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INNOVATION IN TRADITIONAL HANDICRAFT COMPANIES TOWARDS SUSTAINABLE DEVELOPMENT. A SYSTEMATIC LITERATURE REVIEW

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Abstract. Despite being rich in cultural heritage, traditional handicrafts require innovation to achieve competitiveness. This study addresses the understanding of innovation in traditional handicrafts for sustainable development. The paper emphasizes the importance and potential advantages of innovation and its synergistic effect with cultural traditions leading to sustainable development. Apart of the explanation of most important issues regarding this topic, publications containing the following keywords selected for the study were identified in the WOS database. A total of 500 different publications from 1975 to 2021 were identified. The database was used for text-mining analyses. The clustering method (data mining) was used. The systematic literature review was carried out with the use of VOSviewer software. This tool was used to identify and analyse clusters and dominant research areas and to identify potential new research directions. This has never been done by any author before. We show that future studies should focus on the issue of measuring incremental innovation in cultural creative industries, especially handicraft since this topic is not enough analysed in the literature. The findings can help academics and practitioners to improve the knowledge about the topic and concentrate on identified priority areas to fulfil the assumptions of sustainable development.

Keywords: incremental innovation, traditional handicrafts, sustainable development, Industry 4.0, systematic literature review.

JEL Classification: O39, L21, L22, L26.

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Introduction

The traditional handicraft products are extensively produced throughout the world. The production of these products has created income and employment generation for many families as well as social wellbeing and maintained traditional cultural values in several countries (Yang et al., 2018). However, the current development of handicrafts is vulnerable due to mechanized industrial production. Today's machine-made products are very much identical to handmade products and available in several varieties in terms of design, size, color, styles, and shapes (Girón et al., 2007; McAuley & Fillis, 2005; Yang et al., 2018). Since industrial production rapidly introduces new products in the market, and due to dynamic capacity and cost-effectiveness, machine-made products are quickly capturing the market. As a result, innovation is regarded as an essential factor for competitive advantage (Shafi et al., 2019a). Also, it is an important growth factor for handicraft firms (Shafi et al., 2019b; Yang & Shafi, 2020). However, what factors influence handicraft producers to adopt innovation? This remains unexplored in the literature. Authors try to answer it by exploring those factors.

Innovation is usually considered imperative for every company to survive and sustain competitiveness in the market (Damanpour & Schneider, 2006; Engel et al., 2004; Goldsby et al., 2018). Also, other authors considered this as an important issue, such as: Hotho and Champion (2011), Kay (1993), Maier et al. (2020), Massis et al. (2016) and Cheba et al. (2020). Innovation can also enable companies to reap their rewards in terms of higher sales, profits, market share, and business growth (Maier et al., 2020; Yang & Shafi, 2020). In other words, "*innovation is the lifeblood of successful businesses*" (Brown & Teisberg, 2003). By contrast, innovation also has a dark side (Chopra, 2013; Gravier & Swartz, 2009), and it can threaten to destroy the operating unit's profits and lose market share (Banbury & Mitchell, 1995; Chopra & Baldegger, 2014). Similarly, innovation in traditional handicrafts is considered both crucial and controversial (Alonso & Bressan, 2014; Shafi et al., 2019a; United Nations Educational, Scientific and Cultural Organization [UNESCO], 2005). Additionally, cultural traditions are often considered as a barrier to innovation (Yang & Shafi, 2020; Chen, 2020).

On the one hand, innovation is regarded as one of the essential strategies to help handicraft firms compete, grow, and survive in the market (Ahluwalia et al., 2017; Ghazinoory et al., 2020; Goldsby et al., 2018). Being innovative can also help in increasing product value, sales, profit (Liebl & Tirthankar, 2004; Littrell et al., 1992; Paige & Littrell, 2002). It also helps increase the employment leading to professional and personal satisfaction (Shafi et al., 2019a, 2019b; Yang & Shafi, 2020). On the other hand, innovation in crafts raises a common concern about the authenticity of the products and also challenges the traditional nature of products (Cable & Weston, 1982; Mamidipudi & Bijker, 2018; Shafi et al., 2019a). Additionally, innovation accompanies the risks of loss of centuries-old traditional production knowledge and skills. As the handicrafts are produced using conventional methods with a strong base of traditions and cultural values, hence, adoption of innovation could adversely affect the traditional characteristics of crafts (Alonso & Bressan, 2014; Shafi et al., 2019a; Zhan et al., 2017).

In this established field of research, most prior studies concentrated on the positive role of innovation in stimulating business growth. Contrarily, the negative impact of innovation on businesses is less investigated, which is a significant literature gap. Even though relevant

literature recognizes risks and uncertainties associated with innovation (Love & Roper, 2015; Yang & Shafi, 2020) but, this study mainly focuses on both aspects of innovation. Since, in the case of traditional handicraft industry, innovation is both an essential and contentious factor, there is a need to balance both innovation and cultural traditions. Consequently, this study emphasizes the adoption of incremental innovation to help handicraft firms compete and survive in the market while maintaining cultural traditions. In this study, incremental innovation refers to small important changes, refinements, or extensions made in existing products or production processes that result in substantial aesthetic, functional or symbolic benefits to consumers (Banbury & Mitchell, 1995; Fuchs et al., 2015; Mendozaramírez & Toledolópez, 2014). Such innovation aims to satisfy customer's needs, demands, increase product value, improve production efficiency (ease, simplify, or speed up the production process) (Verganti, 2009). It also aims to save cost and usage of raw material (reuse or reduce the material use) (Mendozaramírez & Toledolópez, 2014; Stephen, 2005; Yang & Shafi, 2020). Moreover, these types of innovations are not only sustainable but also do not affect cultural traditions and have higher chances of acceptance by consumers (Chen, 2020; Fröcklin et al., 2018). Incremental innovation is also one of the critical sources of differentiation regarded as a competitive advantage (Banbury & Mitchell, 1995; Ghosh et al., 2017; Porter, 1998).

Furthermore, there has been a growing interest among policymakers and researchers regarding the sustainable development of businesses, including handicrafts (Kern, 2011; Maier et al., 2020; Rezaei et al., 2019). Many handicraft firms have been criticized for damaging natural resources (Yang et al., 2018; Shafi et al., 2020). Some authors explained this issue in detail. They wrote about destroying different kinds of woods used in firing pottery crafts and using toxic and hazardous raw materials like lead and Azo dye (Dissanayake et al., 2017; Sánchez-Medina et al., 2015; UNESCO, 2005). These businesses must minimize environmental concerns and adopt sustainable development practices through creative means (Sánchez-Medina et al., 2011; Lourenço et al., 2012, Throsby, 2017).

Moreover, the recent growth in fair trade movement has increased greater awareness for following sustainable practices in producing handicrafts (All India Artisans and Craftworkers Welfare Association [AIACA], 2017; Dissanayake et al., 2017; Isar, 2017). Hence, innovation should have a positive effect on the environment (De et al., 2020; Wanniarachchi et al., 2020). This study further argues that aside from balancing innovation and cultural traditions, incremental innovation helps handicraft firms to develop their business sustainably (Boons & Lüdeke-Freund, 2013; Chesbrough & Crowther, 2006; Fröcklin et al., 2018). Innovation has been recognized as a key mechanism for addressing sustainable development concerns (Kuzma et al., 2020; Maier et al., 2020; Seebode et al., 2012). Moreover, radical innovations are highly uncertain and embody the risks; contrarily, incremental innovations can generate positive economic, social, and environmental outcomes (Duxbury et al., 2017; De et al., 2020; Sánchez-Medina et al., 2011). Further, incremental innovation in the low technological sector, such as handicraft industry, can deliver substantial competitive benefits and better market results (Bhaskaran, 2006; Shafi et al., 2019a; Yang & Shafi, 2020). Hence, this study argues that incremental innovation helps the development of handicraft firms in terms of economic, social, and environmental sustainability (Glavas & Mish, 2015; Yang & Shafi, 2020; Zhan et al., 2017).

In this regard, companies and small handicraft firms are committed to the European Green Deal. It aims at greenhouse gas reduction and leveraging technology and digitalization at making Europe climate neutral by 2050. This means that the Green Deal requires green infrastructures to accomplish the goal of reducing negative environmental effects deriving from unsustainable production (UNESCO, 2008; Arbolino et al., 2018; Gavurova et al., 2021).

The basic aim of the paper is to emphasizes the importance and potential advantages of innovation and its synergistic effect with cultural traditions leading to sustainable development as well as to identify and analyse clusters, dominant research areas and potential new research directions in this area.

This research aims to enrich the existing body of literature in several ways. First, it explores factors that influence handicraft producers to adopt innovation and Industry 4.0 technologies. Second, this research discusses both the positive and negative aspects of innovation in traditional handicrafts. In doing so, this study is the first of its kind to examine both sides of innovation in traditional products thoroughly. The information collected in this way is the basis for more detailed analyzes carried out at subsequent stages of the study, the purpose of which is to answer the following research questions:

1. How innovation (also incremental innovation) enables handicraft producers to balance innovation and cultural traditions?
2. How the relationship between innovation (also incremental innovation) and sustainable development of handicraft firms in terms of economic, social, and environmental sustainability, are create?

The balance between both factors is essential to obtain a competitive edge in the market and sustain the traditional cultural heritage embodied in handicrafts. Since the traditional handicraft industry does not seek economies of scale, industrial production, or scalability, therefore, it is essential to consider alternative ways for the sustainable development of handicraft firms. Thus, this research has significant implications for our understanding of innovation in the traditional handicraft industry as these firms globally face increasingly rapid technological change. Moreover, an improved understanding of innovation in traditional products can enable policymakers and practitioners to streamline their strategies for the sustainable development of this sector. Further, the focus of this study is on a very peculiar industry, making it immensely unique and unprecedented.

The research tool that serves the papers purposes is a systematic literature review in the above-presented fields performed through the traditional method and machine learning (VOSviewer) based on the papers collected in the Web of Science and Scopus databeses.

The remaining part of the paper is structured as follows: in the next Section 1, state-of the art was introduced. The section presents the state of the art of the research topics in the field of factors influencing artisans to adopt innovation, both positive and negative. Section 2 presents the methods developed for literature review. In the following section, the results of quantitative analyses were presented. While, in the next two sections the results of qualitative profound analyses based on the quantitative study were described. Section 3 is dedicated to balancing innovation and cultural traditions. Section 4 gives an overview of the association between incremental innovation and sustainable development of handicraft firms. Finally, Section 5 provides a discussion of the study, followed by conclusion and limitations in the last Section.

1. Theoretical framework: innovation and Industry 4.0 technologies in handicrafts as an efficient synergy towards sustainable development

This section provides a brief overview about innovation and the emerging technologies implemented in handicrafts and the main key factors leading producers to adopt innovation.

For the last twenty years, neither matter nor space nor time has been what it was from time immemorial. We must expect great innovations to transform the entire technique of the arts, thereby affecting artistic invention itself and perhaps even bringing about an amazing change in our very notion of art (Paul Valery, as cited in Benjamin, 1968).

Austrian economist Joseph Schumpeter coined the term innovation in 1934 as the formation of new combinations (Schumpeter, 1934). Since then, several scholars have studied it from various perspectives (Love & Roper, 2015; Marques et al., 2019; Wijngaarden et al., 2019). However, in terms of its concept, the meaning of innovation is determined by the context where it is used. Therefore, several authors defined innovation from different perspectives (OECD & Eurostat, 2005; Shafi et al., 2019a, 2019b). Nevertheless, Fagerberg (2004) argues that innovation generally means the "*successful introduction of something new and useful*". Hence, most of the scholars believe that innovation involves something new or significant changes aimed to help firms survive and compete in the market (Silvestre & Ţîrcă, 2019; Wijngaarden et al., 2019; Zhao et al., 2020).

Similarly, in the case of cultural creative industries, Wijngaarden et al. (2019) argue that innovation is based on three distinct patterns "*innovation as something completely new*, *innovation with a social impact and innovation as a continuous process of renewal*".

To a certain extent, this latter definition reminds to the sustainability topic introduced by Elkington (1994, 1998). The notable scholar first integrated the economic aspects with the environmental and social dimensions in a unique framework called "Triple Bottom Line" (TBL). Sustainability occurs only when these three dimensions are fulfilled (Wątróbski, 2019). In a similar way, innovation has three dimensions: economic as a mean to grow market share; social to improve human well-being and environmental as continuous improvement of processes till to become eco-innovation.

It is interesting to note innovation could be an outstanding enabler for sustainable production. Furthermore, in the context of traditional handicrafts, some authors defined innovation from different perspectives. For instance, Yang and Shafi (2020) explained innovation as the "*introduction of new or significantly improved products or processes involved in the production of handicraft products*". According to Chand et al. (2014), "*innovation in handicraft businesses refers to entrepreneurs' ability to introduce unique products into the market*". The authors argue that the uniqueness of traditional products determines the competitiveness of producers. Although the traditional crafts are more decorative and unique, however, sometimes uniqueness is not enough to sustain competitiveness in the market (Marques et al., 2019). Donkin (2001) argues that the nature of handicrafts is not fixed, and over time it changes. Besides, the creation and nature of crafts change over time as societies become industrialized (Ela, 1988). Hence, handicraft producers must adopt innovation to revitalize this industry.

Innovation has been frequently regarded as a vital source of a firm's competitive advantage (Schumpeter, 1934; Chand et al., 2014; Dunk, 2011). For these reasons, manufacturing

firms and, especially, handicrafts, need to keep up with the new industrial challenges in order to maintain a competitive edge on the market (Girón et al., 2007; Yang & Shafi, 2020). The combination of disruptive technology and craftsmanship is crucial. Industry 4.0 technologies allowed entrepreneurs in the manufacturing sector to overcome the problems of distances and physical barriers and bring the excellence, such as Made in Italy, to the world. Therefore, adopting the emerging technologies does not mean work in series and destroy authenticity of the single piece. Instead, it is a tool that enhances the creativity of entrepreneurs and allows handicrafts to find new business opportunities (Agendadigitale.ue). In fact, implementation of Industry 4.0 technologies in handicraft firms improve production processes' efficiency and maximize the customization of products (Weller et al., 2015; Porter & Heppelmann, 2015). Many scholars agree on the fact that emerging technologies increase firms' productivity, provide more efficient performances, reduce environmental impacts and give rise to more sustainable process flows (Yeo et al., 2017).

1.1. Rationale, catalysts and barriers to innovation

Based on thorough review of empirical and theoretical literature, this study discusses various factors that may influence handicraft producers to adopt innovation. Table 1 outlines the rationale behind the adoption of innovation in traditional crafts, factors that lead to the introduction of innovation, barriers to it and relevant key references.

Table 1. Theoretical framework

Rationale towards innovation in handicrafts	Description	Reference
Availability of substitute products and the low market demand for traditional handicrafts	Industrialization, mass production, increased global competition and rapid changes in customer's tastes have threatened the handicraft industry because industrial products are not only cheap, cost-effective, and satisfy the needs of the customers but are also substituting the handicrafts.	Yang et al. (2018), Scrase (2003, 2005), McAuley and Fillis (2005), Shafi et al. (2019b)
Price increase of raw materials and the shortage of natural ones	Due to the increase of price of raw material price, such as that of brass, metals, wood, shells, artisans use substitutive material easily accessible all the year, enabling them to produce crafts continuously. For instance, the traditional patchwork (Ralli) which was produced from cotton, during the last few years, the cheap polyester silk has replaced cotton. Furthermore, available natural raw materials are also in danger of extinction. Therefore, handicraft producers search for new materials.	Yang and Shafi (2020), Sachan et al. (2013), Scrase (2003), UNESCO (2005), United Nations Industrial Development Organization [UNIDO] and UNESCO (2007), Sánchez-Medina et al. (2011), UNESCO/ITC, (1997), Mutua et al. (2004)

Continue of Table 1

Rationale towards innovation in handicrafts	Description	Reference
Low efficiency of traditional technology	Handicrafts are produced through old-age traditional tools, equipment, and machines that are inefficient and uncompetitive in comparison with the modern machine-made substitutes; hence, these products are diminishing and losing their marketplace. Futhermore, modern industrialized products are generally cheap and produced in huge quantities with less time, effort, and cost, consequently, handicraft producer's try-out new ideas for improving production efficiency to achieve competitiveness in the market. Many old traditional tools also have some flaws in terms of production capacity, speed and quantity, which adversely affect purchasing orders. Particularly, when products are produced for international export, global traders require consistent quality of products with a large volume. Therefore, handicraft producers turn their focus to innovation for improving production efficiency.	UNESCO (2005), Yang and Shafi (2020), Liebl and Tirthankar (2004), Yang et al. (2018), Cable and Weston (1982), Mendozaramírez and Toledolópez (2014), Sánchez-Medina et al. (2011)
Replacement of hazardous raw materials	Many artisans still use hazardous materials to manufacture the products, which is not only harmful to the environment but also for consumers'health (i.e., in pottery, the glaze (lead) is detrimental, in textiles, the Azo dyes, due to its toxicity has hazardous effects and, they have been banned by the European Union). Handicraft producers are required to reduce or abolish the use of such dangerous materials and substitute them with environmentally friendly ones. For this reason, artisans should adopt innovation to reduce environmental concerns.	UNESCO (2005), Sánchez-Medina et al. (2015), Sánchez-Medina et al. (2011)
Higher price of traditional products	As traditional products are expensive, many retailers prefer machine-made and similar substitutes, often identical to the traditional ones. Hence, handicraft producers adopt innovation to reduce the cost of production and launch new products to attract customers. Therefore, innovation has a key role for artisans to survive and compete in the market.	Torres (2002)
Catalyst to innovation	Description	Reference
Cost-saving advantage	Through the implementation of modern technologies, handicraft firms can save costs and reduce waste of raw materials. In addition, artisans can improve production efficiency and reduce labor costs.	Chand et al. (2014), Shafi et al. (2019a), Yang and Shafi (2020), Evangelista and Vezzani (2010), Sánchez-Medina et al. (2011), Ou et al. (2010), Cable and Weston (1982), Fan and Feng (2019), Mendozaramírez and Toledolópez (2014), Marques et al. (2019)

Continue of Table 1

Catalyst to innovation	Description	Reference
Competition with industrial products	Handicraft producers should focus on implementing innovation in their firms to meet consumer's tastes, needs, and demands. Artisans have slower lead times and more inferior quality of products than industrial companies. Innovation is a golden opportunity to compete in the market.	Ghazinoory et al. (2020), Liebl and Tirthankar (2004), Yang et al. (2018), Yang and Shafi (2020), Cable and Weston (1982)
Competitive advantage	Innovation is regarded as a key element for handicraft firms to achieve a competitive edge in the market, enhance performance and improve quality of products. Furtehrmore, product differentiation is one of the important competitive strategies that firms can adopt to outperform competitors.	Bhaskaran (2006), Freeman (1994), Shafi et al. (2019a, 2019b), Yang and Shafi (2020), Bhaskaran (2006), Porter (1998), Barney (1991, 2001), Peteraf (1993)
Growth opportunities	Innovation in handicraft products improves a firm's performance in terms of growth in sales, profit and employment.	Littrell et al. (1992), Paige and Littrell (2002), Shafi et al. (2019a, 2019b), Yang and Shafi (2020), Chand et al. (2014), KPMG (2016), Smallbone and North (1999)
Barriers to innovation	**Description**	**Reference**
Loss of traditional characteristics in products	One of the most adverse effects of innovation in traditional handicrafts could be the elimination of their traditional characteristics and the loss of the added value. Therefore, it raises questions concerning product authenticity. In fact, whether the traditional characteristics and features of products are modified significantly handicraft products may not be considered as traditional and typical of that community.	Alonso and Bressan (2014), UNESCO/ITC (1997), Zhan and Walker (2018)
Loss of traditional knowledge and skills	Handicraft products involve centuries-old knowledge, skills, and methods of production. Therefore, innovation in products or production techniques may be harmful to the cultural values and tradition. For instance, the chemical dye industry has adversely affected the authenticity of textile traditions by replacing plant dying processes. Handicrafts constitute an essential part of local communities' identity that must be preserved and protected from the change that may lead to dilution of traditions.	Cable and Weston (1982), Mamidipudi and Bijker (2018)
Consumer rejection of innovated products	Consumers may not necessarily accept every innovated product. In some cases, even minor innovations may involve some resistance to acceptance, and if changes are perceived as disadvantageous, they will be resisted. Even, it has been reported that consumers reject and resist innovation in traditional products.	Dunphy and Herbig (1995), Cornescu and Adam (2013), Dasgupta and Chandra (2016), Pine II and Gilmore (2007), Mamidipudi and Bijker (2018)

End of Table 1

Barriers to innovation	Description	Reference
Risk of losing the authenticity of products	Innovation also involves risk and uncertainty. An essential factor in the success of traditional products is their 'authenticity' because it characterizes the customer's subjective judgment about the product's authentic value. Therefore, if products are modified significantly (such as changes in the traditional features or characteristics of the products), such innovation will erode products' authenticity. For instance, in textile crafts, producers use traditional techniques and technologies, such as handmade threads, fabrics, and plant dyes for dyeing including manual spinning and weaving. Therefore, there are higher chances of losing authenticity of traditional products if they are modified substantially.	Pine II and Gilmore (2007), Wherry (2008), Kovács et al. (2014)
Risk of increasing unemployment	The adoption of innovation could also result in a loss of jobs. For instance, the use of high technology, including computers, means that a limited number of artisans will be involved in the production. Since most artisans belong to rural and underdeveloped areas, and they are neither highly educated nor possess computer skills; consequently, those artisans that are not skilled in using machines or computers could lose their jobs. Hence, the adoption of innovation in terms of using high-technology and computers could lead to unemployment.	Alonso and Bressan (2014), Banbury and Mitchell (1995), Chen (2020), Chopra (2013), Chopra and Baldegger (2014), Gravier and Swartz (2009), UNESCO (2005), Zhan et al. (2017)

1.2. Deterrents to the implementation of industry 4.0

In Figure 1 are illustrated through a SWOT analysis, which is a tool that can allow us to deeply understand what the enabling factors of Industry 4.0 are, barriers that hinder its implementation in handicraft firms, opportunities and threats.

Even though relevant literature highlights the importance of innovation in handicrafts, few studies explored the factors influencing handicraft producers to adopt innovation. In this regard, Shah and Patel (2017) conducted a research study based on interviews to a sample of handicrafts from Gujarat (India), famous for handicraft products such as embroidery, beadwork, textile printing, Bandhani (tie-dye), leather work, pottery, woodwork, stonework, etc. It was found the main reasons for artisans to not implement innovation and the emerging technologies were due to lack of training and education in this field, lack of financial aid and lack of capital, lack of knowledge about new technologies, absence of market intelligence and lack of institutional laws (Yang et al., 2018). Similarly, Bettiol et al. (2022) presented a study about Industry 4.0 in the North Italian SMEs' production system based on a structured questionnaire. Findings revealed the adoption of the emerging technologies is still low because of a cultural thinking and strategic attitude. Furthermore, Ghazinoory et al. (2020)

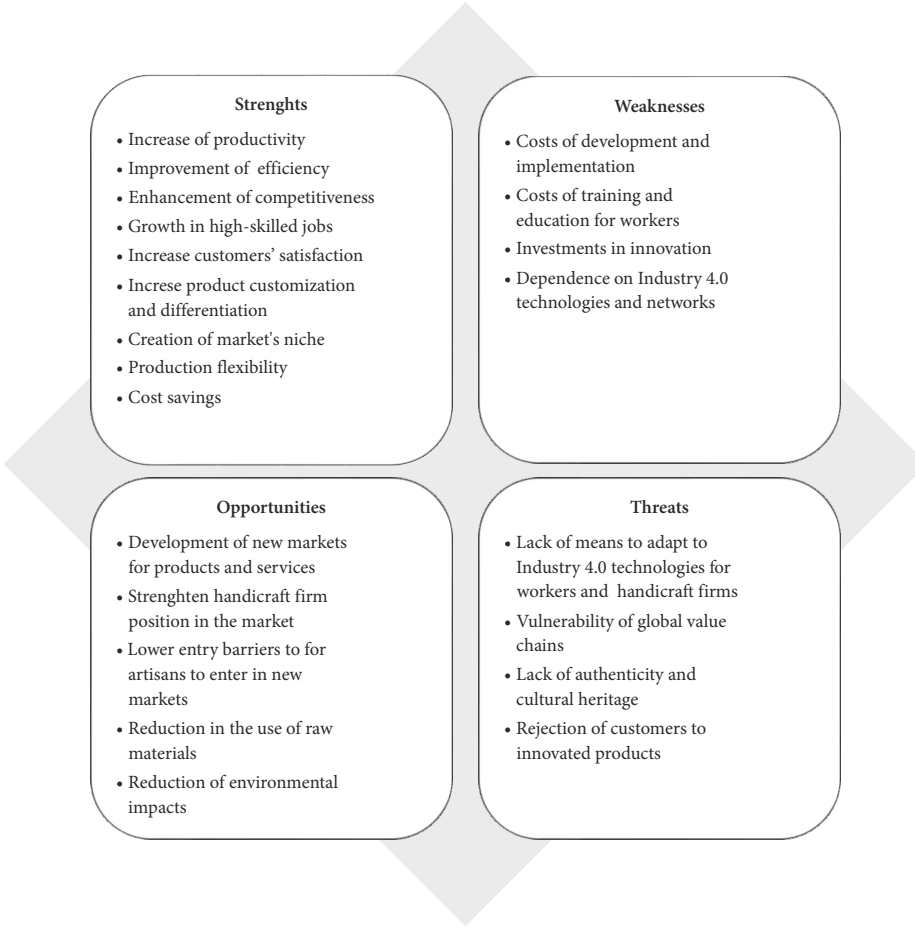

Figure 1. SWOT analysis conducted on the basis of the reviewed theoretical framework

in their study based on interviews with key actors in the Lalejin (Iran) ceramics and pottery industry, highlighted crucial barriers to the implementation of the emerging technologies are lack of training and research in ICT technologies, low technology level, lack of knowledge and culture of innovation processes.

2. A balance between innovation and cultural traditions

Though the handicrafts are produced with love (Fuchs, 2015) and contain the local culture and tradition, it has been argued that the customers may not demand the artistic vision that craft producers intend to express; therefore, the artisans may have to compromise their vision to match market demands in terms of product attributes (Torres, 2002). Further, the commercial success of products is not always the most important goal of production (Wijngaarden et al., 2019). Besides, we know that traditional crafts are unique, attractive, appealing, and rich in cultural traditions; however, the production of many handicrafts has been

stopped. In this vein, Marques et al. (2019) argue that the uniqueness of these products is not sufficient for producers to sustain competitiveness because many crafts have been disappeared and are no more produced today. The idea of innovation is basically to perpetuate the life and richness of traditional art forms to prevent decay on account of stagnation (Deepak, 2008). In other words, handicraft producers must link their past to present by using their traditional knowledge, skills and history to make handicrafts more creative. Innovation by combining traditions enable firms to adopt strong knowledge and solutions to consumer's needs (Kivenzor, 2007; Massis et al., 2016). Similarly, Kivenzor (2007) pointed out that brands that adopt innovation through traditions can create higher product sales, and consumers not only tend to buy these brands but are also willing to pay more. Therefore, it is extremely important to balance both innovation and cultural traditions in handicraft products.

Since it is a very sensitive issue, handicraft producers must choose limited types of innovation (incremental in nature) by using their creativity and traditional knowledge to make small essential changes in the handicrafts to adapt customer's needs and demands. Moreover, due to resource scarcity, most of these businesses cannot afford the substantial investment in high-technology (Liu et al., 2020; Yang & Shafi, 2020); thus, incremental innovation is suitable for these types of low-technology firms to keep the local culture and traditions alive and achieve better market results. Additionally, it has been argued that involvement of newness or significant changes in products, services, or practices is specific to firms adopting the innovation (Bhaskaran, 2006; Johannessen et al., 2001; Penrose, 1959). This is particularly relevant for handicraft firms because small changes perceived as new to operating units or customers and still adds value for them is sufficient to enhance the competitiveness of businesses (Johannessen et al., 2001; Penrose, 1959; Shafi et al., 2019a). Most importantly, traditional handicrafts satisfy not only the functional and aesthetic needs of consumers but also symbolic needs. For instance, Fuchs et al. (2015) argued that handicrafts "*might be perceived to contain* (*and perhaps even transmit*) *the artisan's "essence" in the form of his or her love for a product and production process in a way that machine-made products cannot*." Hence, it becomes obligatory for handicraft producers to maintain the cultural traditions to satisfy the consumers' functional, aesthetic, and symbolic needs (Verganti, 2009). Further, traditional handicrafts link people with their origin, history, and cultural values, which is their valuable identity that must be preserved. Therefore, innovation must necessarily retain cultural values besides satisfying consumers' needs. In other words, the innovation that maintains cultural values and traditions can be regarded as "innovation through tradition" (Massis et al., 2016; Yang & Shafi, 2020).

Further, as argued before, many factors influence handicraft producers to adopt innovation; therefore, it is necessary to innovate handicrafts in order that these businesses may survive in the market, as it is evident from a very famous quote, "*it is not the strongest of the species that survives*, *nor the most intelligent that survives. It is the one that is the most adaptable to change*" (Charles Darwin). Similarly, Banbury and Mitchell (1995) maintain that firms "that do not introduce important incremental innovations eventually suffer declining market share and ultimately tend to exit the industry, either by shutting down their businesses or by selling them to other firms." Hence, handicraft firms should adopt incremental innovation and new technologies to compete, grow, and survive in the market. However, caution is necessary to preserve the cultural traditions while embracing innovation.

2.1. How to balance both innovation and tradition?

Although it is clear from the above discussion that innovation must be carefully adopted while protecting cultural heritage embodied in crafts, this section provides an overview of several suggestions for balancing both factors. Particularly, innovation and tradition can be balanced by adopting incremental innovation that benefits consumers and fulfill their needs, demands, increase product value, improve production efficiency (ease, simplify, or speed up the production process), or save cost and usage of raw material (reuse or reduce the material use) (Mendozaramírez & Toledolópez, 2014; Stephen, 2005; Yang & Shafi, 2020). Furthermore, the aim of incremental innovation must be to improve the products and make them more creative, useful and attractive while retaining traditional values.

There are many ways through which handicraft producers not only can adopt incremental innovation by making small essential changes in products or production processes but also keep the traditions alive. For instance, Yang and Shafi (2020) argued that adding unique tassels or buttons to handmade clothing can create value for consumers, depending on their needs. Additionally, the border on a shawl or scarf drawn from the culture makes it unique from other craft pieces (Barber & Krivoshlykova, 2006). Moreover, new designs can be introduced based on the needs and demands of customers provided cultural features to remain intact. For instance, Marques et al. (2019) reported that in Portugal, artisan introduces new designs in traditional kitchenware and decorative pottery to revive their business while maintaining the cultural identity of the products. In addition, incremental improvement in the size of the product is also very important because handicrafts are not only sold in the domestic market but also exported worldwide. Hence, the adjustment of product size could help in transportation from one place to another (Mendozaramírez & Toledolópez, 2014; Shafi et al., 2019b).

Moreover, in the case of non-primitive narrow looms, Cable and Weston (1982) contend that a simple pulley (for warp) and changed reeds will allow artisans to weave greater widths of fabric and wider lengths of warp. This, in turn, will enable handicraft producers to not only reduce preparation time but also keeping thread under a cover whole year (Cable & Weston, 1982). Moreover, the spinning wooden wheel can be replaced with a bicycle wheel in pottery crafts to accelerate the process as it is lighter in weight and requires less force (Mendozaramírez & Toledolópez, 2014; Sánchez-Medina et al., 2011). Besides increasing the production speed and productivity, these incremental changes also enable artisans to standardize their products to give a better finishing (Cable & Weston, 1982; Mendozaramírez & Toledolópez, 2014; Oyekunle & Sirayi, 2018). Similarly, in the case of metalwork, the product's shape is better outlined by using gravers in place of markers for metal overlays tracing, as gravers trace thinner lines, which result in better product finishing (Mendozaramírez & Toledolópez, 2014). Furthermore, greater use of eco-friendly raw materials also makes handicraft products more valuable, economical, and sustainable.

Further, handicrafts have the marks of cultural values and identity; they reflect the characteristics of traditional motifs, designs, and structures. However, if they are not contemporary, aesthetic, or functional, they have little or no value. Moreover, to address the rejection of innovation in traditional handicrafts (Cornescu & Adam, 2013; Dasgupta & Chandra, 2016;

Pine II & Gilmore, 2007), it is extremely important that the innovation must be perceived as advantageous and must not compromise the traditionality of products. When the traditional handicrafts are carefully linked with modernization and aesthetics, they will find consumers and gain value.

3. Incremental innovation and sustainable development

Innovation and sustainability establish an essential association in the quest for economic, social and environmental development; moreover, innovation is considered a necessary tool for achieving sustainable development (Kuzma et al., 2020; Seebode et al., 2012). Therefore, handicraft producers must continuously invest in innovation processes to achieve business sustainability (De et al., 2020; Maier et al., 2020; Wanniarachchi et al., 2020). Incremental innovation in handicrafts has a significant impact on the sustainable development of craft businesses. As Sánchez-Medina et al. (2011) argue that "*sustainability in the handicraft sector is not limited to the responsible use of resources, but rather seeks a constant market capable of strengthening its traditions, techniques, and uses, in addition to seeking responsible innovation to satisfy the demands of both national and international markets*." Hence, this section discusses the relationship between incremental innovation and sustainable development of handicraft firms in terms of economic, social, and environmental sustainability.

3.1. Incremental innovation and economic sustainability

In comparison to radical innovation, incremental innovation is widely adopted, relatively easy, inexpensive and can be implemented very quickly leading to the growth of more competitive and profitable small firms (Bhaskaran, 2006; Herrera & Sánchez-González, 2012). Besides, in comparison to radical innovation Kim et al., 2011, it requires less time, resources and involves little or no risk (Garcia & Calantone, 2002; Shafi et al., 2019a; Yang & Shafi, 2020). Hence, it can be considered an economically viable option for the economic sustainability of handicraft firms.

Further, incremental innovation can help to reduce cost, increase efficiency, functional improvement of tools or equipment such as ease of use, higher user-friendliness, and production capacity enhancement. For instance, an improvement in product design can mean less use of materials, which not only improves product appearance and utility but also reduces cost, and, thus, the selling price (Oyekunle & Sirayi, 2018). A simple modification in tools can also help handicraft producers to achieve higher productivity gains. For instance, in the case of pottery, ball bearings in the wheel can triple the production output (Cable & Weston, 1982). Similarly, in the case of jewelry, the existing cutting and polishing methods are very slow, the small incremental changes such as the adoption of electric machine could help artisans to increase the productivity and better finishing of the products (Cable & Weston, 1982). In a similar fashion, incremental changes in production techniques can also lead to the economic sustainability of handicraft businesses. For instance, Marques et al. (2019) reported that black pottery artisans in Portugal innovated the firing process by making shelves in the kiln and firing pottery in a traditional way with wood without keeping products on top of

each other as was once customary. Moreover, the incremental innovation in handicrafts is one of the most important activities in terms of economic benefits such as an increase in sales and profit (Barber & Krivoshlykova, 2006; Yang & Shafi, 2020). Thus, incremental innovation is one of the best choices to maintain cultural traditions and achieve economic sustainability.

3.2. Incremental innovation and social sustainability

The incremental innovation enables handicraft firms to obtain several social benefits such as improving quality of life, achieving personal and professional satisfaction, and also assist in maintaining craft and cultural orientation (Shafi et al., 2019a; Yang & Shafi, 2020). The incremental innovation also yields economically viable livelihoods with minimal capital investment – while using "traditional" technology with partial modification and producing high-quality products (Mamidipudi & Bijker, 2018; Mendozaramírez & Toledolópez, 2014). In this way, handicraft producers not only can compete in the market but also keep the cultural traditions alive and motivate the young generation to choose this line of work willfully for maintaining social sustainability. Besides, it will also promote and protect the identity of the local community that help to create, foster, and enable cooperative development among community members (Wanniarachchi et al., 2020). As specific communities produce the handicrafts in a region, hence, incremental innovation can help in the social development of local communities through generating higher employment and income opportunities. Since incremental innovation helps handicraft producers to increase income and employment opportunities, which, in turn, enable them to not only pay off debts but also cover basic food and health needs (Sehnem et al., 2020; Toledo-López et al., 2012; Yang & Shafi, 2020). Moreover, it will also improve the social identity of local communities because handicrafts are strongly linked to a particular place (Vandecandelaere et al., 2010; Howard & Pinder, 2003). For instance, Ajrak (A block printed cloth from Sindh, Pakistan), Pashmina shawls (Kashmir, Pakistan and India), black pottery (Portugal), and Ceramic (Chulucanas, Peru) are some examples of famous traditional crafts having strong links to the particular region (International Trade Centre / World Intellectual Property Organization [ITC/WIPO], 2003; Yang et al., 2018). This will help to create further job opportunities and inspire more people to take part in handicraft practices.

3.3. Incremental innovation and environmental sustainability

Incremental innovation also promotes environmental sustainability through reuse, recycling or remanufacturing. For instance, in the case of textile crafts, fabrics of the product can be re-dyed, depending on the compatibility of the exiting color of the textiles, in other words, after using textile products, consumers can return it to the artisan and get it re-dyed with a new look (Wanniarachchi et al., 2020). Furthermore, handicraft producers also attempt to reuse materials that they employ (Barber & Krivoshlykova, 2006; Yang & Shafi, 2020). For instance, in the case of pottery crafts, the left-over clay discarded from recently producing crafts is reused to make other artifacts (Sánchez-Medina et al., 2011). Additionally, in many countries like Sri Lanka, there is a market for reusing handicrafts such as sarees (a type of clothing around 5 meters worn mostly in South Asia); particularly, handmade sarees can be

reused by upgrading to manufacture other products such as dresses or skirts (Dissanayake et al., 2017; Wanniarachchi et al., 2020). Incremental innovation also helps to reuse waste (Sánchez-Medina et al., 2015). For instance, discarded textile crafts can be converted into valuable by-products, even left-over fabric of textiles can be reused to create by-products such as handmade soft toys, bed runners, pillowcases, tablecloths, and various types of other accessories (AIACA, 2017; Dissanayake et al., 2017; Wanniarachchi et al., 2020). In addition, even the waste threads can be reused to decorate or make products more useful and unique such as creative lampshades in various shapes and attractive colors (Dissanayake et al., 2017). Moreover, the small left-over pieces of cloths, including uneven pieces, can be reutilized very creatively to produce useful, decorative, unique and attractive patchwork such as quilts.

Sánchez-Medina et al. (2011) also argue that many handicraft firms are very well aware of the environmental concerns, and they adopt innovation by using lead-free clay and lead-free enamels to reduce the adverse impact on the environment. The authors further contend that handicraft firms also work with different NGOs (such as "Barro sin Plomo" in Mexico and "EOMMEX" in Greece) to seek the clean certification of handicrafts (Dana, 1999). Further, in the case of textile production, earlier cotton was overly used as raw material, and now sustainable fibres (such as banana and bamboo fibres) are increasingly used (Wanniarachchi et al., 2020). Moreover, there is also an increasing demand of naturally dyed products, therefore, the handicraft producers are now looking for developing new means of using natural dyeing processes (Wanniarachchi et al., 2020). Similarly, Mutua et al. (2004) argue that few textile craft producers are now using recyclable materials, such as colored plastic paper, to decorate baskets to address the shortage of raw materials. This is a positive approach to the problem of a reduced supply of raw materials and environmental protection. As natural raw materials are limited, handicraft producers use new and renewable resources (Sánchez-Medina et al., 2011; Yang & Shafi, 2020).

Generally, it must be noted that the diffusion of environmental product and service innovations has significant limits: almost all investigations focus on just a single sector or technology, usually energy, and concern a small number of diffusion cases. Therefore, it is hardly possible to generalize across sectors and to identify potential differences between sectors (Fichter & Clausen, 2021). However, as it had been said by F. Halila, there are at least two good reasons why we should support the adoption and diffusion of environmental sustainability and eco- innovations. One argument from an environmental point of view is that successfully managing the environment is the greatest challenge facing us in the future and the global scenarios for the next decades are not encouraging. Another argument, from an economic point of view, is that the eco-industry is now one of the most growing industries in the world (Halila & Hörte, 2007).

4. The adopted procedure of the systematic literature review

The procedure used in the paper to answer the research questions presented in the introduction covers several stages (Bartolacci et al., 2020; Ferasso et al., 2020). The procedure was also discussed by Shashi et al. (2021) and Suchek et al. (2021). The flowchart of the procedure developed for the literature review has been presented in Figure 2.

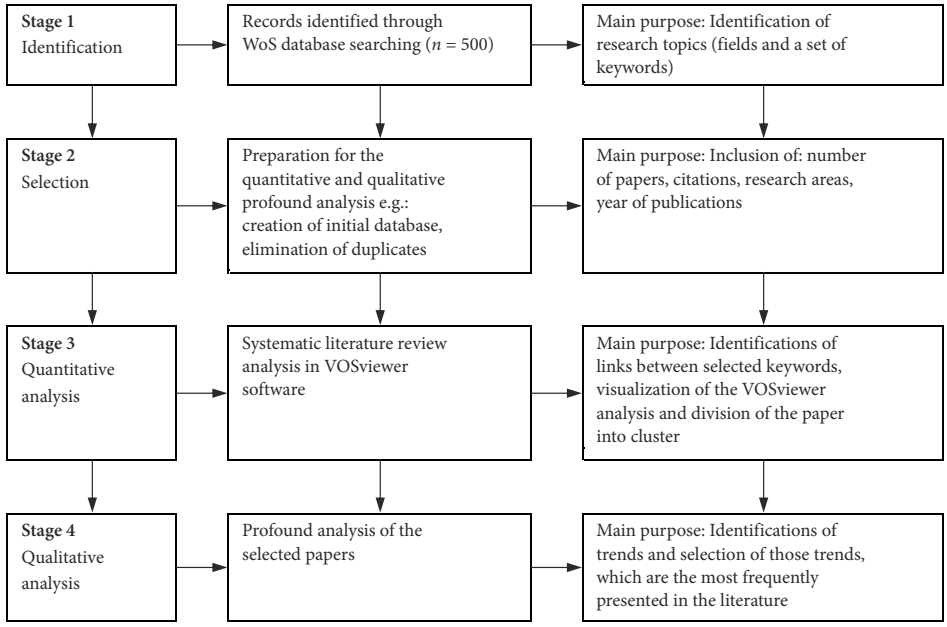

Figure 2. Systematic literature review flowchart

In the first stage of the study, publications containing the following keywords (or parts thereof) selected for the study were identified in the Web of Science database: innovation, handicraft, sustainability, traditional handicraft, and incremental innovation. The keywords were linked to a TS variable (TOPIC), including the variables Title, Abstract, Author Keywords, Keywords Plus. Logical operator combinations AND, OR, and a symbol to replace the string (*) were used when searching the database. Different formulas have been tested for consistency between the logical and substantive quality of the results obtained. A total of 500 different publications from 1975 to 2021 were identified in the WoS database. The database (stage 2 of the adopted procedure) was used for text-mining analyses to identify publications that best fit the purpose of the study, i.e., those that allow searching for links between innovation, sustainability, and handicraft (stage 3).

The recognition of research trends based on analysis of the occurrence and co-occurrence of keywords is a well-established bibliometric approach. Like any form of scientific inquiry, however, it has its limitations due to the risk of subjectivity in the choice of keywords and the inherent instability of language systems, as well as the lack of guarantee that the fields in which most papers are, or have been until recently, published will be the priority fields in the future. The clustering method, which belongs to data mining methods, was used in the conducted analyses. It is an exploratory method, the purpose of which is to identify non-obvious relationships and patterns in data and internal similarities between data vectors and, based on these values, to determine the division of data into disjoint groups. As a result, elements within each group have strong mutual similarity, while any objects from different groups show negligible similarity. This method is often used in the processing and semantic

analysis of text documents. The conducted research also identified clusters containing selected keywords and their reference networks (van Eck & Waltman, 2010; Waltman et al., 2010; Perianes-Rodriguez et al., 2016).

The bibliographic research was carried out with the use of VOSviewer software. This tool was used to identify and analyse dominant research areas and to identify potential new research directions. Table 2 shows the number of passes identified in the Web of Science database, taking into account different combinations of the selected keyword.

Analyzing the results of this search, it is worth noting that among 2373 publications in which the term handicraft was used in the title, keywords, or abstract, only 304 also raise issues related to innovation and 249 to sustainable development. The combination of these three keywords, i.e., handicraft, innovation, and sustainability, was identified in only 53 publications. A relatively small number of publications in this area may indicate a possible existence of a research gap in the literature on the subject. The growing interest in research in this area may be evidenced by the increase in the number of publications referring to this kind of issue in the literature on the subject in recent years. The evolution of the number of publications in the last ten years (2011–2021) and its citations in the analyzed period was presented in Figure 3.

The first article in the established database entitled Handicrafts and technical innovation in Ethiopia by A. Cassiers was from 1975 and published in the journal Cultures. Until 2010, only a few articles (maximum 10 in 2010) were indexed in the database. The number of publications reached its highest point in 2019 with 56 publications. Since 206, a systematic increase in citations of publications has also been observed, the largest in the last few years, reaching the highest level in 2020 (446 citations). These are mainly publications in the fields of agriculture (75 publications), business economics (60), science technology (54), environmental sciences ecology (51), engineering (50), social science (47), computer science (43), education and educational research (41), planet sciences (30) and material science (33). The authors of the identified studies come mainly from China (77 publications), Italy (52), Brazil (38), France, Indonesia, and the USA (30 papers each).

Table 2. Number of papers identified in the WoS according to the selected keywords

The combinations of topics	Number of papers
handicraft*	2373
handicraft* AND innovat*	304
handicraft* AND sustainab*	249
handicraft* AND innovat* AND sustainab*	53
"traditional handicraft*" AND innovate*	39
"traditional handicraft*" AND innovate* AND sustainab*	10
handicraft* AND "incremental innovation*"	1
innovat* AND handicraft* OR sustainab* AND handicraft* OR innovat* AND handicraft* AND sustainab* OR innovat* AND "traditional handicraft*" OR innovat* AND "traditional handicraft*" AND sustainab* OR "incremental innovation*" AND handicraft*	500

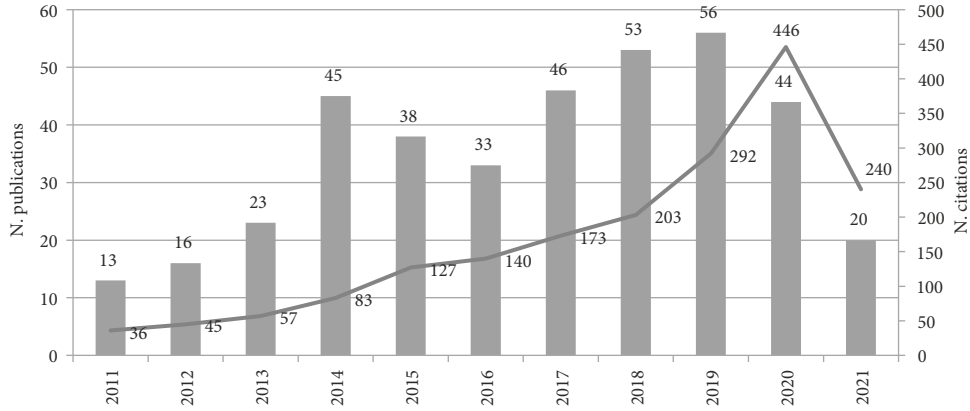

Figure 3. Total publications and citations by year – final database from 2011 to 2021

Table 3 presents information on the most frequently cited publications in this field. The information presented in this table shows that among the most frequently cited papers, there are mainly publications in the field of bioeconomy. These are predominantly studies on rural development, biofood, ethnobotany, ecology and agriculture. They also discuss issues related to environmental protection. Farsani et al. (2011) draw attention, for example, to the fact that geoparks, as an innovation for the protection of natural and geological heritage, play an important role in the development of geotourism. In their opinion, they may also encourage the production of local products and local handicrafts involved in geotourism and geoproducts. Vox et al. (2010) describe the advantages of sustainable greenhouse systems in the context of traditional handicraft. Pieroni (2008) also discusses the advantages of traditional handicraft in agriculture. At the same time, Al-Dajani et al. (2015) explore the links between entrepreneurship, emancipation, and gender within the international development arena. It is also worth noting the work of Sánchez-Medina et al. (2011), in which the relationship between environmental innovation and sustainability is analyzed in 168 handicraft businesses in the Mexican states of Oaxaca, Puebla, and Tlaxcala were described. In this paper, a positive relationship between environmental innovation and sustainability in three dimensions: economic, social, and environmental were confirmed. The main purpose of the paper of Sánchez-Medina et al. (2015) was to develop models to explain better the economic and environmental performance as a result of environmental compliance, thus moving toward an explanation of the sustainable behavior of these businesses.

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In the next stage to identify the tendencies in the literature, especially to answer the question of how research on this topic is divided into clusters, an analysis of co-citations of references was carried out based on articles with at least five co-citations (see Figure 4).

The keywords that formed relationships with each other with at least 5 times the frequency, were combined into clusters. This stage of the analysis resulted in four following clusters:

- cluster 1: handicraft, innovation, sustainable development, crafts, community, tourism, creativity, culture, entrepreneurship,
- cluster 2: traditional handicrafts, sustainability, protected areas, managements, determinants,
- cluster 3: handicrafts, cultural heritage, intangible cultural heritage, economy, protection, rural development,
- cluster 4: traditional knowledge, communities, ethnobotany, forest, growth, plants.

Table 3. The most frequently cited publications in WoS database

Paper	Author/year	Journal	Total citations
Geotourism and Geoparks as Novel Strategies for Socio-economic Development in Rural Areas	Farsani, NT; Coelho, C; Costa, C (2011)	*International Journal of Tourism Research*, *13*(1), 68–81	125
Pig Domestication and Human-Mediated Dispersal in Western Eurasia Revealed through Ancient DNA and Geometric Morphometrics	Ottoni, C; Flink, LG; Evin, A; Georg, C et al. (2013)	*Molecular Biology and Evolution*, *30*(4), 824–832	117
Insects: A sustainable source of food?	Ramos, EJ (1997)	*Ecology of Food and Nutrition*, *36*(2–4), 247–276	106
Sustainable greenhouse systems	Vox, G; Teitel, M; Pardossi, A; Minuto, A; Tinivella, F; Schettini, E (2010)	*Sustainable Agriculture: Technology, Planning and Management*, 1–79	70
Local plant resources in the ethnobotany of Theth, a village in the Northern Albanian Alps	Pieroni, A (2008)	*Genetic Resources and Crop Evolution*, *55*(8), 1197–1214	59

End of Table 3

Paper	Author/year	Journal	Total citations
Ethnobotany and effects of harvesting on the population ecology of Syngonanthus nitens (Bong.) Ruhland (Eriocaulaceae), a NTFP from Jalapao Region, Central Brazil	Schmidt, IB; Figueiredo, IB; Scariot, A (2007)	*Economic Botany*, *61*(1), 73–85	56
Entrepreneurship among the Displaced and Dispossessed: Exploring the Limits of Emancipatory Entrepreneuring	Al-Dajani, H; Carter, S; Shaw, E; Marlow, S (2015)	*British Journal of Management*, *26*(4), 713–730	41
Ancient goat genomes reveal mosaic domestication in the Fertile Crescent	Daly, KG; Delser, PM; Mullin, VE; Scheu, A et al. (2018)	*Science*, *361*(6397), 85–87	41
A cross-cultural comparison of folk plant uses among Albanians, Bosniaks, Gorani and Turks living in south Kosovo	Mustafa, B; Hajdari, A; Pieroni, A; Pulaj, B; Koro, X; Quave, CL (2015)	*Journal of Ethnobiology and Ethnomedicine*, *11*	34
When lessons from population models and local ecological knowledge coincide - effects of flower stalk harvesting in the Brazilian savanna	Schmidt, IB; Ticktin, T (2012)	*Biological Conservation*, *152*, 187–195	26
Ancient pigs reveal a near-complete genomic turnover following their introduction to Europe	Frantz, LAF; Haile, J; Lin, AT; Scheu, A; Georg, C et al. (2019)	*Proceedings of the National Academy of Sciences of the United States of America*, *116*(35), 17231–17238	26
Sisal Fiber Based Polymer Composites and Their Applications	Saxena, M; Pappu, A; Haque, R; Sharma, A (2011)	*Cellulose fibers: bio- and nano-polymer composites: green chemistry and technology*, 589–659	25
Historical change of soil Pb content and Pb isotope signatures of the cultural layers in urban Nanjing	Zhang, GL; Yang, FG; Zhao, WJ; Zhao, YG; Yang, JL; Gong, ZT (2007)	*Catena*, *69*(1), 51–56	25
Environmental Innovation and Sustainability in Small Handicraft Businesses in Mexico	Sánchez-Medina, PS; Corbett, J; Toledo-Lopez, A (2011)	*Sustainability*, *3*(7), 984–1002	22
Environmental Compliance and Economic and Environmental Performance: Evidence from Handicrafts Small Businesses in Mexico	Sánchez-Medina, PS; Diaz-Pichardo, R; Bautista-Cruz, A; Toledo-Lopez, A (2015)	*Journal of Business Ethics*, *126*(3), 381–393	21

In a map made using VOSviver software, the same color indicates clusters with related terms, characterized by strong relationships and co-existence. In terms of the number of labels with each keyword, it reflects the frequency of the word. The most common keywords are located in the center of the map. Their co-existence determines the distance between

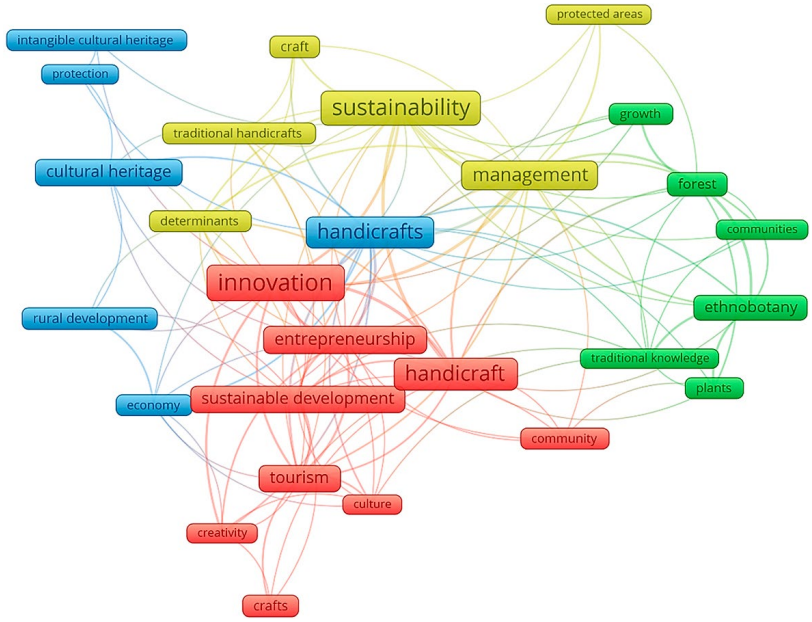

Figure 4. Clusters network

words. When analysing the map, it is worth paying attention to the first three clusters, in which strong links between keywords selected for the study are visible. In cluster one, all the keywords selected for the study were identified, which were additionally associated with, for example, entrepreneurship. In cluster two, from the point of view of the conducted research, the relationships between the terms: traditional handicrafts and sustainability are important.

There are references to cultural aspects in cluster three, including (environmental) protection and rural development. Cluster four focuses on keywords most related to bioeconomy, agricultural production, etc. An elaboration of the bibliographic analyses is the in-depth research provided in stage 4, which focuses on analyses that describe the relationships linking the keywords selected for the study in published papers.

5. Results and discussion

Although innovation has been regarded as one of the necessary ingredients for firms to survive and compete in the market, previous studies did not identify the factors that influence handicraft producers to adopt innovation in a holistic way. The systematic review of the literature shows that it is a significant research gap, insufficiently explored in the papers in this area.

Based on the literature review it is possible to identify many several factors which could be taken into account. The main advantage of the considerations presented in this paper is an attempt to organize the research conducted so far around innovation in traditional handicraft companies.

Many scholars considered that identical mass-produced products, low market of traditional products, increasing raw materials price, inefficient technology, substitution of toxic raw materials, and higher price of traditional crafts influence handicraft producers to adopt innovation (Brown & Teisberg, 2003; Engel et al., 2004; Goldsby et al., 2018). Further, most prior relevant studies are directed towards the positive nature of innovation (Hotho & Champion, 2011; Kay, 1993; Massis et al., 2016). Contrarily, the adverse impact of innovation in traditional industries is less understood (Alonso & Bressan, 2014; Banbury & Mitchell, 1995; Chen, 2020). Especially handicrafts industries are being not necesseraly mixed with innovation activity in general (Chopra, 2013; Chopra & Baldegger, 2014; Gravier & Swartz, 2009). This study highlights both aspects of innovation in the context of traditional handicraft products. On the one hand, innovation can help handicraft producers to compete, grow, and survive in the market. On the other hand, it accompanies the risks of loss of ancestral knowledge, skills, and cultural heritage embodied in crafts. Besides, the innovation in handicrafts may damage the authenticity and traditional nature of handicrafts (Alonso & Bressan, 2014; Zhan et al., 2017; UNESCO, 2005).

This study also argues that innovation should be adopted with caution because changes to a certain extent could result in the loss of products value that is mainly due to the traditional nature of handicrafts. Arguably, handicraft producers must embrace a balancing approach by adopting an incremental innovation strategy to survive and achieve competitiveness while maintaining and preserving cultural heritage. It will allow them to not only capture market share, earn more income, and grow their business but also promote, reinforce and protect local cultural traditions. Further, the introduction of incremental innovations will increase the chances of business survival and achieving financial and non-financial benefits leading to the promotion and continuation of cultural traditions, ethnic artefacts, customs of local communities and geographical features of crafts produced with love (Fuchs et al., 2015; Sehnem et al., 2020; Shafi et al., 2019b). Additionally, the combination of incremental innovation and cultural traditions is the driving force behind the revival of the handicraft industry (Marques et al., 2019). Firms that continuously adopt incremental innovation are likely to survive and sustain competitive advantage (Banbury & Mitchell, 1995). Moreover, the incremental innovation adopted by firms with strong links to tradition, culture, and history will have higher chances of acceptance by consumers (Chen, 2020). Hence, handicraft producers must use their past traditional knowledge and skills to satisfy consumers' needs by adopting incremental innovations.

In addition, this research emphasized that innovation should be adopted carefully, failing which not only the handicrafts, containing the ancestral knowledge and skills, will be lost, but many families depending on this profession will be starving, leading to economic, social, and cultural loss. Although the innovation is essential to innovate the products successfully, the traditional production processes have been handed down for many years, which is the added value of handicrafts that can only be adjusted appropriately but cannot be omitted (Jia, 2018). Similarly, handicraft producers also do not intend to diminish their cultural traditions; therefore, they are also reluctant to adopt radical innovation. Instead, they prefer to preserve and promote their traditional identity, cultural aspects and only embrace incremental innovation. For instance, Mendozaramírez and Toledolópez (2014) contend that handicraft producers are aware of the importance of cultural traditions and are also reluctant to change; therefore, they

only adopt incremental innovation to simplify and ease the production processes. Hence, the innovation should only involve small important changes to satisfy customer's needs, demands, increase product value, improve production efficiency (ease, simplify, or speed up the production process), or save cost and usage of raw material (reuse or reduce the material use) (Mendozaramírez & Toledolópez, 2014; Stephen, 2005; Yang & Shafi, 2020).

Theoretically, there are also several possibilities to introduce incremental innovation with tradition in handicraft products without compromising the essential traditional characteristics of the products (Kivenzor, 2007; Massis et al., 2016; Molina et al., 2014). In general, innovations that improve quality, functions, aesthetic, and symbolic value of products are reasonably accepted, provided they maintain cultural traditions (Verganti, 2009; Yang & Shafi, 2020). However, consumers mostly reject innovations that alter authenticity, traditional motifs, and emotional link between products and peoples (Chen, 2020; Fuchs et al., 2015). This study provides several recommendations for policymakers and practitioners in making decisions when implementing innovation in traditional handicrafts. Mainly, this study emphasizes that handicraft producers must not forget their past, instead should combine their old knowledge and traditions with current market trends and adopt incremental innovation to satisfy consumers' needs and demands, leading to the promotion and preservation of local cultural traditions (Massis et al., 2016). Moreover, although handicraft firms face resources scarcity, they are rich in traditional knowledge and skills (intangible resource). Following the resource-based view of firm theory (J. Barney, 1991; J. B. Barney, 2001; Peteraf, 1993), the inherited cultural traditions are distinctive and immensely unique resources of handicraft firms. The deeply rooted religious and cultural connotations make an imitation of these resources more difficult, thus contributing to their rarity and competitiveness (Teec & Pisano, 1994; Teece et al., 1997; UNESCO/ITC, 1997). Therefore, it is extremely important to combine innovation, also through the emerging technologies, by utilizing past knowledge to achieve sustainability and competitive edge in the market (Blundo et al., 2018). This balancing approach will enable practitioners to discover new opportunities and leverage current capabilities to allow handicraft firms to succeed and compete in the market.

This study further argues that besides balancing innovation and traditions, incremental innovations also contribute to the sustainable development of handicraft firms in terms of economic, social, and environmental sustainability. Further, buyers prefer to buy those handicrafts that have a minimum adverse impact on the environment (Sánchez-Medina et al., 2015), therefore, when adopting incremental innovation, handicraft producers must follow sustainable practices including the use of recyclable, local, environmentally friendly, and reused material wherever possible to obtain sustainable results (J. Brown, 2014; Mutua et al., 2004; Sánchez-Medina et al., 2015).

Conclusions

This study argues that the key to balance innovation and tradition is making important small changes instead of a few big ones. Most of the previous studies usually focused on the positive aspects of innovation. However, this study confirms that innovation in handicrafts is both imperative and controversial. Since cultural traditions are deeply rooted in handicraft products and innovation is an essential factor for business survival and growth; therefore, both are

necessary to achieve competitiveness. Additionally, cultural traditions that lack innovation are likely to become obsolete, while growth without foundations may lead to precariousness. Although innovation is one of the essential factors for business growth, it is hard to balance this growth with cultural traditions. Therefore, handicraft producers must carefully adopt incremental innovation, as discussed in this study, to survive, grow, and achieve better market results as well as maintain cultural values, identity, and history of local communities. Consequently, it will enable handicraft enterprises to differentiate between their products and those of competitors (mass-produced) and offer intangible advantages leading to improving their value and increase the likelihood of acceptance in the marketplace.

This research provided a more holistic view of innovation in traditional handicrafts to help policymakers and practitioners to streamline their strategies for sustainable development of the handicraft industry. Mainly, for policymakers and practitioners involved in the production of traditional crafts, this study offers several practical insights. First factors influencing handicraft producers to adopt innovation help us to understand the justification for embracing innovation. Second, positive and negative aspects of innovation enable the producers to gain deeper insights about the nature of innovation and its effects on the traditionality of products. Third, the balanced combination of incremental innovation and cultural traditions deeply rooted in crafts can help handicraft firms to achieve competitiveness and sustainable development. Understanding the nature of multifaceted innovation and retaining cultural values in products is essential for the sustainable development of handicraft companies.

Further, incremental innovation not only ensures the survival of both tangible and intangible cultural heritage for next generations but also help handicraft firms to achieve economic, social, and environmental sustainability because sustainable development of firms is only possible by creating new ideas through cultural traditions. Moreover, carefully implemented incremental innovations benefit not only handicraft firms but also the society and environment. Additionally, handicraft firms can create higher value in the mind of consumers and enhance their market position by balancing innovation and tradition.

The basic aim of the paper was to emphasizes the importance and potential advantages of innovation and its synergistic effect with cultural traditions leading to sustainable development as well as to identify and analyse clusters, dominant research areas and potential new research directions in this area. The research aim has been fulfilled.

Even though this study provides insightful implications for theory and practice, some limitations exist that offer room for future research. Notably, this study lacks empirical evidence; therefore, future studies can consider examining the issues in question by collecting data from traditional handicraft firms that have adopted incremental innovation while keeping traditional cultural heritage alive. Additionally, since the measurement of innovation is quite difficult, especially in cultural creative industries like handicrafts because they lack R&D expenditure and patents (key measures of innovation), therefore, future studies can focus on the issue of measuring incremental innovation cultural creative industries, especially handicraft.

A significant limitation of the systematic literature review, which was presented in the paper, is also the authors' subjective selection of keywords, which was the basis for the identification of scientific papers in the Web of Science database. In the future, such limitations can be eliminated by using, for example, the Delphi method to select keywords indicated by experts in this field.

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