



REVIEW ARTICLE

Exploring the landscape of brand extensions: A bibliometric analysis of scholarly trends and insights

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Abstract

This bibliometric analysis offers scholarly insights into brand extension research by examining academic output, influential sources, leading authors, and keyword co-occurrences in the field. Analyzing a dataset spanning from 2014 to 2023, the study reveals significant trends, patterns, and themes. The annual distribution of research output shows fluctuations, indicating evolving research priorities. In terms of institutional productivity, the School of Management at Zhejiang University is a leading contributor, followed closely by the Business School at Hanyang University and Dankook University, underlining their significant scholarly influence. Key sources such as the "Journal of Business Research," "Journal of Brand Management," and "Journal of Product and Brand Management" shape the discourse, emphasizing their pivotal role in brand extension exploration. Co-citation analysis identifies Keller K.L., Aaker D.A., Park C.W., and Loken B. as the most influential authors, forming the intellectual backbone of the field. Keyword co-occurrence analysis uncovers vital concepts like "brand equity," "brand management," and "perceived fit," shedding light on critical themes in brand extension research. This study enhances our understanding of brand extension literature, serving as a valuable resource for researchers and practitioners seeking to explore the evolving landscape of this dynamic field.

Keywords: Extended brands, Bibliometric analysis, Literature review, Rstudio, Brand extension.

Introduction

In the dynamic landscape of contemporary marketing, brand extension has emerged as a strategic approach for businesses to leverage the equity of an established brand into new product categories (Loken *et al.*, 2023). This process, whereby an existing brand name is applied to a new product or service category, offers numerous opportunities for organizations to exploit brand recognition, capitalize on consumer loyalty, and enter untapped markets (Peng *et al.*, 2023). The concept has garnered significant attention from scholars, practitioners, and marketers, leading to an extensive body of research that explores its multifaceted dimensions (Bian and Yan, 2022). The proliferation of

research on brand extension underscores its importance as a key strategy for brand managers and marketers aiming to expand their market reach (Hesse *et al.*, 2022). As the literature continues to grow, it becomes essential to comprehensively assess and synthesize the existing body of knowledge to extract insights, map the intellectual landscape, and identify potential research trajectories. Bibliometric analysis, a quantitative method employing statistical techniques to analyze patterns and trends within the scientific literature, emerges as an indispensable tool for systematically evaluating this research landscape (Li *et al.*, 2023). Bibliometric analysis provides a panoramic view of the evolution, trends, and interconnections in the field of brand extension by quantifying the frequency of keywords, author collaborations, citation patterns, and journal distributions (Bohara *et al.*, 2023). This method allows researchers to uncover the underlying structures and dynamics shaping the discourse (Rasul *et al.*, 2022). Such insights are invaluable for understanding the intellectual progression of the field, identifying seminal contributions, and highlighting gaps that warrant further exploration (Saglam, 2022). This research paper embarks on a bibliometric journey to unravel the contours of brand extension literature. Through a meticulous analysis of scholarly publications, the study aims to achieve several key objectives. First, it seeks to provide a comprehensive overview of the major themes,

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trends, and focal points that have emerged within the research domain of brand extension. Second, it endeavors to identify key influential authors, collaborative networks, and prolific institutions that have shaped the discourse. Lastly, the study aims to offer insights into potential future research directions, highlighting uncharted territories and emerging concepts that demand scholarly attention. As the paper unfolds, the synthesis of bibliometric insights will consolidate knowledge on brand extension and offer a robust foundation for researchers, practitioners, and academicians to navigate the complex landscape of brand strategy and innovation.

Background of the Study

Brand extension, a strategic marketing practice, has garnered significant attention in academic and business circles for its potential to enhance brand visibility, mitigate risks, and leverage existing brand associations (Keller and Aakar, 1992). This multifaceted field encompasses disciplines such as marketing, consumer behavior, psychology, and innovation management (Bhat & Reddy, 2001), and scholars have explored various dimensions of brand extension, including its effects on consumer perception, brand fit, challenges, and determinants of successful extensions (Broniarczyk & Alba, 1994). The roots of brand extension research can be traced back to the 1960s and 1980s, focusing on perceived similarity between primary brands and their extensions, influenced by semantic generalization (Boush *et al.*, 1987). Building on this, Aaker and Keller made significant contributions by exploring key aspects of perceived similarity, laying the foundation for further exploration in the field. While researchers have experimented with various methodologies, such as incorporating contextual influences (Barsalou, 1982; Cohen & Basu, 1987), brand extension research gained substantial traction in the 1990s. Empirical evidence of the impact of brand extensions on core brand image, focusing on specific attributes, was found in other studies (Loken and Roedder John, 1993). Psychological processes and a brand's offerings reveal a two-stage consumer evaluation process for common extensions (Boush and Loken, 1991). In today's competitive landscape, brand extension strategies have emerged to mitigate the risks associated with introducing new products and leveraging established brand names in new product categories (Boush *et al.*, 1987). Despite two decades of extensive research in branding, complexities persist, necessitating further exploration (Durrani & Hussain, 2019). For this purpose, this study aims to contribute to the field of brand extensions by identifying research gaps, exploring future topics, and providing scholarly insights using performance analysis, science mapping, and network analysis techniques.

Research Objectives

This research study aims to guide future researchers in the domain of brand extensions by identifying future trends and

research gaps in the domain. The objectives that this study will achieve are depicted below:

- To analyze the temporal pattern of annual publications, leading journals, most prolific authors, prominent sources, and most productive institutions in the domain.
- To explore and analyze scientific collaboration among countries, highly cited publications, frequently cited references, commonly used keywords and analysis of author-assigned keywords for finding research gaps and the most prolific keywords in the domain.
- To find the major themes, research trends, and future research agendas in the domain.

Materials and Techniques

To achieve the research objectives, a combination of citation, co-citation, and bibliometric analysis is employed. These methods allow for examining patterns, trends, and research gaps in the existing literature (Kumar *et al.*, 2023). Citation and co-citation analysis identify emerging topics, evaluate journal influence, and detect research trends (Kumar *et al.*, 2022). Tools like VOSviewer and Biblioshiny are used to construct bibliometric networks by analyzing citations, bibliographic coupling, co-citation, or co-authorship links. This quantitative analysis assesses the development, maturity, top authors, top institutions, conceptual and intellectual frameworks, and trends within the research domain. The preferred reporting items for systematic reviews and meta-analyses (PRISMA) framework ensures transparency, rigor, and reproducibility in selecting and evaluating relevant studies. The methodology involves performance analysis, science mapping, and network analysis to explore the "brand extension" literature. Data collection from Scopus yielded 305 relevant articles. Excel was used to organize and preprocess the data for seamless integration with VOSviewer. Biblioshiny facilitated data visualization and exploration, examining bibliometric indicators like author productivity, journal impact, and keyword frequency. Co-authorship networks identified prolific authors and collaborative patterns. Rigorous data cleaning ensured accuracy and reliability. The integration of VOSviewer, Excel, and Biblioshiny enabled the identification of key research themes, influential authors, prolific journals, and emerging trends, providing valuable insights and guiding future research directions.

Search Protocol Utilized for the Study

The bibliographic data for this study was sourced from the Scopus database, selected for its extensive collection of publications. Scopus stands out as the largest repository of journals, surpassing other databases such as "Web of Science" in terms of publication volume. This broad coverage makes Scopus particularly well-suited for conducting comprehensive bibliometric analyses. Its widespread use in previous bibliometric studies also underscores

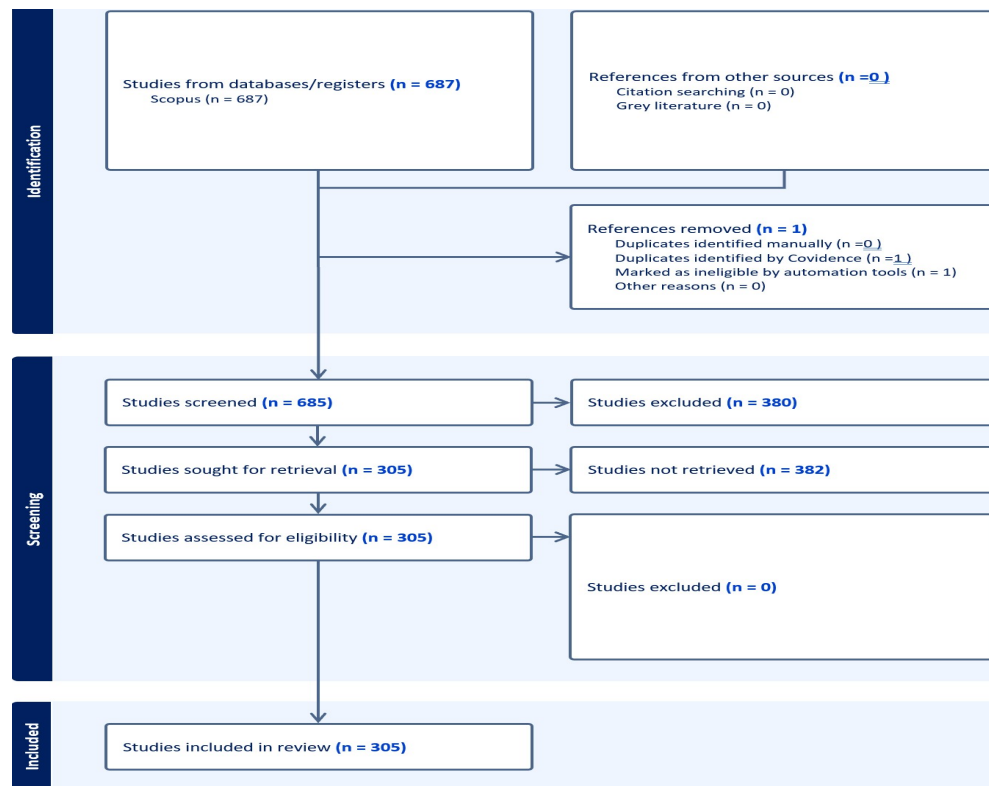


Figure 1: Prisma protocol flowchart

its reliability and appropriateness for this research. The inclusion of a diverse array of publications further enhances the robustness and validity of the findings by ensuring a thorough exploration of relevant scholarly literature.

The Figure 1 presents the "Prisma" protocol flowchart which refers to the preferred reporting items for systematic reviews and meta-analyses. It is a widely recognized and structured guideline that provides a systematic approach for conducting and reporting comprehensive reviews of existing research, enhancing transparency, replicability, and quality assessment in the process. Due to the authenticity of Prisma, it is employed in the present study. Covidence software is used for this purpose. 1 duplicate file is removed using "Covidence" software. Also, 1 file was found ineligible for the study and hence discarded. A total of 305 documents are extracted for the analysis to achieve the stated objectives. The whole search protocol and process is defined in the next section of the study.

Search String Used for the Study

(TITLE-ABS-KEY ("brand extension") OR TITLE-ABS-KEY ("extended brands") OR TITLE-ABS-KEY ("brand stretching") AND PUBYEAR > 2013 AND PUBYEAR < 2024 AND (LIMIT-TO (SUBJAREA, "BUSI") OR LIMIT-TO (SUBJAREA, "SOCI") OR LIMIT-TO (SUBJAREA, "PSYC") OR LIMIT-TO (SUBJAREA, "ARTS") OR LIMIT-TO (SUBJAREA, "MULT")) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (SRCTYPE, "j")) AND (LIMIT-TO (LANGUAGE, "English"))

The protocol for data extraction utilized for this research aimed to systematically gather relevant scholarly articles related to the topic of brand extension within a specific timeframe and across multiple subject areas. The protocol incorporated a combination of keywords and constraints to narrow down the search results. The keywords "brand extension," "extended brands," and "brand stretching" were used to ensure comprehensive coverage of the topic. The search was further refined by specifying the publication year range, limiting the search to articles published between 2014 and 2023. Additionally, the subject areas encompassed various disciplines, including business, sociology, psychology, arts, and multidisciplinary fields. The document type was restricted to articles, denoted by "ar," and the source type was limited to journals ("j"). Furthermore, the search was restricted to articles published in the English language to ensure accessibility and relevance. By following this search protocol, the research aimed to obtain a curated selection of articles that met specific criteria and pertained to the multidisciplinary exploration of brand extension within the defined temporal and thematic boundaries.

Data Analysis and Results

Table 1 provides bibliometric insights spanning from 2014 to 2023, covering 158 sources (journals) and analyzed 305 documents of the domain. The annual growth rate shows a modest decline of 4.13%, while the average document age is 4.59 years. Each document receives an average of 11.04

Table 1: Main information of the data

<i>Timespan</i>	<i>2014:2023</i>
Sources (Journals)	158
Documents	305
Annual Growth Rate %	-4.13
Document Average Age	4.59
Average Citations per Doc	11.04
References	15269
Keywords Plus (ID)	214
Author's Keywords (DE)	994
Authors	736
Authors of Single-Authored Docs	33
Single-Authored Docs	36
Co-Authors per Doc	2.69
International co-Authorships %	26.23
Article	305

Table 2: Annual trend of publications

<i>Year</i>	<i>Articles</i>
2014	38
2015	31
2016	22
2017	40
2018	24
2019	27
2020	32
2021	28
2022	37
2023	26

citations, highlighting their scholarly impact. With a total of 15,269 references, the research is deeply rooted in existing knowledge. The presence of 214 keywords plus and 994 author's keywords indicates the breadth of topics explored. The study involves 736 authors, with 33 acting as sole authors for 36 documents, reflecting individual scholarly pursuits. Collaboratively, each document features an average of 2.69 co-authors, with international collaborations comprising 26.23% of the total. Overall, this analysis encompasses a corpus of 305 articles, offering a comprehensive exploration of the research landscape.

Table 2 and Figure 2 illustrates the yearly distribution of research output from 2014 to 2023. The articles published per year varies, with a peak of 40 articles in 2017 and a subsequent decline. While there was a dip in 2016 and 2018, the publication count generally remained within a moderate range. This fluctuation suggests changing research trends and priorities over the years within the examined domain.

Table 3: Average citations per year

<i>Year</i>	<i>MeanTCperArt</i>	<i>N</i>	<i>MeanTCperYear</i>	<i>CitableYears</i>
2014	16.45	38	1.65	10
2015	21.35	31	2.37	9
2016	22.64	22	2.83	8
2017	8.53	40	1.22	7
2018	14.92	24	2.49	6
2019	12.89	27	2.58	5
2020	8.06	32	2.02	4
2021	5	28	1.67	3
2022	3.35	37	1.68	2
2023	0.46	26	0.46	1

Table 4: Most productive authors in the domain

<i>Rank</i>	<i>Author</i>	<i>Documents</i>	<i>Citations</i>	<i>ACPP</i>
1	Prados-peña m.B., Del barrio-garcía s.	3	42	14
2	Chang j.W.	2	3	1.5
3	Chen y.-S.A., Bei l.-T.	2	19	9.5
4	Joshi r., Yadav r.	2	31	15.5
5	Kaur h., Pandit a.	2	6	3
6	Kim d.H.	2	3	1.5
7	Ramanathan j., Velayudhan s.K.	2	13	6.5
8	Srivastava r.	2	9	4.5
9	Veg-sala n., Roux e.	2	27	13.5

**Figure 2:** Annual trend of publications

The Table 3 displays results on average citations per year for the dataset, focusing on mean total citations per article (MeanTCperArt), number of articles (N), mean total citations per year (MeanTCperYear), and citable years from 2014 to 2023. Mean total citations per article varies annually, peaking at 22.64 in 2016 and dropping to 0.46 in 2023. The number of articles fluctuates, reaching a maximum of 40 in 2017 and a minimum of 22 in 2016. Mean total citations per year, indicating average yearly citations, also fluctuates, with a peak of 2.83 in 2016 and a low of 0.46 in 2023. Citable years range from 1 to 10 years across the period, measuring

Table 5: Most prolific institutions in domain

Rank	Organization	Documents	Citations	ACPP
1	School of Management, Zhejiang University, Hangzhou, China	3	40	13.34
2	Business School, Hanyang University, Seoul, South Korea	2	61	30.5
3	Dankook University, South Korea	2	9	4.5
4	Department of Business Administration, National Chengchi University, Taipei, Taiwan	2	11	5.5
5	Department of Kinesiology, Indiana University, Bloomington, In, United States	2	6	3
6	Iowa State University, United States	2	93	46.5
7	Skk Graduate School of Business, Sungkyunkwan University, Seoul, South Korea	2	35	17.5
8	The Chinese University of Hong Kong, Hong Kong	2	48	24

Table 6: Collaboration among countries

Country	Articles	SCP	MCP	Frequency	MCP_Ratio
USA	55	43	12	0.18	0.218
India	33	30	3	0.108	0.091
China	29	23	6	0.095	0.207
Korea	20	12	8	0.066	0.4
France	13	11	2	0.043	0.154
Australia	11	9	2	0.036	0.182
Spain	11	10	1	0.036	0.091
Canada	10	6	4	0.033	0.4
United Kingdom	9	6	3	0.03	0.333

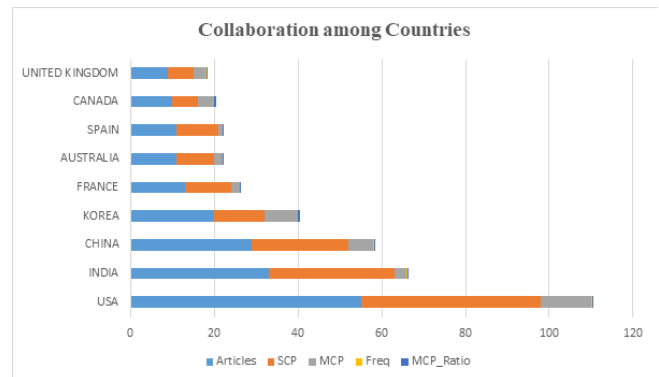


Figure 3: Country collaboration graph

the longevity of citations counted. These findings suggest varying citation patterns and research activity over the years, reflecting potential shifts in research focus, impact, and the enduring relevance of articles published during this timeframe.

The Table 4 displays the top authors in the field of brand extension as of the given data from the year. Ranked first are "PRADOS-PEÑA M.B." and "DEL BARRIO-GARCÍA S.," with 3 documents and 42 citations, accumulating an ACPP rate of 14. Following closely in second place is CHANG J.W. with 2 documents and 3 citations, resulting in an ACPP score of 1.5. The third and fourth positions are held by the collaborative teams of "CHEN Y.-S.A." and BEI L.-T., as well as JOSHI R. and YADAV R., both having 2 documents each. "CHEN Y.-S.A." and BEI L.-T. garnered 19 citations, securing an ACPP score of 9.5, while JOSHI R. and YADAV R. received 31 citations, achieving an ACPP score of 15.5. This ranking showcases the prominence of these authors in terms of their contributions and influence in the brand extension domain during the specified period.

The Table 5 presents results from a bibliometric analysis focusing on the productivity and impact of organizations in brand extensions research. Rankings are based on the number of documents published in this area. Leading the list is the School of Management at Zhejiang University, Hangzhou, China, with 3 documents accumulating 40

citations, resulting in an average citations per published paper (ACPP) of 13.34. Following closely is the Business School at Hanyang University, Seoul, South Korea, which has published 2 documents receiving 61 citations, with an ACPP of 30.5. Dankook University in South Korea holds the third position, publishing 2 documents with 9 citations, yielding an ACPP of 4.5. Lastly, the Department of Business Administration at National Chengchi University, Taipei, Taiwan, completes the list with 2 documents and 11 citations, resulting in an ACPP of 5.5. Overall, the table offers valuable insights into these organizations' research productivity and impact in the field of management, emphasizing both the quantity and quality of their scholarly contributions to the academic discourse.

The Table 6 and Figure 3 presents a bibliometric analysis of research articles from various countries in the field of brand extensions. It outlines key metrics for each country, including the number of articles, single collaboration publications (SCP), multi collaboration publications (MCP), frequency (Freq) of collaborative publications, and the MCP ratio. The United States (USA) stands out as a major contributor with 55 articles, featuring a moderate SCP of 43 and 12 MCPs, indicating a collaborative research approach. India follows with 33 articles, showing a relatively lower SCP of 30 and 3 MCPs. China, contributing 29 articles, exhibits a lower SCP of 23 but a notable trend with 6 MCPs. Korea,

Table 7: Most productive sources in the domain

Sources	Articles	H_index	G_index	M_index	TC	NP	PY_start
Journal of business research	19	11	19	1.1	477	19	2014
Journal of brand management	16	9	13	0.9	192	16	2014
Journal of product and brand management	15	7	10	0.7	122	15	2014
Emerald emerging markets case studies	10	-	-	-	-	-	-
European journal of marketing	8	6	8	0.667	73	8	2015
Journal of consumer psychology	7	5	7	0.556	270	7	2015
International journal of research in marketing	6	5	6	0.556	100	6	2015
Journal of consumer behaviour	6	3	3	0.6	13	6	2019
Journal of retailing and consumer services	5	4	5	0.571	121	5	2017
Journal of the academy of marketing science	5	4	5	0.4	80	5	2014

Table 8: Most cited references in domain

Rank	Cited references	Citations
1	Aaker D.A., Keller K.L., Consumer Evaluations of Brand Extensions, <i>Journal of Marketing</i> , 54, 1, Pp. 27-41, (1990)	93
2	Volckner F., Sattler H., Drivers of Brand Extension Success, <i>Journal of Marketing</i> , 70, 2, Pp. 18-34, (2006)	79
3	Park C.W., Milberg S., Lawson R., Evaluation of Brand Extensions: The Role of Product Feature Similarity And Brand Concept Consistency, <i>Journal of Consumer Research</i> , 18, 2, Pp. 185-193, (1991)	53
4	Boush D.M., Loken B., A Process-Tracing Study of Brand Extension Evaluation, <i>Journal of Marketing Research</i> , 28, 1, Pp. 16-28, (1991)	41
5	Keller K.L., Aaker D.A., The Effects of Sequential Introduction of Brand Extensions, <i>Journal of Marketing Research</i> , 29, 1, Pp. 35-50, (1992)	37

France, Australia, and Spain demonstrate varying levels of collaboration relative to their article outputs, as indicated by their MCP Ratios. Notably, Korea shows a high MCP Ratio of 0.4, highlighting extensive international collaboration. Overall, the table offers insights into the geographical distribution and collaborative dynamics of research in the field of brand extensions.

The Table 7 provides insights into the top sources in the field of brand extension within the context of a bibliometric analysis. The analysis examines various metrics of scholarly influence and contribution for each source. The "Journal of Business Research" emerges as the most influential source with 19 articles, an h-index of 11, a g-index of 19, and an m-index of 1.1. These indices signify the cumulative impact, productivity, and consistency of citations, respectively. The "Journal of Brand Management" follows with 16 articles and notable h, g, and m-indices, reflecting its substantial contributions to the field. Similarly, the "Journal of Product and Brand Management" with 15 articles showcases its significance in the domain. While the "Emerald Emerging Markets Case Studies" lists 10 articles, specific indices are not available. The remaining sources, including the "European Journal of Marketing," "Journal of Consumer Psychology," and others, also present notable contributions with varying levels of influence and citations.

The Table 8 presents a ranking of influential references in brand extension research based on bibliometric analysis. Each entry includes the rank, title, authors, source journal, publication year, and number of citations received. Leading the list is Aaker and Keller's (1990) study in the "Journal of Marketing," cited 93 times, which explores consumer evaluations of brand extensions. In second place, Volckner and Sattler's (2006) investigation on drivers for brand extension success in the same journal has garnered 79 citations. Park *et al.* (1991) examine the impact of product feature similarity and brand concept consistency on brand extension evaluation in the "Journal of Consumer Research." Boush and Loken (1991) analyze the process of brand

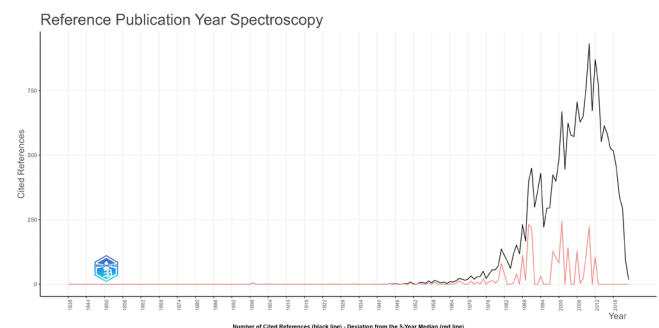
**Figure 4:** Reference publication year spectroscopy

Table 9: Most cited publications in domain

Rank	Authors	Cited By	Year	Title	Source
1	Murphy m.C., Dweck c.S.	153	2016	Mindsets shape consumer behavior	Journal of consumer psychology
2	Wang d.H.-M., Chen p.-H., Yu t.H.-K., Hsiao c.-Y.	149	2015	The effects of corporate social responsibility on brand equity and firm performance	Journal of business research
3	Cho e., Fiore a.M., Russell d.W.	65	2015	'Validation of a Fashion Brand Image Scale Capturing Cognitive, Sensory, and Affective Associations: Testing Its Role in an Extended Brand Equity Model	Psychology and marketing
4	Bellezza s., Keinan a.	63	2014	Brand tourists: how non-users enhance the brand image by eliciting pride	Journal of consumer research
5	Dall'olmo riley f., Pina j.M., Bravo r.	58	2015	The role of perceived value in vertical brand extensions of luxury and premium brands	Journal of marketing management

extension evaluation, while Keller's (1992) study focuses on the effects of sequential brand extension introduction. These highly cited references represent significant contributions to understanding brand extension phenomena.

In Figure 4 each citation mentioned within a scholarly paper is graphed on a histogram within the "Reference Publication Year Spectroscopy" (RPYS) approach. The publication year of each reference is then subjected to a mathematical smoothing process. This generates a curve that illustrates the referencing pattern of the paper, with the highest peaks indicating the most frequently cited sources and the shape of the curve indicating the distribution of the sources' ages. The data analysis revealed that the year with the highest research activity was 2009. Interestingly, no significant research related to brand extensions occurred between 1838 and 1950. However, research gradually picked up pace after that period, showing modest growth and influence. Notably, the year 2009 marked the peak impact of these studies, with a considerable number of publications referencing them in the domain.

The Table 9 presents the most cited documents in the field of brand extensions. This study examines the significance and impact of scholarly publications by ranking them based on their citation count. At the top of the list is the document by Murphy and Dweck (2016), cited 153 times. Their work, titled "Mindsets Shape Consumer Behaviour," published in the "Journal of Consumer Psychology" in 2016, explores how different mindsets influence consumer behavior, shedding light on the psychological aspects underlying brand extensions. Following closely is the study by Wang, Chen, Yu, and Hsiao (2015), with 149 citations. Published in the "Journal of Business Research", their paper delves into "The Effects of Corporate Social Responsibility on Brand Equity and Firm Performance." This research investigates the impact of corporate social responsibility practices on brand equity and overall business performance. The third-ranked document, authored by Cho, Fiore, and Russell (2015), with 65 citations, is titled "Validation of a Fashion Brand

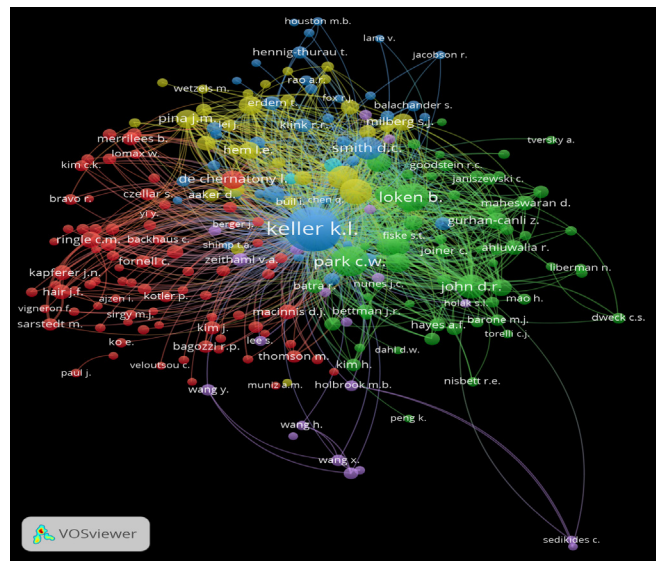


Figure 5: Co-citations of authors

Image Scale Capturing Cognitive, Sensory, and Affective Associations: Testing Its Role in an Extended Brand Equity Model." Published in "Psychology and Marketing", their work validates a brand image scale that captures various associations and examines its role in an extended brand equity model. Overall, this table showcases the influential works that have shaped discussions and research in the domain, offering insights into consumer behavior, brand equity, image, and the factors driving the success of brand extension strategies.

In Figure 5 the co-citation analysis of top authors in the brand extension domain offers insights into the intellectual foundations and interconnections within this area of study. Co-citation analysis involves identifying pairs of authors who are cited together in scholarly literature, indicating a shared thematic relevance or conceptual similarity. Results revealed that the top authors in the domain are Keller K.L., Aaker D.A., Park C.W., and Loken B. Keller K.L. holds the first position with 633 citations and a total link

strength of 13,204. His extensive citations reflect his seminal contributions to the field, suggesting that his work forms a cornerstone of brand extension research. Aaker D.A., ranked second, with 418 citations and a link strength of 8,667, is also highly influential in the domain. Park C.W., in the third position, with 284 citations and a link strength of 7,262, demonstrates his notable impact on brand extension scholarship. Loken B., ranked fourth, with 242 citations and a link strength of 6,330, contributes significantly to the field as well. Collectively, these authors' prominence in co-citation analysis underscores their pivotal role in shaping the theoretical and conceptual landscape of brand extensions. Their interconnectedness through co-citations signifies a shared influence on the development of key ideas and approaches within this domain, providing a foundation for researchers, practitioners, and policymakers alike.

Keyword co-occurrence analysis shown in Table 10 is a method used to uncover patterns and relationships between keywords within a specific domain, such as brand extensions in this case. It involves examining how often certain keywords appear together in a given context and can provide valuable insights into the connections and associations between these terms. In the provided list of keywords and their occurrences in the brand extensions domain, we can observe that certain keywords tend to co-occur more frequently than others. Here's an explanation of the top keywords and their co-occurrences below:

Brand Extension (120 occurrences)

This is the primary keyword of interest in the domain. It refers to the strategy of leveraging an established brand name to introduce new products or services. The high occurrence count indicates that the entire analysis revolves around this central concept.

Brand Extensions (44 occurrences)

Similar to the first keyword, this plural form highlights the prevalence of discussions involving multiple instances of brand extension strategies. This keyword is very closely associated with the brand extension keyword. Hence can be merged with 1st keyword and a total of 164 occurrences will be obtained by these keywords jointly and still will be ranked first.

Brand Equity (19 occurrences)

Brand equity refers to the value and strength of a brand, often influenced by consumer perceptions, associations, and loyalty. The co-occurrence of "brand equity" suggests a potential link between brand extensions and the overall value of the brand.

Brand Management (15 occurrences)

Effective brand management involves strategies to maintain and enhance the perception of a brand. The co-occurrence

Table 10: Co-occurrence of keywords

Rank	Keyword	Occurrences
1	Brand extension	120
2	Brand extensions	44
3	Brand equity	19
4	Brand management	15
5	Branding	15
6	Perceived fit	14
7	Brand image	13
8	Brand loyalty	13
9	Brand	8
10	Brand personality	8

with brand extensions indicates a relationship between extending a brand and the management practices required to execute this strategy successfully.

Branding (15 occurrences)

Branding involves creating a distinct identity and image for a brand. The co-occurrence suggests that discussions around brand extensions also involve considerations about how to maintain consistent branding while introducing new products or services.

Perceived Fit (14 occurrences)

Perceived fit refers to how well a new product aligns with the existing brand image. Its co-occurrence indicates that the concept of fit is important when evaluating the success of brand extensions.

Brand Image (13 occurrences)

Brand image relates to the impression and perception consumers have of a brand. Its presence in the co-occurrence analysis underscores the connection between brand extensions and how they impact the existing brand image.

Brand Loyalty (13 occurrences)

Brand loyalty reflects the degree to which consumers remain committed to a particular brand. The co-occurrence suggests that brand extensions can influence consumer loyalty and their willingness to try new offerings under a familiar brand.

Brand (8 occurrences)

The core concept around which all other terms revolve. Its co-occurrence indicates its central role in discussions related to brand extensions.

Brand Personality (8 occurrences)

Brand personality refers to the human-like traits and characteristics associated with a brand. The co-occurrence implies that maintaining a consistent brand personality might be a consideration in brand extension strategies.

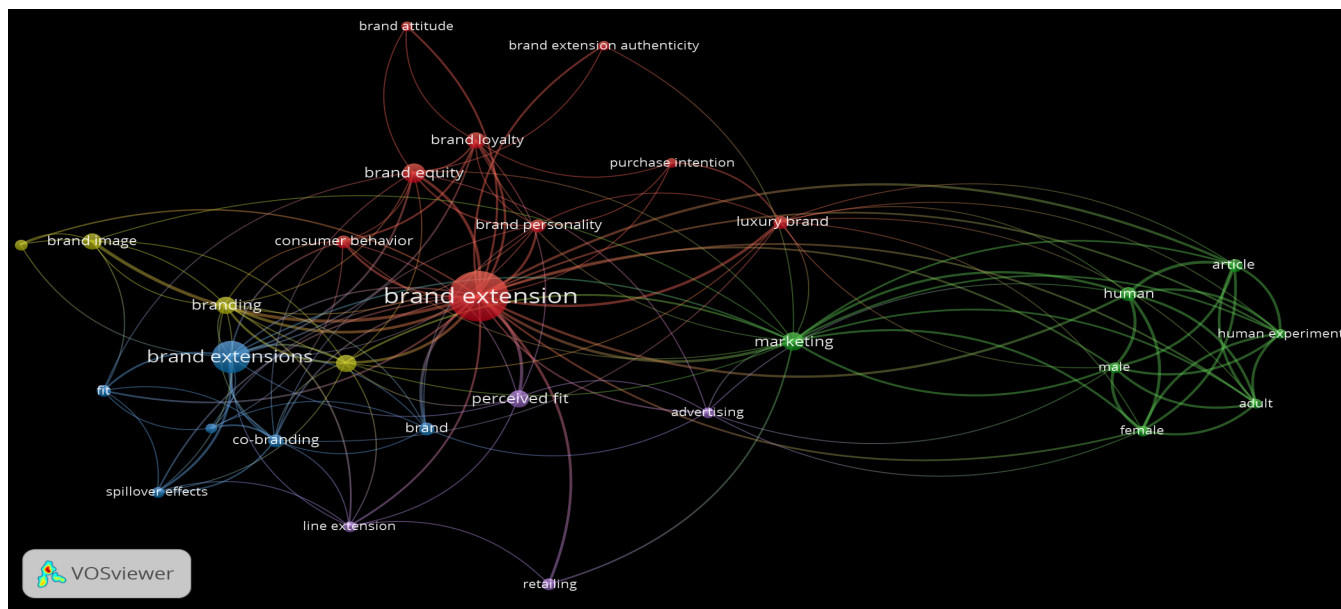


Figure 6: Co-occurrences of keywords

In summary, the keyword co-occurrence analysis reveals the interconnectedness of various concepts within the brand extensions domain. It suggests that successful brand extensions involve considerations of brand equity, management, perceived fit, image, and loyalty, all while maintaining a strong and consistent brand identity. The keywords that don't have a good frequency in existing studies are the research gaps in the domain and need to explore further.

The Figure 6 illustrates the diverse themes of keywords used in research publications within this domain. Each color in the graph represents a unique theme that will be further detailed in the subsequent section of the analysis. The Table 11 shows various themes extracted from the dataset, which are the followings:

Strategic brand expansion in advertising and retailing

This cluster revolves around investigating the strategic aspects of brand extension within the realms of advertising and retailing. It delves into how brands strategically leverage extension opportunities to expand their product lines or offerings. The keywords within this cluster, such as “perceived fit,” “line extension,” and “branding,” suggest a focus on understanding how consumers perceive brand extensions in relation to the parent brand. Research in this cluster likely explores the challenges and benefits of extending brands into different product categories, particularly within the context of advertising and retail environments.

Brand partnership dynamics and consumer behavior

This cluster emphasizes the interaction between brand partnerships, consumer behavior, and the resultant effects

on brand extension. It examines how collaborations between brands influence consumer perceptions and behaviors. “Co-branding,” “brand alliance,” and “spillover effects” indicate an exploration of how two or more brands joining forces can impact consumers’ perceptions, loyalty, and purchasing decisions. The research within this cluster likely investigates the strategic considerations and consumer responses to these collaborative branding efforts.

Brand perception and consumer behaviour

Centered on consumer perspectives, this cluster analyzes the cognitive and emotional aspects of brand extension. It delves into how consumers perceive and interact with extended brands. The keywords “brand equity,” “brand loyalty,” “brand personality,” and “purchase intention” signal an investigation

Table 11: Major themes in the brand extension domain utilizing keywords using VOSviewer

Theme	Theme name	Keywords in themes
1	Strategic brand expansion in advertising and retailing	Advertising, brand, brand extension, line extension, perceived fit, retailing
2	Brand partnership dynamics and consumer behavior	Brand alliance, brand extensions, co-branding, consumer behaviour, fit, spillover effects
3	Brand perception and consumer behaviour	Brand attitude, brand equity, brand loyalty, brand personality, luxury brand, purchase intention
4	Strategic brand management and innovation	Brand image, brand management, branding, innovation, marketing
5	Authenticity in brand extension	Brand extension authenticity

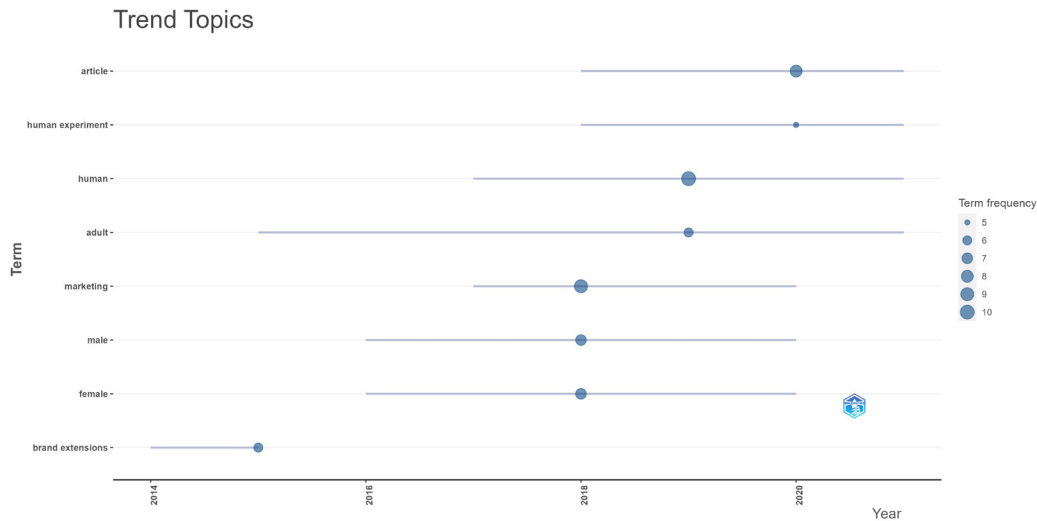


Figure 7: Trend topics in domain using biblioshiny

into the psychological dimensions of brand extension. Studies in this cluster likely examine how consumer attitudes and perceptions towards the parent brand influence their acceptance or rejection of extended offerings.

Strategic brand management and innovation

This cluster is rooted in the strategic management of brands and the role of innovation in brand extension. It emphasizes the critical role that branding practices and innovation play in extending a brand's reach. The cluster's keywords "brand image," "brand management," "branding," and "innovation" underscore the core areas of exploration. Research here likely investigates how effective brand management and innovative strategies facilitate successful brand extensions, ensuring coherence and differentiation while expanding into new domains.

Authenticity in brand extension

This cluster shines a spotlight on the concept of authenticity in the context of brand extension. It delves into how brands maintain a sense of authenticity and credibility when extending into new product or service categories. The keyword "brand extension authenticity" suggests an exploration of the factors that contribute to a perceived genuine extension of the brand's identity. Research in this cluster likely examines strategies to preserve the core essence of the parent brand while venturing into uncharted territories.

In sum, these clusters represent distinct thematic areas within the broader realm of brand extension research. Each cluster addresses specific dimensions, ranging from strategic considerations and consumer perceptions to innovation and authenticity. By organizing research findings into these clusters, scholars gain a more nuanced understanding of the multifaceted aspects of brand extension and its implications across various contexts.

The Figure 7 shows research hotspots in different years are analyzed using Biblioshiny software and results demonstrated that in 2020 the terms article with 6 occurrences, and human experiment with 6 occurrences were the most frequent topics. While in 2019 terms "human" and "adult" were trending with 7 and 6 occurrences, respectively, hotspots in the domain. In 2018 this list comprises marketing with 7 occurrences, male with 6 frequencies, and female with 6 occurrences. In 2015 the term "brand extension" was on top with 6 occurrences. These all were the hotspots of the stated research domain area.

Figure 8 shows the thematic map of the domain, creating topic maps involves stacking layers and then mapping the data from each layer to one or more aesthetics. Developmental relationships between developmental processes and policies that have changed over time are explored through thematic development analysis. The map of the thematic analysis shows the patterns that emerged over time and their strengths as well. The size of each node corresponds to the total number of keywords in the title. As seen by high density but low centrality, the top left quadrant presents specific and underrepresented issues that are still undergoing major growth, such as "tourist destination, tourism market, and tourism management." The domain has "market development" and "retailing themes" that are fading or declining. The lower right quadrant also contains basic themes with high centrality and density, such as "Consumption Behaviour" and "Market conditions. These are suitable for examination as generic topics. There are "human, marketing, article, consumer attitude, empiricism, major clinical study, brand loyalty, consumer behavior, brand extensions, co-branding, and commerce" are motor themes available in the domain that can be developed further.

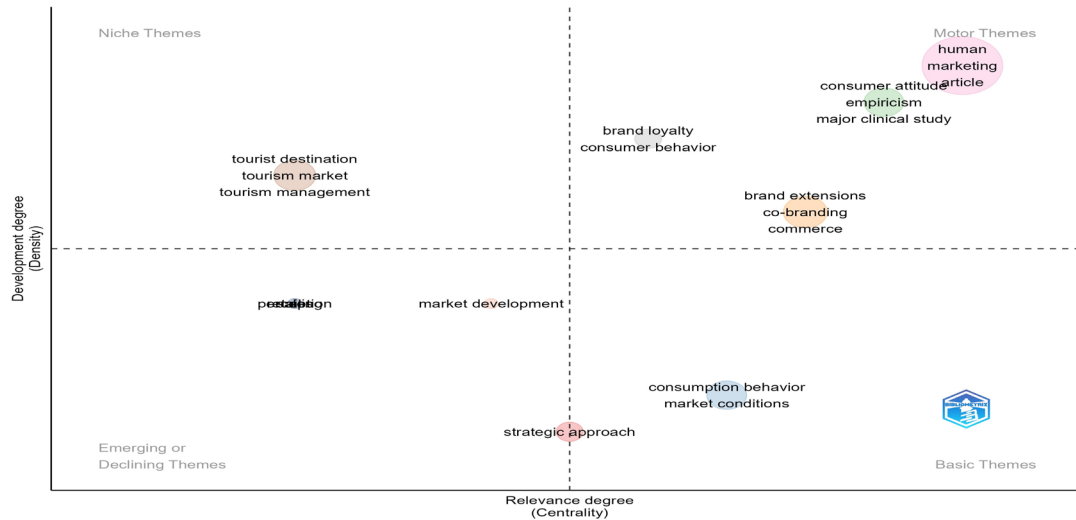


Figure 8: Thematic map of domain

Discussion

This bibliometric analysis of research on brand extensions provides valuable insights into the evolution and dynamics of this important field of study. The analysis spanned from 2014 to 2023, revealing fluctuations in research output and citation patterns over the years. This suggests shifting research trends and priorities within the domain, reflecting the dynamic nature of the brand extension landscape. The mean total citations per article (MeanTCperArt) varied across the years, indicating differences in the impact of individual publications. While 2016 saw the highest MeanTCperArt of 22.64, 2023 experienced a decline to 0.46, emphasizing the importance of considering the temporal context of research impact. The number of articles published annually also fluctuated, with a peak in 2017, indicating variations in research activity. The mean total citations per year (MeanTCperYear) offered insights into the average citation rate, with 2016 leading at 2.83 and 2023 declining to 0.46. The number of Citable Years varied across the years, showing the range of years for which citations were counted. The analysis of organizations in the field of management research highlighted the productivity and impact of various institutions. Zhejiang University's School of Management in China emerged as a leading contributor, with a high average citations per paper (ACPP) of 13.34. Hanyang University's Business School in South Korea closely followed with an ACPP of 30.5. Dankook University in South Korea and National Chengchi University in Taiwan also made significant contributions. The analysis of research by country demonstrated the global distribution of brand extension studies. The United States led in terms of the number of articles, followed by India and China. Korea, France, Australia, and Spain also made notable contributions, reflecting international collaboration trends within the field. Examining the most influential sources in brand extension

research, the *Journal of Business Research* emerged as the top source, followed by the *Journal of Brand Management* and the *Journal of Product and Brand Management*. These sources played a pivotal role in shaping the discourse and exploration related to brand extensions. Highly cited references were also identified, with Aaker and Keller's (1990) work on consumer evaluations of brand extensions ranking first. Volckner and Sattler's (2006) investigation of drivers for brand extension success and Park *et al.*'s (1991) study on product feature similarity and brand concept consistency were among the top-cited references, underscoring their significant contributions to the field. Co-citation analysis of top authors revealed that Keller K.L., Aaker D.A., Park C.W., and Loken B. were prominent figures in the brand extension domain, with their work forming the intellectual foundation of the field. Their interconnectedness through co-citations demonstrated their shared influence on key ideas and approaches within the domain. Lastly, keyword co-occurrence analysis unveiled the central concepts and themes in brand extension research. "Brand extension," "brand equity," "brand management," "perceived fit," and "brand image" were among the key terms frequently co-occurring in the literature, emphasizing their importance in the domain. In summary, this bibliometric analysis provides a comprehensive overview of the brand extension research landscape, highlighting the evolution, key contributors, influential sources, and central themes. These insights serve as a valuable resource for researchers, practitioners, and policymakers seeking to navigate and contribute to this dynamic field.

Conclusion

In conclusion, this paper has employed comprehensive bibliometric analysis to explore the dynamic landscape of brand extension research. Through examining a wide array of

scholarly publications, this study has highlighted key trends, influential authors, productive institutions, and thematic concentrations within the field. The analysis revealed varying citation patterns, collaborative tendencies among researchers and institutions globally, and the evolution of research focus over the years from 2014 to 2023. Key findings underscore the pivotal role of brand equity, consumer perception, and strategic management in shaping brand extension strategies. Moreover, the identified themes in keyword analysis reflect ongoing interests and emerging areas of inquiry in the domain. This research contributes valuable insights to both academia and industry, providing a foundation for future studies and strategic decision-making in brand management. As the field continues to evolve, further research can build upon these findings to explore emerging trends and address current gaps in understanding the complexities of brand extensions in contemporary markets.

Implications and Future Recommendations

This bibliometric analysis of brand extension research holds significant implications for both academia and the industry. The study's findings shed light on the evolving trends, influential sources, and key contributors within the field. For researchers, the identified high-impact articles, top authors, and prolific institutions serve as valuable guideposts for further exploration and collaboration. Understanding the temporal variations in research output and citation patterns aids in identifying emerging research priorities and gaps, enabling researchers to align their work with current trends. Industry practitioners can benefit from insights into the most impactful sources and studies, gaining a deeper understanding of consumer behavior, brand equity, and successful brand extension strategies. As for future recommendations, researchers could delve into the underlying factors contributing to the fluctuations in research activity and impact. Collaborative efforts between institutions and countries could be explored to foster cross-disciplinary and cross-cultural insights. Additionally, investigating the intersection of brand extensions with emerging topics like sustainability, technology, and consumer experience would enrich the field's relevance and application in the rapidly changing business landscape.

Limitations

While this bibliometric analysis provides valuable insights into the landscape of brand extension research, several limitations should be acknowledged. First, the study's scope is confined to a specific time frame, 2014 to 2023, potentially omitting earlier seminal works that might have laid the foundation for the field. Second, the analysis focuses on quantitative metrics such as citation counts, which may not fully capture the qualitative impact of each publication. Certain influential works might not accrue high citations due to their recent publication or niche focus. The choice of

databases and search terms may influence the inclusivity of the dataset, potentially leading to the exclusion of relevant articles. Finally, the limitation of language (English) also can be a limitation and other languages should also be explored in future research works.

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