The Effectiveness of Dual Branding in the Agricultural Sector

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The study deals with the concept of a dual-branding strategy by investigating the market awareness of two brands: the Roundup herbicide, DEKALB seed products and biotechnology traits and Montana SA. 281 respondents completed a tailor-made questionnaire. Descriptive statistics and a Varimax rotated factor analysis informed the data analysis. Reliability was verified by determining the Cronbach alpha coefficient. Currently, agreement exists between the two identities, but it could easily result in confusion; therefore, care should be taken. Regarding the brand DEKALB, only one factor contributes to the brand image, namely dynamism. For Monsanto SA, two factors contribute to the organisation image, namely dynamism and visual identity. The research concludes that although brand identities are similar, the market views Monsanto SA more defined. Most importantly, the conclusion drawn is that dual branding in the marketing strategy influences corporate identity and image, and *vice versa.*

Key Words: corporate identity; marketing strategy; dual branding; mono-branding; market awareness
JEL Classification: M30; M31; M39

Introduction

If you want your brand to succeed in the real (versus imagined) marketplace, forget about your promises and start being paranoid, and strategic, about discovering, shaping and fulfilling people's expectations. If you don't know your point, your essence, your brand, you will usually confuse your audience (Asacker 2011, 1).

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The debate followed in this article centres around corporate identity, how it leads to the forming of corporate image and how corporate identity and market strategy are related. Consequently, when the product brand name and the company name are the same, one could argue that the company can establish a consistency of image. Corporate identity confusion may exist between a corporate identity and a brand identity in the South African maize industry. Two brands were consolidated and are sold as one summer crop brand. Therefore, the changing face, the visual identity, and corporate brand changes may have transformed a corporate identity. Consequently, the question that looms large is: Will consistency be harder to maintain when it comes to dual branding (i. e. a product brand name is different from the company name)? However, Bouchikhi and Kimberly (2008, 21) advise that before one could decide, 'how much of an asset or liability your firm's identity might be, you first need to know precisely what identity is.'

Since the early eighties, various authors (Skinner and Von Essen 1987; Abratt 1989; Stuart 1999; Abratt and Mofokeng 2001; Burrow 1991; Van Heerden, Schreuder, and Gouverneur 2000) have developed conceptual models of corporate image formation and corporate identity management. Stuart (1999, 201–4) identified four corporate identity models to assist in such identification, namely:

- Kennedy's model,
- Dowling's model,
- Abratt's model, and
- Stuart's model.

These models reflect the way in which corporate identity and corporate image have been conceptualised over the past three decades.

As a result, the Stuart model is a revision of the Abratt model and the main changes in the model entailed the inclusion of corporate culture and corporate symbols under corporate identity, the use of arrows to denote internal and external communication and the replacement of employees. The Stuart model retained the notion of the corporate identity and corporate image interface. 'Corporate strategy' is also included, resulting in the fact that corporate identity is the deliberate presentation of the corporate personality as strategically decided by the organisation (Stuart 1999, 204).

Van Heerden (1993, 27) concludes that a corporation without a corporate identity strategy or those that want to change or revise their corporate

identities could use the mentioned models as a starting point. Most importantly, Van Heerden (1993, 8) stated that corporate image begins with the public's perception of an organisation, and the preconceived ideas and prejudices that have formed in the minds of customers. This perception may not always accurately reflect a corporation's true profile, but to the public it is reality.

In addition, Van (1993) and Van Heerden, Schreuder, and Gouverneur (2000, 126) suggest that in the Burrows model of corporate identity (see figure 1), 'the process of establishing a corporate identity starts when a corporate personality is synthesised into a corporate identity, which creates the corporate image. The perceived total corporate image influences the corporate policies because opportunities are created for feedback and control. Corporate behaviour is included as part of strategy formulation in this model.' What became evident through this research is that the Burrows model does not feature culture or a variable in the corporate image formation process.

The similarity in the different research (Skinner and Von Essen 1987; Abratt 1989; Stuart 1999; Abratt and Mofokeng 2001; Burrow 1991; Van Heerden 1993; Van Heerden, Schreuder, and Gouverneur 2000; Van Heerden and Badenhorst 2004) highlights the fact that every company has an identity, whether it recognises it or not. Consumer perceptions and attitudes are formed about a company before consumers actually purchase a product or service from that company. It is this positive positioning in the minds of consumers by the company that represents a powerful influence on building brand equity and consumer choice.

The real question that needs to be faced is whether the organisation seeks to control that identity, or whether it allows the identity to control it so that it has entirely different images with all of its different audiences.

With a view to assist, corporate identity, as an element of marketing strategy, was explored as well as the relationship between corporate identity and marketing strategy. More specifically, the objective was to analyse the individual brands for Monsanto SA's marketing team to shape the corporate and brand identity.

The research data was collected directly from customers of Monsanto SA or South African maize production growers. 400 (200 Monsanto SA and 200 DEKALB) questionnaires were distributed by Monsanto SA sales representatives (20 each) in different sales areas within the borders of South Africa. A satisfactory 281 (141 Monsanto SA and 140 DEKALB) completed questionnaires were received back.

The next section of this article will present the theoretical framework of the study under the headings: Monsanto SA historical overview; corporate personality; corporate identity; corporate image; and corporate branding. In an effort to address the underlying issue of confusing brands, the article utilised the Burrows model of corporate identity.

Theoretical Framework

MONSANTO SA HISTORICAL OVERVIEW

Monsanto is an agricultural company that offers farmers more choices than any other company in the industry does. Monsanto is a leading global provider of agriculture products and systems sold to farming concerns. Today, Monsanto's biotechnology traits are being planted commercially or in test plots in all major agricultural regions throughout the world (Monsanto 2006). Grant (2006, 1) argues that farmers around the world use Monsanto's innovative products to address on-farm challenges and to reduce agriculture's overall impact on the environment.

Monsanto South Africa (PTY) Ltd, a Monsanto company, is a leading local provider of agricultural products and integrated solutions that bring together chemicals, seeds, and biotechnology traits to improve farm productivity and food quality. Monsanto South Africa officially opened its offices in South Africa in 1992. Monsanto SA is uniquely positioned to help farmers produce more food to meet the demand by delivering crops with higher yield and greater value and lead healthier food options for consumers. They also provide local seed companies (the competition, such as Pannar and Pioneer Hybrid International) with genetic material and biotechnology traits for their seed brands.

For more than 70 years, the DEKALB flying corncob has represented outstanding yield potential that generates higher returns for farmers who grow DEKALB corn. Today, in Monsanto SA, DEKALB is the trademark in seed business. Appropriately, offerings include corn hybrid and sunflower hybrids.

Monsanto SA decided to consolidate the two brands, Sensako and Carnia, and to sell them under one summer crop brand, namely DEKALB. The changing face of Monsanto SA, the visual identity such as the corporate name and corporate brand changes, may have transformed the corporate identity of Monsanto SA. Therefore, the old brands, Sensako and Carnia, and now the new brand, DEKALB since 2005, have created the need to revisit the corporate image of Monsanto SA.

The term 'corporate' implies larger businesses or institutions with

many divisions and employees. However, within the context of this study, 'corporate' is utilised as a collective term for a structure of business (i. e. from very large to small one-person enterprises). Therefore, it is not intended as an indicator of business size. Furthermore, corporate does not govern corporate personality, corporate identity and/or corporate image, as only marketing challenges and the public's support in the form of sales vary from one business model to another.

CORPORATE PERSONALITY

Abratt (1989, 63–76) explains that every corporation has a personality, which is defined as the sum total of its characteristics. These characteristics are behavioural and intellectual and serve to distinguish one corporation from another. This personality is projected by means of conscious cues (e. g. corporate logo) that constitute an identity. Its vision, mission, direction, management style, corporate policy, ethos, history, employee mix, corporate objectives, and marketing communication style and approach create the personality of an organisation. This personality is the 'glue' that holds the organisation together (Dowling 1993, 103). The set of characteristics of an organisation can be defined as the personality of the corporation, where personality, in turn, forms the corporation's identity.

Similarly, Van Heerden (1993, 8) quoted Bernstein (1986, 40) by defining personality 'as the soul, the persona, the spirit, the culture of the organisation.' Van Heerden, Schreuder, and Gouverneur (2000) and Van Heerden and Badenhorst (2004) argue that a corporation could choose to manipulate its identity by managing a corporate identity programme. Image cannot be manipulated, because image is formed in the minds of target audiences. A case is made for corporate image later in this article.

Abratt and Mofokeng (2001, 370) state that when an organisation is formed, a corporate personality realises. This corporate identify is determined by the functions, beliefs and operations of the organisation. In this regard, Kotler and Armstrong (2006, 284) mention that the personality of a brand could be compared with that of a person. An image of a person is formed based on the way that person communicates and behaves. For instance, if a Mercedes car was a person, that person's personality would fit a wealthy, middle-aged businessman.

CORPORATE IDENTITY

Corporate identity, according to Olins (1989, 148), is concerned with expressing three separate yet interrelated themes. Firstly, the organisation wants to present itself clearly and comprehensibly and it wants its dif-

ferent departments or sections to relate to one another so that a unified
identity is portrayed to the market. Secondly, the corporation wants to
symbolise its ethos, so that employees and customers can share in these
values. Thirdly, the enterprise wants to differentiate itself and its products from those of its competitors. The three themes constitute coherence,
symbolism and positioning.

Consequently, corporate identity is the graphic and verbal representation of a company. It visually conveys the 'who' and the 'what' of the corporation. Olins (1989, 29) argues that corporate identity is concerned with
four areas of activity, namely product and/or service, environments, information and behaviour. Van Heerden (1993, 8) explained that the overall impression of a corporation is formed by audiences through cues, such
as a logo, product and customer service, and therefore constitutes an image.

CORPORATE IMAGE

According to Marconi (1996, 3, 12), people's perceptions are based on
what they know or think they know about a product or service, 'image
is the reflection of people's perceptions.' Gregory and Hickmann (1998,
104) state that the company's image is most important. Consumer perceptions and attitudes are formed about a company before consumers actually purchase a product or service from that company. It is this positive
positioning in the minds of consumers by the company that represents
a powerful influence on building brand equity and consumer choice. An
investigation by Van Heerden and Badenhorst (2004, 16) into factors that
determine the corporate image of South African banking institutions, led
to the conclusion that 'corporate behaviour and corporate visual identity
contribute to corporate image.' Van Heerden and Badenhorst (2004, 31)
suggest that the following factors contribute to the process of corporate
image formation:

- customer service through positive social relations,
- attractive visual signs, and
- the perception that a corporation is dynamic.

Some models of corporate image and corporate identity management
have been recorded by different authors Stuart (1999; Balmer 2001; Van
Heerden and Badenhorst 2004) in an attempt to develop conceptual
thinking in the area of corporate identity management. These models
are a useful tool to describe corporate identity and corporate image. Ac-

cording to Stuart (1999, 201), the focus of the Kennedy model entails how the company image is formed based on the perception of the personnel of the company. Balmer (2001) argued that the principal focus of the Dowling model is the 'outside in' that accords particular emphasis to corporate image. The heart of Dowling's corporate image formation process is a corporate vision statement that affects the organisation's strategy and organisational culture. Balmer (2001) supported the Abratt model, and explained that this model is useful when attempting to integrate the problematic concepts of corporate personality, identity and image. This model has the objective of explaining the corporate image management process and adopts an 'outside in' focus (an image, reputation), rather than an 'inside out' (an identity, personality) focus. The Abratt model also introduced the concept of 'corporate personality' (Stuart 1999, 204).

According to Van Heerden (2004, 18), corporate personality, identity and image are elements of an interrelated process. Corporate personality leads to both corporate identity and corporate image, while corporate image influences the corporate reputation.

A good example currently exists in the South African electricity supply market with the service provider Eskom. The name Eskom turned out to be 'Ek'sdom,' translated as being 'I am stupid, due to the shortage of electricity supply that results in unsatisfied customers. A familiar and once reliable brand name like Eskom became synonymous with failure. Similarly, based on such skewed perceptions, people buy, sell, vote, travel, invest and make major or minor decisions that govern their lives.

CORPORATE BRANDING (LOGO)

Varey (2002, 153) identifies that a brand can perform a number of functions. There is general agreement in the marketing literature that a brand is more than the name given to a product. Chevalier and Mazzalovo (2004, 15) argue that a consumer chooses a brand for the specific qualities it offers and that the differentiation of the brand is part of the contract between two parties. The name and the logo present the mediation between the essential values of the company, its identity and the perceptions of customers. Branding can be described as marketing of the corporate identity and the creation of a specific product image.

According to Van Heerden (2004, 18), the logo of the corporation 'serves as a mental switch that recalls an image in the eyes of the beholder' referring to both corporate identity and corporate image.

In addition, Chevalier and Mazzalovo (2004, 93–9) state that brand

identity is that what the brand means to the consumers. It constitutes the basis and the federating element of all the activities selected as being manifestations of the brand. A brand consists of and derives its essence from the variable perceptions it engenders among consumers to manage it well. A more precise initial definition of brand identity will be the capacity of a brand to be recognised as unique, over time, without confusion, thanks to the elements that individualise it.

Moreover, Kotler and Armstrong (2006, 225) explain that 'a brand is a name, word, picture, term, symbol, sign, device design or a combination, to create a unique identity for particular products. A brand identifies a product to a seller and differentiates the product and/or from competitors.'

Bouchikhi and Kimberly (2008, 21) explained that the identity of a firm that makes and stands behind a product or service is becoming more important as the intrinsic attributes of that product or service, and that corporate branding enables leaders to use the firm's identity as a competitive weapon. Brand preference can be described as the brand those consumers or buyers prefer to other competing brands – a straightforward relationship between buyer and seller.

Monsanto SA produces highly competitive products and the competing companies in the SA agriculture industry have become increasingly similar. Without a doubt, this means that the whole of the company's personality, its identity, will become the most significant factor in making a choice between one company and its products and another. Market research has shown that the DEKALB logo is the second-most recognised agricultural logo around the world, surpassed only by John Deere (Monsanto 2006, 7). The logo debuted in 1936, and while many farmers were initially reluctant to pay the higher price associated with hybrid seed, DEKALB's message to growers used the image of an ear of corn with two wings that could help lift a grower's mortgage by providing higher yields and increased profits. Over the years, the DEKALB logo has been modernised, but the 'winged-ear' has remained a constant design element. According to a marketing communication session by Breytenbach (2008), the logo identity is a vital asset to Monsanto SA; it is the foundation for compelling their brand identity, which increased recognition and awareness to build their sales business.

A brand is a wholly concocted creation that is devised solely to help sell and has no life of its own and the brand identity is aimed at one audience, the final consumer. On the other hand, company identity is aimed at

many audiences, such as the final consumer, the trade, competitors, suppliers, local government, national government, trade associations, trade unions, the financial community, consumer associations, journalists, and its own employees of various kinds of different places. The brand identity only looks outside to its audience of consumers; the identity of the company, the corporate identity, looks both inside and outside at a wide spectrum of audiences with different views of attitudes and interest in the company (Olins 1978, 121). Similarly, Duncan (2002, 52) warns:
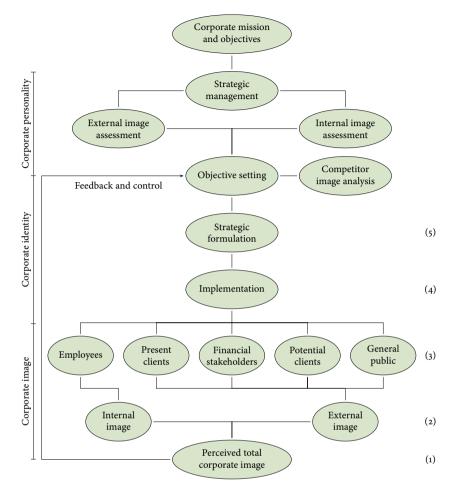
> Corporate image is broader than brand image because branding only relates to the management of the identities of individual brands. When the product brand name and the company name are the same, the company can establish a consistency of image. When the brand name is different from the company name, consistency may be harder to maintain.

THE BURROWS MODEL OF CORPORATE IDENTITY

This study closely follows a similar research design of an earlier study by Van Heerden (1993; 2000; 2004). The semantic differential scale, which is used to measure corporate image in this study, is widely used in marketing research, as was the case in Van Heerden's research, through the Burrows model. Therefore, the Burrows model of the corporate was utilised (see figure 1).

The Burrows model is an identity management process described through three distinct stages.

- In the first stage of the model (called corporate personality), once the corporate mission is clear, management sets the overall business objectives. The next key part involves those activities designed to effect the strategic management of the organisation. Once this strategic management is clear, internal and external assessments can be evaluated to re-design the marketing strategy. The next area of corporate personality will be objective setting – policies synthesised into an integrated, desired total corporate image. The last key part of this model will be the competitor image research and analysis about the organisation.
- The second stage of the model (called corporate identity) is the controllable determinants of corporate image, which are a subset of the strategy formulation for a sustainable competitive advantage related to corporate identity and behaviour. An interpersonal and corporate

FIGURE 1   Burrow's model of corporate identity (notes: (1) measured image dimensions, (2) perception not controllable by management, (3) main stakeholders group, (4) via interpersonal and corporate communication, (5) controllable determinants of corporate image; adapted from Van Heerden (1993, 29))

communications philosophy will emerge, namely promotion strategies, corporate advertising, public relations and positioning strategies.

- The final stage, stage three, is called corporate image. The image interface represents the point of contact between the various stakeholders and the company, and influences the stakeholders by means of the internal or external image experiences.

The Burrows model of corporate identity (as adapted from Van Heerden 1993; Van Heerden, Schreuder, and Gouverneur 2000; Van Heerden and Badenhorst 2004) is a useful tool to be discussed and to understand the process of how corporate image is formed from corporate identity. From the Burrows model, it is evident that personality is the 'glue' that holds the organisation together and that personality forms the corporation's identity. The model explains that corporate identity is the personality of the corporation that is designed to accord with and facilitate the attainment of the business objective. The perceived total image influences the corporate policies because opportunities are created for feedback and control. Everything the organisation makes and sells, everything it says, writes down or displays, contributes to the construction of its identity. This model is most useful as it attempts to integrate the problematic concept of corporate personality, identity and image. Therefore, the researchers argue that the Burrows model could be used as a starting point by corporations who want to change or revise their corporate identities.

This next section of the article will explain the research methodology.

Methodology

The primary objective of the empirical investigation report in this dissertation will be to determine the role that the corporate logo, as an element of the corporate identity mix, plays in the corporate image of maize farmers in the South African agriculture industry. Does the corporate logo serve as a 'mental switch' or stimulus to create a corporate image in the minds of respondents?

The first secondary objective is to compare comparable corporate image factors identified in the 1993 study of South African banking institutions by Van Heerden (1993, 117) against the agricultural industry. The second secondary objective is to evaluate the research findings from the viewpoint that corporate image is not only formed by visual identity, but also by behavioural identity.

RESEARCH HYPOTHESES

The research hypotheses for this study are:

H_0 *Confusion in the market exists between the corporate name Monsanto SA and the brand name DEKALB.*

H_a *Confusion does not exist in the market between the corporate name Monsanto SA and the brand name DEKALB.*

H₁ *Monsanto SA has a stronger corporate identity in the agriculture industry than DEKALB.*

H₂ *DEKALB has a stronger corporate identity in the agriculture industry than Monsanto SA.*

A semantic differential scale was used as research instrument. The development of suitable items was included in the semantic differential, employing a factor analysis to evaluate the data collected. The semantic differential scale that was used to measure corporate image in this study is widely used in marketing research.

Qualitative Research

Qualitative research was conducted by means of discussions with the Monsanto SA marketing team. The objective of this discussion was to identify factors of importance within the Monsanto SA maize seed agricultural sector. The focus group consisted of seven Monsanto SA sales managers, including the CEO responsible for sixty sales representatives in all maize production regions of South Africa. Following the focus group discussions, an open-ended interview questionnaire was discussed with each participant in order to capture their views regarding the success factors in the marketing of maize seed in the agricultural sector. This part of the research study was performed during June 2008, and played an important role in the identification of the criteria that were used to construct the measuring instrument.

Quantitative Research

Using the gathered information collected from the discussion group, a structured questionnaire with 32 factors was drafted. The questionnaire consisted of the identified factors and specific criteria to evaluate each factor. The same factors were used to compare the corporation, Monsanto SA, with its brand, DEKALB, to measure the effectiveness of dual branding in the agricultural sector. A five-point Likert scale was utilised to capture the views of the respondents.

Cronbach alpha coefficients were calculated to ensure validity and internal stability, where after the data were subjected to an exploratory factor analysis. A total of 400 structured questionnaires were distributed via e-mail to all the field employees of Monsanto SA with the instruction to complete these questionnaires with the farmers they service (200 with the Monsanto logo and 200 with the DEKALB logo). The field personnel completed a total of 141 with the Monsanto logo and 140 with the

DEKALB logo. This signifies a response rate of 70.3%. The population consisted of the potential customer base, including mostly current maize production farmers eligible to purchase seed. The same population completed both questionnaires for each logo with a minor period in-between, not looking at the previous answers. A convenience sample was used to identify the respondents for the study. Quantitative research was operationalised by processing and analysing literature studies and statistics. Statgraphics 8.0 was employed as a statistical tool to analyse data. A minimum factor loading of 0.5 was met and items scoring less than this loading were omitted from the factors.

Regarding construct validity, both the convergent and discriminant validities were considered (see Http://www.socialresearchmethods.net/kb/convdisc.php). Construct validity refers to the ability of the questionnaire to actually measure what it is designed to do, and it is measured by determining whether the measuring items that should correlate with one another, actually do correlate with one another (in convergent validity). On the other hand, discriminant validity determines the inverse, namely to show that the measuring items that should not correlate with one another, actually do not correlate with one another. Pearson correlation coefficients were calculated to show that highly satisfactory correlations (exceeding 0.80) do exist between the two datasets ($r = 0.9916$), and that the questionnaire is suitable for use (Naidoo 2011, 138).

The Results of the Research

The results of this study consist of:

- a demographic profile,
- descriptive statistics (mean values, standard deviations and effect sizes), and an
- Exploratory Factor Analysis (Varimax rotation normalised).

The profile of each group of respondents includes:

- Does the respondent purchase maize from the company?
- Whom does the respondent purchase maize from the company from?
- Age group of the respondent.

The information is summarised in tables 1–3.

The question was asked whether the respondent purchases maize from the company or not. The respondents of Monsanto SA indicated

TABLE 1   'Yes' or 'no' purchasing profile

Monsanto SA		DEKALB	
Yes	No	Yes	No
99.30%	0.70%	98.60%	1.40%
N=141		N=140	

TABLE 2   Purchasing profile

Monsanto SA			DEKALB		
(1)	(2)	(3)	(1)	(2)	(3)
96.40%	0.70%	2.90%	96.40%	1.40%	2.10%
N=141			N=140		

NOTES   (1) Monsanto sales representative, (2) distributors, (3) Monsanto agent.

TABLE 3   Age group

Monsanto SA				DEKALB			
20–30	31–40	41–50	51+	20–30	31–40	41–50	51+
12.10%	29.80%	34.00%	24.10%	12.20%	27.30%	35.30%	25.20%
N=141				N=140			

that 99.3% do purchase maize from the company. The respondents of DEKALB indicated that 98.6% do purchase maize from the company. The high percentages from both groups of respondents who purchase maize from the company show prior experience and as such they possess information or knowledge related to this study of company.

Table 2 indicates the business unit within the company from which the respondents purchase maize seed. The Monsanto SA sales representatives cover a very high percentage of 96.4% in both groups.

The higher percentage of respondents in both groups is within the age group of 41 to 50 years. Table 3 points to the fact that all age groups purchase maize from the company and the lowest percentage of respondents is from the age group 20 to 30 years.

Table 4 shows the measuring criteria employed to evaluate the two brand names, Monsanto and DEKALB, on the five-point Likert scale. The numbers of these 32 questions correspond with the numbers employed in tables 5 and 6. These tables should be read with table 4 in mind.

The researchers also calculated the mean value of each criterion as well as the standard deviation. Table 5 analyses the mean values of DEKALB

TABLE 4 Measuring criteria

No.	1	2	3	4	5
1	Not understanding farmer req.		Understanding farmer requirements		
2	Not a biotechnology organisation		A biotechnology organisation		
3	Strange brand		Familiar brand		
4	Organisation not too progressive		Organisation always improving		
5	Plain brand		Stylish brand		
6	Unstable brand		Stable brand		
7	Slow service		Fast service		
8	Unlikeable products		Likeable products		
9	Low technology		High technology		
10	Untrustworthy brand		Trustworthy brand		
11	Quiet advertising		Lively advertising		
12	Disreputable products		Reputable products		
13	Unknown products		Known products		
14	Unsuccessful organisation		Successful organisation		
15	Boring organisation		Interesting organisation		

and Monsanto SA. In all the results, Group 1 represents DEKALB and Group 2 represents Monsanto SA.

Table 5 indicates the average mean values for each group (questions V1 to V32). The average mean value for question 1 DEKALB (Group 1) is 4.4000, with a standard error mean of 0.07082. The average mean value for question 1 for Monsanto SA (Group 2) is 2.7000, with a standard error mean of 0.08217. Table 5, therefore, compares the mean values on each of the questions for both the groups.

Table 6 compares the differences in the mean values of the two groups with the same questionnaire (see the criteria in table 4). In the analysis, only question 1 shows significance in difference in both the statistical and practical analyses. Question 1 deals with whether or not the organisation understands the farmer's requirements, and is shown below.

The mean value difference between the two logos for the same question asked is 1.70000. Ellis and Steyn (2003) explained that the statistical significance test (for example the *t*-test) is used to show that the result, such as the difference between two means, is significant and that this is an advantage of drawing a random sample enabling a person to study the

TABLE 4   *Continued from the previous page*

No.	1	2	3	4	5
16	Bad product performance		Good product performance		
17	Unattractive company		Attractive company		
18	Unpleasant doing business		Pleasant doing business		
19	Unimportant to my business		Important to my business		
20	Organisation providing bad service		Organisation providing good service		
21	Brand not growing fast		Brand growing fast		
22	Invisible logo		Visible logo		
23	Unbelievable advertising		Believable advertising		
24	Old-fashioned organisation		Modern organisation		
25	Uncertain doing business again		Definite doing business again		
26	Weak brand image		Strong brand image		
27	Hazy communication		Clear communication		
28	Weak biotechnology image		Strong biotechnology image		
29	Meek advertising		Aggressive advertising		
30	Rigid when doing business		Flexible when doing business		
31	Low quality products		High quality products		
32	Complex doing business with		Simple doing business with		

properties of a population. Ellis and Steyn (2003) also argued that the *p*-value is a criterion that provides the probability that the obtained value could be obtained under the assumption that the null hypothesis (e. g. no differences between the means) is true. A small *p*-value, smaller than 0.05, is considered as sufficient evidence that the result is statistically significant. The authors argued that statistical significance does not necessarily imply that the result is important in practice, as these tests have a tendency to yield small *p*-values (indicating significance) as the size of the dataset increases.

Ellis and Steyn (2003) explained that to comment on practical significance is to use the standardised difference between the means of two populations, i. e. the difference between the two means divided by the estimate for standard deviation. Effect sizes can also be determined, and practical significance can be understood as a large enough difference to have an effect in practice. Ellis and Steyn (2003) introduced a measure called the effect size, which makes the difference independent of units and sample size and relates it to the spread of data obtained. The authors

TABLE 5   Analysis of mean values (paired samples statistics)

Pair		(1)	(2)	(3)	(4)
Pair 1	v1 gr 1	4.4000	140	.83795	.07082
	v1 gr 2	2.7000	140	.97228	.08217
Pair 2	v2 gr 1	4.5971	139	.75871	.06435
	v2 gr 2	4.3813	139	.66371	.05630
Pair 3	v3 gr 1	4.4710	138	.84743	.07214
	v3 gr 2	4.6739	138	.55583	.04732
Pair 4	v4 gr 1	4.5214	140	.77244	.06528
	v4 gr 2	4.3214	140	.85888	.07259
Pair 5	v5 gr 1	4.4000	135	.83933	.07224
	v5 gr 2	4.4741	135	.65597	.05646
Pair 6	v6 gr 1	4.3929	140	.90320	.07633
	v6 gr 2	4.0857	140	.91734	.07753
Pair 7	v7 gr 1	4.4892	139	.77429	.06567
	v7 gr 2	4.2662	139	.80376	.06817
Pair 8	v8 gr 1	4.4929	140	.78196	.06609
	v8 gr 2	4.4500	140	.64957	.05490
Pair 9	v9 gr 1	4.6857	140	.73048	.06174
	v9 gr 2	4.4714	140	.61682	.05213
Pair 10	v10 gr 1	4.5429	140	.71340	.06029
	v10 gr 2	4.7143	140	.52678	.04452

also explained the guidelines to use for interpretation of the effect size: (a) small effect: $d = 0.2$, (b) medium effect: $d = 0.5$ and (c) large effect: $d = 0.8$.

This research considers data with $d \geq 0.8$ as practically significant, since it is the result of a difference having a large effect. The small effect of $d = 0.2$ indicated that the effect is not practically significant and will not be used in the interpretation of the results.

The results obtained from table 6 show that question 1 is the only research question that is practically significant in practice with an effect size > 0.8, with a size value of 1.36. Therefore, this means that only one question from the 32 questions that were asked to compare the two logos with each other from the same population of respondents is practically significant for use in the research. The rest of the results have an effect

TABLE 5   *Continued from the previous page*

Pair		(1)	(2)	(3)	(4)
Pair 11	v11 gr 1	4.4493	138	.88022	.07493
	v11 gr 2	4.4638	138	.62967	.05360
Pair 12	v12 gr 1	4.5072	138	.80370	.06842
	v12 gr 2	4.4348	138	.68302	.05814
Pair 13	v13 gr 1	4.5547	137	.78515	.06708
	v13 gr 2	4.4380	137	.68451	.05848
Pair 14	v14 gr 1	4.5109	137	.74869	.06397
	v14 gr 2	4.5620	137	.65148	.05566
Pair 15	v15 gr 1	4.3723	137	.81356	.06951
	v15 gr 2	4.5620	137	.59237	.05061
Pair 16	v16 gr 1	4.5652	138	.72451	.06167
	v16 gr 2	4.3913	138	.60935	.05187
Pair 17	v17 gr 1	4.4388	139	.79959	.06782
	v17 gr 2	4.4964	139	.65247	.05534
Pair 18	v18 gr 1	4.5000	140	.76337	.06452
	v18 gr 2	4.3357	140	.73564	.06217
Pair 19	v19 gr 1	4.5899	139	.75960	.06443
	v19 gr 2	4.5468	139	.65079	.05520
Pair 20	v20 gr 1	4.5620	137	.75597	.06459
	v20 gr 2	4.5474	137	.67487	.05766

size value smaller than 0.8 (see table 6), and are not used in the analysis. Therefore, not used.

From the analyses from the respondents for question 1, the author can argue that respondents feel that the DEKALB brand understands the farmers' requirements and that the company Monsanto SA does not understand the farmers' requirements. The respondents rated the brand better than the company itself did.

FACTOR IDENTIFICATION

Factor analysis is an approach that examines the associations among a large set of original measures and aims to reduce them to a smaller subset of explanatory factors for easier interpretation and is often referred to as a data reduction-interpretive technique (Martins et al. 1999, 369).

TABLE 5 Continued from the previous page

Pair		(1)	(2)	(3)	(4)
Pair 21	v21 gr 1	4.4000	140	.80287	.06786
	v21 gr 2	4.5500	140	.62703	.05299
Pair 22	v22 gr 1	4.4820	139	.75520	.06406
	v22 gr 2	4.2446	139	.78797	.06683
Pair 23	v23 gr 1	4.3000	140	.80198	.06778
	v23 gr 2	3.9357	140	.94611	.07996
Pair 24	v24 gr 1	4.4593	135	.80819	.06956
	v24 gr 2	4.2593	135	.73264	.06306
Pair 25	v25 gr 1	4.5683	139	.73278	.06215
	v25 gr 2	4.4820	139	.68475	.05808
Pair 26	v26 gr 1	4.4161	137	.81927	.07000
	v26 gr 2	4.5547	137	.72680	.06209
Pair 27	v27 gr 1	4.4783	138	.79430	.06762
	v27 gr 2	4.2246	138	.74499	.06342
Pair 28	v28 gr 1	4.6277	137	.81356	.06951
	v28 gr 2	4.2555	137	.83163	.07105
Pair 29	v29 gr 1	4.4317	139	.86015	.07296
	v29 gr 2	4.6619	139	.58426	.04956
Pair 30	v30 gr 1	4.2734	139	.87481	.07420
	v30 gr 2	4.3957	139	.70832	.06008
Pair 31	v31 gr 1	4.5942	138	.74125	.06310
	v30 gr 2	4.2609	138	.78586	.06690
Pair 32	v32 gr 1	4.3929	140	.83706	.07074
	v32 gr 2	4.5714	140	.65857	.05566

NOTES Column headings are as follows: (1) mean, (2) *N*, (3) standard deviation, (4) standard error mean. 'Pair' refers to measuring item 1 of Monsanto and the corresponding measuring item of DEKALB.

The authors also explained that the observable measures are generally respondent perceptions, expectations or preferences, which describe certain personality and behaviour traits that are normally not directly observable. A correlation matrix between all pair-wise measures is required as input data to analyse and examine associations between variables.

A factor analysis subsequently enabled the researcher to summarise 8992 responses (281 respondents; 32 items; Monsanto SA and DEKALB)

TABLE 6   Analysis of differences between the mean values (paired sample test)

(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Pair 1	V1	1.70000	1.25061	.10570	1.49102	1.90898	16.084	139	.000	1.36
Pair 2	V2	.21583	1.00551	.08529	.04719	.38446	2.531	138	.013	0.21
Pair 3	V3	-.20290	1.01204	.08615	-.37326	-.03254	-2.355	137	.020	0.20
Pair 4	V4	.20000	1.15179	.09734	.00753	.39247	2.055	139	.042	0.17
Pair 5	V5	-.07407	1.01209	.08711	-.24636	.09821	-.850	134	.397	0.07
Pair 6	V6	.30714	1.24598	.10530	.09894	.51535	2.917	139	.004	0.25
Pair 7	V7	.22302	1.06351	.09021	.04466	.40139	2.472	138	.015	0.21
Pair 8	V8	.04286	.97355	.08228	-.11982	.20554	.521	139	.603	0.04
Pair 9	V9	.21429	.93521	.07904	.05801	.37056	2.711	139	.008	0.23
Pair 10	V10	-.17143	.85615	.07236	-.31449	-.02836	-2.369	139	.019	0.20
Pair 11	V11	-.01449	1.06699	.09083	-.19410	.16511	-.160	137	.873	0.01
Pair 12	V12	.07246	1.00100	.08521	-.09604	.24096	.850	137	.397	0.07
Pair 13	V13	.11679	1.07146	.09154	-.06424	.29782	1.276	136	.204	0.11
Pair 14	V14	-.05109	.96498	.08244	-.21413	.11194	-.620	136	.536	0.05
Pair 15	V15	-.18978	.88727	.07580	-.33969	-.03987	-2.504	136	.013	0.21
Pair 16	V16	.17391	.87889	.07482	.02597	.32186	2.325	137	.022	0.20

(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Pair 17	V17	-.05755	.99105	.08406	-.22376	.10866	-.685	138	.495	0.06
Pair 18	V18	.16429	.98631	.08336	-.00053	.32910	1.971	139	.051	0.17
Pair 19	V19	.04317	1.00629	.08535	-.12560	.21193	.506	138	.614	0.04
Pair 20	V20	.01460	1.00722	.08605	-.15558	.18477	.170	136	.866	0.01
Pair 21	V21	-.15000	1.04520	.08834	-.32466	.02466	-1.698	139	.092	0.14
Pair 22	V22	.23741	1.14577	.09718	.04525	.42957	2.443	138	.016	0.21
Pair 23	V23	.36429	1.30968	.11069	.14544	.58314	3.291	139	.001	0.28
Pair 24	V24	.20000	1.13163	.09740	.00737	.39263	2.053	134	.042	0.18
Pair 25	V25	.08633	.97417	.08263	-.07705	.24971	1.045	138	.298	0.09
Pair 26	V26	-.13869	1.09935	.09392	-.32443	.04705	-1.477	136	.142	0.13
Pair 27	V27	.25362	1.05375	.08970	.07625	.43100	2.827	137	.005	0.24
Pair 28	V28	.37226	1.16321	.09938	.17573	.56879	3.746	136	.000	0.32
Pair 29	V29	-.23022	1.00950	.08562	-.39952	-.06091	-2.689	138	.008	0.23
Pair 30	V30	-.12230	1.08655	.09216	-.30453	.05993	-1.327	138	.187	0.11
Pair 31	V31	.33333	1.04869	.08927	.15681	.50986	3.734	137	.000	0.32
Pair 32	V32	-.17857	1.08135	.09139	-.35927	.00212	-1.954	139	.053	0.17

NOTES Column headings are as follows: (1) differences between questions, (2) mean, (3) standard deviation, (4) standard error mean, (5) lower 95% confidence interval of the difference, (6) upper 95% confidence interval of the difference, (7) t, (8) df, (9) statistical sig. (2-tailed) $p < 0.05$, (10) practical sig. (effect size > 0.8).

into a smaller number of factors. By summarising these responses, it was hoped that certain underlying constructs or dimensions of corporate image and the differences between Monsanto SA and DEKALB would be found. The initial dataset, consisting of 32 variables for each group, was subjected to Cronbach's coefficient alpha (α) reliability test and both datasets had α values > 0,70 (Boshoff and Hoole 1998, 77). In addition, each identified factor from the factor analysis was also subjected to the Cronbach alpha test, and the α-value for the single factor extracted from the data pertaining to DEKALB was 0.989. The factor analysis identified two factors pertaining to Monsanto SA, and they had alpha values of 0.968 and 0.797, respectively.

DEKALKB explains a favourable total variance of 75.7%. All this variance is explained by the first factor. It is also the only factor identified by the analysis. The identified factor has been labelled and interpreted appropriately.

Variables that are highly correlated with each other are grouped together under a single factor. The factor analysis for DEKALB (table 7) revealed that one factor could be identified from the data and illustrated the items significant for the one factor.

A suitable description for this factor seems to be *dynamism.* Some of the above items fit well together and are supportive of each other. A brand name that understands farmer requirements, *always improving, stylish, stable, likeable, fast, trustworthy, lively, reputable, interesting, attractive, aggressive, flexible, pleasant doing business, modern, clear communication*, is definitely very dynamic. These items are all very intangible; they may be seen to constitute corporate behaviour.

Two items, namely 'brand growing fast' and 'strong biotechnology image,' did not contribute to this factor.

The factor analysis for the Monsanto SA data explained a cumulative variance of 57.9%. Factor 1 explained the majority of this variance (50.3%).

Variables that are highly correlated with each other are grouped together under a single factor. Each distinct grouping of highly correlated original variables represents a separate factor. The factor analyses for Monsanto SA table 8 revealed that two factors could be identified from the data and illustrate the item significant for the two factors.

A suitable description for factor one also seems to be *dynamism.* According to the OED (2005, 363), the meaning of dynamism is the quality of being dynamic, philosophical, chiefly historical, the theory that phenomena can be explained by an imminent force. Most of these items fit

TABLE 7 Dekalb component factors

Factors	Component
v26 weak brand image/strong brand image	.911
v11 quit advertising/lively advertising	.902
v4 organisation not too progressive/organisation always improving	.900
v31 low quality products/high quality products	.898
v12 disreputable products/reputable products	.895
v24 old-fashioned organisation/modern organisation	.893
v20 organisation providing bad service/organisation providing good service	.891
v19 unimportant to my business/important to my business	.886
v14 unsuccessful organisation/successful organisation	.884
v15 boring organisation/interesting organisation	.883
v25 uncertain doing business again/definite doing business again	.882
v32 complex doing business with/simple doing business with	.882
v27 hazy communication/clear communication	.881
v30 rigid when doing business/flexible when doing business	.877
v7 slow service/fast service	.875
v17 unattractive company/attractive company	.871
v18 unpleasant doing business/pleasant doing business	.868
v13 unknown products/known products	.864
v23 unbelievable advertising/believable advertising	.862
v9 low technology/high technology	.861
v2 not a biotechnology organisation/a biotechnology organisation	.860
v1 not understanding farmer requirements/understand. farmer requirements	.860
v6 unstable brand/stable brand	.858
v10 untrustworthy brand/trustworthy brand	.856
v16 bad product performance/good product performance	.854
v8 unlikeable products/likeable products	.852
v5 plain brand/stylish brand	.846
v29 meek advertising/aggressive advertising	.832
v3 strange brand/familiar brand	.823
v22 invisible logo/visible logo	.790

well together with the factors of the DEKALB brand and are supportive of each other. An organisation's brand name, like Monsanto SA, which *understands farmer requirements, always improving, stylish, stable, likeable,*

TABLE 8   Monsanto SA component factors

Factors	Component	1	2
v18 unpleasant doing business/pleasant doing business		.823	
v27 hazy communication/clear communication		.821	
v7 slow service/fast service		.795	
v20 organisation providing bad service/org. providing good service		.786	
v14 unsuccessful organisation/successful organisation		.783	
v17 unattractive company/attractive company		.776	
v12 disreputable products/reputable products		.772	
v25 uncertain doing business again/definite doing business again		.771	
v31 low quality products/high quality products		.769	
v19 unimportant to my business/important to my business		.766	
v24 old-fashioned organisation/modern organisation		.762	
v10 untrustworthy brand/trustworthy brand		.758	
v30 rigid when doing business/flexible when doing business		.757	
v1 not understanding farmer requirements/underst. farmer req.		.756	
v16 bad product performance/good product performance		.751	
v11 quit advertising/lively advertising		.744	
v4 organisation not too progressive/organisation always improving		.737	
v15 boring organisation/interesting organisation		.730	
v29 meek advertising/aggressive advertising		.728	
v8 unlikeable products/likeable products		.721	
v32 complex doing business with/simple doing business with		.713	
v23 unbelievable advertising/believable advertising		.696	
v26 weak brand image/strong brand image		.678	
v13 unknown products/known products		.655	
v2 not a biotechnology organisation/a biotechnology organisation		.648	
v9 low technology/high technology		.623	
v5 plain brand/stylish brand			.813
v3 strange brand/familiar brand			.672
v6 unstable brand/stable brand			.637

fast, trustworthy, lively, reputable, interesting, attractive, aggressive, flexible, pleasant doing business, modern, clear communication, is definitely very dynamic. These items may also be seen to constitute corporate behaviour. Three items, namely 'brand growing fast,' 'strong biotechnology

TABLE 9   Comparison of factors in different industries

Factor	Represent	(1)	(2)	(3)
Factor 1	Dynamism	X	X	X
Factor 2	Stability/credibility	X		
Factor 3	Client/customer service	X		
Factor 4	Visual identity	X	X	

NOTES   Column headings are as follows: (1) banking institutions in SA (Van Heerden 1993), (2) Monsanto SA current study, (3) DEKALB current study.

image' and 'visible logo' did not contribute to any factor. The only difference between the brand and organisation items in factor one, is the item *invisible logo,* which was excluded when evaluating the Monsanto SA logo.

A suitable description for factor two seems to be *visual identity.* These three items, namely *familiar brand, stylish brand* and *stable brand,* fit well together and are supportive of each other. Van Heerden (1993, 121) argued that visual identity is a major contributor towards corporate image, but that dynamism contributes more to corporate image.

In summary of the factors that were identified to determine the corporate image of Monsanto SA and DEKALB, it can be argued that the respondents, when viewing the DEKALB logo, picture this brand name as one identity and do not associate it with the organisation Monsanto SA. It has been portrayed as one identity standing on its own. In the case of Monsanto SA, it can be argued from the results that respondents picture and associate the organisation Monsanto SA with the brand name DEKALB.

Table 9 compares the factors identified by Van Heerden (1993) in the South African banking industry and the current study in the agricultural sector. Dynamism was identified as a common factor when matched up against the agricultural market (organisation or brand) and therefore it can be argued that this factor represents behavioural identity (dynamism) in both industries' research findings. This confirms the viewpoint that corporate image is not only formed by visual identity, but also by behavioural identity.

Acceptance or Rejection of Hypotheses

The research formulated four research hypotheses that should either be accepted or rejected as a result of the research.

H_0 *Confusion in the market exists between the corporate name Monsanto SA and the brand name* DEKALB.

Partially accepted. The research clearly showed that two factors for Monsanto SA were identified, while only one factor was identified for the brand DEKALB. Two factors, dynamism and visibility, were identified for Monsanto SA, and for DEKALB, just one factor, namely dynamism was recognised.

H_a *Confusion does not exist in the market between the corporate name Monsanto SA and the brand name* DEKALB.

Partially accepted. See explanation H_0 above.

H_1 *Monsanto SA has a stronger corporate identity in the agriculture industry than* DEKALB.

Partially accepted. Due to the two factors (dynamism and visibility) as identified in this investigation for Monsanto SA, respondents do relate the corporate identity with the brand DEKALB. The factor dynamism for the DEKALB brand only relates to the brand and is not linked to the corporate identity of Monsanto SA.

H_2 DEKALB *has a stronger corporate identity in the agricultural industry than Monsanto SA.*

Partially accepted. See explanation H_0 and H_1 above.

From the research findings, there is a small difference in how the respondents observe Monsanto SA and DEKALB. The factor dynamism was identified as a common factor and visibility was not found in the brand DEKALB. With regard to the comparison between Monsanto SA and DEKALB, only one factor was meaningful.

Analysis and Interpretation

The data were collected via a measuring instrument at maize production farmers in the agricultural sector of the market, and the statistical analyses made use of descriptive as well as advanced techniques. The use of factor analysis is to determine the underlying constructs of a dataset provided to be beneficial in this application setting, since it has supplied the researcher with additional information to assist the marketing team in identifying factors of importance to increase and grow the market business entity. The dataset was validated by applying Cronbach's alpha and it proved to be reliable and stable.

In this investigation, for the brand DEKALB, one factor contributed to the brand image and was identified as dynamism. For Monsanto SA, two factors contributed to the organisation's image and were identified as dynamism and visual identity.

It can be argued that the respondents, when looking at the DEKALB logo, picture this brand name as one identity and do not associate it with the organisation Monsanto SA. It is portrayed as one identity standing on its own. In the case of Monsanto SA, respondents picture and associate the organisation Monsanto SA with the brand name DEKALB. These results indicate that the corporate logo, as one of the elements of the corporate identity mix, can be used to create images in the minds of respondents, because it serves as a mental switch or stimulus. The research results confirm the assumption that corporate behaviour and corporate visual identity contribute to visual identity. This argument is also supported by an earlier study done by Van Heerden (1993, 123). In addition, these results are arguably in line with the research by Dungan (2002, 52), explaining that when corporate image is different from brand name, consistency is harder to maintain. According to Van Heerden and Badenhorst (2004, 19), 'the dual nature of image and identity creates a special dilemma for decision-makers.'

Conclusions

From the research, it can be concluded that:

- In the analysis, only question 1 (table 5) showed a significant difference. This question dealt with whether or not the organisation understands the farmer requirements when viewing the two different logos at different times. The respondents indicate that DEKALB does understand farmer requirements (mean value of 4.40), and that Monsanto SA does not really understand farmer requirements (mean value of 2.70).
- The researcher concluded that DEKALB has a strong brand identity. The respondents identified with the brand and not with Monsanto SA. The brand DEKALB identifies a product to the respondents and differentiates it from the competitor's products. DEKALB has a brand reputation and has value in the minds of customers. This unified identity has been labeled dynamism. From table 7, it is evident from the historical survey (Objectivity 2003) that 76% of respondents did not know the new brand DEKALB. With this cur-

rent survey of 2008, this deficit of the past has been eliminated, and all respondents knew the brand DEKALB. They did, however, not necessarily make a strong connection to Monsanto SA as the company. Respondents today feel that the brand does understand farmer requirements. Evidently, the current marketing strategy of the DEKALB brand is very successful.

- The factor dynamism was identified and is tested to be reliable because it was subjected to the Cronbach coefficient alpha (α) reliability test with an α-value of 0.98.
- The cumulative variance for the factor loading to DEKALB is high (76%). In addition, the high Cronbach alpha value of the factor supports the fact that statistically a good and reliable fit to the data exists.
- With reference to the first conclusion, the respondents indicate that Monsanto SA and DEKALB differ significantly, except on the first question.
- Regarding the case of Monsanto SA, the respondents relate with the identity, the corporate name and the brand name of the organisation. The core factor identified is also dynamism. However, this factor explains less variance than was the case with DEKALB (50%). In addition, a second factor is present with Monsanto SA, namely that of *visibility* in the market. An explanation could be that a brand like DEKALB only deals in a straightforward relationship with one group of customers, while Monsanto SA operates in a complex tangled web of relationships over a much more extended business environment.
- The two factors that were identified resulted in favourable Cronbach Coefficient alphas (α-values of 0.96 and 0.79 respectively). It is, therefore, concluded that the factors are reliable.
- The cumulative factor variance for Monsanto SA is less than that of DEKALB (58%), while dynamism as a factor only explains 50% variance. This is significantly less than the variance explained by DEKALB. As such (bearing in mind the explanation offered in Conclusion 2: DEKALB), Monsanto SA is perceived by the market to be more complex, while DEKALB is regarded to be a single factorial concept.

Managerial Implications

The analysis showed that there is no significant practical difference between the brand perceptions pertaining to Montana SA and DEKALB.

From a managerial perspective, this is reassuring because building a duel brand in the market could be confusing to customers and creates opportunities for competitors in the seed market. The managerial implications of the study are summarised below.

1. The marketing strategies of the two brand identities should continue to dovetail in order to strengthen the perceptions in the market that a common factor in identity exists. Marketing managers should position DEKALB as the vehicle that transports Monsanto SA's brand value of dynamism.

2. The visibilities of both DEKALB and Monsanto SA in the market should be used to continue to act as a transporter of brand identity. Managers should realise that both names are synonymous with the company, and as such, positively build the brand identity in the market.

3. Regarding the management of the Department of Research and Development at Monsanto SA, it is important that managers continue to fund research in order to continue to identify other brand identities (factors) that may be lurking within the Monsanto SA brand. This is especially true because 43% of the variance is yet to be explained, identified, and addressed.

4. For the same reason, management should also support continued research regarding the brand name DEKALB, because it is important to determine whether the brand identity really relates to only one factor. The DEKALB brand could also have latent factors within that could be valuable in constructing a marketing strategy.

5. Management should take note of the strong brand identity of DEKALB. Since the DEKALB brand marketing strategy is so successful, the DEKALB brand should present itself as clear and understandable as possible. In addition, the relationship with or link to Monsanto SA should always be confirmed. This would ensure that customers perform brand transfer between the different departments, divisions, and other brands or products that Monsanto SA markets. This implies that the whole of the organisation's personality and its identity should become the most significant factor in making a choice between companies.

6. An interesting managerial implication is that an awareness campaign is required to sensitise all of the marketing managers in the Monsanto SA organisation to be a major role-player when it comes to corporate identity strategies. Managers should realise the im-

portance of the role of the corporate identity in the total business strategy. It is also the responsibility of management to share the plan and to implement the corporate identity programme with all of Monsanto SA employees. This will enable the realisation and understanding of the importance of corporate identity and the role they play.

7. Although it can be argued that dual branding in the marketing strategy influences corporate identity and image negatively, this is only true in market confusion scenarios. Once the dual branding strategy becomes synonymous in its identity, significant benefits can be derived from it, especially if a number of brands exist within an organisation. The Monsanto SA marketing team must emphasise this factor to ensure that respondents are not confused by its dual branding strategy. It is therefore recommended that Monsanto SA continues its dual branding strategy by creating positive experiences of both brands in the minds of the consumers.

Valuable knowledge could be derived from future research conducted with those respondents who do not purchase maize seed from the organisation but from Monsanto's competitors. In addition, further research could identify the rest of the agricultural sector regarding those factors that contribute to corporate image. The other brands, among others, Round-Up, Lasso MT, DELTAPINE, Seminus, Guardian, Bullet, Carnia Seed, and more, could be enlisted in further research at Monsanto SA.

Limitations of the Study

The study and its results are limited by the following constraints:

- The results pertain to Monsanto SA only, and cannot be extrapolated to other countries where Monsanto International operates. Resultantly, managerial decision-making based on these results is limited to South Africa only.
- The views expressed in this research are a result of the perceptions and buying behaviour of the customers of Monsanto SA (and also buyers of DEKALB as the brand name of Monsanto SA). The study is, therefore, limited to the customers of Monsanto SA only.
- The views of non-customers (such as the buyers of Pioneer, Kudu, and other competitive agricultural seed products and brand names) are not discounted in this study. It could be possible that these customers with a lesser knowledge of Monsanto SA or their brand

name DEKALB do not know that the link between these identities exists, and may even regard Monsanto SA and DEKALB as competitors to in the market.

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