

Social Commerce: A Literature Review

Luca Salvatori
University of Camerino
Camerino, Italy
Email: luca.salvatori@unicam.it

Fausto Marcantoni
University of Camerino
Camerino, Italy
Email: fausto.marcantoni@unicam.it

Abstract—The increasing popularity of social networking is providing new opportunities for businesses in electronic commerce. It is evolving in order to adopt Web 2.0 capabilities to support online customer interactions and achieve greater economic value. This trend is referred to as social commerce. This study offers the result of a Systematic Literature Review (SLR) to explain the concept of social commerce. In order to elaborate this article, 64 papers were considered from the main digital libraries that index computer science conferences and journals. Applying a systematic analysis to these papers, it was possible to summarize the existing evidence concerning the social commerce and outline some open challenges.

Keywords—Social Commerce, Electronic Commerce, Social Network, Social Media

I. INTRODUCTION

Today's Internet users communicate, look for and share data using social networking websites such as MySpace, Facebook and YouTube [24]. In this way they establish trust relationships. Numerous researchers believe that augmenting electronic commerce with social networking features should improve trust between transaction partners and allow achievement of greater economic value [10]. The term social commerce (SC) is derived from the definitions of social networking and e-commerce. As Wang & Zhang suggested, SC is a form of commerce mediated by social media and this definition is shared by a large number of researchers [1]. The term social commerce could be referred to as the execution of e-commerce activities and transactions through the social media and web 2.0 software [14]. Therefore, Social Commerce can be considered as a subset of e-commerce that improves using social media to assist customers in their commerce transactions and activities. Other important number of practitioners talk about SC as customer collaboration and shopping in an environment similar to social networking [2], [7]. Finally, some researchers provide a definition of social commerce starting from the seller's point of view: it is described as a seller collaboration for advantage business [25], [26]. Also, although this phenomenon can be considered relatively new, it has actually been developing day after day and has attracted researchers' attention worldwide. With its diffusion in businesses and people's lives, social commerce offers several research opportunities both from a theoretical and practical point of view. In this new type of business mediated by social media, both consumers and firms take advantages. Consumers are empowered through more informed purchases by other customers. Firms obtain more earnings positive recommendations made by existing clients in order to attract new potential buyers.

The purpose of this study is to investigate the current status

of social commerce since 2004 through a rigorous approach [29]. In particular, the attention will be focused on articles describing the technological features of social commerce and the advantages of these implementations in a company. In this way it was possible to summarize the existing evidence concerning the social commerce and outline some open challenges. The need for this study is accounting for the current lack of SRLs that have these purpose. Furthermore, the social commerce summarisation and discussion will be helpful for researchers and practitioners who will approach this topic. The paper is organized as follow. Section 3 reports the methodology, section 4 presents the planning, section 5 conducts the SLR and answer our 4 research questions and section 6 draws the conclusions.

II. BACKGROUND

With the rise of Facebook and other social media channels, people are now spending more time than ever before using social media [1]. Usage patterns have changed to match this continuing trend. Thanks to the advent of social networking sites, customers now have a stronger voice than ever before. While in the past sales used to be a consequence of mass messages spread via adverts, they are now more dependent upon building relationships with the customer. In the world of social marketing, achieving and impressing new customers has become less important as companies focus more on ongoing engagement, relationships and lifetime customer value [26]. The worldwide influence of this phenomenon drove chairmen of the leading global brands to talk about it, organising congresses in several countries. The Bazaarvoice Social Commerce Summit is one of the most important of these talks and it was created to share ideas and trends that would shape the future of customer centrality. This global congress has shone a light on social data that reveals the reason behind each purchase. For example, this social data shows that opinions from peers are the most trusted information source for purchase decisions (Socialnomics reports that 76% of consumers now trust peer recommendations, compared to only 15%, who trust advertising [27]). Furthermore, the European Union is very much involved in the impact of social commerce on economy. As a matter of fact, Forrester reports that by 2017, Europeans will spend more than 191 billion euros online on retail products and online retail growth will continue to outpace offline growth [28]. As wallet share gradually shifts toward the Web, online sales will become a critical part of the retail economy of many European countries. Because of this social commerce relevance, the European Union is funding research and innovation plans, including the "optimizr" project. More in detail, it is funding from the European Union's Seventh Framework Programme managed by REA Research Executive

Agency.

III. METHODOLOGY

This study was undertaken as a systematic literature review based on the original guidelines as proposed by Kitchenham [29]. A Systematic Literature Review (SLR) presents a fair evaluation of a research topic by using a trustworthy, rigorous and auditable methodology. The objective is to retrieve, evaluate and interpret all the available research contributions that should be considered relevant with respect to the topic of investigation, and according to previously defined research questions. In order to reduce at minimum the risk of results biased by authors preferences a SLR should be carried on sticking to general and precisely defined guidelines. This work refers to the guidelines proposed by Kitchenham in 2007 which have been conceived with a particular emphasis on SLR conducted in the computer science domain. The considered approach is structured on three steps: **Planning the SLR**, **Conducting the SLR** and **Reporting the SLR**.

To conduct the SLR, and according to the methodology described in Section 3, the following research questions were defined. They are related to the objectives of discovering why?, where? and how? Social Commerce is considered relevant and needed. Questions are also formulated to take real experiences into social commerce. The answers to this questions provide good foundation for researchers and practitioners who are interested in examine in depth the study of social commerce.

- 1) **Why do companies make social commerce?**
 This question aims at discovering why a company should implement a social commerce technology. A set of advantages for the firms derived from a social commerce implementation is expected as results.
- 2) **What are the technological tools used to support social commerce?**
 This question aims to identify existing technological tools to support social commerce. A set of tools in order to improve the shopping experience is expected as results.
- 3) **What are the real experiences of social commerce?**
 This question aims to find out real world experiences of social commerce. Many real implementations of this technology are expected.
- 4) **What are the challenges associated with social commerce?**
 This question aims to understand and provide a classification of interesting major issues which need to be further investigated. A set of challenges raised by academics and practical research opportunities were expected.

According to Kitchenham, a review protocol that specifies the method used to undertake this SLR has been defined. At first, four digital libraries from which to retrieve relevant works using the proposed search query have been identified. In particular, the main digital libraries in the computer science area have been identified, such as: IEEEExploer, ACM Digital Library, Citeseerx Library, ScienceDirect. The used search query is shown in Table I. The query has been built using keywords derived from the research questions. The search has been integrated with a manually based search to retrieve works

TABLE I: Search String

Search String
(TITLE includes "social" OR TITLE includes "collaborative") AND (TITLE includes "commerce" OR TITLE includes "shopping") AND (CONTENT includes "definition" OR CONTENT includes "companies" OR CONTENT includes "company" OR CONTENT includes "tool" OR CONTENT includes "tool" OR CONTENT includes "feature" OR CONTENT includes "experience" OR CONTENT includes "challenge")

TABLE II: Selection Criteria

ID	Inclusion Criteria	Discussion
I.1	The paper is a primary study.	This is a secondary systematic literature review.
I.2	The paper must be published from the last 11 years (since 2004).	The investigation started from 2004 because it is useful to find research rather recent.
ID	Exclusion Criteria	Discussion
E.1	The paper is not written in English Language.	In order to allow every one to replicate this SLR the English language was chosen.

published in conference proceedings, journals and reference lists that are considered relevant, but not listed in the mentioned digital libraries. To guarantee that only relevant papers were selected, a set of inclusion and exclusion criteria have been specified and reported in Table II. All the inclusion criteria have to be satisfied to have the paper in the list of relevant works, whereas the satisfaction of one or more of the exclusion criteria would result in the removal of the paper from the list.

The automatic search step permitted to initially identify 331 papers, of which 272 dated back to 2004 and/or later. Successively, duplicate papers due to their availability in more than one digital library were deleted so that a set of 45 papers was obtained. Finally, as already mentioned, applying the inclusion and exclusion criteria 57 papers were obtained. The results with a manual search identified 7 additional papers that were integrated.

IV. DATA EXTRACTION AND SYNTHESIS

The objective of the Data Extraction and Synthesis is to design extraction forms to accurately record and collect the information obtained by reading selected papers.

In order to answer the research question RQ1, twelve reasons, that lead companies to implement a social commerce platform to foster their business, were selected. One of this reasons is the "**better internal and/or external communication and advertising**". Advertising is a very popular form of revenue generation and it is used on many social commerce sites. The market potential is augmented by social networking websites that allow sellers to quickly reach a large pool of potential customers and various product or reputation sites [4]. As concerns the internal advertising process, customised adverts appear to users based on their specific interests and "likes" through profiling performed by social commerce. Another reason is the "**potential merchandising opportunities**". Social Commerce allows sellers to grow their pool of potential customers by increasing the volume of many e-commerce activities. It is generally recognised that customer loyalty increases a company's profits and growth. The "**strong consumer influence by known people**" was also selected as rea-

son. A consumer influence on other consumers' purchase decisions is stronger than the sellers'. In particular, many online shoppers tend to wait for the opinions of early adopters before making a purchase decision to reduce the risk of buying a new unknown product [5], [6]. Another reason is the **"more trust, social presence and intention to purchase"**. Social presence has always been very essential to e-commerce websites due to the cold and impersonal nature of the virtual environment of the online world [7]. Moreover, trust represents a positive direct effect on a person's behavioural intention to engage in social commerce. In practice, an e-commerce platform should integrate social plugins that increase the online consumers' perceived trust, social presence and their purchase intention. **"Economic growth of the existing social commerce"** can be considered as an additional reason to implement a social commerce platform. Social commerce services are booming all over the world. It has experienced explosive growth, attracting a large number of firms and customers [8]. As a consequence, it is obtaining more and more economic growth. Another reason is the **"decrease of initial fixed costs"**. The social commerce features allow firms to implement this type of platform with a lower initial fixed cost [8]. The **"easy product update through social media"** was also chosen as reason. Sellers can update the product description and its relevant media on social networking websites with little effort, especially if compared to conventional shopping, thus providing users with the latest trends and fashions regarding products [9]. **"Better prediction of market trends"** represents another reason to implement the social commerce technology. The social interaction enabled by social networking sites, which allows users to cultivate, foster, and maintain online relationships, is a significant predictor of customers' purchasing behaviour [10]. Another reason is the **"improved accessibility of the network shops"**. In social commerce marketplaces, the network can make shops more accessible to purchasers, therefore improving the resellers' business. In addition to this, shops would be more likely to be discovered by a browsing customer. Finally, the **"more accuracy of recommender system"** was selected as reason. To achieve a better implementation of the recommender system, it is necessary to provide an efficient and advanced user tracking. The analysis of the purchasers' activities on social network services gives to e-commerce an opportunity to create more personalised offers and help clients cope with huge informational overload problems continuously occurring in Internet shopping [12].

In order to answer the research question RQ2 ten technological features were selected. One of these is the **"recommendation systems"**. Recommender systems model the relationship between users and items and help customers select items from a set of choices, deciding what products to buy, in order to meet their tastes. Typically, recommendations can be generated on the basis of the user's interaction history or on the history of related users. On the other hand, consumers might use recommendation systems to suggest a new product to other members of a community [13]. Another technological feature is the **"customer ratings / products reviews / transaction ratings"**. Ratings are another widespread and important feature. On social commerce sites, customers are encouraged to post comments and reviews, which are named as one form of "user-generated content". In this way, their reviews are capable of exerting influence on other consumers

or customers in their purchasing decisions [14]. The **"group buying"** was also selected as technological feature. Many social commerce providers started their business by combining group buying with selling discount coupons offered from their partners over the Internet. They required more than a certain number of customers to buy the coupons for future delivery of goods or services. **"Forum / blog / wiki / discussion board"** represents an additional technological feature. Nowadays, consumers increasingly communicate and exchange information online. Technological tools such as forums, blogs, wikis and discussion boards enable users to interact with one another in order to improve consumer retention and loyalty, reducing training and support costs and identifying customer needs and new product opportunities [15]. Another technological feature is the **"social wish-list"**. This social feature derives from the traditional wish-list: it is designed for personal tracking of desired products, but at the same time it can be shared by the customer with other consumers, being it also searchable and accessible to any user of the platform. The **"gift shipment"** was also chosen as technological feature. Many social commerce websites allow a consumer to buy a product as a gift for friends, also giving them the possibility to send it (for example, as gift vouchers) or to organise a group gift. Another one is **"adding content tags"**. In social commerce sites, user-generated tags are assigned to products, shops, etc. Users can incorporate tags into the search process, by clicking on a tag and searching through the resulting products [16]. These tags are integrated in site and refer to products, thus leading the consumer directly to the good details, in order to buy them. **"Chat rooms"** can be considered as an additional social commerce feature. The aim of this technological tool is facilitating information sharing among customers and sellers during the online purchasing activity, making it similar to a joint (offline) shopping trip to a shop or a shopping centre. Another feature is the **"interaction with 3D models of items"**. The creation of virtual shopping centres allows customers to have real-time interactions, with three-dimensional (3D) models of items of interests in the virtual shop. With this technology application, the customers are allowed to simulate a real-life shopping experience by means of an avatar [17], [18]. Finally, the **"newsletter"** was selected as technological feature. It is integrated in order to distribute a periodic publication via email to a list of subscribers. Newsletters are normally used by sellers to communicate with their customers about new discounts, special sales or the arrival of new products. Generally, customer can access to the product web pages directly by clicking on the message, buying easily the proposed goods.

In order to answer the research question RQ3 the following main seventeen real experiences of social commerce implementation were selected. **Amazon, Crowdstorm, eBay, Etsy, Groupon, Kaboodle, Living Social, Overstock Auctions, Polyvore, Shopsyphere, StyleHive, Taobao, Target, ThisNext, Wal-Mart, Wists, Threadless.**

In order to answer the research question RQ4 eleven challenges associated with social commerce were selected. One of these challenge is the **"developing feasible business models"**. Small enterprises have to face a significant challenge with funding due to the basic revenue requirements needed to support a comprehensive social commerce initiative. To have an efficient social commerce implementation, a company must

reach the right combination of financial resources, technical prowess and strategic direction. The investment required to implement changes is too high to validate the need of change and often the smaller enterprises may not have major investments in this type of technology [19]. Another selected challenge is “**development of new theories**”. The variety of new technological issues for social commerce researchers requires the development of new theories. Thus, social commerce is drawing increasing interest from the academic and industry to the development of new theories and technologies to understand the user behaviour regarding social media. The “**time and work to implement and manage SC**” was also considered as challenge associated with social commerce. In order to implement a social commerce platform, firms need to spend time and resources to manage their internal organisation and find the necessary assets [19]. Nowadays, the growth of the global crisis and the necessity to work fast prevents resources from being destined to the implementation of social commerce platforms. “**Some features may be initially challenging to use**” represents another challenge. Web users may find it difficult to use some social commerce features, especially if these are represented by innovative and not intuitive tools. Another one is the “**making the new platform more popular**”. The number of implemented social commerce platforms is considerably growing and this circumstance leads to sellers not being able to attract an important amount of customers [11]. “**Security / privacy**” can be considered as an additional challenge. Social commerce and social networking websites are frequently victims to social engineering attacks. Therefore, activities such as disclosing confidential and sensitive information on publicly accessible or even internally shared workspaces may end up in security breaches and invasion of privacy [21]. Another challenge is the “**no full control of external social network sites**”. It is not safe to completely rely to an external social network site and this circumstance can be justified with several reasons. For instance, when the social network site server is down, businesses may be facing the risk of losing their critical sales online because of this [7]. The “**capturing correct user relationships**” was also chosen as social commerce challenge. In conducting social network analysis and mining on social media, it is necessary to engage to the challenge of capturing the user relationships by means of identifying their common interest. The explicit interactions among users may only represent part of their relationships; in fact, many customers who have common interests are interacting with each other only implicitly. According to this, it is more difficult to achieve the correct user relationships [20]. “**Correct use of social networking sites**” represents another challenge. Social commerce websites are facing a challenge in how to use social media effectively in reaching their users in this globalisation age [22]. A social commerce website should efficiently implement some features. Namely, they are represented by the ones that can be found in social networking website and that are aimed at connecting and engaging users. Another challenge is the “**design**”. This challenge stems from the fact that social commerce is being developed in two major ways, yielding two categories of social commerce applications. The first one is based on e-commerce websites that leverage social media features; the second is built on social networking websites that offer e-commerce features. Such diversity increases the need for understanding the complexity of social commerce design. In addition, it

is relevant to consider the user point of view in conceiving social commerce design, because social commerce involves and relies on user participation [23]. Finally, the “**environment configuring**” was selected as challenge. Data management is likely to become a complex activity for the firms that want to implement a social commerce platform. This technology involves the management of a huge amount of data stored in one or more servers and for this reason it is necessary to proceed with an efficient and complete server configuration.

V. RESULTS

In this section the results of the SLR according to the defined planning and review protocol will be reported and discussed. Results are represented using histograms to make them more readable. Figure 1 presents a visual summary of the temporal distribution of the papers within the years 2004 and 2013, considering the total of publication by year. The query seems to testify that the topic has received increasing interest up from 2010 to 2013. According to the data shown in Figure 1, probably in the next years the researchers’ interest in this topic will increase.

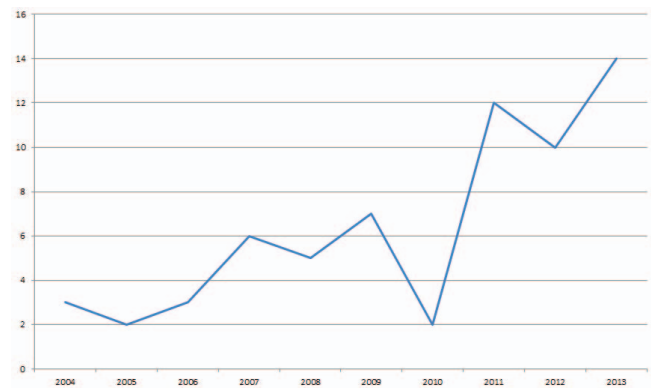


Fig. 1: Distribution of Studies by Publication Year

A. Why do companies make social commerce?

The results shown in Figure 2 illustrate that most of the papers analyse SC through people’s behaviour. The 30% (29 papers) of these articles demonstrate how strongly the social components influence the customers’ trust and social presence, with the increase of their intention to purchase. The 21% (20) argue that customers’ purchasing decisions are often strongly influenced by people who they know and trust. On the other hand, several papers examine the advantages of SC according to different perspectives. The 18% (17) argues that SC improves the internal and/or external company communication and advertising, while the 11% (11) focuses on the economic growth of the already existing social commerce. Another relevant number of papers (8%) sustains that the implementation of SC allows companies to predict future trends of products or services through the study of customers interest emerging from their social relations. Finally, some papers provide other possible favorable reasons to implement this technology, such as the possibility to save the transaction costs or to grow potential merchandising opportunities. Surely, most of the

papers report more than one motivation for companies to make social commerce.

In conclusion, it can be observed that a social commerce implementation involves the increase in companies earnings, mainly through the positive customer influence and the additional communication methods.



Fig. 2: Reasons to implement social commerce

B. What are the technological features used to support social commerce?

Considering the data extracted from the answer to the research question no.3 (Figure 3), it is emerged that customer ratings, products reviews and transaction ratings tools are cited by the papers as much as forum, blog, wiki and discussion board tools (23% that is 34 papers). Less used technological tools are: recommendation systems (14% that is 21 papers), group buying (11% that is 17), chat rooms (8% that is 12) and social wish-list (9% that is 13). From the histogram other 4 types of features can be considered as non-relevant for the investigation: sending gifts, adding content tags, interacting with 3D models of items, newsletter. Overall, all SC technological features, which are information and communication technology infrastructures and applications responsible for its technological feasibility, have the main goal of promoting interactions and social exchanges among consumers to improve their shopping experience. For example, many potential Internet shoppers would tend to wait and observe the experiences of others who have tried it before considering adopting it.

In conclusion, it can be observed that in social commerce the most used technological features are those that allow customer interaction and provide item suggestions.

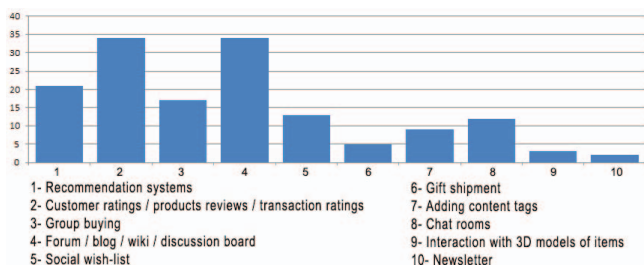


Fig. 3: Technological features to support social commerce

C. What are the real experiences of social commerce?

A large amount of SC websites (250) is cited in the literature considered for our analysis. Sometimes, the analysed

papers only appoint at social commerce, while at other times the real experience of social commerce is described in depth or actually praised. In this latter case, the SC platform was considered relevant for question 4 of the research and this implementation was considered as double cited in the histogram. To create the histogram shown in Figure 4 the instances of SC that were cited by only 1 or 2 papers, were discarded.

According to the data presented in Figure 4, it is emerged that the most cited SC implementation is Amazon (cited by 32 papers), followed by eBay and Groupon (respectively cited by 18 and 15 papers). Just to name a few of the less cited methods of SC, Taobao occurs in 11 papers, Overstock Auctions occurs in 6 papers while ThisNext, Wists and Wal-Mart in 5.

With regards to Amazon, the analysed articles provide several reasons to support the idea that it is the most relevant example of a SC platform. Firstly, Amazon sells tens of millions of books, CDs, and DVDs to more than 17 million customers, according to its website. Secondly, the Economist has recently ranked it as the most visited US website. Finally, it was one of the pioneers in implementing social features in e-commerce platforms.

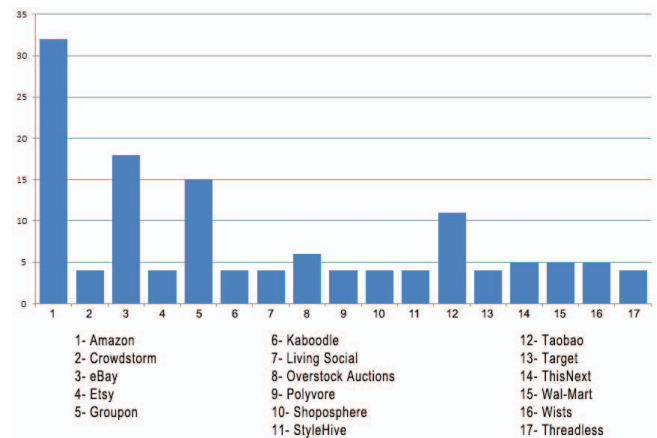


Fig. 4: Real experiences of social commerce

D. What are the challenges associated with social commerce?

From the reading and the systematic analysis of the papers, some challenges of the implementation of new SC platforms were identified.

First of all, in Figure 5 it can be observed that the security and privacy fields represent the most critical aspects about SC (34% that is 13 papers). Going into detail of security and privacy, an appropriate management of personal information has emerged as being fundamental. In particular, it shall be protected by security safeguards appropriate to the sensitivity of the information. Another relevant challenge for the social-commerce integration into an existing business environment is the development of feasible business models (21% that is 8). For example, firms should ensure about unusual accounting practices, rising marketing costs and quality assurance issues. The last relevant data shown in the histogram concerns the development of new theories by e-commerce researchers thanks to the variety of new technological issues (13% that is 5). The

remaining challenges cannot be considered relevant for our research.

In conclusion, it can be observed that during the platform implementation, significant of attention has to be paid to security and privacy issues.

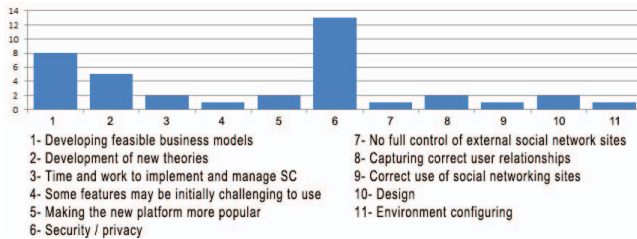


Fig. 5: Challenges associated with social commerce

VI. CONCLUSIONS AND FUTURE WORK

This paper provides the results obtained from a systematic review of the literature on the subject of social commerce. The investigation was conducted considering several major digital libraries typically used within the computer science domain. From the obtained results it can be observed that the topic is receiving increasing attention from the community (according to data shown in Figure 1, it received increasing interest up from 2010 to 2013.). It also emerged that companies should implement a SC platform, providing those technological features that allow customer interaction and item suggestion. In this way, companies could achieve economic growth. In addition, several SC platforms emerged from the analysed paper. Those SC real experiences could be helpful for practitioners as example of a SC implementation. Nevertheless, some research lines seem to be worth to be further investigated. In fact, some challenges that have been considered relevant for the topic (for example, security and privacy fields, in particular the importance of the management of personal information in an appropriate way) have been derived.

In the future, an extension of the SLR is likely to be carried out, monitoring a wider set of studies enlarging the search string. Furthermore, a further definition of the results obtained from the fourth research question is going to take place, trying to get more opinions from researchers and professionals working on the subject.

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