Exploratory Study of Scale Development for Brand DNA

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Abstract

This study aims to define a framework for the concept of brand DNA as a preliminary step toward developing a measure for this concept. Brand DNA encompasses distinctive features that serve as the foundation for building a strong brand and achieving a competitive advantage. However, previous studies offering a structured framework for decoding Brand DNA remain limited, which underscores the relevance of the current research. The methodology of Churchill (1997) was utilized to explore this concept using data collected from a quota sample of Egyptians. The results contribute to the development of both theoretical and practical knowledge, directing marketer's attention towards adopting the brand DNA concept to build competitive brand identities, improve marketing practices, and open avenues for future research in this field. The findings also highlight the need to clearly define and develop a valid measurement tool for this concept, while recommending studying this concept in conjunction with other related concepts.

Keywords

Brand, DNA, Brand DNA, Exploratory Study, Scale development, Egypt.

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1. Introduction

A brand's distinction among competitors is achieved through its consistency with its DNA (Rantatalo & Jonsson, 2023). The brand DNA is special characteristics of brand which express its identity (Kallevig, 2021); to enhance brand's customer awareness (Roy & Mishra, 2021). By reviewing the literature review, the research gap has become clear as there is no clear framework for brand DNA concept or its dimensions as recommended by Shuv-Ami (2011) Therefore the objective of this study is introducing a theoretical framework to brand DNA concept as a preliminary step toward developing a measure for this concept, highlighting the importance of this research. This research also contributes to improving marketing practices in brand design through better understanding of the brand DNA concept (Ekev, 2018), because the brand DNA contributes to developing of a new brand or activate or reposition a brand in the market (de Chernatony, 2001).

Prior literature indicates the scarcity of exploration of the concept of brand DNA. Effectively decoding or reconstructing a brand DNA requires a comprehensive understanding of its core. However, numerous questions remain unanswered about brand DNA dimensions and elements of measuring it. The absence of a clear consensus in the literature underscores a noticeable gap about developing an organized framework for decoding the brand DNA. Consequently, the problem statement can be articulated as follows: There is a need to develop a measure for the concept of brand DNA and to identify its underlying dimensions and elements to address the scientific gap identified in the existing literature.

The study aims to establish a clear framework and preliminary definition for the concept of brand DNA by identifying its key elements. It contributes to both theoretical understanding and practical marketing applications by helping researchers and marketers better define and measure brand DNA to enhance branding strategies.

2. Literature Review

The main goal in this stage is reviewing the literature review which has a strong relationship with the concept of study, identifying the goals, measures & results of this studies, to use it to determine a theoretical framework for the concept, the literature review will be shown during the following points:

2.1. DNA (Deoxyribose Nucleic Acid)

DNA is a long polymer made of repetitive units called Nucleotides (Saenger, 2013; Johnson et al., 2008). Griffith (1928) proposed that DNA carries Genetic information (Bianconi et al., 2011). Thus, DNA is the most important vital parts in organisms as it is responsible for construction, encoding, and storing genetic information for every cell in organisms. It also facilities the transport of this information inside & outside cell nucleus to future transport it to future generations (Clarks et al., 2016).

2.2. Brand essence

The brand has an essence on which it is founded, and the name of this essence varies .brand identity, brand personality or brand DNA (Roscam Abbing, 2005). These variations reflect different viewpoints on brand's essence which are largely differences in terminology rather than fundamental disagreement.

The concept of brand essence is often associated with brand personality (Aaker, 1997). However, Kapferer (2008) considers brand personality to be only one part of the broader concept of brand identity. Ellwood (2000) argues that brand DNA represents the true essence of a brand. According to him, the brand name, brand theme, and brand identity all originate from the brand DNA. Similarly, De Morzota (2003) emphasizes that brand identity is reflected in the visual appearance of the brand. Furthermore, Biyani and Gupta (2014) suggest that brand DNA is an essential component of brand positioning.

2.3. Brand DNA Concept

Brand DNA represents its essence and should be existed in all brands (de Chernatony, 2001). it encompasses the personality, special value and brand promises which are conveyed to customers through brand services & products (Peng, 2016). This includes emotional benefits, rational benefits, brand proposition, and brand personality. To maintain its leadership, it must remain consistent with its DNA which increases success opportunities (de Chernatony, 2001; Roszko, Moskowitz, & Moskowitz, 2018) and strengthens brand sustainability and its competitive advantage. Whereas, incompatibility between brand policies and its behavior weakens the effect of messages that conveyed to customers and inflicts direct damage to the brand image (Karjalainen, 2007The brand DNA concept includes 3 theories (Peng, 2016), These theories will be used to develop the final definition of the brand DNA:

- Basic Theory.
- Differentiation Theory.
- Value Theory.

2.3.1. Basic Theory

According to the basic theory, the brand DNA can be divided into two types of genes: Dominant gene which implies factors that the customer can identify it directly like customer service and Recessive gene which indicates factors that the customer can identify it directly like brand equity (Peng, 2016).

2.3.2. Differentiation Theory

Differentiation theory proposes that the uniqueness and difference of brand comes from its DNA, by spreading its values inside & outside and this is what shows through its vision, mission, values, purpose, position, brand personality (Peng,2016, Mark & Pearson, 2001; Aaker, 1996; Kapferer, 1997 ;Keller, 1993). In addition, a group of other elements have been added; the societal challenge focus and social impact positioning (Soetoredjo, 2019).

2.3.3. Value Theory

In accordance with value theory, the brand DNA contains 3 values which are functional value, emotional value, and the value of expressing itself (Peng, 2016).

To implement the first step of Churchill's methodology for developing measures, the elements and dimensions that represent the core of the construct will be extracted from literature review and the pilot study.

2.4. Elements of brand DNA extracted from literature review:

Different researchers define the elements of Brand DNA in various ways. Gad (2001) identifies these elements as vision, mission, values, product, design, and location. In contrast, Takamura and Christensen (2007) describe them as ruggedness, accessibility, ease, convenience, and friendliness. Ford (2008) emphasizes tradition, values, and mission as core components. Others, such as Sassenberg, Summers, and Morgan (2008), suggest that category, character, benefits, difference, and credibility make up Brand DNA.

Tulien and Chapman (2010) argue that the key elements are values, style, differentiators, and standards. Shuv-Ami (2011) highlights vision, values, benefits, style, and brand personality as essential components. Similarly, Clatworthy (2012) points to purpose, personality, position, values, promises, and uniqueness.

Regarding brand dimensions, Atmaja and Budi (2016) divide them into four categories: brand as a product, brand as an organization, brand as a symbol, and brand as a person. Likewise, Raposo, Oliveira, and Farinha (2020) separate brand dimensions into genotype and phenotype. Genotype includes values, story, promises, and brand sense, while phenotype covers personality, style, goals, strategy, product, experience, and brand communication. Finally, Saraiva (2021) considers Brand DNA elements to be scientific, diversified, and transformative.

2.5. Definitions of Brand DNA

In this part, definitions of brand DNA will be presented to understand this concept, in the following table (1).

Table (1) Some Definitions of Brand DNA

Author/ year	Definition					
(Marsden, 2000)	Brand DNA can be defined as the words and perceptions of users contained in memory over time.					
(Ford, 2008)	Brand DNA is the code as the essence and soul of the organization.					
(Atmaja & Budi, 2016)	Brand DNA is the main essence and core value that can be felt and it distinguishes an organization differently from the others.					

Source: Prepared by the author from (Marsden, 2000; Ford, 2008; Atmaja & Budi, 2016)

2.5.1. Criticism of the previously presented definitions:

The definition by Marsden (2000) is very similar to the definitions of brand image, while the definitions by Ford (2008) and Atmaja & Budi (2016) are very general. Therefore, the researcher sees the need to develop a more specific definition of the concept of brand DNA, based on the elements and dimensions that constitute this concept.

3. Research Problem

Despite the strategic importance of brand DNA in shaping brand identity and differentiation, there is no clear or unified framework that defines its core dimensions or provides a reliable method for its measurement. This gap in the literature highlights the need to develop a theoretical and measurable framework for the brand DNA concept.

4. Theoretical and Practical Importance

4.1. Theoretical Importance

This study contributes to the branding literature by addressing a clear gap in defining and conceptualizing brand DNA. By proposing a structured theoretical framework, it advances academic understanding of the core dimensions and components of brand DNA, which have been underexplored in prior research. It also lays the groundwork for future studies aiming to develop measurement scales for this concept.

4.2. Practical Importance

On a practical level, the study offers valuable insights for marketers and brand managers seeking to design, reposition, or activate brands more effectively. A clear understanding of brand DNA enables professionals to align brand strategies with core identity elements, leading to stronger brand differentiation and more consistent brand communication in competitive markets.

5. Research Objectives:

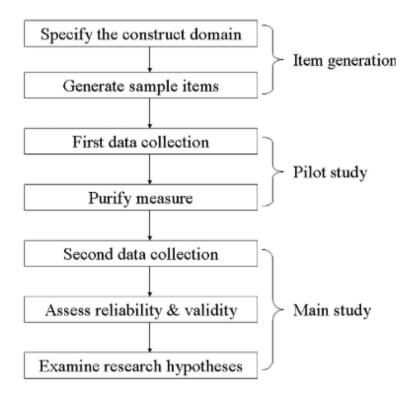
- 1. To conceptualize the brand DNA by reviewing and synthesizing relevant literature.
- 2. To identify the core dimensions and elements that constitute brand DNA.
- 3. To propose a theoretical framework for understanding and decoding brand DNA.
- 4. To lay the foundation for developing a measurement scale for the brand DNA concept in future research.

6. The Research Population and Sample

This study aims to determine theoretical framework to brand DNA concept through Churchill's 1979 methodology to introducing a comprehensive vision about this concept, and identifying the elements and dimensions of the concept of brand DNA, This is done through a set of steps as shown in Figure 1

Therefore, the elements of the brand DNA concept were extracted from a literature review (as previously presented, with the results appearing in Table No.2) and in-depth interviews through a quota sample of 35 respondents (as shown in Table No. 3). After removing duplicate and unclear elements, the list was narrowed down to 36 items. A quota sample of 150 individuals was then asked whether these items represent the concept of brand DNA. The researcher used a survey to collect data and analyzed the collected data using the statistical program SPSS v.25, employing descriptive statistical methods such as mean and standard deviation. This analysis aimed to determine the final number of elements to measure the concept of brand DNA.

Figure No. 1
Stages of scale development according to Churchill's 1979 methodology



6.1. In-depth interviews

The second step of generating elements according to Churchill's 1979 methodology involved collecting the elements of the brand DNA from a sample of 35 respondents of different ages. Sampling was stopped when the responses began to show similarities. Through discussion, the elements of the brand DNA were identified, as shown in Table 4.

6.1.1. In-depth interviews Guide

In-depth interviews were used as the primary data collection tool. These interviews aimed to explore the respondents' personal views regarding the concept of brand DNA. In-depth interviews are an ideal tool for this type of research as they allow participants to freely express their views, which enrich the data and enhance a deeper understanding of the study concept. They are an effective research tool for understanding the qualitative aspects of a brand and identifying it by respondents. These interviews provide a deep understanding of how individuals view brands and the attributes they associate with them, aiming to developing an accurate measure that reflects a brand DNA. Interviews also allow for the exploration of aspects that may be hidden or unknown in traditional quantitative studies.

6.1.2. Interview Methodology:

A non-probability sample (quota sample) was used, where the sample was divided based on age groups, income level, gender, social status, and education level to ensure diversity of opinions.

The final sample included 35 participants. The sample was stopped when the responses began to show similar answers. The ages of the respondents ranged between 18 and 40 years. The sample consisted of 18 females and 17 males, including 20 young people under the age of 26 in the university education stage, 10 aged between 26 and 40 years, the vast majority of whom were graduate students, and 5 aged over 40 years. As for income level, most of the sample was at the middle-income level, ranging between 10,000 and 20,000 LE. or slightly above average. Another group of elements representing the concept of brand DNA was extracted from the respondents, in addition to elements identified in earlier studies.

A semi-structured question guide was prepared that included a set of open-ended questions designed to extract deep insights into the brand DNA. The questions included aspects of the brand's essence, values, and identity. The questions covered multiple axes, Table No. (2).

Table No. (2) A set of questions that were asked during the in-depth interview <u>From your point of view..?</u>

What are the basic pillars of brand building?	• What is the essence of the brand?
 Do you believe a brand should have a role in addressing environmental issues? Is this a core principle of branding? 	What distinguishes the brand?
● Do you care about brand values?	What is the foundation of branding?
Is the purpose of your brand important to you?	Is long-term planning for brand goals a fundamental part of branding?
 Are the language and messages used by the brand important to you? Would you consider them foundational to the brand? 	Do you think that the brand should have a role in environmental issues? Is this a basic principle of branding?
What is your favorite brand?	

Source: Prepared by the researcher

Through the objective analysis of the interviews, a set of elements that make up the brand DNA were extracted from the interviewee's point of view, as shown in Table No. (4). The in-depth interviews contributed to a deep understanding of the basic aspects that make up the brand DNA.

6.1.3. Elements extracted from literature review and pilot study

As literature review revealed, 36 items were extracted and from pilot study, 45 items were extracted, with a total of 81 items, tables (3, 4).

Table (3) Items were extracted from literature review

1. Vision	2. Mission	3. Values	4. Rational Benefits	5. Position among competitor
6. Product	7. Design	8. Location	9. Goals	10. Rugged
11. Identity	12. Purpose	13. Differentiators	14. Credibility	15. Accessible
16. Personality	17. Standards	18. Brand story	19. Sustainability	20. Easy
21. Style	22. Brand strategy	23. Brand experience	24. Brand Position	25. Friendly
26. Category	27. Character	28. Package	29. Emotional Benefits	30. Scientific
31. Tradition	32. Unique of the Brand	33. Brand Promises	34. Brand Communication	35. Diversified
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36. Transformed

Source: Prepared by the author based on literature review

Table (4) Items were extracted from in depth interviews

1. Mission	2. Brand Personality	3. Leadership	4. Brand voice	5. Brand story
6. Long term planning	7. Promotional Activities	8. Brand Loyalty	9. Credibility	10. Trust
11.Quality	12. Advertising	13. Brand Identity	14.Commitment	15. Excellence
16. The brand's values are consistent with the country's values	17.International	18. Power	19. Continuity	20. Renewal
21. Brand awareness	22.Accessibility	23. Brand Name	24.customer insight	25. Stability
26. Value	27. Purchase intention	28.Strong	29. Friendly	30. Brand Logo
31.Practical	32. Brand positioning	33.Product diversity	34.Sophisticated	35.Brand Image
36.The ability to compete	37. Level of cleanliness	38. Neutrality	39. Customer service	40. Pricing
41.customer satisfaction	42. Brand addiction	43.brand love	44. The brand's values are consistent with the country's values	45. Availability of products or services

Source: Prepared by the author based on In depth interviews

After merging and deleting the duplicate elements, the number of remaining items was 36. A quota sample of 150 individuals from the Egyptians was asked whether these remaining elements represented the brand DNA elements or not, as shown in Table 5.

Table (5) Items were extracted from literature review and In depth interviews

1.Vision	2. Mission	3. Values	4. Brand trust	5.Leadership
6.Brand image	7. Quality	8.Accessibility	9. Goals	10. Commitment
				to promises
11. Brand Identity	12. Brand	13.Availability of	14. Brand love	15. Pricing
	loyalty	products or		
	yy	services		
16. Brand	17. Product	18. Brand story	19. Sustainability	20. Customer
personality	diversity	Ĵ	,	service
21. The brand's	22. Strategic	23. Brand	24. Brand	25. Purchase
values are	planning	experience	Position	intention
consistent with the		1		
country's values				
26. Category/class	27. Neutrality	28. Packaging	29. Brand	30. Brand
	Ĭ		addiction	awareness
31. customer	32. Level of	33. Promotional	34. Brand voice	35. Brand
satisfaction	cleanliness	activities		Communication
36. customer				
insight				

Source: Prepared by the author based on literature review and Pilot study

7. Statistical Analysis and Results

7.1. Description of the characteristics of the second study sample

Table (5) shows a description of the characteristics of the study sample according to demographic factors represented by gender, age, education level, marital status, and income level:

Table (6) Description of the characteristics of the study sample according to demographic factors

Demo	graphic factors	Sample	Percentage
	Male	89	59.3%
Gender	Female	61	40.7%
	Total	150	100%
	Less than 26 years old	75	50%
Age	From 26 to less than 40 years old	55	36.7%
	From 40 years and over	20	13.3%
	Total	150	100%
Education level	Pre-university	19	12.7%
	University: Bachelor's / Bachelor's degree		60%
	Postgraduate studies	41	27.3%
	Total	150	100%

Marital status	Single	76	50.7%
	Married	46	30.7%
	Married and support	25	16.7%
	Divorced and Widowed	3	1.9%
	Total	150	100%
Income level	Less than 5000 pounds	97	64.7%
	From 5,000 to less than 10,000 pounds	33	22%
	From 10,000 to less than 15,000 pounds	10	6.7%
	From 15,000 to less than 20,000 pounds	6	4%
	From 20,000 to less than 25,000 pounds	3	2%
	From 25,000 EGP or more	1	0.6%
	Total	150	100%

Source: Prepared by the author according to the results of statistical analysis

7.2. Descriptive analysis of the data

At this stage, the mean, standard deviation and coefficients of variation of the respondent's answers about the elements that should be included in the brand DNA concept are identified; table (7) shows the results of this analysis:

_Table (7) descriptive statistics of the respondent's answers

#	Items	standard deviation	Mean	#	Items	standard deviation	Mean
1	Customer satisfaction	0.701	1.46	19	Vision	0.692	4.53
2	Quality	1.052	3.97	20	Mission	0.596	4.67
3	Strategic planning	0.766	4.38	21	Values	0.878	4.19
4	customer insight	0.552	2.27	22	Goals	0.763	4.29
5	Availability of products or services	0.576	4.51	23	Commitment to promises	0.778	4.41
6	Packaging	0.488	4.7	24	Brand Identity	0.546	4.75
7	Neutrality	0.761	4.41	25	Brand love	0.495	1.58
8	Customer service	0.724	4.40	26	Brand addiction	0.503	1.34
9	Promotional activities	0.837	4.41	27	Brand image	0.430	2.10
10	Pricing strategy	0.509	4.79	28	Brand story	0.822	4.32
11	Brand's values consistent with country's values	0.683	4.51	29	Easy access to products or services	0.719	4.44
12	Level of cleanliness	0.494	1.59	30	Brand awareness	0.672	1.33

13	Brand Communication	0.562	1.37	31	Sustainability	0.835	4.35
14	Brand loyalty	0.543	2.25	32	Class or category	0.594	4.68
15	Brand trust	0.601	1.27	33	Brand personality	0.772	4.43
16	Product diversity	0.768	4.27	34	Purchase intention	0.468	1.32
17	Leadership	0.729	4.55	35	Brand voice	0.787	4.31
18	Brand Position	0.766	4.47	36	Brand experience	0.748	4.49

Source: Prepared by the author according to the results of statistical analysis

Based on statistical analysis using the mean and standard deviation, it is clear that:

• the respondents' answers indicate that the following elements are important elements that must be included in the brand DNA scale: vision, mission, goals, values, brand personality, brand story, easy access to products or services, brand identity, class or category, brand voice, customer service, brand experience, quality, sustainability, pricing strategy, packaging, strategic planning, leadership, product diversity, availability of products, brand positioning, promotional activities, neutrality, brand's values consistent with country's values, commitment to promises, and brand position. The respondents' answers imply that the underlying elements are not considered essential elements to be included in the brand DNA scale: brand trust, brand love, brand addiction, brand image, brand awareness, purchase intention, brand loyalty, level of cleanness, brand communication, customer satisfaction, and customer insight.

7.3. Statistical frequencies of data

Statistical analysis of the statistical frequencies of the data shows the following table (8):

Table (8) Statistical frequencies of data

Items	Number of respondent	s Percentage				
The elements that the respondents confirmed as one of the basic elements that should be included in the brand DNA scale.						
1.Vision	138	92%				
2.Mission	142	94.6%				
3.Values	124	82.7%				
4.Goals	131	87.3%				
5.Commitment to promises	120	80%				
6.Brand Identity	144	96%				
7.Brand story	129	86%				

8. Accessibility	136	90.6%
9.Sustainability	131	87.3%
10. Class or category	144	96%
11. Brand personality	132	88%
12. Brand voice	130	86.7%
13. Brand experiences	136	90.7%
14. Quality	102	68%
15. Strategic planning	131	87.4%
16. Brand positioning	141	94%
17. Packaging	148	98.7%
18. Neutrality	133	88.6%
19. Customer services	129	86%
20. Promotional activities	127	84.7%
21. Pricing strategy	145	96.6%
22. Brand's values consistent country's	136	90.7%
values		
23. Product diversity	129	86%
24. Leadership	136	90.7%
25. Availability of products	131	87.3%
The elements that the respondents confirmed are not included in the brand		nts that should be
1.Brand love	150	100%
2.Brand addiction	148	98.6%
3.Brand image	150	100%
4.Brand awareness	132	88%
5.Purchase intention	102	68%
6.Level of cleanness	150	100%
7.Brand communication	144	96%
8.Brand loyalty	115	70%
9.Brand Trust	138	
J.Diana Trust	130	92%
10. Customer satisfaction	128	92% 85.4%

Source: Prepared by the author according to the results of statistical analysis

8. Conclusion & Results

- 1. Given the lack of consensus among researchers regarding the definition of brand DNA, as reflected in previous studies, this research adopts Ellwood's (2000) perspective, which indicates that the brand essence is brand DNA.
- 2. According to Ford (2008), it is difficult to define the concept of brand DNA, as it is often unclearly defined and can be overlapped with other concepts. It was also noted that previous definitions of brand DNA are general or bear similarities to

other definitions. Thus, there is a need to determine a specific definition of brand DNA. A preliminary definition is proposed as follows:

Creating a unique genetic code which its values are encoded, stored and disseminate those values inside & outside the brand.

- 3. From in-depth interviews, along with a review of existing literature, revealed a ongoing confusion between brand DNA and brand personality. This highlights the necessity to define the dimensions and elements that constitute brand DNA concept.
- 4. As a result of the undertaken methodology to develop the scale, it has been determined that the elements that the brand DNA scale should comprise of 25 elements, as shown in table (9):

Table (9) proposed elements to measure the concept of brand DNA

Goals	Values	Mission	Vision			
Availability of	Easy access to	Brand story	Brand Identity			
products or services	products or services					
Brand's value consistent with county's value	Brand personality	Class or category	Sustainability			
Leadership	Brand experience	Brand voice	Pricing strategy			
Diversity of products or services	Commitment to promises	Strategic planning	Quality			
Customer service	Neutrality	Packaging	Brand positioning			
	Promotional activities					

Source: Prepared by the author according to the results of statistical analysis

9. Research Implications:

9.1. Theoretical Implications

The study contributes theoretically by advancing the conceptual clarity of brand DNA, a concept that remains underdeveloped in the literature. By identifying its core dimensions and organizing them into a coherent framework, the study provides a basis for future research and scale development. It also facilitates deeper theoretical discussions on how brand DNA relates to identity, positioning, and brand equity.

9.2. Managerial Implications

A deeper understanding of brand DNA enables more consistent brand communication, informed decision-making in brand creation or repositioning, and stronger differentiation in competitive markets.

10. Research Limitations

Despite the useful theoretical implications of this study, it is subject to certain limitations, such as:

- This study represents only the initial step of Churchill's (1997) methodology for developing a brand DNA measurement.
- An initial definition of brand DNA has been developed but it still needs further refinement.
- Data were collected from Egyptian society only during the year 2021. The study did not consider phenomena such as the boycott phenomenon within Egyptian society or include data collection from other regions, such as Arab or European countries, to compare results between the elements derived from respondents' opinions.

11. Future Research

Based on the limitations of the study, there is a need for more detailed investigation of this concept, such as:

- Completing the remaining steps of developing the scale using the same methodology of Churchill (1979) to determine the final elements and dimensions of the brand DNA concept.
- After defining the elements and dimensions of brand DNA, revising, and developing the initial definition represented by this study to reach a specific and final definition that accurately represents the brand DNA concept.
- Consider applying the same methodology on a different scale and a different sample of respondents in other countries to ascertain whether these items measure the concept of brand DNA or they will vary depending on the respondents and the country of application.
- Conducting a comparative study between the concept of the brand DNA in Egypt and other countries, including those in the Gulf or Europe..
- Studying the concept of brand DNA in relation to other variables, such as: customer loyalty or brand image.

References:

- Aaker, D. A. (1996a). Building Strong Brands Aaker, D. A. (1996b). Measuring brand equity across products and markets. California Management Review, 38(3).
- Aaker, J. L. (1997). Dimensions of brand personality. Journal of Marketing Research, 34(3), 347-356.
- Atmaja, B. S., & Budi, A. S. L. (2016). The effect of brand DNA on interactive marketing: Perspective of junior lecturers from the Faculty of Economics of a Catholic university. Procedia-Social and Behavioral Sciences, 224, 459-466.
- Bigné-Alcañiz, E., Currás-Pérez, R., Ruiz-Mafé, C., & Sanz-Blas, S. (2010). Consumer behavioral intentions in cause-related marketing: The role of identification and social cause involvement. International Review on Public and Nonprofit Marketing, 7(2), 127-143.

- Biyani, S., & Gupta, K. (2014). Product and Brand Management. Rajasthan, Jaipur: Biyani Group of Colleges, [on-line] https://gurukpo.com/Content/MBA/productandBrandManagement. pdf (09.02. 2019).
- Buil, I., Catalán, S., & Martínez, E. (2016). The importance of corporate brand identity in business management: An application to the UK banking sector. BRQ Business Research Quarterly, 19(1), 3-12.
- Clark, K., Karsch-Mizrachi, I., Lipman, D. J., Ostell, J., & Sayers, E. W. (2016). GenBank. Nucleic Acids Research, 44(D1), D67-D72.
- Clatworthy, S. (2012). Bridging the gap between brand strategy and customer experience. Managing Service Quality: An International Journal, 22(2), 108-127.
- de Chernatony, L. (2001). The essential brand book: Over 100 techniques to increase brand value. Journal of Brand Management, 8(3), 232-232.
- De Chernatony, L. (2010). From brand vision to brand evaluation. Routledge.
- Belén del Río, A., Vazquez, R., & Iglesias, V. (2001). The effects of brand associations on consumer response. Journal of consumer marketing, 18(5), 410-425.
- Ekev, H. T. (2018). Secrets of the millionaire mind. CreateSpace Independent Publishing Platform. Ellwood, I. (2002). The essential brand book: Over 100 techniques to increase brand value (Vol. 2). London: Kogan Page.
- Ford, K. G. (2008). Transforming church: Bringing out the good to get to great. David C Cook. Fowles, J. (1996). Advertising and popular culture (Vol. 5). Sage.
- Gad, T. (2001). 4-D branding: Cracking the corporate code of the network economy. Pearson Education.
- Helix, D. (2000). Years of DNA. Nature, 408(6812), 7-8. Retrieved from http://www.nature.com/nature/dna50/archive.html
- Johnson Morgan, M., Summers, J., & Sassenberg, A. M. (2008). The impact of negative publicity on: an individual sporting celebrity's brand DNA; the brand DNA of their associated team and/or sport; and attitudes of their sponsors and partners. In Proceedings of the 6th Annual Sport Marketing Association Conference (SMA 2008).
- Kallevig, A. (2021). Maintaining a creative brand image in an omnichannel world. The Art of Digital Marketing for Fashion and Luxury Brands: Marketspaces and Marketplaces, 131-151. Kapferer, J. N. (1997). Strategic brand management: New approaches to creating and evaluating brand equity. Simon and Schuster.
- Kapferer, J. N. (2008). The new strategic brand management: Creating and sustaining brand equity long term. Kogan Page Publishers.
- Karjalainen, T. M. (2007). It looks like a Toyota: Educational approaches to designing for visual brand recognition. International Journal of Design, 1(1).
- Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. Journal of Marketing, 57(1), 1-22.
- Mark, M., & Pearson, C. S. (2001). The hero and the outlaw: Building extraordinary brands through the power of archetypes. McGraw Hill Professional.
- Marsden, P., & Selection, B. (2000, March). Naturally Mapping Brand DNA, Engineering Mind Viruses and Adapting to the Evolved Consumer. In Proceedings of the Annual Market Research Society conference, Brighton (pp. 24-27).
- Mogahed, L. (2024). Brand DNA: Scale Development and its Validation. published doctoral thesis, Cairo University.
- Peng, C. (2016). Research on green brand development of sports nutrition food. Advance Journal of Food Science and Technology, 10(7), 487-491.
- Rantatalo, E., & Jonsson, L. (2023). CSR embedded in the corporate DNA: A qualitative case study of CSR-branding and sustainability reporting within a Nordic multi-brand organization in the beauty industry. Journal of Corporate Social Responsibility and Sustainability.

- Raposo, D., Oliveira, F., & Farinha, L. (2020). From identity into brand visual identity: Finding and defining the intangible brand DNA. In Handbook of research on driving industrial competitiveness with innovative design principles (pp. 66-85). IGI Global.
- Roscam Abbing, E. (2005). Brand driven innovation: fulfilling brand promise through new product development (Doctoral dissertation, Dissertation for the Master of Design Management, Nijenrode/Inholland, available on www. branddriveninnovation. com).
- Dutta Roy, S., & Mishra, W. (2021). Brand Style DNA in Consumer Products: Decoding Strategies from a Design Perspective. In Design for Tomorrow—Volume 1: Proceedings of ICoRD 2021 (pp. 593-605). Springer Singapore.
- Saenger, W. (2013). Principles of nucleic acid structure. Springer Science & Business Media.
- Saraiva, L. B. (2021). O Brand DNA process da marca da Universidade Federal do Amazonas (UFAM).
- Shuv-Ami, A. (2011). The MPDTOR: a new brand key model. China-USA Business Review, 10(6). Soetoredjo, Y. (2019). The Social Impact Toolkit: Creating internal alignment on Social Impact.
- Soltani, M., Asadollah, H., Jafari, M. B., & Minavandchal, E. (2020). Designing a genetic model (brand DNA) for internet businesses. International Journal of Nonlinear Analysis and Applications, 11(4), 499-512.
- Takamura, J., & Christensen, T. (2007). The cult of personality: Exploring brand attributes in a research-driven product development partnership between industry and academia. In Proceedings of the International Association of Societies of Design Research Conference.
- Tannistho, Ghosh, (2014). How do you decode your brand's DNA?, Slideshare, Retrieved from: https://www.slideshare.net/tannistho/how-do-decode-your-brands-dna. 22-1-2021,5:22PM
- Chapman, C., & Tulien, S. (2010). Brand DNA: Uncover Your Organization's Genetic Code for Competitive Advantage. iUniverse.

Appendix 1 Interview Procedures Before the Interview

The purpose of the interview: The purpose of the interviews was clearly defined to ensure focus, and a set of open-ended questions was prepared to facilitate the collection of information from the respondents.

Beginning of the Interview

The respondent was welcomed, the purpose of the interview was explained, and the importance of their opinion and participation in scientific research in general and in the subject of the study in particular was clarified.

During the Interview

How to Conduct Interviews: The interviews were conducted face-to-face in a comfortable environment to ensure direct interaction with the participants, which provided the opportunity to observe their expressions and physical interactions

Place and timing of the interviews: The interviews were conducted in various locations according to the comfort of the participants, including cafes and private offices. The duration of each interview ranged between 30 and 60 minutes, according to the interaction of each participant and the amount of details exchanged.

Time period: The data collection process through interviews took about two months in the first quarter of 2022, to ensure that the participants' appointments were accommodated and sufficient time was given to analyze the data on a regular basis.

Data recording: The interviewees were listened to carefully without interruption. All interviews were recorded with participants' consent, and transcripts were produced for later analysis.

End of the interview

The participants were thanked for their time, and their opinion was reaffirmed. After the interview

Data analysis: The data gathered from the in-depth interviews were analyzed to identify recurring themes and general trends in the participants' answers to the elements that make up the brand DNA.

Interview results: Through the objective analysis of the interviews, a set of elements that make up the brand DNA were extracted from the interviewee's point of view, as shown in Table No.(4). the in-depth interviews contributed to a deep understanding of the basic aspects that make up the brand DNA.