INTEGRATING BRAND COMMUNICATION AND BRAND EQUITY: A SYSTEMATIC REVIEW FROM 2000-2020

Dr. Tanmoy De
Assistant Professor, Symbiosis Institute of Business Management, Hyderabad
Symbiosis International (Deemed University) Pune, India

Akanksha Verma
Student Scholar, Symbiosis Institute of Business Management, Hyderabad
Symbiosis International (Deemed University) Pune, India
Corresponding Author email: *tanmoy.de@sibmhyd.edu.in*

ABSTRACT

Over the past few years brand equity has been recognised as one of the most crucial intangible assets for companies, irrespective of their industry or business. This relevance generated an interest among scholars to understand the effect of different factors on brand equity and to develop a financial scale for measuring its impact on the business. It is considered to be an important determinant of price evaluation during mergers and acquisitions. Various scholars have called attention the importance of brand communication in achieving positive brand equity for a company. Especially while considering Aaker's model of brand equity, where brand equity is considered to be a composition of brand loyalty, brand awareness and brand associations. These three components are highly dependent on an efficient brand communication strategy for personalised and transparent interactions with consumers and other brands. Brand equity is a developing concept, although there has been solidarity on the importance of brand equity among the scholars still there has not developed any universally accepted definition and measuring standard of it. As a result, the aim of this paper is to examine current researches in the domain of brand equity and highlight the focus areas of these studies over the last two decades. So as the areas which have been left out or the recent trends in the market can be approached as a topic for further research. In this paper, Bibliometric analysis is conducted with the help of Biblioshiny software, which would evaluate the data extracted from Scopus and provide both graphical and tabular representation of the desired output. Around 1110 papers with the title or keyword "Brand Equity" were extracted from Scopus and then analysed based on the publishing trends, most cited authors, most cited publications, most relevant sources of publication, most influential countries and term factor analysis. The period of 20 years was then divided into 2 decades i.e. 2000-2010 and 2010-2020. For universal acceptability, papers published only in English were considered and the rest were removed. Bibliometrix analysis enabled us to recognise the publishing trends of the paper, maximum papers were published in the decade of 2000-2010 but the maximum citation belonged to the period of 2000-2020. The United States of America was found to be the most influential country in the discipline of brand equity having the highest publications among the top 10 publishing countries. The contribution of authors towards the research is determined based on the citations they receive. Yoo B. having the maximum citation was considered to be the most cited author along with his publication: "*Developing and validating multidimensional consumer-based brand equity scale*" (Yoo & Donthu, 2001) ranked as the most influential publication on brand equity. The factorial analysis highlighted the important factors and the other equity terms indirectly related to brand equity which could be used in further research by different scholars and institutions

Keywords- Brand Equity, Brand Communication, Bibliometric, Biblioshiny, Factor analysis

INTRODUCTION

Brand equity is not merely a marketing term, it is considered to be the utmost valuable asset that a company can acquire. There are unlimited options for customers to choose from and it is the brand perception and brand loyalty that results in its choice of one specific brand among the others. "The brand image allows the customer to recognise their relevant needs and understand the effective mechanism for achieving fulfilment through the brand." (Hossain, Anthony, Beg, Hasan, & Zayed, 2020). How can a brand differentiate it from others and how its products can be differentiated from their generic equivalent are all the play of brand equity.

The customer's past experiences with the product create a perception in his mind and while making his purchase decision he will always introspect those experiences. It is therefore difficult to measure brand equity or even provide an established definition of it.

Brand equity as a concept popularised in the 1980s and since then it has become an important determinant of the overall evaluation of the brand. The term is directly or indirectly related to brand loyalty, which was observed by "David Aaker" in his model of brand equity. He considered brand loyalty, brand awareness and brand associations as the most crucial components of brand equity. The new era of social media brand communication can create a positive perspective of the brand in the customer's mind, creating awareness about it and leveraging brand loyalty.

Digitisation and the internet have created a space for the brands to personalise with the customers and gain their trust and loyalty. "The perception of the brand value by customers impacts its performance and improves the company's financial gains" (Ebrahim, 2019). Every business organisation must take this opportunity and create a strong digital brand presence and perception to reach customers worldwide eliminating the barriers of distance. "Brand associations are more powerful when they are built on a variety of interactions or communications exposures rather than just a few." (Aaker D. A., Managing Brand Equity: Capitalizing on the Value of a Brand Name, 1991). He highlighted the fact that brand equity not only adds value to the brand but also the customer. It harbours the customer with the capacity to efficiently process analyse information and make better purchase decisions.

While grasping the definition of brand equity, we must not overlook the value of brand communication and its role in helping consumers build a sense of belonging. Brand communication is the best tool to influence the stakeholders of the company which includes the investors, employees, financers and most importantly the customers. It is more of a promotional tool, with the use of social media, feedback and advertising a healthy conversation is sparked with the customer. It is two-way communication with equal participation from both counterparts. The

brand's value or brand equity rises and falls with effective and ineffective communication. It is a prominent tool to create an overall perception of the brand and communicate the beliefs and vision of the brand to the customers. "It is evident that firms and users are both important stakeholders of social media communication that contribute to brand equity, thus, company should monitor user-generated content on various social media platforms as it influences brand equity" (Dewi, Syah, & Kusumapradja, 2020). With the increasing use and importance of social media and taking advantage of the internet, brands have developed them as a platform to promote and publish their information.

"The traditional one-way communication is now multi-dimensional, two-way and peer-to-peer communication." (Berthon, Pitt, & Campbell, 2008). Hence it is not incorrect to say that **b**rand equity and brand communication are interrelated and without effective brand communication the value of brand would not be increased. "Brand communication is positively correlated with brand equity, as long as the message leads to a satisfactory customer reaction to the product in question, compared to a similar non-branded product" (Yoo, Donthu, & Lee, 2000). It can be simply being exclaimed that brands that withstood the test of time are those which did not lose the vision behind their establishment and the ideals of their founders. This promise of authenticity combined with modernisation is what brand equity depicts.

LITERATURE REVIEW

This chapter includes a summary of the literature on the subjects discussed in this research paper, it would be structured as (2.1) Brand equity as a concept and (2.2) Brand communication as an integral component of Brand equity.

Brand Equity as a concept

Brand equity is considered as one of the most crucial asset or resource for the companies of the 21st century. Scholars have been interested in this topic since the 1980s; this period of almost 4 decades has focused on different trends and different factors which either negatively or positively impacted the brand equity of a company. There is still no universally accepted definition of brand equity, but it is considered to be a social

valuation of a brand. The brand image, it's positioning and its recognition all depend on how the brands presents itself; how well and personally it can communicate with its customers. "Brand equity is very important in the increasingly fierce competition of the market particularly for similar products, which require companies to survive" (Saidarka & Rusfian, 2019). A customer is willing to buy any product that has the logo of your brand on it and is willing to pay a premium price for your product offerings, instead of the fact that a better price is being offered by the competitors. This is a competitive advantage in the true sense and is only possible through positive brand equity

"The impact that is mainly attributed to brand is known as brand equity" (Keller, 1993). In simple words any actions or effects that take place solely due to the image of the brand, it is considered to be brand equity. In 1993 he highlighted the fact that there has been increased interest in the research on brand equity, there are mainly two motivations behind these researches. The first is to financially evaluate brand equity for the purpose of acquisitions and mergers and the second reason is to frame an effective strategy for reducing the marketing cost and increasing the marketing productivity.

"Brand as a concept developed in the 18th century when producers started using the images of animals and symbols for better differentiation" (Farquhar, 1989). Branding was always there, but the purpose has evolved. The evaluation of a brand financially has always been difficult as it is intangible. There are no set criteria to measure brand equity, different firms use different scales to measure it. "There are majorly two competitive advantages that positive brand equity could have, the first is the ease in expansion and getting a license for it and the second is the ability of a strongly positioned brand to face any uncertainty or downfall in the market"(Farquhar, 1989).

"Until the 20th century, the terms related to brand equity were not actually at the centre of considerations for the organisations" (Aaker D. A., Managing Brand Equity: Capitalizing on the Value of a Brand Name, 1991). In the views of "David Aaker", brand equity comprises assets and liabilities. These assets

and liabilities can vary for the companies, but they can generally be clustered into 5 major sub-headings namely brand loyalty, name awareness, perceived quality, brand associations and other assets such as relationships, patents etc. The cost of creating a brand value has increased drastically if compared to the past decades. This is usually because of the advancing cost of marketing and distribution. Aaker emphasized the nurturing of the brand, in simple terms he meant that cost efficiency must be limited to production, daily functioning and logistics. What happens is that in the pressure of maintaining cost efficiency, companies end up cutting the cost of customer satisfaction focusing on reducing the production expenses. Aaker introduced "Brand Equity Ten" a group of ten measures aimed at measuring brand equity. "These measures were then grouped into 5 categories namely loyalty measures, perceived quality measures, differentiation measures, awareness measures and market behaviour measures" (Aaker D. A., Managing Brand Equity: Capitalizing on the Value of a Brand Name, 1991). "Price premium is the most effective and single measuring unit for brand equity as it shows the ability of the brand to convince the customer to pay a price for its products" (Aaker D. A., Managing Brand Equity: Capitalizing on the Value of a Brand Name, 1991)

"Positive brand equity can only be achieved through strategic brand management" (Wood, 2000). Brand management is the management of the top management and they must aim to achieve a common goal.

"Brand awareness is a crucial element that influences brand equity among the youth. Young consumers can easily differentiate the desired product from its competitors by using the information and characteristics it gains from social media" (Sasmita & Suki, 2015). Hence, they highlighted the importance of the new developing concept of social media brand communication.

Brand communication an integral component of Brand equity
Brand communication over the years has developed to be one of the most important components for the development of positive brand equity. Unlike the traditional communication methods, social media and

technology have revolutionised the whole concept of brand communication, making it a tool for the company to aware, educate, persuade, attract, market their brands to the relevant stakeholders.

"Marketing communication may provide the means for developing strong, customer-based brand equity" (Keller, 2003). In his paper, Keller highlighted the fact that to create positive brand equity the most important thing is to create awareness about the brand among the customers followed by the development of favourable associations, enticing positive image of the brand in consumers subconscious minds and establish an effective brand-stakeholder communication the most important aspect to achieve all this is an effective **brand communication strategy**. There are numerous options or media of brand communication, among the most popular is advertising. Although it is not the only means of communication, conventionally it is the most famous and considered very effective. Many global brands have been successful even by not involving conventional advertising as the core of marketing communication strategy. They focused on brand associations and environmental concern, which was visible in the manufacturing and packaging of the product. Therefore, the mode of communication is not important, what's important is the effect on the consumer's mind. Every mode of communication has different striking areas and strengths, owing to this fact only Keller emphasised on having a mix of communication options that would individually contribute to the development of brand equity.

"IMC is a strategic tool that can help firms to be more effective in realizing their brand communication goals." (Madhavaram, Badrinarayanan, & Mcdonald, 2013).

Integrated marketing communication plays a very important role in developing brand equity as it focuses on contacts. Contacts are basically the consumer experiences with the brand which is then utilised for maintaining brand equity, they can be of two types, brand equity contacts and brand identity contacts. IMC ensures that all the contacts must reach the relevant customer at the right time, over time it has been presented as a strategic component for enhancing brand value. The

first step before moving forward towards the implementation of the IMC strategy is the process of presenting a brand image in the mind of the customer. An effective brand image strategy creates a path for the implementation of the IMC strategy through brand identity contacts. Brand identity shows the aspirations of the brand and the means to achieve it, every goal and ethics of the brand must be depicted in its image. "Brand identity helps in establishing a relationship between the brand and the customer by generating a value proposition involving functional, emotional, or self-expressive benefits" (Aaker, 1996). Therefore, an effective and well-defined brand identity is the key to expressive integrated business communication, which in terms enhances brand equity.

"Brand equity is not merely built through independent forms of brand communication (such as advertising or public relations), but is generated by managing brand equity contacts via IMC" (Schultz, 2004). The synergy among the vehicles of communication is very crucial to generate a high level of persuasion among the consumers. Brand equity is a vast concept with different components to satisfy, a single mode of communication is not capable of targeting every component. As a result, synergy among the various modes of communication through IMC can be used to target specific focus areas such as brand identity creation, brand recognition, and brand associations.

Therefore this is evident from the above-mentioned reviews of the scholars that brand equity has turned out to be at the centre of business. There have been numerous researches towards this concept; various scholars have developed different models for building brand equity. Still, there is no proper definition to define the term brand equity and with the evolution in technology and increasing digitisation, various new opportunities and challenges have emerged for the brands to communicate and connect with the customers.

Bibliometric analysis
"Generally, a bibliometric analysis is performed to evaluate both research trends and scholarly networks in different research disciplines" (Eck & Waltman, 2010). The term bibliometrics was first used by "Alan

Pritchard" in his paper "Statistical Bibliography or Bibliometrics?" In 1969, he explained the term as "the application of mathematics and statistical methods to books and other media of communication" (Pritchard, 1969). Biometric analysis refers to the utilisation of statistical methods to analyse scholarly publications, books and articles. Though historically it was merely used to analyse the relationship between citations in journals, today it is being used by various researchers to know the impact of their field, impact of research and particular paper. The first step in the bibliometric analysis is to analyse, extract and organise the data in an effective manner, as it makes it easier to identify various aspects of the research paper. One of the most important areas of it is citation analysis, which helps to establish links between authors and their papers. While conducting a bibliometric analysis of scholarly publications, a person can identify the most cited author, most influential publications, contribution of various countries in the research and the research focus of authors over the period. There are primarily four steps involved in an effective bibliometric analysis beginning with the objective of the research, choosing the research design, collecting data from relevant database sources, selecting the methodology and software and finally analysing the final results.

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Research Software
For conducting bibliometric analysis on the above topic, Biblioshiny software is being used. It is considered to be a shiny app for bibliometrix; it is generally called "bibliometrix for non-coders". Bibliometrix is an R language based graphic interface used for data importing and filtering. R is a programming language that is primarily used for statistical computing. Using a language-based graphic interface is not easy for a scholar, solely for this purpose Biblioshiny was developed to assist them in utilising the main and best features of bibliometrix. It is used to gather and import data from known databases like PubMed, Scopus, Web of designs etc. The data is then filtered and can be analysed based on sources, authors and documents. It constructs and visualizes bibliometric networks for citations, co-authorship, and co-citation links analysis. The best and most unique feature of Biblioshiny is that it allows performing factor analysis,

which is not possible in most of the bibliometric tools.

It is run through R-studio, which is software that provides an integrated development environment for the R programming language. It is an open-source ready to use professional software for R programming language, which is used by professionals and data scientists to analyse and share their findings. It is available in 2 variants; one can only be installed and run on a desktop and the other runs on a remote server which can be accessed via a web browser. The best and most unique feature of Biblioshiny is that it allows performing factor analysis, which is not possible in most of the bibliometric software tools.

RESEARCH METHODOLOGY
This topic provides a detailed outline of the method used for the extraction and analysis of the papers published in the discipline of brand equity.

Data search strategy
To conduct bibliometric analysis, a properly arranged data set is required which would then be analysed using Biblioshiny. Among the various available databases such as Web of Sciences, PubMed, Semantic Scholar, Scopus etc. **Scopus** database was used for extracting the data on Brand Equity, as it is considered to be one of the largest databases with a less complex data extraction process. It provides ready to use efficiently managed data for bibliometric analysis making the task even smoother. It is the largest citation and abstract database of Elsevier, harbouring approximately 36377 titles from around 11678 publishers.

Extraction & Identification
To identify the papers, the keyword or title "Brand Equity" was used. Further the raw data on the Scopus database was filtered based on the below mentioned filters:

1,140 document results extracted through-
TITLE-ABS-KEY ("Brand
Equity") AND (LIMIT-
TO (DOCTYPE , "ar")) AND (LIMIT-
TO (SUBJAREA , "BUSI") OR LIMIT-
TO (SUBJAREA , "SOCI") OR LIMIT-
TO (SUBJAREA , "ARTS") OR LIMIT-

TO (SUBJAREA , "PSYC")) AND (LIMIT-TO (EXACTKEYWORD , "Brand Equity"))

A total of 1140 articles and conference papers were identified as having the word "Brand Equity" in their titles or keywords from the year 1992-2020 in the Scopus database. The data was organised with headings such as authors, author's id, citations, number of pages, sources and the total number of publications. The data was extracted in a .csv file which can easily be arranged and scrutinized using any bibliometric software.

Screening
For efficient, comparative and diversified analysis of the papers, the papers published after 2000 and before 2020 were considered for analysis and the rest were eliminated. The period of 20 years was then divided into 2 decades i.e. 2000-2010 and 2010-2020. This decadal division would facilitate comparison in the trends of publications, the research focus based on keyword analysis etc. For universal acceptability, papers published only in English were considered and the rest were removed.

Relevancy
After initial screening around 30 articles were eliminated from the data set for the comparative analysis of 2 decades. A total of 1110 articles were considered relevant to fulfil the objectives of the paper and perform an effective bibliometric analysis.

OBJECTIVES
Brand equity is a very dynamic subject, and several studies have been conducted to truly identify the effect of different variables on the growth of brand equity, along with new trends that form a brand's image in the market. This paper focuses on the following objectives to have a holistic bibliometric analysis:

1. To scrutinize the extracted data and provide an overview of it.
2. To trace recent trends and the changes in the researches on the topic related to brand equity.
3. To determine the top 10 most influential countries based on their total publications.
4. To analyse the top-cited authors and analyse their co-citation network.

5. To determine the most influential publications based on the highest citation.
6. To recognise the most relevant sources of publication in the discipline of brand equity.
7. To perform a factor analysis of authors keywords using the MCA method and create a term factor map.

RESULTS AND ANALYSIS
The first step towards bibliometric analysis is to scrutinise the data extracted, and according to the analysis there are in total 1110 articles identified having "Brand Equity" as their title or mentioned as one off their keywords. Tables and graphs are being used with the explanation to enhance the understanding and provide a clear picture of the outcome.

Table 1- Highlights of the data

Description	Results
Article	1110
Sources (Journals, Books, etc)	360
Average citations per documents	27.11
Single-authored documents	182
Authors	2277
Authors of single-authored documents	161
Authors of multi-authored documents	2116
Author's Keywords (DE)	2415

Highlights of the data extracted
The table-1 provides comprehensive information about the data which was extracted from Scopus to conduct bibliometric analysis. There are recognised 1110 articles, which are the only document type present in the whole data. There are a total of 2277 authors that contributed in the research on brand equity, among which only 161 authors have solely authored a document and the remaining have co-authored multiple-authored documents. Author's keywords are highly crucial in understanding the crux of the paper or article, they provide an idea of what is being considered and discussed in the article. There are 360 sources such as journals, books and others in which the above mentioned 1110 articles were published.

The trends in publications speak loud about the development of the concept and the importance of it. A growing trend in the publication of a particular field indicates its increasing relevance in the present scenario. Let us begin with the analysis of the trends in the publication of papers on digital equity over the past two decades.

Table 2- Year wise publication and citations of the publications

Year	Total Publication	Total Citation	Citation per Publication
2020	141	222	1.57
2019	125	622	4.9
2018	92	739	8.03
2017	80	809	10.1
2016	76	1399	18.4
2015	77	1746	22.6
2014	65	948	14.5
2013	61	1864	30.5
2012	73	3305	45.2
2011	48	1950	40.6
2010	64	2069	32.3
2009	53	1831	34.5
2008	44	2180	49.5
2007	22	1130	51.3
2006	16	2574	160.8
2005	20	2085	104.25
2004	7	398	56.8
2003	13	1000	77
2002	8	398	49.75
2001	16	1956	122.25
2000	9	863	95.9

Analysis of the trends in publication

The table-2 provides a clear picture of the total publication and the citations in a particular year. There is observed a constant increase in the publication of the papers in the decade 2011-2020. In the initial years the publication was quite less as in 2000 there were only 9 publications followed by 16 in 2001. It is determinable from the table that there has not been much publication in the first decade as compared to the second decade.

The overall publications in the first decade are 272 and in the decade 2011-2020 are 838. However, the amount of citations is much more in the first decade of 2000-2010 as compared to the decade of 2011-2020. The highest number of citations i.e. 3305 is observed in 2012 followed by 2574 in 2006.

After 2014, a constant increase in the publications was observed with the maximum number of publications in 2020 followed by 2019.

Table-2 also provides us information about the citation per publication which depicts an average of citation that a publication received over the year. The maximum citation per publication is observed in the year 2006, which indicates that the research carried out in this year has been the basis of further research. As compared to the decade 2011-2020, the decade of 2000-2010 recorded more citations per publication indicating the importance of the research performed over the decade. After the analysis of publishing trends, let's discuss the contribution of countries all over the world in research development in the discipline of brand equity. The table provides a list of the top 10 countries ranked based on total papers published there

Table 3- Top 10 influential countries

Country	Total Production	Total citation
USA	596	7956
CHINA	286	1814
SPAIN	203	1766
INDIA	148	408
UK	133	1500
AUSTRALIA	129	1343
MALAYSIA	104	460
IRAN	95	43
SOUTH KOREA	84	63
FRANCE	69	792

Most contributing countries in the discipline of "Brand Equity"

Based on the total publication, Table-3 shows the top ten most influential countries in the domain of brand equity. It is realised that the maximum research on the concept was done in the United States and later in the paper you would also notice that the maximum number of most cited authors belonged to the United States.

The figure-1 provides a thematic map of production distribution among the countries, the transition from blue to gray is in context to the publications. It is evident from the map that maximum publications were from North America, South America, Australia, South

Asia and some parts of Africa. Country with the highest publication is the United States, followed by China, Spain and India. India has contributed a significant amount of publications in the field but lacked behind in the citations. Although number of publications in the United Kingdom is much lower than India, but it received more than thrice the number of citations. This Implicates that the research performed in the United Kingdom was considered much more relevant and beneficial for further research works. Similar is the scenario with France, it has the lowest publications among the 10 but has the third highest citations.

Figure1- Thematic map of most influential countries

The Table-4 provides a detailed analysis of the top 20 most cited authors. The authors are ranked per the total number of citations, and they will be compared on the same criteria.

Table 4- Top 20 most cited authors

Rank	Author	Affiliation	Total Publications	Total Citations	h index
1	Yoo B.	Hofstra University Hempstead, United States	1326	4	24
2	Donthu N.	Georgia State University, United States	1279	2	41
3	Lehmann D.R.	Columbia Business School, United States	1081	3	41
4	Keller K.L.	Tuck School of Business at Dartmouth College	1027	4	109
5	Ko E.	Yonsei University, Seoul, South Korea	782	4	25
6	Pappu R.	The University of Queensland Business School, Australia	746	5	4
7	Quester P.G.	The Adelaide Business School Adelaide, Australia	745	4	36
8	Kim A.J.	Cal Poly Pomona, Pomona, United States	676	1	7
9	Cooksey R.W.	University of New England Australia, Australia	629	2	18
10	De Chernatony L.	Aston Business School, Birmingham, United Kingdom	455	8	38
11	Kim W.G.	International Centre for Hospitality Research in the Dedman School of Hospitality	434	3	1
12	Esch F.R.	EBS Universität fürWirtschaft und Recht, Germany	422	2	5
13	Erdem T.	Leonard N. Stern School of Business, United States	403	3	26
14	Czellar S.	Université de Lausanne (UNIL), Switzerland	370	1	10
15	Spangenberg E.	University of California, Irvine, United States	370	1	25
16	Sprott D.	University of Wyoming, United States	370	1	30
17	Martinez E.	Universidad de Zaragoza, Spain	352	8	23
18	Rodriguez Z. P.	Lusíada University of North, Portugal	351	1	5
19	Langner T.L.	Bergische Universität Wuppertal	351	1	7
20	Schmitt B.H.	Columbia Business School, United States	351	1	34

Along with total citations, the affiliation, total publication and the h-index of the authors are presented in the table.

Most cited Authors

Table-4 and Figure-2 displays the top 20 most cited authors who have made the greatest contribution in the research and development of the concept of brand equity and communication. The top 20 most cited authors are mainly from the United States, Australia, and South Korea, and they contributed the most to the research. The authors are ranked according to their total number of citations (TC), and the table also contains information on their affiliation and h-index, as stated by Scopus. B. Yoo is ranked first among the top 20 most cited authors with the maximum citations of 1326. His co-authored publication: "*Developing and validating a multidimensional consumer-based brand equity scale*" is considered to be the most influential publication in this field. The above mentioned paper was co-authored by B. Yoo along with N. Donthu, who is the second most cited author with 1279 citations. The third most cited author is Lehmann D.R., who co-authored the second most influential publication "*Brands and branding: Research findings and future priorities*". The table not only highlights the top 20 most cited authors, it highlights the crucial contribution and role of these authors in development of the concept and their research in numerous fields have been the base of further research and evaluations.
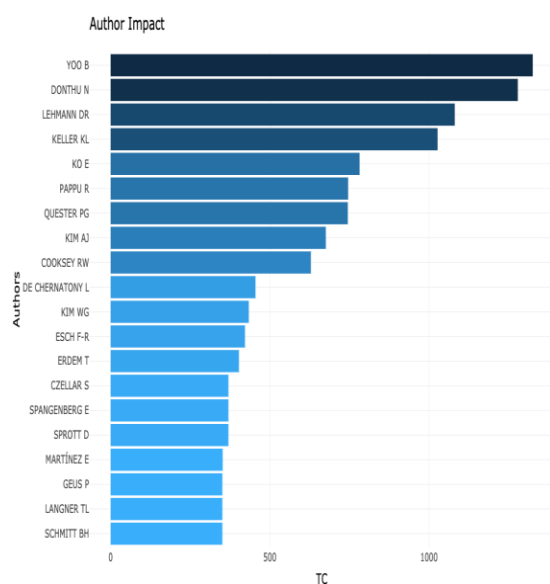

Figure 2- Most cited authors

Author Co-citation Analysis (ACA)

Co-citation analysis enables researchers to identify similar relationships between papers, authors and sources. The main purpose of ACA is to map scientific domains by pointing out the relationship of co-cited author (McCain, 1990). Figure-3 provides an author co-citation network, which is relevant in understanding the relationship between the authors and the integration of research and analysis. The circular nodes mention the names of the author and the lines denote the co-citation links between them. The different coloured nodes define the clusters they belong to, the nodes are clustered through the Louvain algorithm. The size of nodes determine the links of the authors, larger the nodes higher the co-citations of the author and vice-versa. It is evident from the figure that Keller, Aaker, Anderson, Yoo etc. have been co-cited the maximum times having links with mostly all the present 50 authors in the network.
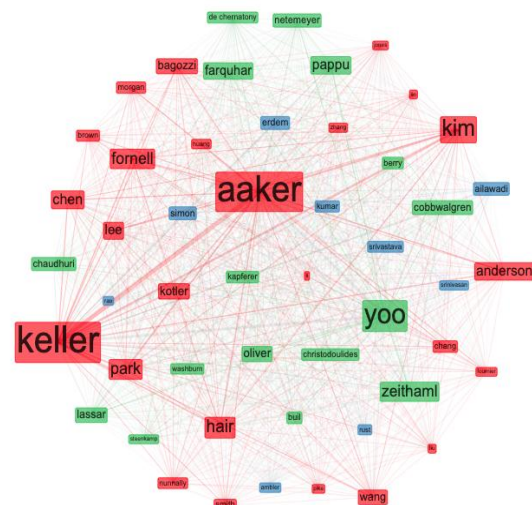

Figure 3- Co-citation network of the authors

The Table-5 below provides an insight into the top 20 most cited publications ranked on the basis of their citations. Along with the citations, the author and the year of publication is also presented in the table. This ranking would enable us to determine the most influential publication, which had the strongest impact on the research in the discipline of brand equity and communication.

Table 5- Top 20 Most Influential Publications

Rank	Title	Author	Year	Citation
1	"Developing and validating multidimensional consumer-based brand equity scale."	"Yoo B.", "Donthu N."	2001	1178
2	"Brands and branding: Research findings and future priorities."	"Keller K.L.", "Lehmann D.R."	2006	929
3	"Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brand."	"Kim A.J.", "Ko E."	2012	676
4	"Consumer-based brand equity: improving the measurement – empirical evidence."	"Pappu R.", "Cooksey R.W., "Quester P.G."	2005	412
5	"The importance of a general measure of brand engagement on market behavior: Development and validation of a scale."	"Sprott D." " Czellar S.", "Spangenberg E."	2009	370
6	"Are brands forever? How brand knowledge and relationships affect current and future purchases."	"Esch F.R.", "Langner T.L.", "Schmitt B.H.", "Geus P."	2006	351
7	"Brand equity, brand loyalty and consumer satisfaction."	"Nam J.", "Ekinci Y.", "Whyatt G."	2011	321
8	"Managing brands and customer engagement in online brand communities."	"Aksoy L.", "Van Riel A.", "Kandampully J.", "Wirtz J.", "Den Ambtman A.", " Bloemer J.", "Horváth C.", "Ramaseshan B.", "Van de Klundert J.", "GurhanCanli Z."	2013	301
9	"Do counterfeits devalue the ownership of luxury brands?"	"Nia A.", "Lynne Zaichkowsky J."	2000	263
10	"Does brand trust matter to brand equity?"	"Delgado-Ballester E.", "Munuera-Alemán J.L."	2005	254
11	"Brands matter: An empirical demonstration of the creation of shareholder value through branding."	"Madden T.J.", "Fehle F.", "Fournier S"	2006	253
12	"Does image of country-of-origin matter to brand equity?"	"Mohd N.Y.", "Nasser M.N.", "Mohamad O."	2007	251
13	"The effects of brand associations on consumer response."	"Del Río A.B.", "Vázquez R.", "Iglesias V."	2001	244
14	"Are social media replacing traditional media in terms of brand equity creation?"	"Bruhn M.", "Schoenmueller V."," Schäfer D.B."	2012	237
15	"Brands and brand equity: definition and management."	"Wood L."	2000	231
16	"The impact of brand credibility on consumer price sensitivity."	"Erdem T.", "Swait J.", "Louviere J."	2002	223
17	"Consumer-based brand equity and country-of-origin relationships: Some empirical evidence."	"Pappu R.", "Quester P.G.", "Cooksey R.W."	2006	217
18	"The effect of consumer-based brand equity on firms' financial performance."	"Kim H.-B.", "Kim W.G.", "Ann J.A."	2003	215
19	"Social media marketing efforts of luxury brands: Influence on brand equity and consumer behaviour."	"Godey B.", "Manthiou A.", "Pederzoli D.", "Rokka J.", "Aiello G.", " Donvito R.", "Singh R."	2016	208
20	"Customer based brand equity: Evidence from the hotel industry."	"Kayaman R.", "Arasli H."	2007	201

Most Influential Publications

Table-5 and Figure-4 provides the list of top 20 most influential publications based on their total citations, which had the greatest impact on the research and development of the concept brand equity. Mostly the motivation behind any research is a question, a question of impact, a question of output and a question of development. Various factors are studied in context to the research topics, wherein new theories are developed and some are modified. These influential publications bring about a change in the thinking and writing of the scholar community. It is observed that out of the top 20 most influential publications, 15 of them were published in the decade of 2000-2010. This signifies the importance of the research in that particular decade.

Based on the analysis, the most influential publication with the highest citations is "*Developing and validating multidimensional consumer-based brand equity scale*", which was authored by Yoo B. and Naveen Donthu. The research was carried out for the purpose of developing a multi-dimensional scale to measure the customer based brand equity. It concluded with the fact that the developed scale was reliable and was tested both theoretically and practically.

With the focus on holistic analysis of the branding as a whole and highlighting the importance of the components of brand equity such as brand positioning, brand awareness, brand integration etc. It also aims at highlighting the gaps in the study and research on branding. The second most influential publication studying the above aspects is*: "Brands and branding: Research findings and future priorities"*, authored by Keller K.L., Lehmann D.R.

Technology and the Internet themselves have been a revolution in the business sector, a business equipped with relevant technology and connected with the internet would always be one step ahead of its competitors. Putting in spotlight the importance of social media marketing in enhancing the customer equity, the third most influential publication is: "*Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brands*". The study is aimed at analysing the role of SMM activities in influencing the

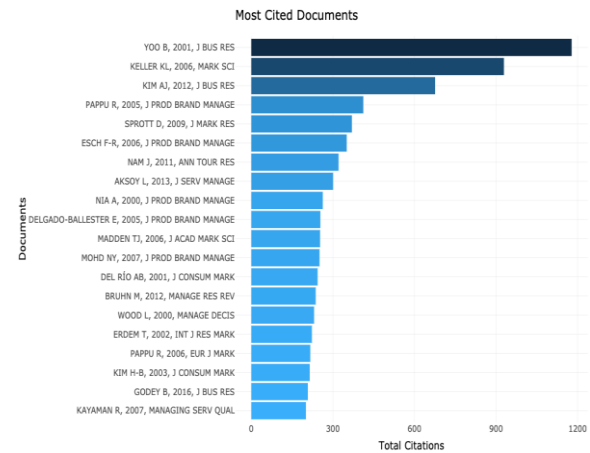customer purchase behaviour and other attributes for the luxury fashion brands.

Figure 4- 20 most influential publications

After identifying the most influential publications, it is relevant to analyse the sources in which these publications were published from time to time. The table below provides an insight into the most relevant sources of publications based on the total publications it published on brand equity.

Table 6- Most important sources of publication

Sources	Articles
Journal of product and brand management	54
Journal of business research	51
Journal of brand management	41
European journal of marketing	34
Journal of consumer marketing	20
Journal of product & brand management	18
Industrial marketing management	15
Marketing intelligence and planning	15
International journal of bank marketing	13
International journal of sport management and marketing	13
Journal of marketing management	13
Journal of promotion management	13
Asia pacific journal of marketing and logistics	12
International journal of hospitality management	12
Journal of retailing and consumer services	12
Sustainability (Switzerland)	12
Journal of marketing research	11
International journal of research in marketing	10
International marketing review	9
Journal of marketing communications	9

Most relevant sources of publication

Table-6 and figure-5 provides a comprehensive overview of the top 20 sources of publication ranked based on their total publications. Figure provides a graphic representation of the top 20 most relevant sources of publication, with the name of the sources on the Y-axis and the number of documents ranging from 0-54 on the X-axis.

"Journal of Product and brand management" is ranked as the most relevant source of publication with a total of 54 articles published in it. This journal aims to focus on all the aspects of branding and product management from its origin to its dilution.

The second most relevant source is the "Journal of Business Research", which is well known for its application of business theory to real-time business situations. It focuses not only on branding and product management it has a wider scope of research focusing on every business decisions and activities.

The third most relevant source of publication is the "Journal of Brand Management", which is one of the top journals on brand management and strategy. It is recognised for expert analysis on brand reputation and management with on field research and case studies.

The next and the last objective of this paper are to perform a factorial analysis of the author's keywords using the MCA method and create a term factor map. This particular analysis would enable the institutions and managers to recognise different qualitative variables grouped into limiting factors, which would be beneficial in further research.

Factor Analysis

This analysis is primarily used to reduce down numerous correlated variables into a lesser number of factors. It is a statistical method used by numerous authors and researchers to reduce their variable dimensions into lesser factors and provide them with a similar score for easy and smooth analysis. Multiple correspondence analysis method is used for this particular analysis, it is one step ahead of correspondence analysis and it enables the researchers to compare the distance between the two qualitative variables by representing them in the Euclidean space.

A term factor map based on the author's keywords is shown in Figure-6, a minimum of 500 documents were analysed to identify the most prominent keywords and among them, only 50 of them are depicted on the map for effective analysis. Three different coloured structures on the map show three different clusters; in each cluster the variables or the keywords are grouped based on the similarity of their application or correlation between them.

Dim1 and Dim2 on the X and Y axis are the reduced variables projecting the shadow of the actual data also denoting the variation from the original data set and two dimensionality of the structure. Clusters are made based on the similarity between the words or the variable. They have been based on their output variables such as the green cluster at the top left is similarity cluster, the red cluster is the factor cluster and the blue cluster is the components cluster.
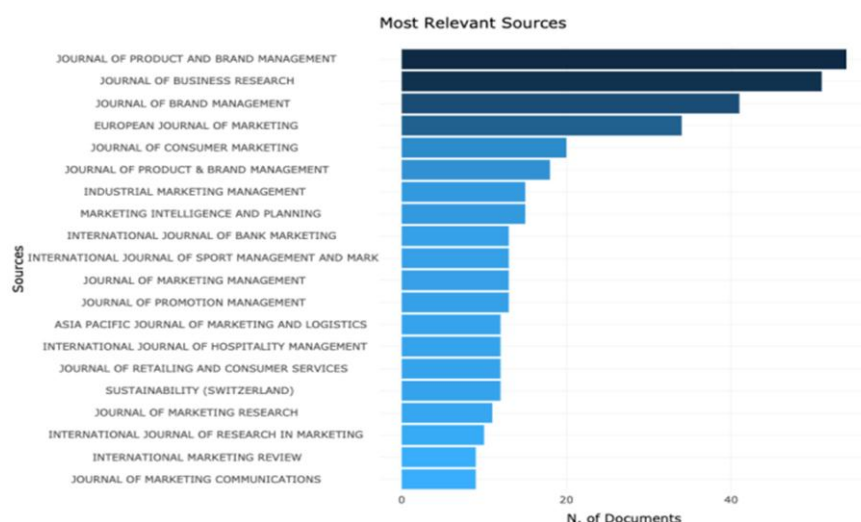

Figure 5- Graph representation of most relevant sources of publication.

The similarity cluster comprises the terms related to equity such as customer equity, relationship equity and value equity. Brand equity is closely related to all these terms and these are indirectly interrelated as if we consider customer equity, it focuses on the value of customers and brand equity also emphasizes on customer loyalty. Therefore the relationship among these terms is highlighted in this analysis.
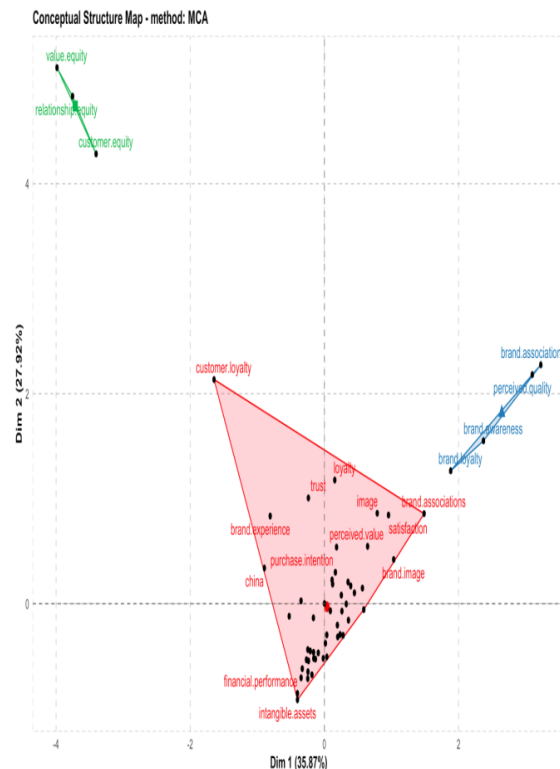

Figure 6- Term factor map of author keywords

The factors cluster is the largest among the three, comprising the factors that are most prominently used to measure brand equity such as customer satisfaction, customer loyalty, brand image etc. Among the other variables, image, perceived value, brand experience, trust and loyalty are present in the centre of the structure signifying their importance in determining brand equity.

Brand equity components such as brand loyalty, brand recognition, and brand affiliation are included in the components cluster. These components are the building block for the development of brand equity and they must be kept in mind while framing a positive brand equity strategy.

FINDINGS AND IMPLICATIONS

This paper would act as a ray of light for the scholar community to recognise the focus areas of research in brand equity over the past two decades. So as the areas which have been left out or the recent trends in the market can be approached as a topic for further research. The business itself survives in a dynamic market and has to face numerous challenges and opportunities. Similarly, brand equity is a developing concept; the research in its context started only in the early 1980s and has become the centre of focus for the companies since the 20th century. The factorial analysis would enable managers to understand the major components of brand equity and the factors that play a crucial role in its development. This would enable them to frame an effective brand equity development strategy, which would enhance the profitability in future. By analysing the top 20 most influential publications, the importance of the topics and keywords of these papers have been highlighted. These can be used by business educational institutions to frame a curriculum for brand equity harnessing students with the knowledge of this developing yet crucial aspect of the business.

CONCLUSION

Customers waiting in queue to lay their hands on the new phone are the greatest example of positive brand equity. It is not solely the quality and perceived quality that Apple offers; it is about the brand and the reputation which heightens the sales of the products. It is essential for the managers and the companies to perform a brand audit once in six months to analyse their brand reputation in the market amongst the customers. This audit would enable the companies to be adaptive towards the changes in the market and technological developments. The increasing digitisation and mobile use have created a different space of interactions among the customers and the brands. This increases the importance of brand communication, which would help in communicating better and effectively with the customers. There have been various researches focused on highlighting the importance of brand communication in brand positioning and creating positive brand equity. Social media brand communication is a new fresh concept; it offers a platform for the brands to target consumers of all ages globally. The increasing trust of individuals on social media

is creating a great opportunity for the brands to position themselves in the customer's minds and create a positive digital presence. Brand loyalty comes from effective interactions between the customer and the brand, which is only possible through an effective brand communication strategy. It is not possible for the big luxurious brands to somehow tap into the niche community of customers, brand communication provides them with an opportunity to affiliate with other brands and larger their consumer base. This brand association can be very beneficial for brands looking forward to expansion in different niche markets. Hence it would not be incorrect to include that brand communication not being theoretically considered a part of brand equity, is the most crucial aspect in the development of brand equity. Every step towards developing positive brand equity involves customer interaction directly or indirectly. If the founding vision and values of the brand cannot be communicated to the customer, it would never be able to grow and survive in the market.

Bibliometric analysis was essential to recognise the past researches in the discipline of brand equity, their focus of study and the conclusions. It was found that maximum research was performed in the year 2020, but the relevance of the research is determined through the maximum number of citations that were observed in 2012. Although there was a constant increase in production over the second decade, the maximum citation was received in the first decade. The research was carried out all over the world, but the focused regions were North America, South America, Australia, South Asia and parts of Africa. The United States contributed most to the research in the field having not only the maximum publications but also the highest number of citations. It is also of no surprise that most of the top 20 cited authors were from the United States itself. Among the top 20 most cited authors, Yoo B. received the maximum citation followed by Donthu N. and Lehmann D.R. The analysis of most influential publications highlighted some important topics in context to brand equity such as the increasing relevance of social media in the creation of a brand image, development of a multidimensional brand equity scale, effect of counterfeits on luxury brands, the relevance of brand trust in building brand equity, etc. the

factorial analysis highlights the important factors which could be used in further researches by different scholars and institutions. Hence, from the above analysis, it would be right to conclude that there is a requirement for more detailed and diversified research in the discipline of brand equity. The research must be more focused on the different models proposed by great scholars and how these can be amended based on the 21st-century requirement.

REFERENCES

Aaker, D. A. (1996). *Building Strong Brands.* New York: The Free Press.

Aaker, D. A. (1991). *Managing Brand Equity: Capitalizing on the Value of a Brand Name.* New York: The Free Press.

Ballester, E. D., & Alemán, J. L. (2005). Does brand trust matter to brand equity? *Journal of Product & Brand Management* , 187-196.

Berthon, P., Pitt, L., & Campbell, C. (2008). Ad lib: when customers create the ad. *California Management Review* , 6-30.

Bruhn, M., Schoenmueller, V., & Schäfer, D. B. (2012). Are social media replacing traditional media in terms of brand equity creation? *Management Research Review* , 770-790.

Del Río, A. B., Vázquez, R., & Iglesias, V. (2001). The effects of brand associations on consumer response. *Journal of Consumer Marketing* , 410-425.

Dewi, A. C., Syah, T. Y., & Kusumapradja, R. (2020). The Impact of Social Media Brand Communication and Word-of-Mouth. *Journal of Multidisciplinary Academic, 276-282.*

Ebrahim, R. (2019). The Role of Trust in Understanding the Impact of Social Media Marketing on Brand Equity and Brand Loyalty. *Journal of Relationship Marketing* , 1-22.

Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics* , 523-538.

Erdem, T., Swait, J., & Louviere, J. (2002). The impact of brand credibility on consumer

price sensitivity. *International Journal of Research in Marketing* , 1-19.

Esch, F. R., Langner, T., & Geus, P. (2006). Are brands forever? How brand knowledge and relationships affect current and future purchases. *Journal of Product & Brand Management* .

Farquhar, P. H. (1989). Managing Brand Equity. *Marketing Research* , 24-33.

Godey, B., Manthiou, A., Pederzoli, D., & Rokka, J. (2016). Social media marketing efforts of luxury brands: Influence on brand equity and consumer behavior. *Journal of Business Research* .

Hossain, M. S., Anthony, J. F., Beg, M. N., Hasan, K. R., & Zayed, N. M. (2020). Affirmative Strategic Association of Brand Image, Brand Loyalty and Brand Equity: A Conclusive Perceptual Confirmation of the Top Management. *Academy of Strategic Management Journal* .

Kayaman, R., & Arasli, H. (2017). Customer based brand equity: Evidence from the hotel industry. *Journal of Service Theory and Practice* .

Keller, K. L. (1993). Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing* , 1-22.

Keller, K. L. (2003). *Strategic Brand Management: Building, Measuring, and Managing Brand Equity.* New Jersey: Pearson .

Keller, K. L., & Lehmann, D. R. (2006). Brands and branding: Research findings and future priorities. *Marketing Science* .

Kim, A. J., & Ko, E. (2012). Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brand. *Journal of Business Research* , 1480-1486.

Kim, H. b., Kim, W. G., & An, J. A. (2003). The effect of consumer-based brand equity on firms' financial performance. *Journal of Consumer Marketing* , 335-351.

Lehmann, D & Keller K L. "Brands and Branding: Research Findings and Future Priorities." *Marketing Science* 25, no. 6 (November 2006): 740-59

Madden, T. J. (2006). Brands Matter: An Empirical Demonstration of the Creation of Shareholder Value Through Branding. *Journal of the Academy of Marketing Science* , 224-235.

Madhavaram, S., Badrinarayanan, V., & Mcdonald, R. E. (2013). Integrated Marketing Communication (IMC) and Brand Identity as Critical Components of Brand Equity Strategy. *Journal of Advertising* , 69-80.

McCain, K. W. (1990). Mapping authors in intellectual space: A technical overview. Journal of the American Society for Information Science. *Journal of the American Society for Information Science* .

Nam, J., Ekinci, Y., & Whyatt, G. (2011). Brand equity, brand loyalty and consumer satisfaction. *Annals of Tourism Research* , 1009-1030.

Nia, A., & Zaichkowsky, J. L. (2000). Do counterfeits devalue the ownership of luxury brands? Nia A., Lynne Zaichkowsky J. *Journal of Product & Brand Management* , 485-497.

Pappu, R., Quester, P. G., & Cooksey, R. W. (2006). Consumer-based brand equity and country-of-origin relationships: Some empirical evidence. *European Journal of Marketing* , 696-717.

Pappu, R., Quester, P. G., & Cooksey, R. W. (2005). Consumer-based brand equity: improving the measurement – empirical evidence. *Journal of Product & Brand Management* .

Pritchard, A. (1969). Statistical Bibliography or Bibliometrics? *Journal of Documentation* , 348-349.

Saidarka, G. A., & Rusfian, E. Z. (2019). Comparative Study on Brand Equity of Fast Food Restaurants in Indonesia. *International Journal of Innovation, Creativity and Change* .

Sasmita, J., & Suki, N. M. (2015). Young consumers' insights on brand equity: Effects of brand association, brand loyalty, brand awareness, and brand image. *International Journal of Retail & Distribution Management* .

Schultz, E. D. (2004). A clean brand slate. *Integrated Marketing Communications* .

Sprott, D., Czellar, S., & Spangenberg, E. (2009). The importance of a general measure of brand engagement on market behavior: Development and validation of a scale. *Journal of Marketing Research* .

Wirtz, J., Ambtman, A. d., Bloemer, J., Horváth, C., Ramaseshan, B., Klundert, J. v., et al. (2013). Managing brands and customer engagement in online brand communities. *Journal of Service Management* , 224-244.

Wood, L. (2000). Brands and brand equity: definition and management. *Management Decision* .

Yasin, N. M., Noor, N., & Mohamad, O. (2007). Does image of country-of-origin matter to brand equity? *Journal of Product & Brand Management* , 38-48.

Yoo, B., & Donthu, N. (2001). Developing and validating a multidimensional consumer-based brand equity scale. *Journal of Business Research* , 1-14.

Yoo, B., Donthu, N., & Lee, S. (2000). An Examination of Selected Marketing Mix Elements and Brand Equity. *Journal of the Academy of Marketing Science* , 195-211.

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