinants suggested by Barich and Kotler will also assist in understanding brand image of these NWS (Keller, 2004).

Common product attributes, Benefits or Attitudes; people and relationships; values and programmes; and corporate credibility are some of the important corporate image associations that are useful in determining the image of an NWS to its customers, and other companies.

4.2 New Zealand Meteorological Service (MetService)

MetService provides weather and information presentation services to customers around the world from its base in New Zealand. The media, aviation, and energy industries are supported by MetService expertise in national meteorological service operation.

User's requirements are addressed through 24 by 7 quality management and innovation done by 150 staff members through the combination of professional meteorological judgement and technologically advanced processes.

MetService products or services ranges from general forecast services to more specialised products designated to meet the needs of specific industries. General businesses include aviation, internet, meteorological systems, marine, industry specific etc.

MetService organisational culture of proactiveness, curiosity and open minded staff help the organisation to think beyond the weather. This is evident in their approach of local consultancy where they supply information to insurance claims, court evidence, and assessing the impact of the weather on particular projects. MetService consultancy on ISO 9001, meteorological training and technical assistance on international bases also illustrate their proactiveness and open minded approach to improve their visibility not only to local New Zealand customers but across the world.

4.2.1 Common product attributes, Benefits, or Attributes for MetService

MetService as a brand evoke performance or imagery attribute or benefit associations as well as judgement and feeling associations to its customers.

This is evident to MetService achievements indicated in their 2002/3 annual report which highlights a number of key successes like being the first meteorological service to be certified ISO 9001, and its strong international recognition for its expertise, weather and presentation services. Its international recognition has been further intensified by the establishment of a subsidiary company METRA that focuses on international growth.

The development of a leading edge 3D weather presentation system and in-house scale weather modelling is also an indication of MetService dedication on high quality products and continuous innovation for good benefit of its customers and also meeting needs of specific industries.

4.2.2 People and Relationships at MetService

MetService is a streamline organisation and don't believe in unnecessary bureaucracy. Their focus is on providing customers with excellent ideas and solutions, and ensuring that they have access to the right people at the right time. MetService has no ivory towers. Its structure is composed of the Board and directors since 1992 after it become a State Enterprise.

MetService image associations also reflect characteristics of the employees of the company. The rationale for such positioning for MetService is that the traits exhibited by its employees will directly or indirectly have implications for customers concerning the products the company makes or the services they provide.

Employees at MetService are passionate about what they do. As a result the energy of the organisation is a big contributor to the quality of the work they produce and the services they provide.

MetService is dedicated on creating and sustaining a unique internal culture that is based on responsibility, trust, freedom, results and commitment. MetService

also takes care of its employees and have embarked on strategies of retaining staff. The internal processes have been developed internally to suit their unique needs these includes performance evaluations, recruitment and training.

4.2.3 MetService's customer orientation

MetService commitment to individuality also extends to working with customers. Their focus is to understand, evaluate, and develop solutions that fit customer's specific requirements. Recent successes include their collaboration with AgResearch and Summit Quinphos to produce the Pasture Growth Forecast and with Dexcel to produce the Cow Heat Stress Index. MetService's belief is that the love of what ones does and where ones work is a starting point for excellence. This is at the heart of their organisation and result in customers benefiting from the best people employed by MetService.

4.2.4 MetService's values and programmes

MetService actively participate in the programmes of WMO and other international meteorological organisations. This highlights their acknowledgement of the fact that international capabilities can enable better services from which they can benefit in the long term. MetService has also supported the American Meteorological Society's Seventh Southern Hemisphere Conference on Meteorology and Oceanography in Wellington. They also provide weather briefings and lectures at the Walsh Memorial Scot Flying School.

MetService also displays their products in various exhibitions. Participation in these events gives MetService a valuable opportunity to expand their customers and users of their products and enables them to gain feedback on user's requirements.

4.2.5 MetService corporate credibility

MetService expertise

MetService believes knowledge need to be developed, used and shared in order to excel in business. They are constantly improving their existing services and create new ones to meet the needs of their customers. MetService make it their business to understand what the organisation can do to generate value for their customers. Their philosophy is that every single person at MetService should take responsibility for keeping up to date with developments in their organisation and industry.

MetService has a strong working relationship among its staff members and this helps them develop their business and make a valid contribution to customers. Through this, employees are encouraged to be proactive, curious and open minded about issues the organisation need to develop the business and customer's needs.

The MetService trustworthiness and likeability has been achieved through various forms of dissemination of their weather products.

Its partnerships with the media, government departments, education institutions and internet is an indication of MetService understanding of the importance of product or service disseminations to the public and users of weather information accurately and timeously as needed. MetService is a world leader in high-quality presentation packages to media outlets in New Zealand and globally including Asia, Europe, Arabiya, Turkey, and Channel Nine Network in Australia.

4.3 Egyptian Meteorological Authority (EMA)

The objective of EMA is to observe and predict the changes in the atmosphere and to provide all the meteorological services for different sectors of the state as

well as exchange data and information with other countries on the regional and international levels. Like other National Weather Services, EMA follows the rules and regulation of the World Meteorological Organisation (WMO) and the International Civil Aviation Organisation (ICAO).

4.3.1 Common product attributes, Benefits, or Attributes for EMA

EMA strong cooperation with Arab Meteorological Services in the field of training, climate change and scientific research illustrate its dedication on quality and improvement of service delivery. Its achievements as a regional meteorological centre for WMO in various field like communication, ozone, radiation monitoring, calibration and maintenance has made itself visible not only within the Egyptian market but also in the international community and in various institutions that needs these services.

EMA strongest competitive advantage within the meteorological field is the fact that most of its training activities are financed by international organisation or development banks including World Meteorological Organisation (WMO) and United Nation Development Programme (UNDP).

This makes the financial status of EMA to look good and channelled in other critical areas like observation infrastructure, staff development, improvement of technology and other training materials.

The political stability and the connection between Europe and African countries of Egypt has made it possible for WMO to have trust in them and use EMA as one of their communication and training centre for Africa.

4.3.2 People and relationship at EMA

EMA is governed by the board of directors from various departments of the Egyptian government and private sector. Its strong relations with international organisations such as ICAO, the International Oceanographic Commission (IOC), the Intergovernmental Panel on Climate Change (IPCC) and others gives EMA's staff an opportunity to understand new meteorological developments and always be innovative and prepared to improve the quality of their service.

4.3.3 EMA's corporate credibility

Their achievement for the past years has been through the following fields:

Observation

To provide services through a network of 112 observation stations distributed in the different government centres.

Forecasting

EMA prepares its forecast through its 8 forecasting centres to serve all the activities related to economic, industrial and agricultural developments in the different sectors of state.

Scientific research

EMA prepares many studies, theoretical research and operational; applications in many different fields like the field of Numerical Weather Prediction (NWP), the geophysical researches, the climatological changes, hydrology and researches that have been accomplished through the cooperation protocols between EMA and international and regional scientific institutions.

Meteorological Training

EMA runs a regional meteorological centre that follows the World Meteorological Organisation (WMO) guidelines.

This centre is one of the 39 national and regional specialised centres all over the world. It trains the technical staff of the weather observers and meteorologists from the EMA, Arab countries and some African and Asian countries and some South European and south Ocean countries.

The meteorological training book of the EMA- training centre contains about 16 programmes. A new training book is being prepared (2004) and will take into consideration the new WMO classification of meteorology.

Sectors that benefit from the EMA services are civil aviation, marine, tourisms, agriculture, environment, water resources and irrigation, industry and urbanisation. EMA also cooperates with power Authority, remote sensing Authority, scientific research academy.

4.4 Meteorological Service of Canada (MSC)

The meteorological Service of Canada (MSC) monitors water quantities, provides information and conducts research on climate, atmospheric science, air quality, ice and other environmental issues. In Canada, there are a number of private sector companies involved in the provision of weather services, but MSC is the only legislated government organisation mandated to provide weather services. This has made an important source of expertise in the meteorological service.

4.4.1 Common product attributes, Benefits, or Attributes

According to Brintnell Kari, spokesperson for MSC, the MSC has achieved steadily increasing accuracy of the forecast for the past several years.

This has been through a comprehensive system of verification for all their forecast in Canada. He further points that MSC regularly consults its clients, including the public, through surveys and focus groups.

These consultations are usually used to ensure that MSC products and services meet the public and clients needs and to determine if changes or improvements are needed. Every five years, a survey is conducted of Canadians, to assess their needs and their satisfaction with the MSC products and services.

MSC offers free service to Canadians such as weather forecasts, and warnings but products for specific sectors and users are on cost-recovery basis. Brintnell Kari indicated that the severe weather warnings are the most visible and recognized products. Due to their quality and the efficiency of their service the MSC's status and visibility to the clients is always at a high level. MSC's important products or services apart from public weather forecast includes meteorological research, climate research, air quality research, adaptation and impact research, science assessment and integration

4.4.2 People and relationships at MSC

MSC is composed of various divisions managed by different directors. These includes communication, atmospheric and climate science, atmospheric environment prediction, atmospheric monitoring and water survey, policy and corporate affairs, and services, clients and partners.

Due to a number of meteorological experts that are recognised internationally MSWC has improved its credibility both locally and internationally.

4.4.3 MSC's corporate credibility

Brintnell Kari highlighted some various divisions within MSC like the Science Assessment and Integration branch that produces formal science assessments that are based on worldwide science community publications, that is, government, industry, environmental groups, and universities. He further acknowledge the importance of these assessments documents since they

provide "added value" to policy makers by integrating knowledge from different environmental disciplines, and by detailing the current uncertainties of the science and their implications for public policy.

For the science community science assessment fosters understanding, trust and co-operation and identifies the gaps.

MSC has also intensified their credibility through its focus on climate change research which is a major global issue that is projected to have significant socio-economic and ecological impacts.

MSC climate research division focused on providing improved scenarios of future climatic conditions to better understand potential impacts and to provide information for the development of adaptation strategies. To do this, the division carries out research in climate modelling, climate trends and variability (monitoring and analysis), and climate systems, that is, global, and marine.

Apart from this division on climate change, there are other divisions as noted above, like meteorological research, which provide the MSC with the 'science' that is needed to improve weather and environmental predictions. This is the division that ensures the validity of the weather predictions models to improve the quality of MSC forecast so as to safeguard the lives and property of the Canadian community.

4.4.4 MSC's Values and programmes

The MSC has service and outreach offices located across Canada, to assist in understanding the needs of their clients and the public. Brintnell Kari argues that MSC has a policy of not competing with the private sector. Where possible, the private sector is encouraged to provide value added meteorological services.

However, he mentioned that, if there is no viable private sector company to provide the required service, the MSC will do so on a cost-recovery basis.

MSC has made partnership with the media to disseminate weather information. The Government of Canada website, which is the most-accessed website as pointed out by Brintnell Kari, and agreements with media partners are the most widely used tools for dissemination of weather information.

The MSC responds to over 40 000 inquiries per year via its website and national toll free enquiry line. MSC also produces brochures in various weather events and have good cooperation with the education department through these brochures and other publications.

4.5 Kenya Meteorological Department (KMD)

The Kenya Meteorological Department (KMD) set up its National Public Weather Services section in mid 1995 in accordance with the recommendation made by the two expert meetings on PWS in Geneva (March 1992 and April 1994).

Its main objectives being that of making sure the availability of weather related information and their benefits to the public and policy makers and to ensure correct public understanding and interpretation of the meteorological information. KMD also recognised the fact that the more knowledge the public and policy makers have on weather; the more they will appreciate and be supportive of efforts aimed at improving the quality of weather forecast.

4.5.1 Common product attributes, Benefits, or Attributes for KMD

Kenya Meteorological Department has benefited its customers, the public and other weather users in delivering quality weather service. KMD objectives is to provide meteorological and climatological services to agriculture, forestry, water

resources management, civil aviation and the private sector including industry, commerce and public entities. KMD also provides meteorological services to shipping in the western Indian Ocean including the issuing of cyclone warnings for the safety of merchant and other ships.

4.5.2 People and relationships at KMD

The organisational structure is composing of directors of various divisions, junior directors and senior officers. Through its cooperation with other international meteorological organisation as well as local science and research institutions the KMD's staff has been exposed to various meteorological specialisations such as satellite meteorology, agro-meteorology and other advanced technological skills.

This exposure has enables KMD to improve its status and visibility within the Kenya community and the world in general through its involvement in various projects under the WMO. The skills and the expertise of the KMD have made a mark in improving the quality of their products hence good image for the Kenya Meteorological Department.

4.5.3 KMD's corporate credibility

KMD has acquired an electronic weather studio with chroma-key technology through a generous donation of the United Kingdom (UK) meteorological office. The meteorologists have been able to freely develop attractive and relevant graphics for the television weather presents through the use of advanced computers. The use of illustrative graphics developed for meteorologists has helped the department to communicate more effectively with the viewers.

It is also indicated that, a few month after the KMD's studio become operational, commercial sponsors were already willing to sponsor the weather programme on

Television. All weather broadcasts in Kenya are associated with the news and hence enjoy a wide audience.

KMD runs an Institute for Meteorological Training and Research (IMTR) approved by the WMO. This institute offers various regular scientific courses both at postgraduate and certificate level for the whole of Africa and beyond. IMTR also prepares curriculum for short-term courses on request from various users.

The Kenya Meteorological Department through the IMTR also conducts a joint project, African Satellite Meteorology Education and Training (ASMET), with the German Federal Ministry for Economic Cooperation and Development (Germany), European Organization for the Exploitation of Meteorology Satellite (EUMETSAT, Europe), Cooperative Program For Meteorology Education and Training (COMET), University Corporation for Atmospheric Research (UCAR), U.S) etc. The aim of the project is to aid the African weather forecasters improve their weather forecasts by training them in the proper utilization of the satellite data using the modern technology. The project supplied the training centre with training facilities like multimedia computers, scanner, printer, beamer, text-books, etc.

The IMTR will also be running a Regional Post-Graduate Programme in Integrated Water Resources Management (WaterNet -IWRM). WaterNet is a regional network of university departments and research and training institutes specialising in water.

All these projects are an indication of the involvement of KMD in developing meteorologists in Africa as well as improving an understanding of meteorology on socio-economic benefits across the continent.

4.5.4 KMD's Values and programmes

4.5.4.1 Media

Kenya Meteorological Department have very strong partnerships with the Media and which is the primary means of achieving swift dissemination. In Kenya the Media is in the forefront in highlighting importance of weather to the community and in supporting the need of meteorological infrastructure of observing networks, communication systems, and forecast offices.

Due to this cooperation KMD uses the Media as the tool to increase its visibility through the production of brochures and leaflets that target specific groups and focus on particular aspects of weather. Some of the brochures have been translated to the Kenya national language (Kiswahili).

KMD is currently running a programme for a public education campaign titled "Know your weather". Its main objective is to enhance public awareness on meteorology and weather forecasting by use of televised documentaries. The project will consist of weekly episodes to be aired on National Television each episode highlighting a particular aspect of weather. KMD has noted that a number of such documentaries are already available in other member countries of WMO. However, the local audience find them hard to relate with since they have been produced in different countries.

4.5.4.2 Education

In Kenya meteorology has been introduced in the National School Curriculum. This has led to KMD being open to schools and educational institutions wishing to visit for educational purpose. KMD also offers training for organized groups of school teachers who wish to further their understanding of meteorology at the department's Institute for Meteorological Training and Research.

KMD also works closely with the Kenya Meteorological Society (KMS) which regularly organizes lectures, seminars and workshops which target specific ranging from primary school, pupil to students in post secondary institutions. KMS also has a comprehensive proposal titled "Application of Meteorology for Social Change" and in conjunction with the KMD produces a youth education column in its newsletter, known as the "Weatherman" which is circulated to schools, administration offices, and institutions of higher learning, local and international research organizations and training institution.

4.5.5 Dissemination of weather information at KMD

KMD recognise the importance of dissemination of meteorological products such as weather forecasts and warnings and uses the most efficient ways to disseminate this information to the intended audience.

As noted above the mass media is the most common means of dissemination which includes television, radio, newspapers, internet whereas facsimile, and telephones are only for specifically targeting certain user group.

4.6 Conclusion

The meteorological and weather related information are important contributions for achieving the quality of life. National Weather Services play a very important role in enabling governments, socio-economic sectors, and the general public to be better informed and educated on societal values of meteorology and weather and on the benefits which could be obtained from proper application of these sciences. Better air quality, reduced health problems and better quality of everyday life are just a few examples of such benefits.

The National Weather Services mentioned above have managed to build a strong branding strategy ensuring that their status and visibility is improved.

This is evident in the manner in which these NWSs provide accurate, reliable and up-to-date information as well as availability of weather and climate information as outline by WMO.

The SAWS should also ensure that it follows the WMO programmes as well as participate in local and international science activities in order to improve its status and visibility in South African and beyond.

CHAPTER 5

METHODS AND DATA COLLECTION

5.1 Introduction

The acceptance of the National Weather Service's products or services by the public and other users depends on a number of factors. Scientific accuracy is just one of those factors. The points here are externally focused and deal with client satisfaction, and achieving of intermediate results such as building awareness, improving capacity, and influencing behaviour and actions. The user community range from the individual citizen using weather products to make personal decisions, to the media organisations essential for the communication of the products or service, to government agencies funding the production and delivery of these products or services. The health of the NWS depends on the perceptions from the full spectrum of these users.

This chapter focuses on the characteristics of user-based assessment and methodologies employed to obtain information on specific characteristics of interest through a variety of methods such as surveys, public opinion monitoring, feedback, and response mechanisms. The objective is to measure brand equity for the SAWS from the user perspective.

According to the WMO technical report (2000) these are among the effective means by which information can be gathered on needs, expectations, and satisfaction. The report also indicates that these instruments have also been demonstrated as effective means for getting at the economic value of information such as weather information and forecast. The goals of service evaluation is to identify users' needs and to measure the acceptance of the services provided from such dimensions as expectations, understanding, importance, satisfaction, and utility.

These efforts benefit from gaining an understanding of user process, that is, understanding how the weather information is used in the activity to which it is applied.

The SAWS is interested in demonstrating the economic and social benefits of products or services they provide to the public, industries and organisations.

5.2 Scope of the study

5.2.1 Survey methodology

Surveys offer the potential to delve more deeply into specific characteristic of interest.

This can be for the purpose of investigating perceptions regarding key issues of concern to the SAWS such as the impact of brand association on brand equity. These surveys are specifically designed to answer a limited set of questions and, as such, all the design dimensions in this case were carefully considered.

These include the thorough specification of the objectives, the development of operational definitions which indicate who or what is to be observed and what is to be measured, the specification of the data requirements, and an indication of the purpose.

In this study the questionnaire method was used to analyse the current use of the SAWS products or services by different individual end-users as well as evaluation of the brand equity of the SAWS. The questionnaire covered three sections, namely the demographics of the responded, use of weather information and open-ended brand evaluation questions.

The questions were grouped as follows:

i. Demographics of the respondents

The first set of questions aimed at determining the user's demographics and their geographic areas.

The study focused on two provinces (Gauteng and Eastern Cape). The objective for choosing the two provinces is the fact that, Gauteng Province is characterised by its wealth on commercial business, this reality resonates well with the SAWS strategy to deliver weather information for commercial purposes. Most of the industries on the commercial side of the SAWS strategy are from this province whereas Eastern Cape province is characterised by rural areas of which the SAWS is having a mandate from government of delivering public weather service for these rural communities.

ii. Service rendered by the SAWS

The second set of questions dealt specifically with the products or services rendered by the SAWS. The aim was to determine if the users have free access to the weather information and if the products or services are adequate for them to make informed decisions. Users were asked the sources of their weather information as well as the part of the weather information they require to make their informed decisions. Some questions also tried to determine what the respondents are using the weather information for. The users were also questions on the use of telephone recorded information and their feelings about this type of service.

iii. Brand evaluation

Finally, questions tried to determine the ideal SAWS from the respondents and the key brand associations or elements the SAWS is associated with. Some questions sought to establish whether end-users can personalise the SAWS and what kind of a person, animal or a car will that be.

Other questions tried to measure the SAWS's brand compared to other known brands and also seeking inputs on how to leverage the brand.

The questionnaire was based on the previous study on brand discovery (2003) of the SAWS administered by Interbrand Sampson as well as Environment Canada's Atmospheric products and services national pilot survey (1997). The purpose of the SAWS brand discovery was to determine the state of the brand both physically and perceptually. The Interbrand Sampson study has been focusing on internal employees of the SAWS. The goal of this study was to determine how the SAWS present itself, and how the public and staff perceived it, as well as to gain insight into the visions and desires of key personnel of the SAWS.

The SAWS also conducted another study on strategic marketing and communication plan (Mabaso, 2004). The information from this study was from interviews that were held with current senior and middle management of the SAWS as well as weather information users from aviation and media sectors. The information was used to outline the strategic direction and character of a more focused and relevant brand of the SAWS which will influence the identity for the SAWS. The other source of information was from the SAWS corporate strategy document (2004) and the 2003/4 annual report.

5.2.2 Personal Interviews

The feedback on the weather information was received through personal interviews. The objective of these personal interviews was for specific users such as construction companies, educational institutions, insurance companies and the South African Broadcasting Cooperation (SABC) to indicate whether the weather information issued by the SAWS is sufficient for corporations to make informed decisions.

It was also to assess whether the weather forecast issued by the SAWS is of quality and adequate to be used by companies to make business decisions.

5.2.3 Radio talk shows

Radio talk shows are the most commonly used dissemination of information in the province and the fact that is dominated by rural areas make it very difficult to get all the views from various sectors of the area. These talk shows were conducted with the community radio stations in the Eastern Cape. This has help in covering a wide spectrum of interested parties in this province.

The radio stations cover a wide spectrum of interest from students, subsistence farmers, business people and the general public. The purpose was to assess the status of the SAWS and help in getting a feel of how the weather users in this province (which is normally affected by severe weather events like floods, snow and tornadoes) perceived the SAWS.

5.3 Participant observation

A wide spectrum of interests, ranging from agriculture, water management, educational institutions, industry (construction, energy, tourism and insurance companies) were captured in the questionnaire survey, and personal interviews through live radio talk shows in the Eastern Cape. This process has helped getting first hand information, of what participants have experienced about the SAWS products or services.

5.4 Nature and form of results

The brand perceptual audit of the SAWS focused on responses from weather users ranging from farmers, forestry, construction companies, general public, and students. The results of the questionnaires, personal interviews, radio talk shows, the SAWS Brand Discovery report (2003) which did a similar audit to key

personnel of the SAWS and the strategic marketing and communication plan (Mabaso, 2004) that did an audit focusing on key customers of the SAWS in aviation and marine sectors were analysed and used for this study.

The SAWS approach to socio-economic development, customer satisfaction, and branding strategy has been compared to other Egypt, Kenya, Canada and New Zealand Meteorological Services. The Meteorological Service of Canada (MSC) has also been contacted through an email and their response was communicated by their spokesperson Mr. Brintnell Kari. Unfortunately, Kenya, Egypt and New Zealand failed to respond and their information was obtained through the use of internet and their annual reports available on their websites.

Three hundred questionnaires were mailed to participants and weather information users as indicated above. The response rate was 60.3% from both Gauteng and Eastern Cape Province.

A breakdown of the respondents is represented in Table 5.1 below:

Field	Number of respondents	Eastern Cape Province	Gauteng Province
		%	%
Agriculture	25	40	60
Construction	15	33	67
Students	55	36	64
General public	78	45	55
Forestry	8	61	39
TOTAL	181	43%	57%

Table 5.1: Analysis of the respondents to the questionnaire

5.5 Conclusion

While it would have been preferred to garner insight from a wide range of weather users, time has so far not permitted this. The combination of various methods (interviews, questionnaire and radio talk shows) for this research has widen the scope to uncover the perceptions that exists among weather users as well as develop an understanding of where users see the SAWS in the future.

The next chapter will look at the current status of the SAWS and the analysis of their strengths, weaknesses, opportunities and threats.

The results from the brand perceptual audit of the SAWS from the weather users and the public will also be part of this chapter followed by visual audit conducted in various premises of the SAWS.

CHAPTER 6

DATA ANALYSIS

6.1 Current analysis of the SAWS

6.1.1 Background of the SAWS

The SAWS has been going through major changes in the elements of its image since it became a public entity on 15 July 2001. Before this time, the SAWS formerly known as South African Weather Bureau (SAWB) was part of Department of Environmental Affairs and Tourism (DEAT), and did not have to make profit. The fact that its image was not standardised was not a major problem because it survived under DEAT.

The SAWS is at a critical point. It has now become commercialised and has to find new avenues to derive income. In order for the SAWS to be taken more seriously as a commercial entity from its old image, it is essential to re-brand itself.

Immediately after it became a public entity, the SAWS was forced to re-define its vision and mission in order to be in line with other commercial National Weather Services.

The vision, mission and values of the SAWS as tabled in the corporate strategy document (2004) are as follows:

Vision

To strive to be a world-class meteorological organisation that contributes to the sustainable development of South Africa and beyond.

Mission

The SAWS mission is to collect, process and provide meteorological and Climatological products and services for the 'public good' and the commercial use of all South Africans and beyond.

Values

- *Professionalism*
- *Integrity*
- *Honesty*
- *Respect*
- *Excellence*
- *Teamwork and partnerships*
- *Recognition of Excellence in Performance*

The strategic document also indicates the goal of the SAWS, that is, to meet the needs of customers and stakeholders through a number of objectives which includes among others:

- *The manner in which the SAWS, procure, manage and leverage its resources effectively and efficiently; and ensure compliance with the relevant legislation and generally accepted corporate governance principles.*
- *The creation of an effective and efficient organisation that is aligned with the strategic intent of the SAWS.*
- *The development of new sector-specific products that will, in turn, attract new customers.*
- *The reduction of the vulnerability of communities against adverse weather conditions in partnerships with other players.*
- *To play an active role in improving relationships with international communities.*

The SAWS strategic approach is to achieve equilibrium between:

- *Social responsibility objectives (public good and international obligations)*
- *Financial and business objectives (commercial service)*
- *The status and expansion of infrastructure to support service delivery (infrastructure)*
- *Internal business process objectives*
- *Learning and growth objectives.*

In line with the World Meteorological Organisation (WMO) vision, the SAWS is in the business of increasing the ability of businesses to plan and make sound financial decisions. The SAWS also contributes to the safety of life and property and makes a huge indirect contribution to the South Africa's socio-economic development.

6.2 The SAWS's people and relationships

The SAWS structure is composed of board of directors, chief executive officer and four general managers with various sub-divisions under them. It is said that this structure needs to be supported by comprehensive Human Resource and Change Management strategies (Strategy document, 2004). The aim of such strategies would be to create an organisational culture characterised by the following:

- Team-based performance
- An entrepreneurial approach to innovation.
- Quality and professionalism
- Customer and Value-added focus.

The business divisions of the SAWS are in Value Chain and this allows the business to drive each of the key value-added components in a synergistic manner.

The SAWS also has 21 weather offices around the country, with regional forecasting offices at airports, all working towards providing comprehensive daily information on the weather.

6.2.1 Employees

The SAWS's employees range from scientists to non-scientists across the country. The core function of the SAWS is in capable hands of dedicated scientists with the support personnel making sure that all other processes are conducted effectively and efficiently. All employees have an opportunity of developing their own careers through training programmes organised by the training division in the form of short or long-term courses. This enables the SAWS to fulfil its objective of learning and growth which is part of the strategy of the organisation.

6.2.2 Policies

In 2004 the SAWS has conducted a policy workshop where management and organised labour were involved. The purpose of this workshop was to make sure that all employees understand the business processes of the organisation and have the same interpretation of the policies of the organisation. This will also enable the SAWS to strive towards improving the quality of its service to safeguard lives and property.

Although this was a successful workshop, but a number of policies still need to be finalised. This includes among others performance management policy, transport policy and other policies that affect performance and growth of the organisation.

6.3 The SAWS's corporate credibility

As part of the SAWS branding strategy, the Marketing component has developed a corporate identity manual for the organisation. The manual is provided on hard copy and will also be available electronically in future. The objective of the corporate identity manual is optimal coherence and recognition for the SAWS brand. This corporate identity is visually expressed through the planned design and use of the distinctive logo detailed in the manual.

Other items that have been developed by the SAWS so far include:

- calendars
- annual reports
- signage
- Corporate brochures

Internally, the SAWS circulates a monthly publication known as 'Our Voice/Lentswe la rona'. The objective is to publish the events and programmes the organisation is involve with, making sure that all employees are aware of the organisation's social and business responsibilities.

This has been a successful internal communication in terms of sharing information and educating staff about current and future projects of the organisation.

The SAWS is also in the process of developing multimedia presentations, flash animation of logo with sound and promotional materials.

The SAWS logo is currently on display in all communications both internal and external. The media, government departments, clients and other weather users are using the logo and this has improved the status and visibility of the SAWS.

The SAWS website is also another tool used by the organisation to improve its status to the users.

6.4 The SAWS's values and programmes

6.4.1 Exhibition and workshops

The SAWS participates in various exhibitions, and workshops. To highlight just a few was the African Aerospace and Defence Show that was held from 21-25 September 2004; Vereeniging Air Show (11-12 September 2004) and a number of workshops to various schools and higher educational institutions.

The SAWS also participates on a yearly basis in the Grahamstown Science Festival that is aimed at promoting science and technology in schools in the Eastern Cape Province.

Apart from exhibitions and workshops, the SAWS also celebrates the World Ozone Day, and World Meteorological Day as part of promoting meteorology as well as making the public and other weather users aware about the importance and dangers of weather events.

All these programmes have enabled the SAWS to be visible as one of the scientific organisation in South African. This also enables school kids, students, teachers and scientists to be aware of the work and research programmes done by the SAWS and promote partnerships with the educational institutions as well as other scientific research organisation.

Currently the SAWS programmes are not centrally organised, resulting in a lack of accountability in their failures. However, this will be resolved soon since the organisation has appointed a marketing manager towards the end of 2004 who will be in charge of all the marketing strategies of the SAWS.

6.4.2 Media

The media both print and electronic is the main disseminator of the SAWS products. The South African Broadcasting Corporation (SABC) (television and radio), other private broadcasting corporations and telecommunication companies has an agreement with the SAWS in disseminating weather warnings as part of the public good service.

Most people in South Africa rely on televisions and radios for information, hence the SAWS have made partnerships, although not strong, with the media also in line with the recommendation of the WMO.

The SAWS needs to make sure that its products or services are understood and interpreted correctly by the users.

Currently there is no evaluation or monitoring team that makes sure that these products or services are received on time in particular in rural areas where most of the severe weather systems normally a lot mud houses. At the moment the weather information is available in English except in local radio stations and television news where local languages are used.

6.4.3 Education

The recruitment programme for weather forecasters, climatologists, and researchers is done through partnerships with selected universities where graduates are trained for a period of 18 months towards an honours degree.

This programme also takes students from African countries and has given the SAWS a good international reputation.

As a result, the SAWS has been tasked by international meteorological organisation like WMO and other international meteorological organisation to coordinate meteorological training programmes for the Southern African Development Countries (SADC).

Apart from this graduate programme, the SAWS also run a training programme for matriculants towards a one year weather observation certificates.

Although this programmes started on a very low profile from the old Weather Bureau it has grown drastically through word of mouth advertisements from old and current students, awareness campaigns, workshops and exhibitions.

6.5 Data Analysis

6.5.1 Strengths, weaknesses, opportunities and threats (SWOT) Analysis of the SAWS.

Identified strengths

The strengths of the SAWS lie on its employees. It is their skills, experience and expertise that provide the backbone of the organisation. The time spent by some of these employees, in terms of years with the organisation is an indication of their dedication and loyalty to the organisation (Brand Discovery report, 2003).

The SAWS is proudly South African with high quality products and services. Its reputation in meteorological training programmes across Africa has benefited the organisation to be the leader in the Southern African weather services.

Its resources and expertise in the weather forecasting of the region in which it operates cannot be replicated by weather forecasters abroad as they lack the necessary experience within the region.

Identified weaknesses

The lack of knowledge about SAWS and their products makes it difficult for the organisation to build a strong brand within the South African market. This is due to lack of customer relationship management as well as marketing and sales skills and structure within the organisation. As a result of these shortfalls accessibility in the region it operates is also restricted. The lack of customer satisfaction measurement and competitive intelligence minimize the chances of the organisation to be among the leading brands in the country.

According to Mabaso (2004), the organisation is very slow in closing deals and afraid of taking risks. This is because the organisation is still in a period of transition and this is causing insecurity and confusion among certain individuals within the organisation.

The brand discovery report (2003) indicates a lack of shared value system in the organisation evident in the lack of coherence of the corporate culture. The report also highlights a number of obstacles in the way of creating a shared culture due to the fact that there are already sub-cultures within the organisation. It further reports that there is the scientist vs. the non-scientist culture as well as the old vs. the new culture. The scientists seem to be more isolated and to themselves and therefore do not communicate well.

The report further points out that the management that are not scientists are not respected by scientists leading to a conflict of interest in terms of whether the organisation should be a commercial enterprise or retain the government-aligned image.

The SAWS still has remnants of the public sector mentality in terms of bureaucracy, whereby decision making is protracted and the pace of change is slow.

The SAWS employees also lack confidence in their weather forecast and sometimes averse to taking risks when it would be of benefit to the public to provide weather warning information.

Identified Opportunities

The fact that most sectors in South Africa require weather information is the greatest opportunity for the SAWS. The organisation has the ability to provide more customer focused packages that meet specific needs.

This is even enhanced by the large unexplored market segments that have not been utilised while still non-commercial organisation.

There is also a potential for the SAWS to partner with other National Weather Services abroad which could facilitate skills exchange as well as benefit from their international expertise. An opportunity for the SAWS to be a regional meteorological training centre in the Southern African region can also benefit the organisation in recruiting scientists from abroad.

Another opportunity is to create a synergy between the scientific and the business aspect of the organisation.

Identified Threats

One of the greatest threats is the fact that the market is attractive to overseas competitors who have the state of the art technology and infrastructure to package the weather information which is accessible on the SAWS website.

Another threat to the SAWS is the fact that the organisation depends on aviation as a major client for income, once competitors penetrate the market this will be a great loss to the organisation.

The fact that the SAWS is still in transition, several meteorologists are being recruited by overseas counterparts for better salaries.

This is a great problem due to the fact the SAWS invests large amounts in training its people. The key is to improve retention within the organisation.

6.5.2 SAWS's customers

The SAWS business strategy covers commercial and public good services. The general public are seen to be the most important customers of the SAWS and lie on the public good part of the organisation although all South Africans receive free weather warning service.

Commercial clients include aviation, construction industry, sport, agriculture, government departments, insurance companies, marine, film, energy sector, media and other African countries.

6.5.3 Ideal SAWS

Most of the respondents indicated that ideal SAWS would be an organisation that is highly regarded as a scientific organisation that is innovative, progressive and have quality research.

The SAWS would be a world-class organisation that is a leader in its field not only in South Africa but in Africa. The SAWS would have state of the art technology, which would be easily used and improve accuracy of weather predication to safeguard the property and life of all South Africans.

The SAWS would also provide better remuneration for its employees in order to retain staff and improve the quality of its products or services.

6.5.4 Customer's perception of the SAWS

The public perceive the SAWS as failing to provide accurate weather forecasting information and blame the organisation when the weather forecast is wrong but fail to acknowledge when the forecast is correct. The public also believe that the South African Broadcasting Corporation (SABC) is responsible for the weather forecast information and do not believe that the SAWS provides this weather information for the SABC as its clients.

The SAWS on the other hand believes that they provide a good weather forecast that is reliable. They also believe that they are a highly reputable scientific organisation whereas the public doesn't view it as a scientific organisational but an organisation that believes in assumptions.

6.5.5 Key associations of the SAWS

Key words that came in mind from the responded when the SAWS is mentioned were from general categories. In the first category none of the responded mentioned meteorology but all related weather services were mentioned which in generally falls under weather forecasting, weather and climate.

The second category of associations described the SAWS as a scientific organisation that is innovative with high quality technology.

In the brand discovery report (2003), the internal employees sees the SAWS as an excellent, timely and efficient weather service supported by a dedicated staff which was really the opposite of what the general public thought of the organisation.

The name South African Weather Service also elicits the response of the best African weather service from internal staff whereas the public just thought of it as the only one in South Africa,

The negative associations from the responded included unreliable and inaccuracy of its forecasts whereas the internal staff mentioned bureaucratic organisation and lack of client focus.

6.5.6 Personification of the SAWS

The respondents see the SAWS to be neither male nor female with gender not seen to be important in the organisation. This person is seen to be dressed in old dress that was used by his or her grandparents. A person who doesn't like change and stick to old fashion. Other respondents describe this person to be dressed with conservative clothing with a casual edge. Only internal respondents see this person as sincere, reliable, upper class and outdoorsy, the general public thought otherwise.

Although in general the respondents didn't have any commonality between the types of transport that the SAWS would be using only few responded indicated that it would be using an old model car due to its lack of visibility.

6.5.7 Brand associations- cars and animals

Cars and animals were also used as comparisons to get a more creative understanding of the SAWS. The present description of the SAWS, when compared to a car is seen to be outdated. The cars mentioned are in working order but they are in need of upgrade.

The future perception of the SAWS as a car is something more modern, sophisticated and sporty. The sporty descriptor is illustrative of the need for change to happen at a rapid pace. The modern and sophisticated design of the ideal future car, point towards the need for the organisation to be more progressive and innovative.

There were several descriptions of the SAWS in terms of animals which were slow and old and really needed care. This again points towards a need for improvement and new direction. The ideal future animal would be much swift and strong, depicting rapid turnaround and an organisation that has a more solid foundation (Brand Discovery report, 2003).

6.5.8 Values and mission of the SAWS

Values

There is little understanding from the internal staff of what the organisational values are and this really affects the corporate culture of the organisation. There seems to be a lack of shared value system and no weighting in terms of order of priority of the most important values. The common value from the general public was the respect the respondents have on the SAWS for predicting natural phenomenon like the weather systems.

Mission

All respondents were clear and understand the mission of the SAWS and the need to protect property and life.

6.5.9 Like, dislike and positive aspects of the SAWS

The current logo of the SAWS is the one that most respondents like because of its colours and the manner in which it is shown after the weather news bulletin. However, its meaning was not well understood by the respondents.

The respondents indicated that they dislike the fact that the SAWS is not well known in particular in schools for children to take this field as part of their careers. It was also mentioned that the lack of social support to communities and

other events is one of the disadvantages for the organisation to be seen and improve its public status.

Again the mission of the SAWS of protecting property and life became the positive aspect of the organisation.

6.5.10 Unique feature and role models of the SAWS

Unique features

The SAWS logo is mentioned as its unique feature although most respondents indicated that it doesn't have a link with the organisation. They also pointed out that the logo does not capture the meteorological and scientific aspect of the brand. The Scientific and meteorological aspects are fundamental in the delivery of their brand promise.

They felt the centre of the logo doesn't reflect the sun since it lacks the sun rays, this result in different interpretation of this logo.

There is a need to be more descriptive of weather elements and their contribution to Africa. The combination of colours does not have a strong impact.

The SAWS role models

Coca Cola was cited several times as a role model due to the fact that they had very clear branding. The other company in the related field that was admired was CSIR due to its innovative and research approach. Other companies included Telkom, Vodacom and the SABC.

The respondents also mentioned some few similarities between the SAWS and other brands including that of having good infrastructure and nice buildings.

6.5.11 Core messages that need to be communicated by the SAWS

The SAWS needs to communicate any potential threats to the property and life of the people. This concept of the protection of property and life has come across very strongly as a fundamental message that should be communicated. The SAWS is there to protect the people of South Africa and safeguard the nation against any natural disasters.

Other information that needs to be communicated is the fact that the SAWS is more than just issuing weather information.

It is a scientific organisation with experts in meteorology and climatology making the organisation a centre of excellence. The SAWS provides any weather related information not only to South Africans but around the world.

The organisation also needs to communicate that the SAWS is dedicated to excellent service delivery for the betterment of the economic of the country. The SAWS is committed, accurate and reliable. The SAWS deliver a service that provides the best information available and they always provide quick reactions. The SAWS also need to communicate that customer service is key in the organisation.

As a public good and a commercial service the SAWS will develop the best possible service and are a racially representative company.

The SAWS also would like to communicate that they adhere to the "Batho Pele" culture, which puts people first and promote a more client services culture (Brand Discovery Report, 2003.)

6.6 Visual Audit of the SAWS

The brand discovery report (2003) also did a visual audit to uncover the visual manifestation of the current brand as well as to understand how the SAWS projects itself. The interiors and exteriors of the SAWS's premises in Gauteng were analysed. In addition, various weather offices including East London, Port Elizabeth and Umtata were also visited to cover the Eastern Cape Province as part of this research. Additionally, the SAWS literature and website were looked to in order to gain a better understanding of the brand picture.

Visual Audit findings

The interiors and exteriors of the premises the SAWS offices in Gauteng, the brand appears on notices placed on pin boards, posters, business cards and stationary.

At the entrance of the SAWS there are a number of signals to communicate to individuals that they have arrived at the SAWS. Signage appears clear in particular at Bolepi House, head office of the SAWS.

In the Eastern Cape there is a big difference between Port Elizabeth weather office and other offices in East London and Umtata.

The offices in East London and Umtata do not show any indication of a link to the SAWS. There is absolutely no signage on the exterior of the buildings. The interior of these weather stations is also devoid of any branding, especially at the entrance. These offices are in strategic positions in airports, and opportunity exists for them to promote the brand and improve commercial business in this province, but is not utilised.

The brand presents itself to the public largely through the mass media. The SAWS brand appears most prominently after the weather news bulletin report but as indicated before, the respondents can vaguely describe the symbolism.

The SAWS therefore communicates a brand that lacks clarity and not applied uniformly in other provinces.

6.7 Conclusion

In order to fulfil its objectives and grow its business the SAWS should make sure that its brand does enhance the value of its products or services. An understanding of the source of a brand's equity for the SAWS and competitors' brand is highly essential for the brand manager to enhance the brand's equity relative to those of competitive brands.

The results from the respondents indicate that the SAWS brand associations are not strong, favourable and unique. Most of the respondents were not aware of the SAWS brand and thought that the SABC is the provider of the weather and climate information. However, the SAWS are in a transition period and has identified these weaknesses and is in the process of implementing strategies recommended in this study and other previous studies. This will help the SAWS to improve its status and visibility as other National Weather Services did to become sustainable and profitable weather services.

CHAPTER 7

SUMMARY AND RECOMMENDATIONS

7.1 Introduction

Most marketers are of the considered view that an organisation that takes seriously customer orientation must engage in research of brand associations if it is to succeed in its business pursuits and gain competitive advantage over its rivals and a have good reputation.

The SAWS must also engage brand strategies and models in order to achieve the following:

1. To create and maintain a strong brand equity.
2. To engage in matters of branding as the central activity of the business
3. To foster economic democracy through serving the needs of society better.

The objective of this research was fourfold. The first related to the assessment of the effectiveness of the SAWS brand associations in creating a strong brand, second to evaluate the customer awareness and familiarity with the SAWS brand, third to evaluate the perceptions and attitudes of customers with the SAWS brand, and finally to identify a strategy that will build and maintain the SAWS brand.

7.2 The effectiveness of the SAWS brand associations in creating a strong brand.

The respondents believe that the brand needs to create a distinct image to build trust and change perceptions about the organisation. The branding of the SAWS will aid in moving from government perceptions to a more competitive company.

The SAWS should be aware of the distinction between product and organisational associations as described by Chen (2001). The more associations the consumer has for the SAWS brand the greater their ability to recall the brand and its attributes from memory. The distinction between functional (attributes, features benefits and quality) and non-functional associations (emotions, symbols, value and usage) is also very important to create the overall brand image. The SAWS should manage both sets of associations for successful brand marketing.

As noted in the early chapters of this research, another factor that the SAWS needs to consider is the issue of corporate ability (expertise, research and development, innovation and experience) and corporate social responsibility (environmental responsibility, community links and cultural references). Corporate ability should be the first responsibility of the SAWS. People want to know that the weather service is good on what they are doing.

Since brand equity depends to a large extent on the right set of associations, the SAWS should build sets of positive associations from the four areas identified by Chen (2001) which are product, image, ability and social responsibility.

The SAWS should note that, acts of positive corporate social responsibility represent a major element defining the brand. The use of corporate social responsibility as a strategic branding tool is valid and the SAWS may get some credit if it acts ethically. However, the SAWS should be aware that it is running a business not a charity, which means that their first responsibility is to secure and sustain a return of investment.

7.3 Evaluation of the customer awareness and familiarity with the SAWS brand.

Effective communication channels are essential to research users. In general, people need to receive information through channels they use and trust. The way in which weather forecast is presented will influence the uptake thereof by the customers.

The social, political, educational and economic variability make it impossible to reach all potential users simultaneously. Some users are satisfied by short and simple information, others need highly technical data.

The most important need expressed involves the timelines of weather forecast information. Users require information at certain critical times. Special efforts are therefore needed to reach specific user groups.

Results from an analysis of the questionnaires

- i. The respondents represent a wide spectrum of interest ranging from agriculture, construction, and forestry to general public. The largest percentage of the respondents was from the general public.*
- ii. More than 75% of the respondents indicated that they are **very likely** to get news on weather information with the rest of the respondents indicating **somewhat likely** response.*
- iii. More than 85% of respondents stated that most of the times they specifically make a point of actually looking or listening to weather forecast. They further stated that they are using weather forecast information more often than two years ago.*
- iv. At least two thirds of the respondents, indicated television as their main source of daily weather forecast information mainly on the morning and evening news.*

About 30% of the respondents indicating radio stations and 5% respondents indicated newspapers and internet access with less than 2% respondents indicating telephone. About 25% of the respondents mainly from construction industry, forestry and agriculture sectors stated that they also get weather related information from weather offices through phone calls.

v. The majority of respondents know the types of products or services issued by the SAWS. These were ranging from weather, climate and seasonal weather forecast information.

vi. About 25% of the respondents stated that their work or job always require weather information to make decisions. This was mainly from construction industry, forestry and agriculture sectors. 15% of the respondents indicated that sometimes their work or job require weather forecast information.

vii. Certain additional indices for agriculture such as soil temperature, soil water content and dam levels would be useful for some of the respondents. The majority of the respondents indicated that the weather information they received is enough to make decisions but they would like specifics on the amount of rain and when rain will start or end.

viii. More than half of the respondents are not aware of the SAWS recorded weather information message through telephone and those respondents who are aware stated that they only use this information once a month due to its unreliability.

ix. About 75% of the respondents indicated that the most important seasons for them were summer and winter with spring and autumn being not very important. But 5% of the respondents from agriculture included autumn as another most important season.

x. Only 15% of the responded indicated the importance of long-term weather forecast information. They stated their source of this information to be from the travelling agents and internet access with only less than 2% of these respondents indicating the SAWS offices.

xi. Less than 10% of the respondents indicated that they use long-term weather forecast information for other purposes rather than vocational planning.

7.4 Evaluation of the perceptions and attitudes of customers with the SAWS brand

The SAWS still has to reach all levels of society in an effective manner in order to change the perceptions of the public. Information is likely to reach the more sophisticated and educated user first and special efforts should be made to reach those in rural areas and with lower level of education.

The existing communication channels, such electronic and print media should be utilised fully to make the public aware of the importance of weather information. The media is an important and powerful tool that can be used to change perceptions and create public awareness.

It is therefore important for the SAWS to follow the WMO guidelines on the use of media as the dissemination tool. A survey conducted by WMO (1997) has confirmed that the mass media are by far the major communication channels through which the public and weather users can receive weather information.

7.5 Identification of the strategy that will build and maintain the SAWS brand.

In order for the SAWS to create a customer oriented organisation need to identify marketing and sales people within the organisation and/or get them from outside. This will help the organisation in expanding to other market segments. Once key customers are identified the SAWS should be managed properly through Key Account Managers. This can be enhanced by the setting up of front and back office sales at all regional offices in order to utilise regional network.

Continuous training and development of staff will improve employee satisfaction and enable the SAWS to increase its accessibility to regions. The fact that most companies in South Africa use weather information is an opportunity for the SAWS to increase the knowledge of the organisation and its products through an integrated marketing communications, that is, direct marketing, promotions, below-the-line advertisement and personal selling.

One of the limitations for the SAWS is the fact that the organisation does not have a product and packaging strategies that suits the customer's needs. The SAWS should emphasise on value and implications and develop value propositions. The incorrect interpretations of the SAWS products by customers disadvantage the organisation in terms of maintaining its brand. Terminology that is understood by customers will make sure that customers are loyal to the organisation and have trust.

The SAWS should therefore invest in technology in order to design professional presentation of products in the form of brochures and software packages.

The availability of a pricing strategy will help the organisation to have a very good cost recovery plan as other National Weather Services like MetService, and Canada which have a very strong pricing strategy.

The employees of the SAWS have been identified as key pillars of the organisation. But the lack of performance management system and good incentive scheme will continue affecting the SAWS negatively by losing its staff to other National Weather Services abroad. The SAWS should embark on empowering its staff through training and development programmes that will make sure that all employees have knowledge that is current to improve the quality of the organisation products or services.

7.6 RECOMMENDATION

It is essential for the SAWS to work very closely with the international meteorological organisation and other National Weather Services. The SAWS is still lacking behind with meteorological programmes as recommended by the WMO. Although it is having a better infrastructure compare to other Weather Services in Africa like Kenya and Egypt its slow pace disadvantages the SAWS in becoming a leader in the content.

The SAWS lack strong partnerships with research companies, scientific organisation, educational institutions and the media which are really a key to its growth and development.

The SAWS should focus on elements that are internal and external to the organisation and recognise that the consumer develops the brand:

- Reputation – what the consumer thinks of the company, its products and its service. A good reputation also embraces wider audience such as supply chain and wider society and is a prime requirement for a successful weather service.
- Product and service performance- serving the customer rather than as selling them some branded product is a good start toward an effective corporate brand.
- Product and customer profile: serving the customers the SAWS want to serve and making sure that the products and services on offer closely reflect the expectations and demands of that identifies target audience.

The SAWS needs programmes that will educate weather users how to use their products in order to reduce economic risk. At the moment the organisation reacts to the media and this needs to be changed. The potential risks should be demonstrated to the users through efforts such as retroactive validation of weather forecast.

The SAWS should establish a meteorological application division like the Meteorological Service of Canada (MetService) that produces worldwide science community publications. The main objective will be that of fostering understanding, trust, co-operation and identifying gaps.

Other Weather Services like Kenya and MetService) have outreach offices that promote weather awareness. The SAWS should start establishing this programme and structure them properly so that they are accessible to all South Africans. This will help the organisation on its objective of improve service to the community.

The integration of climate change research on the SAWS research programmes should be a key focus for organisation. Climate change research is a major global issue and has been projected to have significant socio-economic impacts. Egypt, Kenya, Canada and New Zealand Meteorological Services focuses on climate change research and have a strong contribution in this field that enhances cooperation with other scientific organisations both locally and internationally.

To improve its credibility, the SAWS should follow other African Weather Services like Kenya and Egypt meteorological departments, and request approval as the WMO regional centre link for communication, training and research for the SADC region. The SAWS has maintained its seat in the WMO's 36-member Executive Council) since 2002). This requires an active role by the South African Permanent Representative and Chief Executive Officer (CEO) of the SAWS in the development of the international meteorological community.

The SAWS 2002/3 Annual report highlighted strategic role WMO has made of the SAWS in the region and the continent, in terms of restoring meteorology and promoting capacity building and technology transfer.

A structured approach by the SAWS must be embarked upon to match the international activities with the available resources, and also for creating conducive environment for the international marketing of the SAWS products and services.

In conjunction with the South African Society of Atmospheric Sciences (SASAS), the SAWS should produce programmes for public education using television/radio stations as the main dissemination tools. The objective will be that of public awareness on weather and utilisation of experts within the SAWS. The SAWS should further have a link with the education department in order to incorporate meteorology within the curriculum of education in South Africa.

The SAWS should reconsider the way in which corporate image impacts on its brand value. The SAWS needs to research whether including corporate branding alongside product branding enhances the value of the brand by generating additional positive associations. As with other aspects of brand strategy, the primary concern in this research is the strengthening of brand equity.

It is also likely that the increased attention to corporate behaviour and business issues will make corporate branding more relevant. However, the SAWS should ensure that the direction of the message conforms to other strategies, or else the inclusion of corporate references could result in negatives rather than positives. To make this work the SAWS must embrace new skills in customer service, corporate communications and direct communications.

REFERENCES

1. Aaker, D.A. "Managing Brand Equity: Capitalising on the value of brand name", 1991, New York: The Free Press.
2. Aaker, D.A. "Building Strong brands", 1996 New York: The Free Press.
3. Alreck, P.L and Settle, R.B. " Strategies for building consumer brand preference" Journal of Product and brand management, Vol. 8, No. 2, 1999, MCB University Press.
4. Cateora, P: International Marketing, 1996, New York: McGraw Hill.
5. Chen AC. "Using free association to examine the relationship between the relationship between the characteristics of brand associations and brand equity" Journal of product and brand management", Vol. 10, No. 7, 2001.
6. Cooper D R & Schindler P S. "Business research methods". 8th Edition, 2003. McGraw Hill.
7. Ghosh, A.K and Chakraborty, G. " Using positioning models to measure and manage brand uncertainty" Journal of Product and Brand Management", Vol. 13, No. 5, 2004, Emerald Group Publishing Limited.
8. Kari, B. "Success and challenges that are facing Meteorological Service of Canada", email communication, 2004.
9. Keller K L. "Strategic Brand Management: Building, measuring and managing Brand equity". 2nd Edition, 2003. Prentice Hall publications.
10. Kim, C.K and Chun, J. Y: Bran popularity, Country Image and Market Share- an Empirical Study> Journal of International Business Studies, 1997, 2nd Quarter.
11. Klopper E. "The use and benefits of the seasonal climate forecasts in South Africa", 2002, University of Witwatersrand.
12. Knox, S. "Positioning and branding your organisation" Journal of Product and Brand Management", Vol. 13, No. 2, 2004, Emerald Group Publishing Limited.
13. Mabaso L. "The SAWS strategic marketing and communication plan", 2004, Pretoria.

14. Myers, C.A. "Managing brand equity: a look at the impact of attributes" *Journal of Product and Brand Management*, Vol. 12 No. 1 2003. MCB UP Limited.
15. Schiffman, L.G and Kanuk, L : Branding – A trend for Today and Tomorrow. *Journal of Product and Brand Management*, Vol. 4 No. 4 1996.
16. Sheth, J.N and Mittal, B "Customer Behaviour: A Managerial Perspective", 2nd Edition, 2004, Thomson. Southwestern
17. Sunday Times Business times, Markinor-Sunday Times Top Brands Survey. 5 October 2003.
18. The South African Weather Service, Corporate Strategy, 2004, Pretoria.
19. The South African Weather Service, Brand Recovery Report, 2003, Interbrand Simpson, Pretoria.
20. The South African Weather Service Annual report, 2003/4, Pretoria.
21. The South African Weather Service Annual report, 2002/3, Pretoria.
22. The World Meteorological Organisation: Socio-economic benefits of meteorological and hydrological products and services, WMO Bulletin, Vol. 52 No. 4 October 2003.
23. The World Meteorological Organisation: Guidelines on Performance Assessments of Public Weather Services, WMO/TD No. 1023, 2000, Geneva, Switzerland.
24. Zeithaml, V.A and Bithner, M.O "Services Marketing: Intergrating customer focus across the firm", 2003, 3rd edition, McGraw-Hill, New York.

Web Sites:

25. The Meteorological Service of Canada, 2001 (Online) , available at <http://www.msc.ec.gc.ca/>
26. The activities of the Egyptian Meteorological Authority (EMA), 2004 (Online). Available at <http://www.arabdecision.com/docegypt/ema.htm>
27. The Kenya Meteorological Department, 2004, (Online). Available at <http://www.meteo.go.ke/>

28. The New Zealand Meteorological Service, 2004 (Online). Available at <http://MetService.co.nz/>
29. The New Zealand Meteorological Service 2002/2003 annual report, 2004 (Online). Available at <http://MetService.co.nz/>
30. The Public Weather Services' programme, 2004. (Online). Available at <http://www.wmo.ch/>
31. The World Meteorological Organisation, 2004 (Online). Available at <http://www.wmo.ch/>
32. The South African Weather Service, 2004 (Online). Available at <http://www.weathersa.co.za/>

APPENDIX A: THE SAWS BRAND EQUITY EVALUATION QUESTIONNAIRE

SECTION A: DEMOGRAPHIC INFORMATION

Demographic information of the respondent						
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Respondent number (Office use only): </div>						
Please mark with an X in the relevant boxes						
1. Gender of the respondent			Male		Female	
2. Age (years)			21-35	36-45	46-55	56+
3. Education level		Grade 7 or lower	Grade 8-11	Grade 12	College diploma	Degree
4. Geographic area: Province						

SECTION B: USE OF WEATHER INFORMATION

5. Think about the types of news that you hear or look at. During a typical day, how likely are you to look at or hear news on each of the following topics? Are you very likely, somewhat likely, not very likely or not likely at all to get news on...?

	Very Likely	Somewhat Likely	Not Very Likely	Not Likely At All
Entertainment				
Weather				
Traffic				
Sports				
Local events and politics				

6. Now focus on weather information. First of all, on a typical day, how many times would you say that you specifically make a point of actually looking or listening to weather forecast? Would it be.....? **(CHOOSE ONE)**

- Always
- Most of the time
- About half of the time
- Less than half of the time
- Rarely or never

7. Compared to two years ago would you say that you are using weather forecasts more often today, the same, or less often than you were two years ago? **(CHOOSE ONE)**

- More often
- The same
- Less often

8. Compared to two years ago, how satisfied are you with your access to weather information or forecast? **(CHOOSE ONE)**

- Much more satisfied now
- A little more satisfied now
- Just about as satisfied now as then
- A little less satisfied now
- Much less satisfied now

9a). Now think about where you get weather information from. From what main source are you most likely to get your daily weather information? **(GIVE ONE)**

.....

9b). What other sources (secondary) do you get weather information from? **(CHOOSE AS MANY AS APPLY)**

- Television
- Radio
- Newspaper
- Internet access
- Telephone

10. Where else do you get weather related information? **(LIST)**

.....
.....
.....
.....
.....

11. On a typical day, when do you make a point of trying to look at or hear weather forecast? **(CHOOSE AS MANY AS APPLY)**

- Morning with news
- Morning- drive to work
- Morning- general mention
- Morning – wake-up

- Afternoon- General mention
- Afternoon- Drive home

- Evening- General mention
- Evening- with news
- Evening- before bed

- Other

(Specify).....

12. Now think about South African Weather Service (SAWS). Can you tell me the types of products or services SAWS provides and performs? **(LIST)**

.....

13. How often does your work or job require to make decisions based on the weather? Is it **(CHOOSE ONE)**

- Always
- Sometimes
- Rarely
- Never

- Don't work

14. Now, I would like to know if the information provided in weather forecasts is sufficient enough for you to make an informed decision for your day planning. That is, do you feel that weather forecasts..... (CHOOSE ONE)

- Always provide you with enough information to make decisions
- Sometimes provide you with enough information to make decisions
- Rarely provide you with enough information to make decisions
- Never provide you with enough information to make decisions

15. What part of the weather related information do you need to make work-related/personal decision? (CHOOSE AS MANY AS APPLY)

- Maximum Temperature
- Minimum Temperature
- Ultra Violet (UV) Index

- Wind speed
- Direction of wind

- Significant wind-chill
- Whether it will be gusty

- Humidity level
- Rain/Snow
- Visibility information
- Amount of rain/snow

- Amount of sun
- Type of precipitation
- When rain will start
- When rain will end
- Whether rain will be heavy/light
- Probability of rain

Expected weather changes

Storm expectations

Historical information

Air quality

Other

(Specify):.....
.....
.....
.....
.....

16a). What is your main source of weather information for work-related decisions?

(CHOOSE ONLY ONE)

16b) From what other sources do you get work-related weather information? **(CHOOSE AS MANY AS APPLY)**

	16a) Primary Source	16b) Secondary Source
Television-General mention		
Radio		
Newspaper		
Internet access		
Contact SAWS		
Family member		
Directly from employer		

Telephone		
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16c) Where else do you get work-related weather information?

(LIST).....

17. Are you aware of SAWS recorded weather forecast message through telephone?

- Yes **IF YES GO TO QUESTION 18**
- No

18. How often do you phone this telephone number? (CHECK ONLY ONE)

- More than once a day
- Once a day
- Two or more times per week
- Once a week
- Two or more times a month
- Once a month
- Less than once a month

19. Now think of the four seasons. On a scale of 1 to 5, where 5 means "very important" and 1 means "not important at all", how important are weather forecasts to you for each of the following reasons? (CIRCLE ONCE IN EACH SEASON)

	Not Very Important					Very important
Spring	1	2	3	4	5	
Summer	1	2	3	4	5	
Autumn	1	2	3	4	5	
Winter	1	2	3	4	5	

20. Say you are planning a vacation two months or more from now to an area of SA that you've never been to. Would the kind of weather you'd likely experience in two months or more from now for that location be very important, somewhat important, not very important or not important at all to you in planning your holiday? **(CHOOSE ONE)**

- Very important
- Somewhat important
- Not very important
- Not important at all

21. If you did need this kind of information now for your trip in six months, from where do you think you could get this type of information? **(CHOOSE ALL THAT APPLY)**

- SA Weather Office
- Library
- Travel Agent
- Television-general mention
- Radio
- Newspaper
- Internet Access- The Web (WWW)

- Other
- Don't know

22a). Besides vacation planning, have you ever obtained this kind of long term weather information for other purposes?

- Yes **IF YES GO TO 22b)**
- No

22b). For what use?

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.....

SECTION C: GENERAL INFORMATION (OPEN QUESTIONS)

23. If you were to define the Ideal SAWS, how would you do so?

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.....
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.....

24. What key associations would you make with the SAWS (what key words come to mind like reliability)?

.....
.....
.....
.....

25a). If SAWS were a person that had just come into the room, what would that person be?

Male

or

Female

25b) What would that person be wearing?

.....
.....

25c) What transport would that person use?

.....
.....

25d). Give any other descriptions of that person that come to mind.

.....

.....

.....

25e) If you were to think of SAWS as a person. Would you say SAWS fit the personality indicated below? (MARK WITH AN X THE APPROPRIATE BOX)

	Yes	No	Uncertain
Sincerity (down-to-earth, honest, wholesome, cheerful)			
Excitement (daring, spirited, imaginative and up to date)			
Competence (reliable, intelligent and successful)			
Sophisticated (upper class and charming)			
Ruggedness (outdoorsy and tough)			

26. If SAWS were an animal, what would it be and why?

.....

.....

.....

.....

27. If SAWS were a car what would it be and why?

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.....

28. In order of priority, what do you consider the current core values of SAWS are?

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.....

29. What are the important key messages that SAWS should be communicating to both customers and the general public?

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30. How would you define the mission of SAWS (what does it have to achieve)?

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.....

31a). What do you like best about SAWS?

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31b) What do you see as positive aspects of SAWS?

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.....

31c) What do you dislike?

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31d) What are SAWS disadvantages?

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.....

32a) What do you find unique about SAWS?

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.....

32b) If SAWS had to have other companies as role models, which would they be and why? (LIST FOUR)

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.....
.....
.....

32c) In what way is it the same to other brands?

.....
.....
.....
.....

**THANK YOU VERY MUCH FOR COMPLETING THIS QUESTIONNAIRE,
YOUR RESPONSE IS REALLY APPRECIATED AND WILL BE OF GREAT
IMPORTANCE TOWARDS IMPROVING AND BUILDING SOUTH AFRICAN
WEATHER SERVICE (SAWS) IMAGE.**

**APPENDIX B: QUESTIONS TO METEOROLOGICAL SERVICE OF CANADA
(MSC)**

1. Whether MSC products or services are free?	
2. If not which products or services are free?	
3. How does MSC maintain and build its brand image?	
4. What are the key brand associations (elements) that keep the public or customers familiar with the MSC?	
5. Is the MSC the only Meteorological Service in Canada?	
6. Is the government support the MSC financially?	
7. Are there any surveys done to determine the customer's satisfaction about the MSC products or services? How often are these surveys per year?	
8. Is there any marketing department (manager) within the structure of MSC? If not how does it market its product?	
9. Any other information that keep the MSC products and service reliable to the public?	

THANK YOU FOR YOUR TIME!