

Systematic review: strategic design in the stakeholders

Revisión sistemática de diseño estratégico en los sectores productivos

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Abstract

This study is aimed on the strategic design definition, applied from the stakeholders: private sector, government, society, and academia. The pupose is a conceptual approach, analyse features, and processes guided in each sector. The goal is achieved throught the next activities, statement of the problem supported by primary sources, a scientific literature review guides the researcher, organizing, arguing, and composing the review from data bases. A qualitative methodology is based on Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). The results evidence a conceptual confusion between strategic design and strategic planning. In the conclusions and recommendations expose a gap, nevertheless new research will be designed.

Resumen

Este artículo tiene como propósito hacer una búsqueda del término de diseño estratégico sobre la connotación que se usa en los diferentes sectores productivos: industria, gobierno, sociedad y academia; con la finalidad de identificar una aproximación conceptual, analizar las características y considerar sus procesos desde cada una de las esferas. Para lograrlo, primero se establecieron los antecedentes y orígenes del término. Segundo, se hizo una revisión de literatura de los estudios recientes sobre el estado actual que guarda el término, apoyándose de diferentes bases de datos y repositorios digitales. Tercero, el estudio se planteó desde un enfoque cualitativo, basado en un método de revisión sistemática que se apoya del *Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)*. Cuarto, los resultados se muestran y se discuten a partir de un análisis de contenido. Finalmente, se exponen las conclusiones y recomendaciones del estudio.

Systematic review, strategic design, stakeholders

Revisión sistemática, diseño estratégico, sectores productivos

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Introduction

Strategic design (SD) is an ongoing concept with theoretical, practical and scientific implications. Theoretically, it is a disciplinary engine that works with creativity, innovation, reflection and transformation. These traits are part of thinking capable of generating responses to challenges that influence the human being's own ambition to transcend. From a practical perspective, ED responds to various needs, but one as a consequence of the growth of mankind, and the other because of man's natural ambition. Consequently, the scientific implications are a manifestation that responds, or so it is intended, to the unresolved problems, but with a more rigorous and above all scientific approach.

It is in this context that this initiative to elaborate a Systematic Review of Strategic Design in the Productive Sectors arises. With the purpose of identifying and analysing scientific evidence in relation to the definitions of SD from the connotation used in the productive sectors: industry, government, society and academia; in order to make an approximation of the term, analyse the characteristics and consider the operation processes in each productive sphere. To achieve this purpose, this review first addressed a theoretical framework of reference, in order to understand recent studies or gaps in the literature, as well as to establish questions that respond to the study. Subsequently, the methodological design was based on the Cochran Systematic Review Method (Cochrane Handbook for Systematic Reviews) which allowed us to locate the information from different databases, and thus present the results of the research that will make it possible to establish the following discussion section contrasting references versus results, and finally generate conclusions and recommendations.

Frame of reference

Systematic reviews

Systematic literature reviews (SLR) are a process of identifying the essences of the literature of interest, especially based on primary studies, without devaluing secondary studies. This is achieved by searching for and extracting the most relevant, based on certain parameters (Nerwell et al., 2006). An example is the scientific criteria set out by the Cochrane methodology.

The Cochrane Collaboration is an international organisation that brings together the SLRs. In practice it is a non-profit entity created in 1993 with the aim of increasing the quality of health care decisions by preparing, maintaining and promoting the accessibility of SLRs on the effects of health interventions. Its inspiration stems from the earlier ideas of Archie Cochrane, a Scottish medical epidemiologist, who argued that one of the most significant advances in medicine would be the notion that health care services should be based on scientific evidence rather than clinical impression, anecdotal experience, expert opinion or tradition (Urta et al., 2010).

It is for this reason that the fundamental instrument for conducting systematic reviews is the Cochrane Handbook. The background of this document shows that they are leaders in conducting SLRs for health care research. The work then followed, based on an international organisation, which integrates research and development centres to review and analyse randomised clinical trials from a global perspective. However, during the 1990s, approaches were established incorporating qualitative data into systematic reviews of research that became an important tool in health care, social sciences and education (Cochrane Handbook, 2012, p. 581).

Historically, this manual, arises with the intention of being used from the application in the health sciences, but currently it is applied from the perspective of other disciplines such as social sciences, humanities, among others. Currently, Cochrane produces reports to influence professional practice. These analyses have a quantitative and in some cases qualitative basis, as will be the case in this research.

Authors such as Gisbert and Bonfill (2004) state that systematic reviews are scientific investigations that present a methodology for synthesising the results of original studies. The characteristics of SLRs are: a) analysis and synthesis of information with a practical approach, b) based on scientific evidence, c) formulate defined questions, and d) use systematic, explicit methods to identify and select studies, critically evaluate, extract the data of interest and analyse.

In the words of Robleda (2019) an SLR can integrate empirical evidence to meet established requirements that respond to research questions. In application, it requires systematising the information, setting out methods for presenting results, and thereby reaching conclusions. The same author argues that in qualitative studies, SL uses methods of observation, diagnosis or prognosis (Robleda, 2019). From this perspective, SL is a viable and efficient mechanism to elucidate relevant information about a phenomenon of interest.

An SLR makes it possible to report findings or results of studies that are presented by different authors, confirming or contrasting information with each other. In confirmation, there are no definitive answers because the reviews are modified over time; however, it is a starting point to begin the search for studies that respond to established needs supported by systematisation of information; methodical and procedural. Even in contrasting results, for example, accurate, biased or false data can be identified as a consequence of the currency of their application or scientific publication.

Nowadays with open access (OA) there is such a large amount of data that it is complex to synthesise, due to the large number of volumes per discipline. For this reason, an alternative is the use of the RSL, as it allows the location, classification and orderly and structured management.

According to Beltrán (2005) in an SLR study, there are two types of reviews, one systematic and the other non-systematic or narrative. In his document, he argues that the traditional method is the narrative method, but with weaknesses that do not allow a rigorous criterion to be maintained in the collection of data. For this reason, the systematic review must follow a rigorous and critical method to achieve greater precision in the estimation of data that will help generate information for decision-making. Therefore, the SLR study must include the following characteristics, which stand out for their rigorousness: a) an approach based on the formulation of a research question; b) a search strategy clarifying the study phenomenon, c) consideration of structured selection criteria, d) rigorous and critical analysis of information, and e) synthetic with a qualitative or quantitative orientation (meta-analysis) (Beltran, 2005) (Beltran, 2005).

In short, SL is a scientific strategy for obtaining evidence from different studies, primary or secondary, which are located in information units such as repositories or digital libraries, among others. Which, due to their characteristics, formulate questions of interest through the search, collection, selection, analysis, and communication of different research: basic or applied, which make it possible to answer unknowns.

Strategic design

The evolution of strategic design (SD) denotes a presence in the development of products and services. In the 1980s it was implemented under an operational (individual) perspective. Focused on generating results in the creation of new products for distribution in retail shops. The model focused on presenting purpose, actions, business, products and services. In the 1990s, as the issue of competitiveness was a niche production, the tactic was a guide to business success. It was expressed through technology and innovation as manifestations of progress. Later at the turn of the century, its manifestation was at the strategic level with a major influence of Harvard and Stanford business schools in inducing the practices of strategic design management.

DE or design management (DM) in the words of Rubio et al. (2016), propose dynamic ways of looking at design. According to the authors, DM is a discipline that generates solutions to visual, utilitarian, objectual or spatial communication problems through the development and innovation of projects (Rubio et al., 2016). However, it is subscribed that there are particular connotations that must be defined from each perspective of design and strategy, as both terms represent a symbiotic relationship, structuring solutions under a wide range of perspectives. The background of design goes back to the origins of mankind. From the satisfaction of needs for subsistence in an environment. Now, without going into detail in an epistemological definition of the term, it is logically understood that just as the universe, the world and humanity have evolved, so has design: the central idea is that the whole is design. It is a complex phenomenon of free thinking that generates chaos in the senses to construct representations of universally subjective, but also perfect, imaginary infinity.

Holland and Lam (2014), in their book *Managing Strategic Design*, argue that design is an insurmountable problem, but to manage it one must try to operate with ideas, and they propose a strategy: first, to review the meaning of the phenomenon associated with design; and second, to try to refine or induce a new vision. From this perspective, it can be interpreted that design shows a dichotomy: it is a problem and it is also a solution. In a reflection, it is that which resembles a designer's gaze. Usually design poses a process: an idea or phenomenon thought in a sequence with a determined end. Systematically, it frames a series of steps (process) to achieve the development of a product or service, regularly called designs. Therefore, design is also virtuous, as it manifests a process and a result.

In other words, design in practice requires creativity and innovation. Both elements play an important role in management. In organisational practice there is a decisive influence from the so-called marketing, not only in the social but also in the business sphere. However, it is argued that the fuel it requires to function or produce movement is strategy. Mintzberg (2020), in his book *Strategy Safari*, considers that there are various definitions, it is a tactic, it is a specific manoeuvre to outwit an opponent or competitor. In the exercise there are various interpretations of the concept where the so-called 5P'S are offered: plan, ploy, pattern, position and perspective (plan, ploy, pattern, position and perspective).

Holland and Lam (2014) interpreted strategy in terms of a process as starting with a plan that sets out a path of actions that indicate what to do and how to do it. Second, tactics are perhaps invisible, a ruse or trick that could often be interpreted as dishonest. However, tactics are the backbone that helps to gain an advantage over competitors through creative thinking in the search for new opportunities. Third, models are proven processes or methods. That is, the way things are done. The practical exercise identifies that there are things that are better developed in one place than in others; there are products that are better made in one place than in others; or there are services that are better offered in one place than in others. That which is done better is the essence of success.

Fourth, position refers to the should be, the goal or objective of the strategy. Fifth and finally, the perspective is the outlook or vision to be achieved (Holland & Lam, 2014).

In any case, for design to be strategic it must structure processes with useful, efficient and effective outcomes. This is regardless of the causes of the sectors to which it refers: industry, government, society and academia. It is a fact that the sum of the concept of strategic design is a challenge from various perspectives. But before continuing with the analysis, it is essential to be aware of other viewpoints.

Papanek (1971) proposed several decades ago that the issue of linking design with strategy was a tool for solving social, environmental and economic phenomena. In its essence, he identifies that for decades there have been challenges that have been solved, others have not, and DE is an adequate and current mechanism to face adversities. Busayawan (2017), conceives that strategy in design is an added value. It can be interpreted that design plus strategy generates a utilitarian versatility that becomes an operational scaffolding for the productive and social sectors. It is a solution in the world.

A general review of the concept, by various sources such as the Design Council in United Kingdom (UK), Design Management Institute (DMI), the Royal College of Art and Business School of Imperial College London, the Institute of Design at Stanford University, Business Design Studio at Rotman School of Management, and schools of Design, affirm that strategic design is a tool that is widely recognised as a trigger for innovation and development, which is supported by the disciplines for the achievement of projects that converge with the subjects (Busayawan, 2017).

Strategic design is also complemented by design thinking (DT). It especially refers to all those who are not trained as designers. DT requires the full use of the brain, reflection, concentration, and stimulation of ideas to visualise the future. Futurists using DT generate visions, facts and analyse contexts, as well as possessing the ability to select, evaluate critical signals of the future. Thus, DT is a symbiotic catalyst for the incorporation of other disciplines in the evolution of strategic design.

Therefore, in this era Strategic Design and Design Thinking are contributing axes for different dimensions: economic, ecological and social. All articulated to generate progress and national development. It is proven that the potential of such strategies enables global connectivity. From the origins of free trade or globalisation, DE marks gradual consonants with potential effects, for example: it emerges from operational levels (planning, design and quality); it evolves to tactical levels (strategic, develops products, and poses processes, is communicative, creates manufacturing, detonates research, is semantic and user-centred), currently it is strategic (innovation, branding, business model, experiences, social, sustainable and consultancy) (Holland & Lam, 2014).

Research questions

The above has provided evidence of the term's currency and applicability. Therefore, ED raises concerns that can henceforth contribute to research and its development. The ED has permeated different productive sectors. But, in practical terms, it is important to identify or recognise concepts, features or characteristics, processes for the various dimensions or from the productive sectors. Consequently, the following questions arise to help guide this systematic review study on ED.

1. How the productive sectors (industry, academia, government and society) define the ED.
2. What characterises the ED in each of the productive sectors (industry, academia, government and society)?
3. What are the processes followed in each of the productive sectors (industry, academia, government and society) regarding the ED?

Methodological design

This section describes the methodology used to define the scope of the information found, its analysis, and to determine its usefulness, based on the elements necessary to carry out a SR. In this sense, the procedure allows the answers to the research questions posed to be obtained.

Therefore, this study proposed the identification and analysis of studies on the concept of strategic design with respect to the connotation that is used in the different productive sectors: industry, government, society and academia.

The RS methodological approach, based on the Cochrane Handbook (2011) makes it possible to find recent information in relation to the established criteria. The study design corresponded to an analysis of studies on the strategic design concept, based on the guidelines established in the Cochrane Handbook of Systematic Reviews of Interventions (2011) by the Iberoamerican Cochrane Centre, according to the following stages: a) Definition of the topic by clearly defining questions, establishing inclusion criteria; b) Search for studies, possible sources of information; c) Selection of studies and collection; d) Assessment of risk of bias and quality of information; e) Analysis of data collected; f) Presentation of results; and g) Interpretation of results. Based on the above, an identification and analysis was carried out to reflect a scenario. As close as possible to the reality in which the phenomenon under study occurred. This made it possible to establish a degree of validity and reliability in the research consulted.

Consequently, the first step was to identify the theme or topic of the research using the systematic review methodology. Second and third, a selective search for information was carried out. Fourth, the criteria were established. In phase five, data analysis was carried out by experts (filtering). The sixth and seventh phases were developed after the search for references, research, articles or other specific studies.

Research protocol

The intention of establishing a protocol for this study allowed us to optimise the search for research, studies, articles and all types of documentary material in order to identify, select, analyse and synthesise the findings of the most relevant studies and link them to the questions posed (Moher et al., 2009). Likewise, a search was carried out for primary studies on the connotation of strategic design used in the different productive sectors: industry, government, society and academia.

Based on the above, the variables of the study focused on: strategic design and productive sectors. In order to identify a conceptual approach, analyse the characteristics and consider their processes from each of the fields. The study considered: rigorously selected studies in its selection process, application of inclusion and exclusion criteria, studies focused on scientific evidence, relevant data extraction, as well as obtaining satisfactory responses to the study approach according to the systematic review methodology (Cochrane Handbook, 2011; Noonan, 2010) used in this protocol, which enabled a specific search for relevant studies and existing information.

Search process

It is important to note that a process of planning, structuring and preparation was essential for the search for information. Therefore, the Preferred Reporting Items for Systematic Review and Meta-Analyses: PRISMA (Moher et al., 2009) guide was applied. This guide defined the criteria for conducting the entire systematic review process.

Sources of information

Based on the concepts of strategic design, productive sectors (industry, government, society and academia), the respective search was determined; this was the basis for establishing the eligibility criteria (described below) in the data hubs used until the data that met the defined criteria were found.

Databases

International and national research, digital libraries and institutional repositories were consulted, with indexed and refereed journals, as well as publications from the last ten years, such as Proquest, Eric, Ebsco, Redalyc, Latindex, Scielo, Web of Science, Dialnet, Google Scholar, Ecorfan, among others, both in Spanish and English versions.

Selection of studies

The selection of studies was fundamental to answer the research questions supported by the Cochrane Handbook of the Iberoamerican Cochrane Centre (2011).

First, a preliminary review was conducted, taking into account the title, abstract, as well as references; subsequently, inclusion and exclusion criteria were considered. Secondly, it was determined whether the documents were research articles and whether they referred to the concept of strategic design as applied to the productive sectors: industry, government, society and academia. This was done on the basis of those documents that were linked to the axes of the research.

Eligibility criteria

The procedure for the search of the studies was a) whether research or studies had been carried out previously concerning the phenomenon, b) the purpose of obtaining as many reliable sources as possible. In this way, the respective analyses will be carried out in order to be able to identify and define the criteria for including or excluding the corresponding articles.

According to Saini and Sclosky (2008), in the selection of primary sources, in addition to considering the inclusion and exclusion criteria, it was important to take into account the following eligibility criteria for all SR: 1. Documents to be evaluated: Primary studies that were developed during the period 2012 to 2022. 2. Variables: Include at least one of the two variables defined for this study. 3. Studies: Topic Strategic Design definition, use and application in the different productive sectors: industry, government, society and academia; also written in Spanish or English. 4. Search: Databases, institutional repositories, books, journals focused on design, management and education. 5. Types of documents: Preferably indexed and refereed published articles. 6. Criteria: Application of inclusion and exclusion criteria.

Inclusion and exclusion criteria

According to the Cochrane Handbook of Systematic Reviews of Interventions (CCI, 2011), as well as Saini and Schlonsky (2008) highlight the importance of defining inclusion and exclusion criteria in a systematic review, prior to the selection of primary sources of information. Inclusion criteria will determine which documents will be part of the study and exclusion criteria will allow for the early elimination of those that meet the criteria.

Inclusion criteria

These are those studies that were found taking into account the search criteria. All those that are linked or related to the questions posed, particularly those referring to strategic design and its connotation with the productive sectors (industry, government, society and academia). Therefore, documents published during the period 2012 to 2022 were considered.

Exclusion criteria

For these criteria we did not consider documents that presented any type of bias, as well as those published in languages other than Spanish and English. In addition, studies that were too long or extensive in relation to the phenomenon under study were excluded, as it was not possible to obtain concrete conclusions focused on the subject matter.

Instruments

The instruments used were designed by the authors, based on the model defined in the Cochrane Handbook of Systematic Reviews of Interventions (2011): Summary Content Record (SCF); Verification Matrix for Valuation and Source Selection (VVVSF); Matrix for Organising and Classifying Information (MOCI); and Filter Expert Checklist (FCEL).

Summary content card (SCF)

In this file (FCR), the research consulted as primary sources was recorded, and a summary was made of its content. The purpose of the FCR was to store the information consulted and analysed as a whole. It also included the title of the research, author(s), date of publication, database, key words, type of publication, as well as a section for comments (personal and/or filtering experts).

Verification matrix for assessment and selection of sources (MVVSF)

Based on this matrix (MVVSF), the previously defined inclusion and exclusion criteria were applied. Thus, the primary research was evaluated and selected on the basis of both its content and the contribution it made to the study. This allowed for a measurement of the quality of the research, as well as the variables.

Matrix for organisation and classification of information (MOCI)

In this matrix (MOCI) the basic information of each study was incorporated. On the one hand, the title of the research, author(s), date of publication, type of publication, database and keywords, research approach, methodology, results obtained, conclusions, contributions. In addition, the criteria included: currency (no more than 10 years) reliability (verification of information in recognised databases); source of information (primary sources); scope of the study (level of specialisation).

Checklist for filter experts (LCEF)

This instrument had the particularity that it was designed under the structure of a checklist. The information presented was assessed, organised and evaluated by filter experts (previously selected), determining whether or not it contributed to the research, providing answers to the questions posed. Some of the items considered were: title of the research, author(s), date of publication, database, key words, type of publication, as well as a section for comments (filter experts).

Procedure

In order to develop this study, a series of phases were followed, based on what is established in a systematic review (Rousseau et al., 2008). First, based on the purpose and questions of the research, the relevant material for the study was identified and the number of reliable sources was selected to ensure validity and reliability. Second, we considered the procedure established by the Cochrane Handbook of Systematic Reviews of Interventions (CCI, 2011), which included three phases: 1) locating, 2) selecting, and 3) evaluating the selected studies, as well as the process of data extraction and application (primary sources, databases and institutional repositories). Third, the final selection of studies was made, based on inclusion and exclusion criteria for the initial selection. The analysis of these sources had to answer the research questions and whether or not the risk of bias was present. Fourth, the final articles were identified in order to: a) extract the specific information or data, b) perform the respective analyses and syntheses, and c) interpret the results.

Participants

Due to the nature of this study, no human beings are included in this systematic review, and consequently, there is no direct link with the designers. Therefore, and in accordance with the criteria of a systematic review, the sample consisted of the final 28 studies selected.

Assessment of the validity and quality of the selected studies

Petticrew and Roberts (2006) state that every study must have internal validity that lends credibility. This provides security to the instruments that were applied. At the same time, this internal validity is accompanied by external validity, where the results obtained can be socialised and transferred to other contexts. Therefore, as part of the assurance of validity and reliability, those instruments that showed rigidity in their methodological processes were identified.

Risk of bias

A document review was carried out for this study. It was necessary to limit the search for sources according to the established criteria, limiting the number of documents selected. Consequently, the possibility of a risk of bias arose; however, in the selection of final primary sources it was emphasised that certain criteria of the study had to be present and thus not affect the validity of the study.

Delimitations

Creswell (2013) states that delimitations in a SR reduce the scope of an investigation, which has been evident in this study, considering both the time and the search for significant primary sources that met the inclusion and exclusion criteria. However, this did not affect the development of the study.

Results

The purpose of the study focused on strategic design, with respect to the connotation used in the productive sectors: industry, government, society and academia; in order to be able to identify a conceptual approach, analyse the characteristics and consider its processes from each sphere.

Therefore, the following is a description of the way in which the research papers that met the eligibility criteria were selected, and those that did not comply with the respective stages were excluded. Consequently, the systematic review was carried out. The way in which the search and selection of the research papers was carried out, their characteristics, individual results and a synthesis of the results are also shown. In short, a correlation was made between the research questions and the results of the study.

Search and retrieval of studies

On the basis of the protocol established by the systematic review method, a rigorous search for information was carried out, based on the key words of the study (strategic design, productive sectors, industry, government, society and academia) in various prestigious databases, in accordance with what was established in the selection rules of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses PRISMA 2009; 210 studies were identified using the Summary Content Sheet instrument; Using the Checklists for Assessing and Selecting Sources instrument, where assessment criteria were applied, 150 articles were excluded for not meeting the criteria defined for this study, leaving only 60 articles which, following the SR protocol, were applied the Matrix for the Assessment and Selection of Primary Sources instrument, where once the information had been filtered, 20 articles were eliminated, leaving a total of 40; they were subsequently analysed and reviewed in full text by filtering experts. Afterwards, by means of the Checklist for Evaluation of Individual Filter Experts instrument, as well as the contrast of the articles with the research questions in order to define the contribution of each article to provide an answer, another filter was carried out, in which 12 documents were excluded. Therefore, in the end, 28 studies were those that met the rigorous criteria established by the SR method.

Characteristics of the studies

Type of study. The research that was analysed using the SR method was descriptive, experimental and non-experimental in nature. Table 1 shows that most of the studies were descriptive: 18 studies (64%), 22% experimental and 4 (14%) non-experimental.

Study	f	%
Descriptive	18	64
Experimental	6	22
Non-experimental	4	14
Total	28	100

Table 1 Types of studies
Source: Own elaboration

Methodology. Based on the studies validated for the application of SR, they focused on mainly qualitative, then quantitative or mixed methodologies. In which qualitative methodology was the most used by the total of the 28 studies, corresponding to 100%.

Instruments. Regarding the validated studies, the information was collected through the application of mostly questionnaires (18), reaching 64% of the total number of instruments (see Table 2):

Instruments	f	%
Questionnaires	18	64
Content analysis	6	22
Case studies	4	14
Total	28	100

Table 2 Types of instruments used in the validated studies
Source: Own elaboration

Sample. The results obtained to carry out the systematic review belong to the analysis of 28 articles that were validated by means of the filter experts. These are the result of the 210 studies that were located in various specialised databases, as well as institutional repositories. It is worth mentioning that the 28 articles were published from 2010 onwards and are linked to the object of study of the research.

Individual results of the studies

Based on the purpose and the questions that guided the research, table 3 shows the summary of the 28 final studies selected for SR, where the first column presents the productive sector; the second column shows the number of studies that addressed the ED; while the third column shows those that applied strategic planning.

Productive sectors	ED	EP
Government	3	2
Industry	7	1
Society	6	1
Academy	4	3
Total	20	8

Table 3 Results of studies based on the productive sector
Source: Own elaboration

In summary, the SR results confirm the application of strategic design in the different productive sectors: industry, government, society and academia; where in some cases the concept is defined and characterised. However, there are no SD processes in each of these spheres, making it clear that there is a need to make it visible in the field of design. However, it was also detected that in some studies, even when the use of strategic design was mentioned, in reality they are referring to the application of strategic planning.

Results related to the research questions

The results from the three research questions posed in sequential order are presented below.

Research question 1: How do the productive sectors (industry, government, society and academia) define the ED?

Based on the 28 final studies derived from the SR, the findings showed that depending on the sector (industry, government, society and academia) is the way ED is conceived, where not always the concept applied refers to strategic design, but to strategic planning (SP). The studies make it evident that the conception of ED in some sectors is therefore unclear:

First, in government, SD is conceived as, the application of methodologies that establish a direct relationship with users, a redefinition of approaches based on scientifically rigorous, creative research, as well as an in-depth intervention of the researcher; where efficient, fair, inclusive and sustainable solutions to social problems are promoted. Thus, the ED is characterised by the creative development of structures with the permanent participation of users. They consider that they generate sustainable and fair solutions for the demands of the sector and therefore of society; it is emphasised that everything is centred on the user, where it is sought that the products are adapted to the needs of the user.

Secondly, in industry, ED refers to the development and implementation of design strategies, through integrated planning focused on the company or organisation through tangible and intangible product innovation. On the one hand, focused on achieving the company's business objectives. On the other hand, in response to economic, environmental and social problems, through the application of design methods and tools, focused on the user experience, generating fair, socially responsible and sustainable economic value.

Thirdly, society, the authors agree that ED focuses on responding to problems of products or services that have the potential to improve the social and cultural conditions of human beings. They also highlight the need to use strategies focused on the user, developing proposals for tangible or intangible products through a design process defined according to the needs of the user(s).

Fourth, academia, for this sphere, research agrees that DE serves as a competitive tool for educational institutions; to develop comprehensive strategies and solutions. Consequently, to propose strategies and solutions of value in the short, medium and long term.

Second research question: What characterises ED in each of the productive sectors (industry, government, society and academia)?

The findings make it evident that, regardless of the productive sector, ED is characterised by the development of tangible and intangible user-centred products.

Third research question: What are the processes that follow from DE, for each of the productive sectors (industry, government, society and academia) to strategic design?

From the studies, it is confirmed that there is a knowledge gap when talking about a specific process to develop or implement SD. On the one hand, 25% of the studies take user-centred design methodologies as a basis. On the other hand, 75% of the studies do not have a defined process; however, they apply or integrate strategic planning into the design process, appropriating the EP process and its components, regardless of the sphere or productive sector (industry, government, society and academia) in which the users' needs are focused.

Discussion

In this section, both theoretical and practical aspects were discussed. In other words, the contrast between what the authors proposed versus the results obtained. In this sense, the discussion starts from the research questions:

Research question 1

The answer to the question of how the productive sectors (industry, academia, government and society) define ED was that there are coincidences in some of the studies analysed in relation to the definitions of ED. The findings identify well-supported definitions in the industry and society sectors, according to Rubio et al. (2016), Holland and Lam (2014) and Busayawan (2017). The common denominator, in identifying a conceptual approach, is that ED is a structure with processes that generate outputs for the generation of products that satisfy human socio-cultural, economic and environmental conditions. However, there are other studies, according to the results, that focus on the definition of the ED as being equal to that of strategic planning. Especially those studies with a governmental and academic orientation. Both sectors perceive the ED as a plan that requires a diagnosis, vision, mission and objectives with actions. This result has several theoretical, practical and research implications. In the first, it is identified that the definition of the term is not conceived, rather it is confused. In the second, it is argued that the purpose is more important than the means. And thirdly, that the research lacks scientific rigour.

Research question 2

The question concerned how ED is characterised in each of the productive sectors (industry, academia, government and society). The findings show, as already stated in answer 1, two positions. One position in the industry and society sector focuses on its definition and structure. Both sectors follow a strategic design method to face adversities and establish their projects. This characterisation is related to research, sense, idea, prototyping, implementation and evaluation of results. In each of the stages, some tools to achieve success were proposed. In research, mapping, exploration, impacts, and modelling are required. Sense, people, affinity mapping, and SWOT analysis. Ideation, brainstorming, creativity, matrices, holistic studies and engagement. The prototype, tests, examinations, research and development, and projections, among others. And implementation and evaluation is built with the interaction of evaluations, business models, and impact analysis. The second position, that of the governmental and academic sector, is oriented towards the use of strategic planning. Strategic planning is an administrative process, as already said, it poses strategies to develop a project, plan, pattern, position, perspective and tactics.

However, in this case, the results show that in most of these sectors, a plan is projected that arises from a diagnosis, the mission, vision, objectives, strategies, goals and action plan. Given this finding, the authors of this study consider the data to be chaotic. It is unbelievable that Strategic Design is confused with Strategic Planning, as it is shown that both concepts are different by definition. The characteristics in each differ in their definition and procedures, and the results pursued are likely to be different, or not to result in the intended expectation. Therefore, this study shows that the existing CLN is not sufficient to characterise Strategic Design from the government sector and academia. It is likely that more studies with the appropriate membership are required to obtain data and make better decisions.

Research question 3

It is necessary to understand the processes that follow from ED for each of the productive sectors (industry, academia, government and society). However, Holland and Lam (2014) argue that DE starts from a process, through a series of steps to achieve the development of a product or service, tangible or intangible. The SR findings made evident the lack of application of these design processes in the development of products or services. On the one hand, in the industrial and social sector, it is apparent that a strategic design process is followed. Defined and structured, based on the conceptual axes of the method, its instruments and processes, in addition to the analysis tools. Therefore, there is evidence that the strategic design process, in both cases, enables the desired innovation or development.

The data show that the projects that were carried out were in some way executed with respect to the idealisation or prototype that was proposed. On the other hand, in the governmental and academic sector there is a perceived confusion in the strategic design process. As has already been proven, the process followed is not that of design but that of planning. Strictly speaking, it is not about minimising strategic planning, but on the contrary, the intention of these authors is that the methods are not being used properly and therefore the results may not be achieved because the process is not adequate. In the studies reviewed, it is at least notable that a process aligned to strategic planning was followed, however, in the title of the studies the variable strategic design was identified. However, when reviewing the content of the study, it was identified that there was nothing related to this variable, but rather to the strategic planning variable.

Conclusions

In short, this study focused on researching the topic of strategic design in terms of the connotations used in the different productive sectors, in order to identify a conceptual approach, analyse the characteristics and consider its processes in each of these areas.

Littell et al. (2008) emphasise that systematic review is a systematically organised process that enables the development of new insights in relation to existing evidence on a given problem, being exhaustive.

In this case, the conclusions can be focused on the three objectives that were framed, firstly to identify the conceptual approach, secondly to analyse the characteristics and thirdly to consider the processes, all related to strategic design. In relation to the conceptual approach, it is concluded that the term SD finds currency in studies related to industry and society. This is not the case in government and academic studies. In the latter it is embarrassing that academic institutions, cradles of knowledge, their administrations are unable to define and use the concepts adequately. On the analysis of the characteristics of the ED, it can be said that the conceptual theoretical framework for the industry and society sectors are used in a versatile and adequate way. However, the evidence shows that the characteristics of the ED are clearly defined and described, which indicates that there is a good understanding of the use of this methodology in these sectors. Meanwhile, it has been emphasised that there is confusion between the process of strategic design and strategic planning. While in each area there is evidence of appropriate use, there are gaps in its application in government and academia.

Limitations of the study

Creswell (2013) notes that limitations in a systematic review study are visualised in the possible weaknesses identified by the researcher, as well as relating to possible shortcomings in the measurement of variables, limited number of studies, sample size, data collection or data analysis. In this study, the search and selection work required in the systematic review was inherent to the presence of limitations or deviations of various kinds that could have originated in the procedures used for the selection, analysis or synthesis of all the information obtained. This also extended to the contents of the information sources consulted. Another limitation that arose in methodologies (SR) such as the one used in this study was the influence of the individual criteria or thinking of the selected authors, which could affect the ability to generalise some of the information obtained.

Recommendations

It is recommended that further studies on framing the conceptual differences between a strategic design and a strategic plan be generated for each of the government, academia, society and industry sectors.

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