 doi:10.20944/preprints202008.0145.v1

*Article*

# Mapping Research on Customer Centricity and Sustainable Organizations

**Sergio Pardo-Jaramillo [1], Andrés Muñoz-Villamizar [1,2,*], Ignacio Osuna[3], and Rolando Roncancio[3]**

[1] Operations and Supply Chain Management Research Group, Escuela Internacional de Ciencias Económicas y Administrativas, Universidad de La Sabana, Chía, Colombia; sergio.pardo@unisabana.edu.co, andresmunvi@unisabana.edu.co

[2] Center for Transportation & Logistics, Massachusetts Institute of Technology, Cambridge, MA, USA; andresmv@mit.edu

[3] INALDE Business School, Universidad de La Sabana, Chía, Cundinamarca, Colombia; iosuna@inalde.edu

* Correspondence: andresmv@mit.edu; Tel.: +1-617-253-4377

Received: 3 August 2020 ; Accepted: date; Published: date

**Abstract:** Firms are increasingly organized around the client. At the same time, there is customer pressure on green and sustainable organizations. The purpose of this paper is to map the current state of the research in the domain of customer-centric organizations from a sustainable perspective. We conducted a bibliometric analysis from published documents between 1990 and 2020. Key findings indicate that research on customer centricity and sustainability has increased in recent years and that the topic is structured into 3 clusters: (1) Sustainability; (2) Customer-Centric Perspective, and Sustainable Development; and (3) Customer Experience and Sales. Moreover, new concepts and technologies have been introduced during the last three years. The implementation of a bibliometric methodology and the focus given to the definition, the relationships, and the evolution of the three main clusters within the topic are the characteristics that differentiate our study from other publications or reviews in the field of research. This paper is beneficial for practitioners who aim to deploy the customer centricity approach in their firms from a sustainable perspective.

**Keywords:** Sustainability; Customer-Centric; Business strategy; Marketing; Bibliometric analysis

## 1. Introduction

As firms cannot succeed without worrying about the real needs of their client they had become in customer-centric organizations [1]. Customer centricity is a business strategy that emphasizes placing customers at the center of all the organization activities and that their needs must be understood and properly satisfied [2].

At the same time, and during the past 30 years, companies have been under growing pressure to be completely sustainable [3]. That is, to pay more attention to the social and environmental consequences of activities they deploy. The idea is that the organizations become on sustainable companies, which means that all the collaborators of the companies have the culture to act always in a sustainable way [4]. At the same time will be great if the corporate governance includes indicators that measure the environmental, social and financial sustainability [5]. Along this century, marketing literature has been a special focus on presenting vast evidence of the organizational economic benefits of focusing on the customer, or as it is mentioned more recently the customer centricity.

In this context, it seems natural to integrate customer centricity and sustainability in order to guarantee the long-term existence of organizations. Within that perspective, firms should care of the environment, society and money through different strategies as innovation [6,7], customization of products [8], productivity improvements [9], the mindful consumption [10] and considering greater

 doi:10.20944/preprints202008.0145.v1



product life cycles [11]. However, to effectively accomplish these strategies, it is necessary for the companies to obtain and analyze the right information at the right time [12].

After analyzing the existing literature, no paper was found that studied the relationship between customer centricity and sustainability from the bibliometric point of view. This document provides relevant information, without being totalizing, on the state of the art in the literature regarding that relationship. In addition, research entities explicitly demand it [13].

These bibliometric studies have become a valuable tool in the scientific literature, motivated by access to bibliographic information [14]. To the best of our knowledge, there are no studies that analyze the customer-centric perspective and sustainability from the angle of bibliometric analysis. For this very reason, this role can fill this gap in research, even more so when there are already some measurement criteria that take these criteria into account [15].

The main contributions of this article are the following: 1) These research documented some relationship between the customer-centric perspective and sustainability from 1990 to April 2020; 2) A detailed bibliometric analysis of the above was performed using the Scopus database; 3) The most common parameters were used, such as the most prolific authors, the papers with the most influence, the countries where they were published the most, etc.; and 4) The conceptualization of all of the above was done using the most common keywords in the subject.

The reminder of this paper is organized as follows. The related research is reviewed in Section 2. The proposed methodology is presented in Section 3. Section 4 shows the analysis of the most relevant papers from a bibliometric perspective. Finally, the main conclusions of this study and opportunities for further research are presented in Section 5.

## 2. Literature review

Our research is built on the existing literature about marketing –focusing on customer centricity– and strategy literature about sustainability. During the time covered by our study of the documents of this research, several concepts have been developed. In the following paragraphs, we present the most relevant constructs and concepts that are that make a literature review of the main topics necessary to facilitate the reader's understanding of the relationship between the customer centricity and sustainability.

### *2.1. Customer Centricity*

The first concept of the study is a customer-centric organization or customer centricity. It was born in 1954 when Drucker (1954) [16] said, “It is the customer who determines what a business is, what it produces, and whether it will prosper”. Moreover, round those years in a book titled “Quality and Competition” its author, Lawrence Abott (1955) [17], claimed “What people really desire are not products but satisfying experiences” highlighting the importance of a customer-centric rather than a product-centric approach. Therefore, several marketing academics follow, until today, Harvard Business School emeritus professor Theodore Levitt, who proposed that “the purpose of a business is the creation and maintenance of customers” [18]. However, only until 1990s, the concept of a customer-centric organization or customer centricity began to develop as a force in the marketing literature using the term market-orientation. For instance, Narver and Slater (1990) [19] show that market-oriented companies are more profitable than non-market-oriented companies, even in undifferentiated products or commodities. Therefore, during the 90s, researchers using what we call today a customer-centric approach suggested that organizations must be focused around the markets they serve [20]. Sheth, Sisodia, and Sharma (2000) [1] approach customer centricity as the understanding and delivering value to individual customers rather than mass or target markets. This focus has been strengthen with the availability of individual-level customer data which relates customer-centric marketing actions with customer response.

The focus on the economic performance of a firm, due to a customer centric strategy, has a long tradition in marketing literature. Krasnikov and Jayachandran (2008) [21], using a meta-analytic approach, find that the correlation of firm’s economic performance is stronger with commercial capabilities than Research & Development, or Operations capabilities. One of the possible explanations

 doi:10.20944/preprints202008.0145.v1



is that customer satisfaction is a well predictor of firms cash flows, sales growth, gross margins and shareholder return [22,23]. Moreover, the meta-analysis study performed by Fang et al. (2008) [24] concludes that moving from a product centric to a service centric business add to shareholder value.

Later, researchers evolving Sheth, Sisodia, and Sharma (2000) [1] approach, proposed to understand the concept of customer centricity as the way to serve each client as an individual and deliver what they really want, being their main objective to maximize efficiency and effectiveness at the client level [25]. If the organizations want to achieve this, they should build in the same direction the customer-centric organization and a corporate culture that prioritize the above [26]. To do so, [27], identify a four-stage process to develop a customer-focused organizational culture. Merging the desirable customer response at the individual level and the firm perspective of customer centricity, Fader (2012) [28], defines customer centricity as a strategy that aligns the needs of its most valuable customers with the company's products and services to maximize long-term financial value.

In the organization's alignment process, organizational structure should be modified to achieve such firm objectives at customer level such as customer satisfaction and economic benefits as has been shown in past research. However, according to Lee, Kozlenkova and Palmatier (2015) [29], and Lee, Sridhar, et al., (2015) [30], a customer-centric organizational structure increases customer satisfaction but degrades the organization's economic performance adding coordinating costs that are not present in a product-centric structure. Therefore, despite the vast evidence about the economic benefits of having a customer focus within the organization, moving the organizational structure to a customer-centric approach might have some shortcomings.

In spite of the shortcoming presented above, due to recent changes in customer needs and wants, such as technological advances or greater concern about the environment [31]. Gaurav and Shainesh, (2016) [2] pointed out that it is necessary to adopt a customer-centric perspective. In fact, customers' concern about the environment goes in line with identifying sustainability as a new megatrend [32], and therefore, it is critical to continue the development of the construct customer-centricity from an organizational standpoint, and very attractive to co-relate it with sustainability.

### 2.2. *Sustainability*

The concept of sustainability emerged in 1987 [33] and is defined as that quality that guarantees the long term, securing the present without compromising the future or ensuring the present without compromising the future, and that prevents the world from collapsing suddenly and uncontrollably [34]. Sustainability has the connotation of privilege the "triple bottom line" responsibility: economic, environmental, and social perspectives [35,36]. Likewise, in recent years the need to seek Shared Value has been incorporated, which helps organizations to define operational policies and practices that improve the competitiveness of companies, and simultaneously help to solve specific problems, seeking the economic and social advancement of the communities around the same organizations [37].

### 2.3. *Customer Centricity – Sustainability Relationship*

Given customers' emerging concern about the environment and the boarder scope of the sustainability literature that adds to the economic perspective an environmental and social perspectives, the relationship between customer centricity and sustainability is desirable. In this line of thought. Sheth, Sethia and Sriniva (2011) [10] introduces the concept of "Custom-Centric Sustainability" where encourages to always keep in mind the strategy of being focused on customers and at the same time having a long-term perspective [38] and with the involvement of managers [39]. It is important to note that the opinion of the stakeholders should be reflected [40] so that all the activities of the organizations have sustainability as a criterion.

The aforementioned literature provides valuable information on the state-of-the-art and some benefits on the customer centricity and sustainability integration. However, to the best of our knowledge, there is no bibliometric analysis that explores and maps the available customer centricity and sustainability literature. As the application of bibliometric studies has been widely extended in the academy with the aim of categorizing and understanding the trends and on the vast amount of scientific production [14], the aim of this paper, is to fulfil this gap in literature.

 doi:10.20944/preprints202008.0145.v1



## 3. Methodology

Bibliometric studies are used as a research technique that studies bibliographic material from a quantitative perspective [14,41,42]. These analyzes are based on reliable data such as indexed publications. In any case, these analyzes are based on a solid source of knowledge and not on the opinion of different experts [43]. This methodology has been used in research in the world of administration and helps to improve and understand the theory behind various related areas such as information systems in management, international management, logistics, etc. [44].

Within this methodology it is necessary that all the published material of customer centricity and sustainability can be used in such a way that the different researchers can find the latest advances and trends in these areas [45]. It is very interesting to see how, with the latest advances in technology, the development of bibliometric investigations has been facilitated in a very clear way, which has made them increasingly popular [46].

Taking into account all the databases available, it was decided to carry out the bibliometric study using Scopus (www.scopus.com), because it is the "largest abstract and citation database of peer-reviewed literature: scientific journals, books and conference proceedings" which indexes thousands of publications and conference papers in the Management area [47]. Table 1 contains a summary of the methodology used in this research.

**Table 1.** Summary of the Methodology

| | |
|---|---|
| **Unit of Analysis** | Relevant articles, conferences papers and reviews whose main content focuses on the links between customer centricity and sustainability |
| **Total number of documents evaluated** | 188 |
| **Period of Analysis** | 1990 to March 31, 2020 |
| **Type of Analysis** | Qualitative and quantitative |
| **Search Engines** | Scopus |
| **Equation** | (("Customer centricity" OR "Customer-Centric" OR "Customer Experience") AND ("Sustainable Organization" OR "Sustainability" OR "Sustainable Firm" OR "Sustainable Development" OR "Environmental" OR "Natural Resources")) |

To build the Equation presented in Table 1, multiple queries were made in the Scopus search engine, combining all the relationships of customer centricity on the one hand, and, on the other, combining all the relationships of sustainability, having to take into account the article title, the abstract and the keywords. Those results were filtered, using the same Scopus tools, by relevance, number of times they have been cited, year of publication, and keywords. In the same way, a text mining software called VOSviewer, developed by the University of Leiden [48], was used, which served to detect repeated non-relevant terms and to organize the relationships between the common terms found.

The referred search found 188 publications between 1990 and March 31, 2020. The Results and Discussion will be presented in the next section.

## 4. Results and Discussion

A study of these characteristics combines science mapping, and performance analysis as main procedures [49]. The science mapping procedure shows in a graphic representation how different scientific actors relate to each other [50], for example, the co-occurrence of keywords [45], the evolution of concepts over time and heat maps of the most used terms. On the other hand, the performance analysis procedure descriptively shows academic assets (e.g. research centers, main research countries, etc.) based on citation indexes [43]. This mapping research will present in detail the two main procedures.

 doi:10.20944/preprints202008.0145.v1



*4.1. Annual citation and most cited papers*

In Figure 1 it can be seen how the first paper that speaks about customer-centric experience and "sustainability" was published in 1990, showing the relationship with the life cycle of products [51]. Papers on the subject are not published until 2001 when 1 document researching the subject of this investigation was given to light.

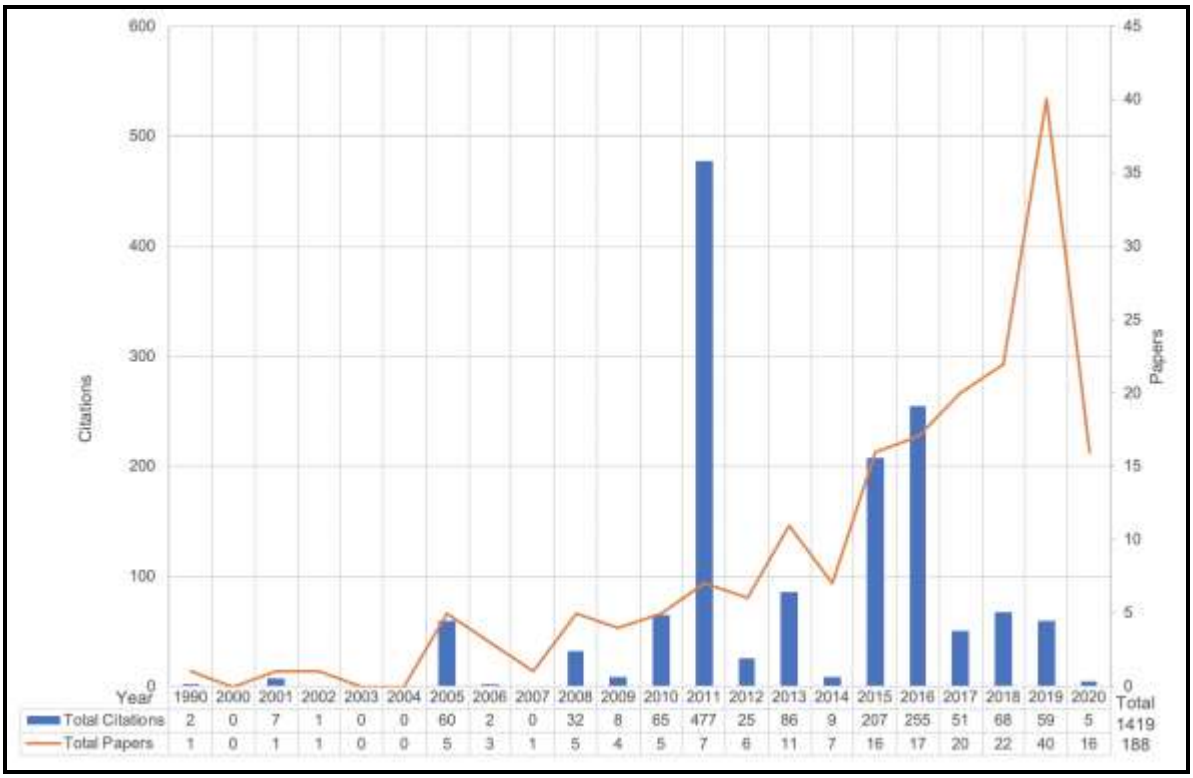


**Figure 1.** Total Documents / Total Citations

In 2001, it begins to see a slight growth in publications that show the relationship between the customer-centric perspective and sustainability, with a gap in 2003 and 2004. This continued growth reaches its maximum expression in 2019 with the Publication of 40 documents and continues with the same trend in 2020, where 16 publications had already been reported in the first quarter of the year. Regarding the number of citations, there is no clear upward trend before 2010. However, after the publication of the most cited paper (see Table 2), the number of citations has grown exponentially to nearly 550 in 2019.

As shown in Table 2, "Mindful Consumption: A customer-centric approach to sustainability" [10] during the research period it has 360 citations, and therefore the number of references will impact the analyzes that will be made later. This paper develops the concept of Customer Centricity Sustainability and suggests that the best way to live it is to make customers aware of mindful consumption, which means that customers must be aware of themselves, the community, and the environment.

 doi:10.20944/preprints202008.0145.v1



**Table 2.** Principal Papers.

| Title | Authors | Year | TC[1] |
|---|---|---|---|
| Mindful consumption: A customer-centric approach to sustainability | Sheth, J.N., Sethia, N.K., Srinivas, S. | 2011 | 360 |
| Co-creation and higher order customer engagement in hospitality and tourism services: A critical review | Chathoth, P.K., Ungson, G.R., Harrington, R.J., Chan, E.S.W. | 2016 | 109 |
| The co-creation experience from the customer perspective: Its measurement and determinants | Verleye, K. | 2015 | 85 |
| Sustainable leadership practices for enhancing business resilience and performance | Avery, G.C., Bergsteiner, H. | 2011 | 62 |
| Effect of servicescape on customer behavioral intentions: Moderating roles of service climate and employee engagement | Chang, K.-C. | 2016 | 56 |
| Embracing sustainability: Information technology and the strategic leveraging of operations in third-party logistics | Jeffers, P.I. | 2010 | 50 |
| IT-Related Service: A Multidisciplinary Perspective | Huang, M.-H., Rust, R.T. | 2013 | 49 |
| Impact of corporate social responsibility initiatives on Taiwanese banking customers | McDonald, L.M., Lai, C.H. | 2011 | 40 |
| The Effect of Customer-Centric Green Supply Chain Management on Operational Performance and Customer Satisfaction | Chavez, R., Yu, W., Feng, M., Wiengarten, F. | 2016 | 36 |
| From sustainability to customer loyalty: A case of full service hotels' guests | Chen, R.J.C. | 2015 | 35 |

[1] Explanation: TC = Total Citations

Continuing with some changes in the trend explained above, in 2015 a paper developed some metrics that help measure customer experience from an environment-centered perspective [52], reaching 85 citations. Where it is shown that when customer participation in the creation of products is taken into account, a better experience is achieved, and there is a greater possibility of reaching different types of consumers.

During 2016 a paper with 109 citations develops from a broad point of view some characteristics that in the hospitality sector are key for customer engagement and determines sustainability as one of them [53]. These ideas are produced after a review of the literature. A framework is developed that includes key categories that must always be considered in the co-creating process of products and services.

Avery and Bergsteiner (2011) [54] in "Sustainable leadership practices for enhancing business resilience and performance", with 62 citations, speaks of sustainability as a factor to achieve higher performance and high value for multiple stakeholders. A model for applying over the business as usual is developed that seeks that the managers of the organizations seek high performance and resilience from the perspective of sustainability.

With 56 citations, the consumer experience is related to the proper management of collaborators [55]. It is shown that if the above is not taken into account, it will be very difficult to achieve the success of the companies. This can be measured with a model that examines the relationship between employees, customers, and the company. The connections between each role are enabling promises, making promises, and keeping promises must be made.

The following papers range from 35 to 50 citations and, refer leveraging information technologies and IT services to achieve the customer-centric perspective and sustainability [12,56]; the need to have Corporate Social Responsibility [57]; the link between the implementation of the customer-centric green supply chain management and the environmental policy [9]; and, the assessment of customers for environmentally friendly policies as a criterion of loyalty [58].

### *4.2. Keyword Analysis*

As mentioned before, the co-occurrence of keywords is analyzed through VOSviewer [48]. In the 188 papers, 1465 keywords were identified, of which 89 were used in the analysis since they fulfilled

 doi:10.20944/preprints202008.0145.v1



the requirement of having at least 3 occurrences. Figure 2 shows the 3 dominant clusters. The components of each cluster are presented in Table 3. The first cluster (red) is led by Sustainability, the second cluster (2) enclose Sustainable Development, Customer-Centric Perspective and Sustainable Development, and the third cluster (blue) encompasses Customer Experience and Sales.

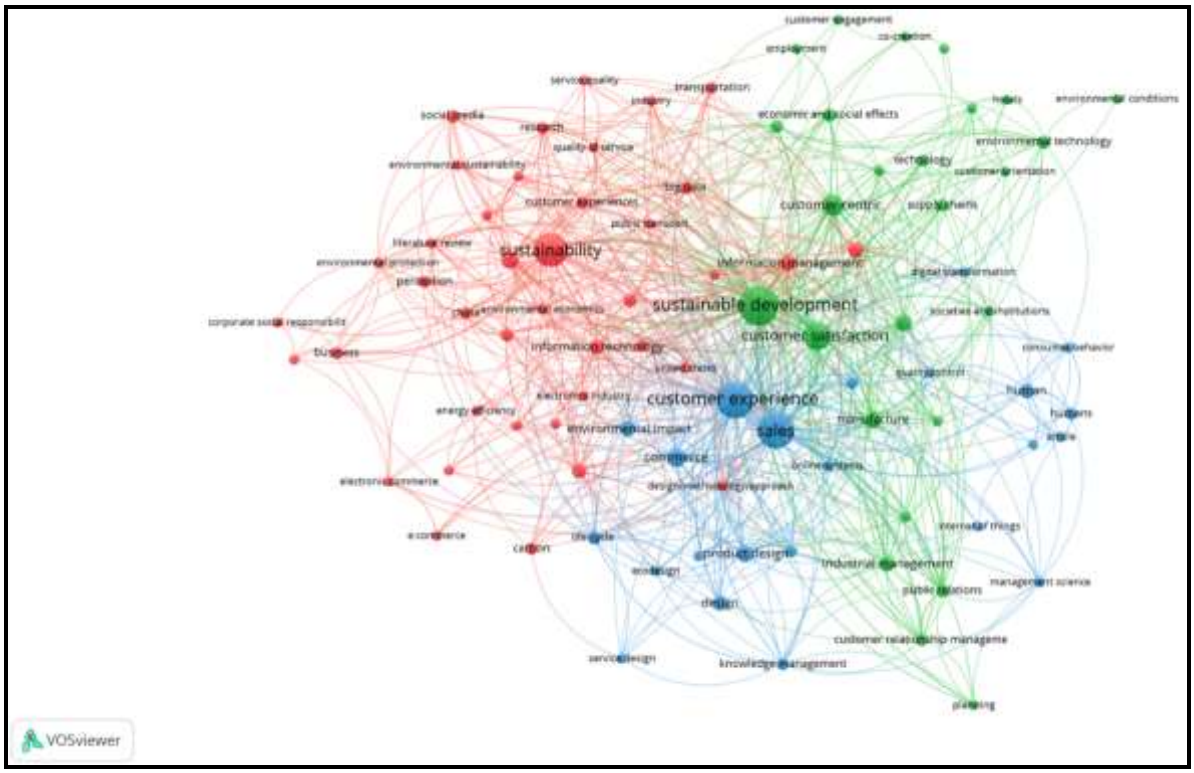


**Figure 2.** VOSviewer / Co-occurrence of Keywords

 doi:10.20944/preprints202008.0145.v1



**Table 3.** Clusters

| Color / Label | Items | Keywords (Ocurrences; Link Strenght) |
|---|---|---|
| (1) Red / Sustainability | 40 | Sustainability (32, 93); Marketing (9, 43); Information Management (7, 43); Information Systems (7, 32); Information Technology (6, 24); Supply Chain Management (6, 28); Big Data (5, 26); Innovation (5, 30); Profitability (5, 28); Social Media (5, 20); Business (4, 16); Carbon (4, 10); China (4, 19); Costs (4, 16); Customer Experiences (4, 13); Perception (4, 14); Research (4, 22); Transportation (4,13); Business Environment (3, 7); Corporate Social Responsibility (3, 5); Design/Methodology/Approach (3, 18); E-Commerce (3, 7); Economics (3, 15); Electronic Commerce (3, 10); Electronics Industry (3, 11); Energy Efficiency (3, 9); Environmental Economics (3, 12); Environmental Protection (3, 18); Environmental Sustainability (3, 14); Industry (3, 18); Information And Communication Technologies (3, 10); Literature Review (3, 19); Mobile Computing (3, 20); Mobile Telecommunication Systems (3, 18); Performance Assessment (3, 12); Public Transport (3, 11); Quality Of Service (3, 16); Retailing (3, 8); Service Quality (3, 10); United States (3, 14) |
| (2) Green / Sustainable Development, Customer-Centric Perspective and Sustainable Development | 26 | Sustainable Development (44, 199); Customer Satisfaction (21, 94); Customer-Centric (13, 64); Competition (8, 50); Manufacture (8, 45); Industrial Management (6, 36); Economic And Social Effects (5, 20); Environmental Technology (5, 19); Hospitality Industry (5, 20); Public Relations (5, 38); Customer Relationship Management (4, 28); Supply Chains (4, 17); Technology (4, 17); Co-Creation (3, 6); Competitive Advantage (3, 18); Customer Engagement (3, 4); Customer Orientation (3, 9); Employment (3, 4); Environmental Conditions (3, 2); Experience (3, 3); Hotels (3, 6); Mass Customization (3, 21); Planning (3, 12); Project Management (3, 14); Societies And Institutions (3, 20); Sustainable Competitive Advantages (3, 24) |
| (3) Blue / Customer Experience and Sales | 23 | Customer experience (38, 121); Sales (36, 160); Commerce (10, 52); Product Design (8, 39); Environmental Impact (7, 22); Design (6, 19); Human (6, 20); Life Cycle (5, 29); Decision Making (4, 22); Humans (4, 14); Knowledge Management (4, 22); User Interfaces (4, 20); Article (3, 12); Consumer Behavior (3, 13); Cost Effectiveness (3, 13); Digital Transformation (3, 11); Ecodesign (3, 15); Hospitality (3, 10); Internet Of Things (3, 6); Management Science (3, 15); Online Systems (3, 13); Quality Control (3, 11); Service Design (3, 9) |

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 6 August 2020 doi:10.20944/preprints202008.0145.v1



It is very interesting as in Cluster 1, where "sustainability" is incorporated in the "triple bottom line" perspective where the performance of companies is not only based on economic criteria, but the environmental and social impact must be taken into account [10]. In this cluster the relationship between 40 different concepts is shown; among which the use of marketing stands out [15]; the Corporate Social Responsibility [25]; the quality of the service [59]; and, a very interesting topic where the use of Information and Communication Technology and Big Data is promoted [60,61].

Taking into account that need for information at the right time, the Big Data approach [56,60,62,63] and the utilization of some Artificial Intelligence techniques [64,65] are able to effectively and efficiently manage and analyze the vast amount of customer data [3]. This will bring as a benefit that customers are increasingly loyal to firms [58] and communication channels between organizations and customers are more efficient [66], and therefore a more effective client centrality [67].

In Cluster 2, 26 concepts are related to "Sustainable Development", the "Customer-Centric" perspective, and "Customer Satisfaction". The "Sustainable Development" is understood as the set of practices to achieve sustainability [54], the "Customer-Centric" perspective as emphasizing the service in terms of revolving around the customer, to maintain the relationship with the firm [56]. Closely related to the above, "Customer Satisfaction" shows that the strategy is adequate so that the client is happy with the company and ultimately that centrality is achieved [68]. In this analysis the concepts that are intertwined are maintaining competitive advantages; and Project Management.

Also, in Cluster 3, that has 23 keywords, the "Customer Experience" and "Sales" appear as the predominant concept, which has a direct relationship with the "Customer-Centric" perspective. In this case, the customer centricity helps ensure that the products generate a sensation that is pleasing to the human senses at the time of consuming it [69]. In the same way, it is seen how it is strongly related to the sales of the companies [70], the design of the goods [71,72], decision making [73] and, increasing the life cycle of products [74].

Figure 3 presents a heat map that shows the most frequent key-words (concepts) in "Customer-Centricity" and "Sustainability" that includes customer satisfaction and experience. A clear relationship is shown between the above and sales.

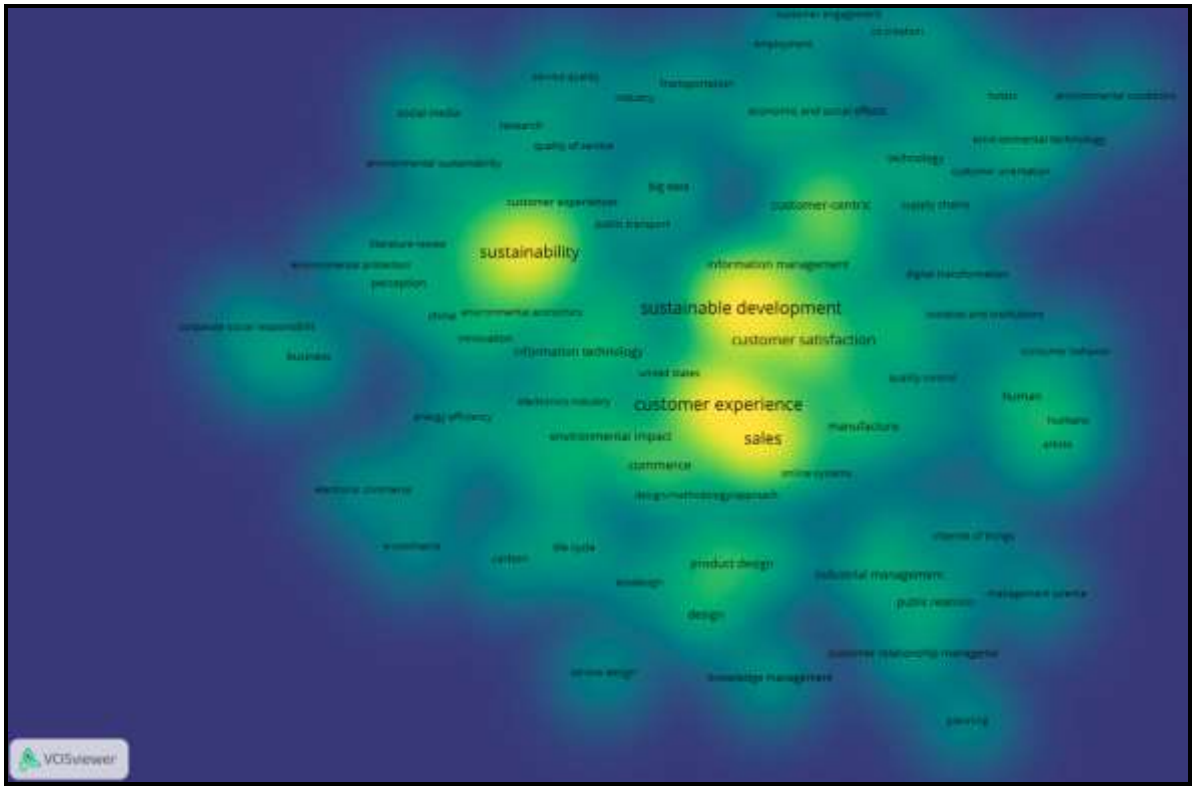


**Figure 3.** VOSviewer / Density Visualization

 doi:10.20944/preprints202008.0145.v1



It is very interesting to see in Figure 4 how the concepts of customer centricity, quality control, and product design are developed first chronologically. In a second stage, concepts such as sustainable development, use of information, and human behavior begin to emerge. To finally get big data management, e-commerce, the internet of things, and supply chain management.

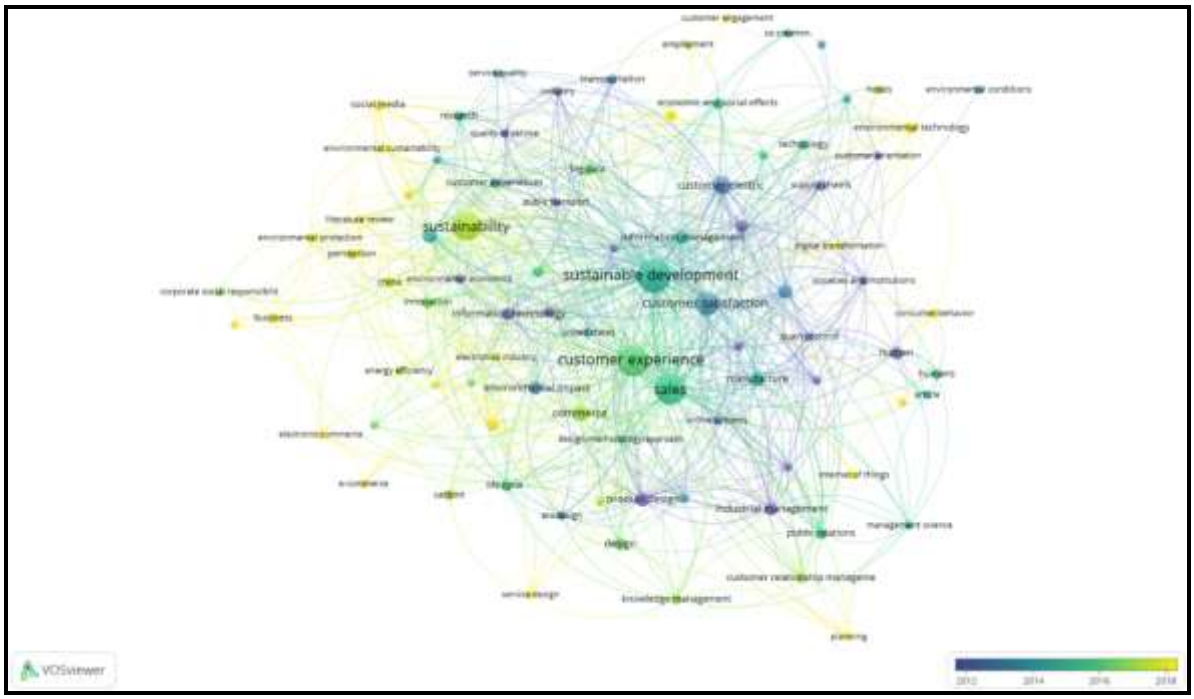


**Figure 4.** VOSviewer / Chronological Visualization

Finally, it can be seen clearly, as, in one hand, Figure 3 shows the most repeated keywords, and on the other hand, Figure 4 shows the most recent concepts.

### *4.3. Subject area*

Figure 5 concludes that the discipline that most develops the concepts seen above are “Business, Management and Accounting”, because Marketing, from which everything related to the customer-centric perspective is derived mainly. The second discipline is “Engineering” since it is part of the same area that develops sustainability issues. Along the same lines, the third discipline is “Computer Science” for everything related to information technology and big data. Finally, the fourth discipline is the "Social Sciences" as they are part of the common area of management and marketing [75].

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 6 August 2020 doi:10.20944/preprints202008.0145.v1



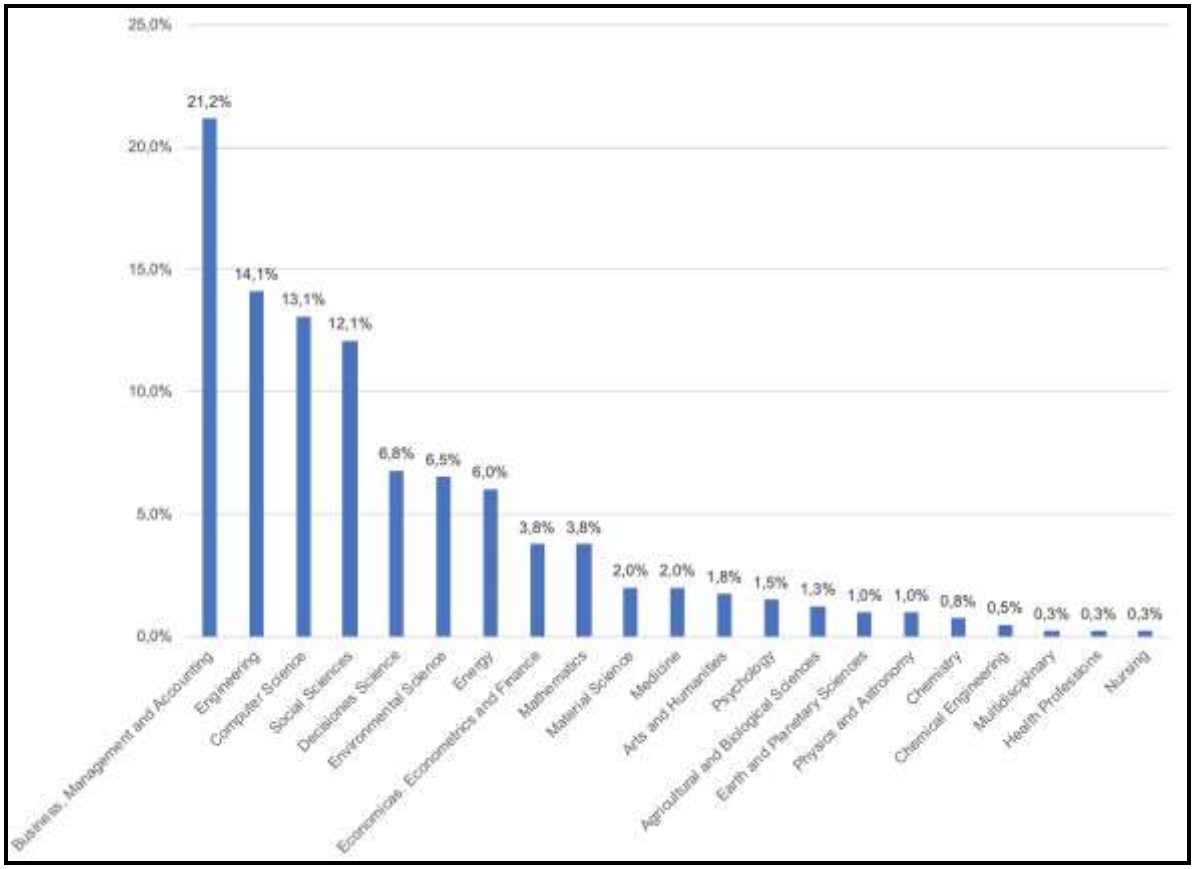


**Figure 5.** Subject Area Distribution

*4.4. Remarkable Authors; Countries participation; and Leading Institutions and Sources*

Table 4 shows the top 11 journals, with the total number of documents, citations and the average number of citations per paper. The first journal on the list is " Sustainability" with 8 documents. They were analyzed taking into account the CiteScore Percentile which assesses the impact of citations in the last 3 years, with 99th being the highest percentile and 0th being the lowest [76]; and the SJR 2018 which assesses the weight of citations taking into account the subject of the journal and its prestige [77]. Considering the above, it is very interesting how 8 of the 11 journals are in Q1 of the CiteScore Percentile and even two of them; "Business Strategy and the Environment" and "Industrial Management and Data Systems"; they are on the 99th CiteScore Percentile. In this specific case, there does not seem to be a direct relationship between the "Average citation per document" and the weight in the CiteScore Percentile, which shows the academic weight of the journals used in this document with objective criteria.

**Table 4.** Principal Journals

| Source | TP[1] | TC[2] | C/D[3] | SJR 2018[4] | CiteScore Percentile |
|---|---|---|---|---|---|
| Sustainability (Switzerland) | 8 | 25 | 3,13 | 0.549 | 91st |
| Journal of Service Management | 2 | 96 | 48,00 | 1.292 | 96th |
| International Journal of Hospitality Management | 2 | 60 | 30,00 | 1.999 | 97th |
| International Journal of Operations and Production Management | 2 | 54 | 27,00 | 2.095 | 95th |
| Journal of Retailing and Consumer Services | 2 | 42 | 21,00 | 1.211 | 89th |
| Business Strategy and the Environment | 2 | 41 | 20,50 | 2.166 | 99th |
| Industrial Management and Data Systems | 2 | 27 | 13,50 | 1.137 | 99th |
| SAE Technical Papers | 2 | 13 | 6,50 | 0.322 | 37th |
| Journal of Business Research | 2 | 8 | 4,00 | 1.684 | 92nt |
| IFIP Advances in Information and Communication Technology | 2 | 5 | 2,50 | 0.188 | 23rd |

Explanation: TP[1] = Total Papers; TC[2] = Total Citations; C/D[3] = Average citation per document; SJR[4] = Scimago Journal Rank in 2018.

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 6 August 2020 doi:10.20944/preprints202008.0145.v1



As pointed out by Esfahani (2019) [78] it is also important to evaluate the authors, universities, and countries as those are a valuable reference points in order to map the available customer centricity and sustainability literature. Table 5 shows the authors with more than 49 citations in the research. Table 6 shows the first 10 institutions that produced the most documents, and it is interesting to note that the second in the number of papers is not a university, but an automobile manufacturing company, which shows the relevance in the world of the industry of the relationship between the "custom-centric" perspective and "sustainability". Table 7 shows the 10 countries with the most papers produced, taking into account that the United States, the first in the list, produced more documents than the sum of the second and third in the list: India and China.

**Table 5.** Authors.

| Author | TP[1] | TC[2] |
|---|---|---|
| Sethia N.K. | 1 | 360 |
| Sheth J.N. | 1 | 360 |
| Srinivas S. | 1 | 360 |
| Chan E.S.W. | 2 | 113 |
| Chathoth P.K. | 1 | 109 |
| Harrington R.J. | 1 | 109 |
| Ungson G.R. | 1 | 109 |
| Verleye K. | 1 | 85 |
| Avery G.C. | 1 | 61 |
| Bergsteiner H. | 1 | 61 |
| Chang K.C. | 1 | 56 |
| Jeffers P.I. | 2 | 51 |
| Huang M.H. | 1 | 49 |

Explanation: TP[1] = Total Papers; TC[2] = Total Citations

**Table 6.** Institutions

| Affiliation | TP[1] | TC[2] |
|---|---|---|
| Bina Nusantara University | 4 | 0 |
| General Motors | 3 | 14 |
| Universiti Teknologi MARA | 3 | 6 |
| Michigan State University | 3 | 1 |
| University of Johannesburg | 2 | 2 |
| University of Sheffield | 2 | 10 |
| University of Calgary | 2 | 3 |
| University of Northumbria | 2 | 10 |
| National Taiwan University | 2 | 49 |
| Cal Poly Pomona | 2 | 361 |

Explanation: TP[1] = Total Papers; TC[2] = Total Citations

**Table 7.** Countries.

| Affiliation | TP[1] | TC[2] |
|---|---|---|
| United States | 47 | 809 |
| India | 17 | 18 |
| China | 16 | 66 |
| United Kingdom | 16 | 123 |
| Taiwan | 10 | 164 |
| Italy | 8 | 43 |
| Australia | 7 | 103 |
| Indonesia | 6 | 2 |
| Sweden | 5 | 45 |
| France | 5 | 18 |

Explanation: TP[1] = Total Papers; TC[2] = Total Citations

 doi:10.20944/preprints202008.0145.v1



Regarding the citations by country, it is important to note that the sum of the second to the tenth country (582 citations) does not reach the citations of the first in the list, the United States (809 citations), which shows that it is country is at the forefront in the investigation of this paper. Finally, regarding the number of citations, as seen in Table 2, the 3 most cited papers affect a significant percentage of the total citations.

## 5. Conclusions and Future Research

This paper shows mapping research of the customer-centric perspective and sustainability in organizations. To carry out the investigation, the Scopus database was used, and 188 documents were analyzed. 1465 keywords were identified, of which 89 were used in the deep analysis since they fulfilled the requirement of having at least 3 occurrences. The period ranging was from 1990 to March 31, 2020. For bibliometric analysis, the VOSviewer program and the Scopus information were used.

The research, in the study subjects, grows in an accelerated way, since it went from 5 papers in 2005, 5 in 2010, 16 in 2015, and 40 in 2020.

The year with the highest number of publications was 2019 and the paper with the greatest impact is "Mindful consumption: A customer-centric approach to sustainability" published by Sheth, Sethia and Sriniva (2011) [10], who in turn are the authors with the highest number of citations.

Within the keyword analysis, three clusters were identified: the first focused on sustainability and its relationship to information analysis and big data; the second shows the relationship between sustainable development and the customer-centric perspective; the third develops human behavior taking into account the above. It also shows how the concepts that are being developed in recent years are big-data management, e-commerce, the internet of things and supply chain management.

The dominant disciplines in the documents are "Business, Management and Accounting", "Engineering" and "Computer Science". And within these subjects the most relevant journals are "Journal of Service Management", "International Journal of Hospitality Management", "International Journal of Operations and Production Management", "Journal of Retailing and Consumer Services" and "Business Strategy and the Environment". The institutions with the most publications were "Bina Nusantura University", "General Motors", "University Teknology MARA" and "Michigan State University". The country that is far ahead in these issues is the United States, followed by India and China.

This research topic was chosen, to the best of our knowledge, as it has not been previously discussed and is relevant to advance the customer as the center of organizations and at the same time find economic, environmental, and people sustainability in the long term.

The main limitation of this research is that only Scopus was used as the scientific database. In any case, future work could be done to analyze some other database, such as the Web of Science

Finally, in subsequent investigations, it will be possible to study these topics in-depth, since in this paper a general framework is presented, which will facilitate future publications and investigations in the aforementioned.

**Author Contributions:** For research articles with several authors, a short paragraph specifying their individual contributions must be provided. The following statements should be used "Conceptualization, Pardo-Jaramillo, S., Muñoz-Villamizar, A., Osuna, I. and Roncancio, R.; methodology, Pardo-Jaramillo, S. and Muñoz-Villamizar, A.; software, Pardo-Jaramillo, S.; validation, Pardo-Jaramillo, S. and Muñoz-Villamizar, A. and Osuna, I.; formal analysis, Pardo-Jaramillo, S.; investigation, Pardo-Jaramillo, S.; resources, Pardo-Jaramillo, S.; data curation, Pardo-Jaramillo, S.; writing—original draft preparation, Pardo-Jaramillo, S. and Muñoz-Villamizar, A.; writing—review and editing, Pardo-Jaramillo, S., Muñoz-Villamizar, A., Osuna, I. and Roncancio, R.; visualization, Pardo-Jaramillo, S. and Muñoz-Villamizar; supervision, Muñoz-Villamizar, A., Osuna, I. and Roncancio, R.; project administration, Pardo-Jaramillo, S. and Muñoz-Villamizar, A.; funding acquisition, Pardo-Jaramillo, S., Muñoz-Villamizar, A., Osuna, I. and Roncancio, R. All authors have read and agreed to the published version of the manuscript.", please turn to the CRediT taxonomy for the term explanation. Authorship must be limited to those who have contributed substantially to the work reported.

**Conflicts of Interest:** Declare conflicts of interest or state "The authors declare no conflict of interest." Authors must identify and declare any personal circumstances or interest that may be perceived as inappropriately influencing the representation or interpretation of reported research results. Any role of the funders in the design of the study; in the collection, analyses or interpretation of data; in the writing of the manuscript, or in the decision to publish the results must be declared in this section. If there is no role, please state "The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results".

## References


1. Sheth, J.N.; Sisodia, R.S.; Sharma, A. The antecedents and consequences of customer-centric marketing. J. Acad. Mark. Sci. 2000, 28, 55–66, doi:10.1177/0092070300281006.
2. Gaurav, R.; Shainesh, G. The changing face of customer centricity; Palgrave Macmillan, 2016; ISBN 9781137602282; 9781137602275.
3. Santos, J.; Muñoz-Villamizar, A.; Ormazábal, M.; Viles, E. Using problem-oriented monitoring to simultaneously improve productivity and environmental performance in manufacturing companies. Int. J. Comput. Integr. Manuf. 2019, 32, 183–193, doi:10.1080/0951192X.2018.1552796.
4. Girard, F.F. Symbioses strategies for sustainable company management. Int. J. Sustain. Dev. 2009, 12, 248–263, doi:10.1504/IJSD.2009.032780.
5. Özcüre, G.; Demirkaya, H.; Eryiğit, N. The sustainable company and employee participation as a part of the solution to triple crisis in the European Union and Turkey: Example of OMV Samsun Elektrik. In Proceedings of the Procedia - Social and Behavioral Sciences; Paris, 2011; Vol. 24, pp. 1274–1287.
6. Välikangas, L.; Gibbert, M. Boundary-setting strategies for escaping innovation traps. MIT Sloan Manag. Rev. 2005, 46, 58--65+92.
7. Jeppesen, L.B.; Lakhani, K.R. Marginality and problem-solving effectiveness in broadcast search. Organ. Sci. 2010, 21, 1016–1033, doi:10.1287/orsc.1090.0491.
8. Jiao, J. Design economics of product platforms for enterprise sustainability towards mass customization. In Proceedings of the IE and EM 2009 - Proceedings 2009 IEEE 16th International Conference on Industrial Engineering and Engineering Management; Beijing, 2009; pp. 1714–1718.
9. Chavez, R.; Yu, W.; Feng, M.; Wiengarten, F. The Effect of Customer-Centric Green Supply Chain Management on Operational Performance and Customer Satisfaction. Bus. Strateg. Environ. 2016, 25, 205–220, doi:10.1002/bse.1868.
10. Sheth, J.N.; Sethia, N.K.; Srinivas, S. Mindful consumption: A customer-centric approach to sustainability. J. Acad. Mark. Sci. 2011, 39, 21–39, doi:10.1007/s11747-010-0216-3.
11. Mutingi, M.; Mbohwa, C.; Mapfaira, H. Sustainable product innovation for customer experience: A conceptual framework. In Proceedings of the Proceedings of the International Conference on Industrial Engineering and Operations Management; IEOM Society, 2016; Vol. 8-10 March, pp. 2182–2187.
12. Jeffers, P.I. Embracing sustainability: Information technology and the strategic leveraging of operations in third-party logistics. Int. J. Oper. Prod. Manag. 2010, 30, 260–287, doi:10.1108/01443571011024629.
13. Day, G.S. Rethinking Market Orientation from the Outside in. Mark. Sci. Inst. Work. Pap. 2020, Series 202, Report No. 20--115.
14. Merigó, J.M.; Muller, C.; Modak, N.M.; Laengle, S. Research in Production and Operations Management: A University-Based Bibliometric Analysis. Glob. J. Flex. Syst. Manag. 2019, 20.
15. Lee, Y.-C. Corporate Sustainable Development and Marketing Communications on Social Media: Fortune 500 Enterprises. Bus. Strateg. Environ. 2017, 26, 569–583, doi:10.1002/bse.1936.
16. Drucker, P.F. The practice of management; Harper & Row: New York, 1954; ISBN 0060913169.
17. Abbott, L. Quality and Competition : An Essay in Economic Theory. Columbia Univ. Press 1955, 229.
18. Levitt, T. The marketing imagination; Collier Macmillan: London, 1986;
19. Narver, J.C.; Slater, S.F. The Effect of a Market Orientation on Business Profitability. J. Mark. 1990, 54, 20–35, doi:10.1177/002224299005400403.
20. Kohli, A.K.; Jaworski, B.J. Market Orientation: The Construct, Research Propositions, and Managerial Implications. J. Mark. 1990, 54, 1–18, doi:10.1177/002224299005400201.
21. Krasnikov, A.; Jayachandran, S. The Relative Impact of Marketing, Research-and-Development, and Operations Capabilities on Firm Performance. J. Mark. 2008, 72.

22. Morgan, N.A.; Rego, L.L. The Value of Different Customer Satisfaction and Loyalty Metrics in Predicting Business Performance. Mark. Sci. 2006, 25.
23. Gruca, T.S.; Rego, L.L. Customer Satisfaction, Cash Flow, and Shareholder Value. J. Mark. 2005, 69, 115–130.
24. Fang, E.; Palmatier, R.W.; Steenkamp, J.-B.E.M. Effect of Service Transition Strategies on Firm Value. J. Mark. 2008, 72, 1–14.
25. Nobre, F.S. Core competencies of the new industrial organization. J. Manuf. Technol. Manag. 2011, 22, 422–443, doi:10.1108/17410381111126391.
26. Christensen, C.M. The innovator's dilemma : the revolutionary national bestseller that changed the way we do business; Harper Collins: New York, 2003; ISBN 0060521996.
27. Gulati, R.; Oldroyd, J. The quest for customer focus. Harv. Bus. Rev. 2005, 83, 92-101,133.
28. Fader, P. Customer Centricity: Focus on the Right Customers for Strategic Advantage; Wharton Digital Press: Philadelphia, 2012;
29. Lee, J.Y.; Kozlenkova, I. V; Palmatier, R.W. Structural marketing: using organizational structure to achieve marketing objectives. JOURNAL- Acad. Mark. Sci. 2015, 43, 73–99.
30. Lee, J.-Y.; Sridhar, S.; Henderson, C.M.; Palmatier, R.W. Effect of Customer-Centric Structure on Long-Term Financial Performance. Mark. Sci. 2015, 34, 250–268.
31. Coronado, M. Business Sustainability Game Changers. Mark. Res. Blog. Euromonitor. 2019.
32. Lubin, D.A.; Esty, D.C. The sustainability imperative. Harv. Bus. Rev. 2010, 88.
33. Brundtland Our Common Future: Report of the 1987 World Commission on Environment and Development. United Nations. General Assembly.; 1987;
34. Enders, J.C.; Remig, M. Theories of sustainable development; Taylor and Francis Inc., 2014; ISBN 9781317634621; 9781138796362.
35. Elkington, J. Partnerships from cannibals with forks: The triple bottom line of 21st-century business. Environ. Qual. Manag. 1998, 8, 37–51, doi:10.1002/tqem.3310080106.
36. Newport, D.; Chesnes, T.; Lindner, A. The "environmental sustainability" problem: Ensuring that sustainability stands on three legs. Int. J. Sustain. High. Educ. 2003, 4, 357–363, doi:10.1108/14676370310497570.
37. Porter, M.E.; Kramer, M.R. Creating Shared Value. Harv. Bus. Rev. 2011, 89, 62–77.
38. Hoffman, A.J.; Woody, J.G. Climate Change: What's Your Business Strategy?; 2008;
39. Ozturan, P.; Tuton, W. Reports The Socially Responsible CMO. Mark. Sci. Inst. Work. Pap. 2017, Series 201, Report No. 17--110.
40. Ferrell, O.C.; Gonzalez-Padron, T.L.; Hult, G.T.M.; Maignan, I. From market orientation to stakeholder orientation. J. Public Policy Mark. 2010, 29, 93–96, doi:10.1509/jppm.29.1.93.
41. Pritchard, A. Statistical bibliography or bibliometrics. J. Doc. 1969, 25 (4), 348–349.
42. Pourkhani, A.; Abdipour, K.; Baher, B.; Moslehpour, M. The impact of social media in business growth and performance: A scientometrics analysis. Int. J. Data Netw. Sci. 2019, 3, 223–244, doi:10.5267/j.ijdns.2019.2.003.
43. Zemigala, M. Tendencies in research on sustainable development in management sciences. J. Clean. Prod. 2019, 218, 796–809, doi:10.1016/j.jclepro.2019.02.009.
44. Bensalem, A.; Kin, V. A bibliometric analysis of reverse logistics from 1992 to 2017. Supply Chain Forum 2019, 20, 15–28, doi:10.1080/16258312.2019.1574430.
45. Gaviria-Marin, M.; Merigó, J.M.; Baier-Fuentes, H. Knowledge management: A global examination based on bibliometric analysis. Technol. Forecast. Soc. Change 2019, 140, 194–220.
46. Muñoz-Villamizar, A.; Solano, E.; Quintero-Araujo, C.; Santos, J. Sustainability and digitalization in supply chains: A bibliometric analysis. Uncertain Supply Chain Manag. 2019, 7, 703–712, doi:10.5267/j.uscm.2019.3.002.
47. Elsevier https://www.elsevier.com/en-in/solutions/scopus . Last access, 17 May 2020. Last access, 17 May 2020 2020.
48. van Eck, N.J.; Waltman, L. Software survey: VOSviewer, a computer program for bibliometric mapping. Scientometrics 2010, 84, 523–538, doi:10.1007/s11192-009-0146-3.
49. Noyons, E.C.M.; Moed, H.F.; Luwel, M. Combining mapping and citation analysis for evaluative bibliometric purposes: A bibliometric study. J. Am. Soc. Inf. Sci. 1999, 50, 115–131, doi:10.1002/(SICI)1097-4571(1999)50:2<115::AID-ASI3>3.0.CO;2-J.

50. Small, H. Visualizing science by citation mapping. J. Am. Soc. Inf. Sci. 1999, 50, 799–813, doi:10.1002/(SICI)1097-4571(1999)50:9<799::AID-ASI9>3.0.CO;2-G.
51. Johnson, L. Quality: How to meet customer demands in a process from design to disposal. J. Occup. Accid. 1990, 13, 167–170, doi:10.1016/0376-6349(90)90134-H.
52. Verleye, K. The co-creation experience from the customer perspective: Its measurement and determinants. J. Serv. Manag. 2015, 26, 321–342, doi:10.1108/JOSM-09-2014-0254.
53. Chathoth, P.K.; Ungson, G.R.; Harrington, R.J.; Chan, E.S.W. Co-creation and higher order customer engagement in hospitality and tourism services: A critical review. Int. J. Contemp. Hosp. Manag. 2016, 28, 222–245, doi:10.1108/IJCHM-10-2014-0526.
54. Avery, G.C.; Bergsteiner, H. Sustainable leadership practices for enhancing business resilience and performance. Strateg. Leadersh. 2011, 39, 5–15, doi:10.1108/10878571111128766.
55. Chang, K.-C. Effect of servicescape on customer behavioral intentions: Moderating roles of service climate and employee engagement. Int. J. Hosp. Manag. 2016, 53, 116–128, doi:10.1016/j.ijhm.2015.12.003.
56. Huang, M.-H.; Rust, R.T. IT-Related Service: A Multidisciplinary Perspective. J. Serv. Res. 2013, 16, 251–258, doi:10.1177/1094670513481853.
57. McDonald, L.M.; Lai, C.H. Impact of corporate social responsibility initiatives on Taiwanese banking customers. Int. J. Bank Mark. 2011, 29, 50–63, doi:10.1108/02652321111101374.
58. Chen, R.J.C. From sustainability to customer loyalty: A case of full service hotels' guests. J. Retail. Consum. Serv. 2015, 22, 261–265, doi:10.1016/j.jretconser.2014.08.007.
59. Susniene, D.; Jurkauskas, A.; Prunskiene, J. Public transport system and its challenges for sustainability. In Proceedings of the Proceedings of the 3rd International Workshop - Intelligent Technologies in Logistics and Mechatronics Systems, ITELMS 2008; Panevezys, 2008; pp. 65–70.
60. Faizi, R.; Fkihi, S.E.; Afia, A.E. Leveraging big data to improve customer experience. In Proceedings of the Proceedings of the 30th International Business Information Management Association Conference, IBIMA 2017 - Vision 2020: Sustainable Economic development, Innovation Management, and Global Growth; K.S., S., Ed.; International Business Information Management Association, IBIMA, 2017; Vol. 2017-Janua, pp. 1405–1409.
61. Ban, H.-J.; Choi, H.; Choi, E.-K.; Lee, S.; Kim, H.-S. Investigating key attributes in experience and satisfaction of hotel customer using online review data. Sustain. 2019, 11.
62. Lovrić, M.; Li, T.; Vervest, P. Sustainable revenue management: A smart card enabled agent-based modeling approach. Decis. Support Syst. 2013, 54, 1587–1601, doi:10.1016/j.dss.2012.05.061.
63. Feng, L.; Sun, B.; Wang, K.; Tsai, S.-B. An empirical study on the design of digital content products from a big data perspective. Sustain. 2018, 10.
64. Kazak, A.N.; Chetyrbok, P. V; Oleinikov, N.N. Artificial intelligence in the tourism sphere. In Proceedings of the IOP Conference Series: Earth and Environmental Science; Kovalev I.V. Pyzhikova N.I., V.A.A., Ed.; Institute of Physics Publishing, 2020; Vol. 421.
65. Mu, J.; Zhang, J.Z.; Gilliland, D.; Gilliland, D. No Silver Bullet with AI : Blending in Firm Culture and Capabilities with AI Marketing Investment for Enhancing Firm Performance No Silver Bullet with AI : Blending in Firm Culture and Capabilities with AI Marketing Investment for Enhancing Firm Performan. Mark. Sci. Inst. Work. Pap. 2020, Series 202, Report No. 20--109.
66. Schallehn, H.; Seuring, S.; Strähle, J.; Freise, M. Customer experience creation for after-use products: A product–service systems-based review. J. Clean. Prod. 2019, 210, 929–944, doi:10.1016/j.jclepro.2018.10.292.
67. Lee, J.; Palmatier, R.W. Creating and Appropriating Alliance Value Through Customer-Centric Structures. Mark. Sci. Inst. Work. Pap. 2016, Series 201, Report No. 16--127.
68. Zhang, W.; Li, J.; Sha, Z.; Wang, X. Customer experience management models: Perspectives from environment, psychology and strategy. In Proceedings of the 2010 International Conference on Management and Service Science, MASS 2010; Wuhan, 2010.
69. Yakhlef, A. Customer experience within retail environments: An embodied, spatial approach. Mark. Theory 2015, 15, 545–564, doi:10.1177/1470593115569016.
70. Pan, S.; Giannikas, V.; Han, Y.; Grover-Silva, E.; Qiao, B. Using customer-related data to enhance e-grocery home delivery. Ind. Manag. Data Syst. 2017, 117, 1917–1933, doi:10.1108/IMDS-10-2016-0432.
71. de Wilde, M.; Spaargaren, G. Designing trust: how strategic intermediaries choreograph homeowners' low-carbon retrofit experience. Build. Res. Inf. 2019, 47, 362–374, doi:10.1080/09613218.2018.1443256.

72. Bradigan, P.S.; Rodman, R.L. Single service point: It's all in the design. Med. Ref. Serv. Q. 2008, 27, 367–378, doi:10.1080/02763860802367755.
73. Kumar, J.; Graf, P. Future centered design: Designing for sustainable business. Lect. Notes Comput. Sci. (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics) 2011, 6769 LNCS, 449–457, doi:10.1007/978-3-642-21675-6_52.
74. Cedeño, J.M. V; Hannola, L.; Ojanen, V. Knowledge requirements for sustainable smart service design. In Proceedings of the IC3K 2019 - Proceedings of the 11th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management; Bernardino J. Salgado A., F.J., Ed.; SciTePress, 2019; Vol. 3, pp. 195–202.
75. Scopus Subject Areas https://service.elsevier.com/app/answers/detail/a_id/15181/supporthub/scopus/related/1/session/ . Last access, 25 May 2020. 26 May,2020 2020.
76. Scopus CiteScore https://blog.scopus.com/posts/citescore-2018-metrics-now-available . Last access, 27 May 2020. 27 May 2020 2020.
77. Scimago Journal & Country Rank https://www.scimagojr.com/aboutus.php . Last access, 27 May 2020. 27 May 2020 2020.
78. Esfahani, H.J.; Tavasoli, K.; Jabbarzadeh, A. Big data and social media: A scientometrics analysis. Int. J. Data Netw. Sci. 2019, 3, 145–164, doi:10.5267/j.ijdns.2019.2.007.