heritage

Article

A Review, Analysis, and Roadmap to Support the Short-Term and Long-Term Sustainability of the European Crafts Sector

Nikolaos Partarakis [1,*], Xenophon Zabulis [1], Carlo Meghini [2], Arnaud Dubois [3], Ines Moreno [4], Chistodoulos Ringas [5], Aikaterini Ziova [5], Danai Kaplanidi [5], David Arnaud [6], Noël Crescenzo [6], Patricia Hee [6], Juan José Ortega [7], Josefina Garrido [7], Marie-Adelaide Benvenuti [8] and Jelena Krivokapic [8]

1 Institute of Computer Science, Foundation for Research and Technology—Hellas (FORTH), 70013 Heraklion, Greece; zabulis@ics.forth.gr
2 Istituto di Scienza e Tecnologie Della Informazione (ISTI), Consiglio Nazionale Delle Ricerche (CNR), Area Della Ricerca CNR, 56124 Pisa, Italy; carlo.meghini@isti.cnr.it
3 French National Center for Scientific Research, 3 Rue Michel Ange, 75016 Paris, France; arnaud.dubois@mnhn.fr
4 Histoire des Technosciences en Société, Conservatoire National des Arts et Métiers (HT2S-CNAM), Case 1 LAB10, 2 Rue Conté, 75003 Paris, France; ines.moreno@lecnam.net
5 Piraeus Bank Group Cultural Foundation, 10558 Athens, Greece; riggasch@piraeusbank.gr (C.R.); ziovaai@piraeusbank.gr (A.Z.); danae.kaplanidi@gmail.com (D.K.)
6 Centre Européen de Recherches et de Formation Aux Arts Verriers (CERFAV), Rue de la Liberté, 54112 Vannes-le-Châtel, France; david.arnaud@cerfav.com (D.A.); noel.crescenzo@cerfav.fr (N.C.); patricia.hee@cerfav.com (P.H.)
7 Technology Centre of Furniture and Wood of the Region of Murcia, Perales s/n, 30510 Yecla, Spain; jj.ortega@cetem.es (J.J.O.); josefina.garrido@cetem.es (J.G.)
8 Mad' in Europe SCRL, 116, Rue Berckmans, 1060 Brussels, Belgium; madina.benvenuti@madineurope.eu (M.-A.B.); jecakrivokapic9613@gmail.com (J.K.)
* Correspondence: partarak@ics.forth.gr

Abstract: This publication highlights the strategic combination of the preservation of heritage and innovation for supporting the sustainability of traditional crafts in Europe. Demonstrating both challenges and opportunities faced by artisans, there is a need to balance cultural authenticity and the pressures of current markets and environmental imperatives. The research has explored interventions at three levels of craft practice, education, and training and recommends practical directions on short- and long-term bases. Key findings include new materials and technologies to revitalize crafts, the integration of digital tools in education, and cross-border collaboration, which are considered vital for enhancing the visibility and viability of traditional crafts. The circular economy principles and eco-certifications emerge as key to aligning traditional crafts with global sustainability goals. The analysis also highlights cultural policies and funding mechanisms as a means of encouraging innovation and promoting the resilience of the craft sector. The publication, by weaving together case studies, policy analysis, and strategic recommendations, provides a comprehensive roadmap for stakeholders—from artisans and educators to policymakers and researchers—to ensure that the legacy and relevance of Europe's rich craft heritage continue.

Keywords: traditional crafts; cultural heritage; sustainability; innovation; digital tools; education and training; European policy; artisan empowerment; circular economy; cultural preservation; craft entrepreneurship

check for updates

Academic Editor: Andreas Aristidou

Received: 19 December 2024
Revised: 5 February 2025
Accepted: 10 February 2025
Published: 13 February 2025

Citation: Partarakis, N.; Zabulis, X.; Meghini, C.; Dubois, A.; Moreno, I.; Ringas, C.; Ziova, A.; Kaplanidi, D.; Arnaud, D.; Crescenzo, N.; et al. A Review, Analysis, and Roadmap to Support the Short-Term and Long-Term Sustainability of the European Crafts Sector. *Heritage* **2025**, *8*, 70. https://doi.org/10.3390/heritage8020070

Copyright: © 2025 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

1. Introduction

Traditional crafts (TCs) represent a very valuable collection of cultural heritage (CH), embodying skills, knowledge, and creativity passed on between generations. These crafts, emanating from local traditions and fine-tuned over many centuries, are, therefore, irreplaceable in their cultural, social, and economic value [1]. In Europe, they mark the identity of communities, important in their local economies, but today are also unique tourism attractions [2–4]. However, in a time of rapid technological changes, shifting consumer behaviors, and pressure from the globalization of the economy, TCs are facing significant challenges.

However, the changing landscape of consumer preferences, globalization, and rapid technological advances pose significant challenges to TCs. Artisans face the erosion of traditional knowledge, economic pressures from mass production, and dwindling interest in craft professions [5–7]. Despite these challenges, TCs keep their high relevance for modern society, with their practice offering opportunities to address issues on sustainability, education, and cultural diversity, which are of global concern.

In particular, the incorporation of digital technology such as 3D scanning, photogrammetry, VR, and AR in the crafts brings new opportunities for the preservation of knowledge, techniques, and artifacts of craft, innovation through education and training, and the spread of knowledge to the scientific community and society as a whole [8,9]. Three-dimensional scanning, photogrammetry, and Augmented Reality (AR) enable the use of new dimensions in the representation, preservation, and sharing of traditional craft techniques and artifacts [10,11]. These technologies ensure that traditional practices, which may otherwise be at risk of extinction, are digitally captured and made accessible to wider audiences, ensuring their long-term sustainability and accessibility. Moreover, Virtual Reality (VR) and digital reenactment allow for the recreation of craft processes, enabling immersive experiences that can increase the interest in and understanding of these heritage skills. Following Rogers' Innovation Diffusion Model [12], the adoption of these tools is not uniform; some artisans may act as early adopters, while others face barriers, such as a lack of technical skills or resource limitations. Understanding this diffusion curve is critical for targeted interventions.

Digital technologies go further beyond preservation by contributing to education and training. E-learning platforms, virtual apprenticeships, and gamified environments have the potential to change the way craft knowledge is transmitted. These innovations can support the engagement of new generations by offering interactive, flexible learning experiences that adapt to contemporary preferences [13,14]. Thus, they will be able to support ubiquitous learning and bridging or reducing the geographical distances between the knowledge of the craft and the apprentice or student. By doing so, digital technologies act as powerful enablers of the transmission and evolution of TCs. At the same time, such innovations empower practitioners to continue practicing their craft in their homeland. Maintaining traditional practices fosters a strong sense of identity and regional resilience, as outlined by the place attachment theory [15]. Furthermore, these technological innovations align with Florida's Creative Economy Framework, as they position TCs as drivers of local innovation clusters and attract cultural tourism, reinforcing the creative potential of regions [16].

Sustainability remains a vital concern, given the environmental and ethical challenges associated with traditional craft practices. The adoption of sustainability frameworks, such as the triple bottom line [17] and alignment with UN SDGs [18], is essential for balancing cultural preservation with environmental and social responsibilities. Digital technologies can further support sustainable practices by minimizing resource waste and facilitating eco-conscious design approaches.

In this work, these critical intersections of tradition, technology, and policy are explored, and a forward-looking framework of policy recommendations is proffered to assure the evolution and prosperity of TCs and their communities in the 21st century. The work elaborates on a holistic approach in which grassroots innovation interplays with strong policy support in satisfying the needs of the artisan, educator, and policymaker. In the next sections, we will go into detail on these dimensions, starting with a presentation of the background and related work regarding TCs.

1.1. Motivation

In Europe, TCs act not only as an indicator of cultural identity, but also as an important part of economic activities at local levels, for tourism, and in innovative industries. However, the pressure of globalization, industrialization, and digitization increasingly stand in the way of efforts toward their preservation and further relevance [19]. These are complemented by sustainability and valorization, strategies that have been taken up to adapt TCs to contemporary societal and environmental demands while guaranteeing their survival. Education and policy will undoubtedly go a long way in fostering innovation, transmitting knowledge to future generations, and securing the relevance of these practices in the future. Yet, it is digital technology that is rapidly becoming a powerful enabler of this process. Digital tools like 3D scanning, photogrammetry, and AR offer unparalleled possibilities for the representation, presentation, and preservation of crafts [20] and together with digital technologies can offer unique cultural experiences [21]. This technology allows for the detailed capturing of artifacts and craft processes to ensure their longevity and usability for future generations [22,23]. Even more so, VR and AR enhance it by providing immersive platforms on which to demonstrate and explore traditional techniques. This might also be achieved through digital reenactment in cases that would otherwise be lost due to the passage of time.

The motivation of this research work goes beyond preservation to digital technologies and sustainability that hold potential for education and training in TCs. By bridging geographical divides, offering access to craft knowledge and training on a global scale, and supporting new entrepreneurship via policy making, TCs can endure in a changing world with benefits for all of us.

1.2. Objectives of This Study

Based on the aforementioned motivation, the objective of this study is to bridge the gap between the historical significance of TCs and their enabling role toward a sustainable future, with a particular emphasis on integrating digital technologies, innovative education methods, and supportive policy frameworks to support their long-term sustainability.

At the level of craft technology and education, this research investigates the challenges of declining traditional knowledge, economic pressure, and a lack of access to global markets for artisans. It examines how digital technologies, such as 3D scanning, AR, and digital reenactment, can support the representation, presentation, and preservation of craft practices and artifacts. Additionally, it calls for a reimagining of approaches to education and training using immersive technologies, e-learning platforms, and interactive tools, which can better engage learners and help ensure the intergenerational transmission of craft skills. Furthermore, the research explores the potential for collaborations between artisans, educators, and technologists to develop innovative solutions that sustain both the cultural and economic viability of TCs in today's world.

On the policy level, this study will look at how European and national frameworks provide support to traditional craft through funding mechanisms, legislation, and recognition programs. It develops proposals on policy strategies that can be pursued to foster invest-

ment in sustainable practices, digital infrastructure, and cultural innovation. This includes advocating for the integration of TCs into broader sustainability and CH agendas, ensuring alignment with initiatives such as the European Green Deal [24] and UNESCO's heritage protection guidelines [25]. In addition, this research underlines that policy measures should provide incentives for artisans to adopt digital tools, such as subsidies, training programs, and knowledge-sharing platforms. Recognizing that European heritage is interconnected, it also calls for cross-border collaboration and policy harmonization to enhance the mobility of artisans and facilitate the cross-border exchange of best practices. This study offers a multi-level roadmap from the grassroots level to the policy level to ensure the future relevance and resilience of TCs.

1.3. Structure of This Document

This document is organized as follows. Section 2 provides a background and related work, highlighting the historical and contemporary context of TCs, the role of digital technology, and ongoing efforts to address the challenges faced by these practices. Section 3 outlines the research methodology used to gather and analyze data. Section 4 presents the findings, including case studies and trends observed in the field. Section 5 proposes a series of measures to support the future of TCs, integrating sustainability, education, policy, and technology. Section 6 discusses the implications of these findings, while Section 7 concludes with key insights and recommendations for stakeholders.

2. Background and Related Work

TCs represent a rich and diverse part of CH, often embedded with local knowledge, values, and artistic expression [26]. However, over the past several decades, traditional craft practices have faced increasing challenges due to rapid technological advancements, industrialization, and globalization [27]. These factors have resulted in a decline in the number of skilled artisans and the loss of traditional knowledge, and reduced economic viability for craft-based industries on TCs has, therefore, become a central concern for CH experts, educators, and policymakers [28–30]. In the context of cultural sustainability, TCs are recognized for their potential to contribute to local economies, tourism, and social cohesion [31–36]. However, the sustainability of these practices requires innovative approaches that can integrate modern technologies with traditional methods, ensuring that crafts remain relevant and accessible in today's rapidly changing world [37–40].

Digital technology is one of the most promising tools for addressing these challenges [41–44]. Technologies such as 3D scanning [45–47], photogrammetry [48–50], AR [51–53], and digital reenactment [54–57] allow for the digital preservation of craft processes, artifacts, and techniques, which might otherwise be lost. For instance, 3D scanning has been widely used to capture the details of cultural artifacts, enabling their preservation in digital archives and facilitating virtual access for researchers and the public [58–61]. Furthermore, AR has been used to support interaction with digital models of TCs and a better understanding of their creation [62,63].

In terms of education and training, digital technology brings new possibilities for teaching and learning traditional craft skills [64–68]. Online platforms, virtual apprenticeships, and interactive tools enable a broader and more global reach for craft education, overcoming geographical and logistical barriers [69–72]. Research has demonstrated that e-learning environments, particularly those incorporating gamification and interactive components, are effective in engaging younger generations and fostering active participation in craft learning [73–75]. These technologies are not only facilitating the transmission of TCs, but are also providing a platform for innovation, allowing artisans to experiment with new designs and techniques that combine TCs with modern digital tools [76–78].

The role of policy is also fundamental in supporting the intersection of digital crafts and TCs. Governments and cultural organizations have begun to recognize the potential of digital technologies for heritage preservation, and several initiatives have been launched to support this integration [79–82]. For example, the European Union has provided recommendations on the digitization and online accessibility of cultural material and digital preservation [83]. The European Year of CH recognized CH as a broad spectrum of resources inherited in all forms and aspects: tangible, intangible, and digital, both 'born digital' or digitized [84]. The key objectives were to promote solutions that make CH accessible to all, including via digital means, to support the development of specialized skills to improve knowledge management and knowledge transfer to the CH sector, and to promote research and innovation concerning CH. Furthermore, since 2014, Creative Europe has been supporting projects to foster cultural diversity, promote artistic expression, and boost the economic potential of the creative industries [85].

However, despite these efforts, challenges remain, particularly in terms of the infrastructure and financial support needed to ensure the long-term sustainability of digital preservation practices. Policies that provide incentives for artisans to adopt digital tools, alongside funding for education and infrastructure, are key to fostering the integration of TCs and modern technology.

2.1. Sociological Perspectives and Social Sciences Contribution

The study of craft transformations in the context of the "digital age" requires an in-depth sociological approach to understand the social dynamics underlying these co-evolutionary relationships. Research into the sociology of technology has highlighted the complexity of processes of adoption and adaptation to technological innovations in traditional craft communities. For example, the adoption of the Jacquard loom in 19th-century Lyon provides an early example of how pre-existing professional hierarchies influenced technology adoption. The loom, an early programmable device, faced resistance from skilled weavers who feared it would devalue their craftsmanship. However, over time, it was embraced by workshops that balanced artisanal expertise with increased productivity. This dynamic shows how the balance between tradition and technological efficiency shaped adoption. Sociological perspectives underline the importance of pre-existing social relations and established professional hierarchies and value systems in the acceptance or resistance to technological change. The use of the Societal Readiness Level (SRL) [86] scale could prove particularly relevant in this context, offering a structured methodological framework for assessing the societal maturity of proposed innovations in the craft sector. This approach makes it possible not only to measure the social acceptability of technological solutions, but also to anticipate their impact on social structures, modes of knowledge transmission, and the professional identities of craftspeople.

The introduction of digital technologies is profoundly altering traditional master–apprentice–material relationships [87], creating new forms of creative and aesthetic interaction, as well as different power relationships within workshops. These changes are accompanied by a redefinition of social roles and professional identities, with mastery of digital tools gradually becoming a marker of status and competence, in addition to traditional know-how. Research fields and experiments also highlight the emergence of new forms of professional sociability, notably through digital platforms and specialized social networks, which complement and sometimes replace traditional modes of networking and knowledge exchange. Analyzing these transformations through the prism of sociology enables us to better understand the social and cultural stakes involved in the attempt to integrate digital technical systems into the crafts, and to adopt policies to support and preserve craft heritage at national and European levels accordingly.

2.2. Overview of Cultural Policies in Europe

The European Union's cultural policies have evolved as part of an effort to promote CH, foster cooperation among member states, and establish a shared European identity while respecting national diversity [88]. Underlying problems originate in the failure to properly define what is meant by 'culture' in different contexts or to identify clear and pragmatic policy objectives, although legitimate 'instrumental' use of culture is common [89]. Despite the limited financial contribution and the European legal framework [90], the EU's cultural policy initiatives have had significant symbolic and practical impacts on cultural exchange and preservation.

The European Capital of Culture initiative, launched in 1985 by Greek Minister of Culture Melina Mercouri and supported by French Minister of Culture Jack Lang, is a cornerstone of EU cultural policy aiming to spotlight the cultural richness of selected cities and promote European cultural integration [91].

The Treaty of Maastricht (1992) [92] was a significant moment, incorporating cultural policy into EU primary law and enabling initiatives like Kaleidoscope (performing and visual arts, multimedia projects), Raphael (heritage conservation), and Ariane (literary culture and reading) [93]. These programs were unified under Culture 2000 after the Treaty of Amsterdam in 1998 [94], offering streamlined funding across sectors.

EU cultural policy seeks to create a shared European identity by emphasizing common heritage, such as Venice's architecture, Rembrandt's paintings, and Shakespeare's plays. However, the process of identity building remains cautious, reflecting the need to respect national sensitivities. The requirement for unanimous member state approval on cultural policies adds complexity and can hinder rapid progress. Funding remains important together with national programs [95].

Today, EU cultural policy continues to balance tradition and modernity, with a stronger emphasis on inclusivity, digital innovation, and sustainability [96]. Programs like the European Capital of Culture remain important, fostering cross-border collaborations and emphasizing Europe's cultural diversity as a unifying strength. While the symbolic creation of a shared European identity is modest, these initiatives underline the EU's commitment to cultural wealth in a globalized world. This approach reinforces the importance of culture not only as heritage, but also as a dynamic force shaping Europe's social and economic fabric.

2.3. Overview of TCs in Europe

TCs in Europe are integral components of CH, representing the diverse histories, identities, and artistic expressions of communities across the continent. These crafts are passed down through generations, often rooted in local customs, and have played a significant role in both domestic and commercial spheres. They encompass a broad range of techniques, from textile weaving, pottery, and woodworking to metalworking, glassmaking, and leathercraft, each embodying specific regional styles and methods. The diversity of European TCs is remarkable, with distinctive forms emerging from the unique cultural, geographical, and historical contexts of various regions.

2.3.1. Textile Crafts

Textile crafts are one of the most varied and widespread categories across Europe. From the lacework of Bruges in Belgium [97] to the colorful woolen textiles of the Scottish Highlands [98], textiles have played a significant role in shaping European heritage. In Greece, for example, traditional weaving techniques such as "boubouki" (a type of loom weaving) are central to the cultural fabric of the country, with patterns that carry symbolic meanings tied to regional identity. In Cyprus, weaving has deep roots in the island's rural

communities, where the Lefkara lace [99] tradition was included on UNESCO's list of Intangible CH [100]. Similarly, Germany's rich textile traditions are exemplified by the Bavarian Tracht [101], a type of folk costume that has strong regional roots, combining embroidery and weaving techniques passed down through generations. While these regions share a common theme of textile craftsmanship, they each demonstrate unique regional adaptations. The use of local materials such as wool in the Scottish Highlands and Cyprus' emphasis on flax in its linen weaving [102] reflects the local natural environment and the availability of resources, further underlining the diverse approaches to the same craft tradition. This diversity, while seemingly unifying, highlights the influence of local history, geography, and culture.

2.3.2. Pottery and Ceramics

The tradition of pottery and ceramics is another example of European diversity. In Spain, the iconic Talavera ceramics from the region of Castile-La Mancha showcase blue-and-white designs that have been made since the 16th century [103,104]. The patterns and colors used in these ceramics are unique to the region, and they reflect the Spanish influence on this craft through its Moorish heritage. Similarly, in Hungary, pottery traditions date back thousands of years [105,106]. The Hollóháza porcelain factory [106], for example, represents the deep tradition of Hungarian ceramic artistry, blending European and Asian influences over centuries. Hungarian ceramics are known for their floral motifs and shapes [107]. These ceramic traditions are distinct not only in design, but also in production techniques. In Castile-La Mancha, artisans rely on traditional handcrafting methods such as turning the pottery on a wheel [108], while, in Hungary, porcelain production involves highly specialized techniques of molding and glazing. In both cases, these crafts serve not only as art forms, but as an expression of CH, with a direct connection to local history and customs.

2.3.3. Woodworking

Woodworking in Europe displays vast regional diversity, particularly across the northern and eastern parts of the continent. In Sweden and Finland, the art of "kurbits" [109] (traditional Swedish wood painting) and "karelian" woodworking [110] techniques have been used for centuries to decorate furniture, household objects, and even churches. These traditions are deeply tied to rural life and have been maintained as a way of preserving the memory of past generations. The intricacy and precision of these wooden crafts are often passed down within families, ensuring that skills are not lost over time. In the Balkans, particularly in countries like Romania and Bulgaria, woodworking is often tied to both artistic expression and utility [111,112]. The Maramureș region in Romania is famous for its wooden churches and carved wooden gates, a practice that has evolved over centuries [113,114]. In Bulgaria, the art of carving wooden furniture with floral designs and symbols related to the agricultural lifestyle is still an important aspect of local culture [115]. In both regions, these traditions provide a sense of pride, identity, and community.

2.3.4. Metalworking and Glassmaking

Metalworking and glassmaking also exhibit a diverse array of practices across Europe. In Italy, the Murano glassmaking tradition on the Venetian island of Murano [116] is world-renowned, with its origins dating back to the 13th century. Venetian artisans have perfected the art of glassblowing and use it to create colorful glass pieces. Similarly, in the Czech Republic, glassmaking traditions in regions such as Bohemia have been recognized for their exquisite craftsmanship [117]. The use of local sand and minerals in the production of Bohemian crystal creates unique high-quality glassware that is highly prized around the world. On the Iberian Peninsula, Spanish Damascene metalwork involves inlaying

gold and silver into iron or steel, creating beautiful designs that date back to the Islamic period [118]. This technique, preserved in areas like Toledo, speaks to Spain's unique history and the influence of Moorish culture on its TCs [119]. In both these regions, the value of these crafts is not only in the finished product, but also in the mastery of the artisans who continue to practice techniques passed down through generations.

2.3.5. Silversmithing

Silversmithing in Europe has a long and storied history, with regional traditions influencing both the aesthetics and techniques of the craft. In Britain, British silversmithing is renowned for its precision and design, with hallmarking practices regulated by the London Assay Office, which ensures the authenticity of silver used in crafting jewelry, tableware, and decorative pieces [120]. British silversmiths are known for their delicate engravings, a tradition dating back to the 14th century. The art of silversmithing has evolved in line with the country's broader social and cultural developments, blending artistic flourishes with the need for functional pieces. In Scandinavia, particularly in Sweden [121] and Norway [122], silversmithing holds an important role in the regional craft traditions. Norwegian silverwork from the 18th and 19th centuries is especially known for ornate spoons, brooches, and jewelry, often adorned with motifs drawn from Norse mythology and nature [123]. Swedish silversmithing, especially from the Gothenburg region, is distinguished by a style that marries traditional craftsmanship with modern design sensibilities [124]. This combination of history and innovation continues to define Scandinavian silversmithing today, with many artisans creatively blending historical techniques with contemporary aesthetic trends. In Greece, the town of Ioannina has become a significant center of traditional silversmithing, contributing greatly to the country's heritage of silver craftsmanship [125]. The town's silversmiths have been creating jewelry, vessels, and decorative items for centuries, rooted in techniques brought by Ottoman influences and local traditions. Ioannina's silver artisans were renowned for their work with filigree, a technique involving the twisting of fine silver wire into delicate patterns, often used in making jewelry such as rings, earrings, and bracelets. This art form, alongside larger silver pieces like candelabras and trays, became deeply integrated into local culture and commerce. The region is noted for producing some of the finest examples of Greek silverwork, a tradition that continues in the modern era. Today, silversmiths in Ioannina continue to practice these age-old techniques, producing pieces that reflect both the cultural depth of the town's past and its place in the contemporary world of fine craftsmanship. In all these regions, silversmithing is more than just a craft; it is a symbol of cultural identity and artistic heritage. While the silversmithing traditions of Britain, Scandinavia, and Greece (specifically Ioannina) differ in their design elements and historical influences, they all share a commitment to fine craftsmanship and innovation. These artisans continue to adapt their methods to modern demands while preserving the deep-rooted traditions that have made their work so valued throughout history.

2.3.6. Porcelain Making

Porcelain making represents a critical part of Europe's artistic and industrial history, with distinct traditions developing in countries such as France, Austria, and the Czech Republic [126]. The French porcelain industry, particularly in regions such as Limoges, has been famous for centuries for its delicate and elaborate designs, which set the standard for European porcelain in the 18th and 19th centuries [127]. Limoges porcelain, produced from kaolin clay [128], is renowned for its whiteness, smooth texture, and hand-painted designs. The area's porcelain tradition became synonymous with aristocratic dining and decoration, and even today, Limoges porcelain is prized for its craftsmanship. In Austria, the establishment of the Vienna Porcelain Factory in the 18th century marked the beginning of

the country's significant contribution to European porcelain craftsmanship [129]. Austrian porcelain is renowned for its rich color schemes and the fine detailing seen in pieces like figurines, vases, and tableware [130]. Porcelain from Austria has long been associated with both functional objects and high art, often featuring relief work and gilding. The Czech Republic, specifically the Bohemian porcelain tradition, is yet another example of European excellence in porcelain making [131]. Bohemian porcelain, originating in regions such as Karlsbad (Karlovy Vary) [132], is celebrated for its elegant designs and use of fine gold and floral decoration. The blending of traditional and contemporary porcelain techniques has kept Bohemian porcelain relevant on the global market, with artisans continuing to produce world-class porcelain objects today. In all these regions, porcelain making represents not only a commercial enterprise, but also a cultural art form that expresses regional identities through design and craftsmanship.

2.3.7. Marble Carving

Marble carving is perhaps one of the most iconic forms of European craftsmanship, and it has historically been concentrated in countries such as Italy and Greece. Italy, with its rich history of classical art and architecture, has long been a center for marble carving, particularly in regions such as Tuscany and Carrara [133]. The quarries of Carrara are globally recognized for producing some of the finest marble in the world, and this marble has been used by renowned artists like Michelangelo and Donatello [134]. The skill of carving marble is a time-honored tradition in Italy, where artisans continue to uphold centuries-old techniques while also innovating in contemporary sculpture. The Carrara Marble Festival in Tuscany showcases this living tradition, with artisans demonstrating their techniques and creating new works of art [135]. Similarly, in Greece, marble carving is central to the country's ancient and modern cultural identity. The ruins of classical Greece, with their iconic marble columns and sculptures, display the country's historical mastery of the craft. Modern Greek artisans continue to carve marble for both decorative and functional purposes, with regions like Naxos and Tinos [136] being particularly well-known for their marble quarries and craft traditions. In addition to classical styles, Greek marble carvers today work on contemporary art pieces and restoration projects, ensuring the continued relevance of the craft.

2.3.8. Economic and Social Significance

The economic and social significance of these crafts cannot be overstated. In addition to their cultural value, TCs have historically been a source of livelihood, contributing to local economies through both domestic use and trade. Moreover, many crafts have strong associations with tourism [137–139], with visitors often seeking out authentic handcrafted products as souvenirs or appreciating the opportunity to observe artisans at work. In regions like Provence in France [140] or the Scottish Highlands [141], TCs are major elements of the tourism industry, providing economic benefits while fostering cultural pride and community identity.

2.4. Challenges Facing TCs

Despite the enriched CH, TCs have several challenges impeding their continuity and relevance in modern times in Europe today [142,143]. First and foremost, there is an effect of globalization and industrialization. With the advancement of mass production techniques, most consumer goods have become cheaper and more accessible, often at the expense of artisanal methods. The mass-produced article is seen to be cheaper, more efficient, and more accessible than the time-consuming and bespoke nature of traditional craftsmanship. This has resulted in a decreased demand for handicrafts, which decreases the livelihoods of the artisans and lessens the visibility of these crafts.

Moreover, another critical barrier to the retention of traditional knowledge and skills is a generational gap in crafts. Younger generations, with increasing interest in modern technology and digital occupations, or the prospect of more lucrative career paths, have shown limited interest in careers in the craft industries [144,145]. This decline in young apprentices and craftspeople causes a gradual erosion of the knowledge necessary to continue traditional practices [146]. In many instances, it is difficult for artisans of the older generation to find successors either willing or able to continue the work, which constitutes a potential loss of critical skills [147]. The European Commission estimates that more than 50% of the craft industries in Europe have difficulty attracting young people, and many traditional skills are considered to be at risk of disappearing due to a lack of transmission to younger generations.

Another important factor is economic pressure. Most of the costs of production by handicrafts are much higher compared to mass-produced goods. For many artisans, these higher costs make it impossible to compete in global markets, further weakening the viability of their craft. Added to that is the general undervaluation of traditional craftsmanship, usually unnoticed with the fast pace and consumerist perspective of modern industries. This lack of appreciation is further worsened by insufficient financial support, incomplete infrastructure, and a general lack of public awareness about the need for the preservation of such culture.

Furthermore, the rapid pace of technological change presents both opportunities and challenges for TCs. While digital technologies offer great potential in the preservation and presentation of crafts, they also cut two ways. The advent of automation and digital manufacturing such as 3D printing is likely to further erode the uniqueness of handcrafted goods and lead to a homogenization of products. While digital tools can indeed aid in the education and training of new artisans, there is also the potential for them to further reduce the emphasis on manual craftsmanship, altering the very essence of what defines TCs.

These challenges are further exacerbated by the lack of a clear and cohesive policy framework that could support and sustain TCs in a modern economy. While there have been some efforts by regional and national governments to recognize and protect TCs as part of CH, many policies remain fragmented and insufficient. There is an increasing need for policies that contribute not only to the protection of crafts, but also to their evolution and integration into the modern economy.

2.5. Current Efforts in Sustainability and Valorization

In response to the urgent needs of TCs, several initiatives and organizations have already been established in Europe to protect, maintain, and valorize these important forms of cultural expression. Another example is the support of intangible CH by the European Union through the European Heritage Label [148], which also contributes to the recognition of cultural assets, such as TCs. The label, created in 2006, aims to promote a greater feeling of common European identity and to encourage the preservation efforts for crafts and other intangible cultural expressions, thus strengthening the cultural fabric of the European Union as a whole. This initiative not only aids in promoting specific craft traditions, but also facilitates the broader recognition and appreciation of the importance of cultural diversity within the EU.

Recognition by UNESCO of TCs as part of its Intangible CH of Humanity also plays an important role in raising international awareness and promoting cross-border cooperation [149]. In so doing, UNESCO safeguards TCs within this framework and helps to raise their status as critical components of global CH. International recognition further supports collaboration between countries for the protection and passing on of these skills to future generations through initiatives like the UNESCO Creative Cities Network [150].

Such global recognition not only underlines the importance of craftsmanship in preserving cultural diversity, but also helps generate funding and policy support for the protection of these practices.

The rise in digital technologies has also provided new opportunities for the preservation and promotion of TCs across Europe [43]. Tools such as 3D scanning and VR are increasingly being used to digitally document and reproduce craft techniques. These technologies offer a means of safeguarding the knowledge behind these crafts in a format that is accessible to a wider audience. For instance, virtual museum exhibitions and online showcases of crafts allow people from every part of the world to learn about and be informed about traditional European crafts without geographical constraints. Digital documentation will also guarantee that valuable techniques can be passed on in a durable and retrievable format, even if the physical crafts themselves are at risk of disappearing.

Besides preservation, digital technologies have also provided artisans with a platform for global access through digital platforms of e-commerce and education. Online marketplaces like Etsy [151], among several regional craft-oriented platforms, are avenues for artisans to sell their goods to any part of the world. This gives artisans a larger customer base and allows them to achieve economic viability. While global virtual markets such as Etsy provide economic opportunities for artisans to reach international audiences, they also present challenges related to the protection of CH. These include the risk of facilitating the export of culturally significant objects and the potential loss of cultural narratives when items are sold by resellers. Such practices can conflict with UNESCO conventions, such as the 1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export, and Transfer of Ownership of Cultural Property [152]. While our study highlights the economic potential of online marketplaces for artisans, we recognize the importance of mechanisms to regulate and monitor the trade of culturally significant objects. Addressing these issues requires policy interventions to regulate such markets, transparency measures to preserve cultural context, and initiatives to encourage direct engagement between artisans and consumers. At the same time, there is a valid concern about the loss of cultural and historical context when items are sold by resellers rather than the artisans themselves. Such losses diminish the cultural value and narrative tied to the object, which is an essential aspect of TCs. Further to the above-mentioned statement, it is important to stress in all directions that the cultural and historical context of an artifact is not just important, but it can be considered even more important than the object itself in terms of the preservation of CH. Speaking about preservation, there is a tendency to show "the priority of maintaining a holistic context over the protection of individual objects" [153] (p. 178). Moreover, as outlined in the article just mentioned, this idea (about the context's priority) is not entirely new: "The priority of context over its components has been inherent in cultural heritage law since its inception", as "similar ideas were already present in acts during the reign of Theodoric the Great, the king of Italy in 493–526" [153] (p. 171). To address this issue, we advocate for promoting direct-to-consumer sales by artisans, which ensures that buyers receive authentic items accompanied by their full cultural narrative.

In the same context, there is another issue that should be considered; it has been pointed out by contemporary researchers that, in some cases, online platforms help sell valuable heritage assets. For example, a Ukrainian researcher, while speaking about vintage embroidered epigraphic towels, pointed to the risks associated with their virtual selling: "Many of them which are still preserved by successors of the embroideresses are gradually selling off by the owners. And this is where the main problem lies. These embroideries often move to their buyers without proper certification" [154]. This highlights the urgent need for certification as a means of safeguarding CH artifacts and maintaining their cultural significance and contextual narrative. Of course, virtual marketplaces can be

proven, especially for researchers, to be a valuable, open, and widely accessible medium for locating and preserving the digital documentation of these cultural objects for further study.

E-learning platforms have also emerged to support education and training in TCs [64]. This would involve the training of young people in these skills through online courses and digital workshops, which would bridge the generational gap and encourage the transmission of knowledge about craftsmanship in more interesting and accessible ways. These digital tools are important in ensuring that TCs remain economically viable and socially relevant while their contents adapt to the needs of modern consumers.

2.6. Role of Education and Training

Education and training are indispensable regarding the sustainability and preservation of TCs since they provide the necessary frameworks within which knowledge can be transmitted and skills developed [155,156]. In this respect, European traditional craftsmanship depends on both formal and informal educational pathways regarding passing on the techniques, knowledge, and creativity invested in these practices to a new generation of artisans [157]. However, the challenges of declining interest in crafts among young people, the erosion of master–apprentice relationships [158], and the demand for new and more flexible educational models require new solutions to bridge the gap between tradition and modernity.

On the European level, the incorporation of craft education into both systems of formal schooling and informal training has been a constant process. Most countries have a long tradition of apprenticeship systems where young artisans learn directly from masters in workshops, a practice that is still widespread in countries such as Italy, France, and Germany [159–161]. These apprenticeship models are part of the preservation of craft traditions as they allow hands-on learning and facilitate the transmission of tacit knowledge skills and techniques that cannot be easily codified in textbooks. The apprenticeship also develops a deep attachment to the craft, which reinforces cultural pride and personal identity linked with the work [162]. These systems increasingly face pressure due to changes in the labor markets away from manual labor industries to service and digital-based industries.

Due to this gap in generations and an ever-changing global economy, it is imperative to incorporate digital tools and modem pedagogical approaches into education for traditional craftsmanship. E-learning platforms or web-based courses open opportunities to include learners of all ages with access to training in crafting activities from anywhere in the world, thus making education even more flexible and accessible on a worldwide scale [163]. Digital platforms such as Skillshare [164] and Coursera [165] give their users access to an extensive set of courses on practically any subject, from TCs like woodworking, pottery, or textiles to many other related topics. These platforms facilitate learning with the use of video tutorials, interactive content, and virtual workshops, which became essential basic tools for remote education during the COVID-19 pandemic [166]. Moreover, through digital technologies, artisans can now reach a global audience, creating space for international exchange and collaboration.

Running parallel to these technological developments is a growing interest in the integration of immersive technologies such as virtual and AR into craft education [167]. These provide a unique opportunity to engage learners in interactive experiential learning environments. For example, these can simulate the process of crafting, allowing students to virtually practice skills that are otherwise difficult to access in real life, such as glassblowing or metalworking [62]. Similarly, AR can overlay instructions on real-world environments, guiding learners to engage with physical materials, such as weaving or pottery [168]. These

technologies not only enhance the learning experience, but also make it easier to preserve and teach techniques that may otherwise be lost or underrepresented.

Formal academic institutions have also risen to these challenges by establishing specialized programs and degrees in the study of TCs. For example, the University of Gothenburg in Sweden offers a Master's in Design for Craft Practices, which merges traditional craftsmanship with modern design thinking [169]. Similarly, the Royal College of Art in the UK, along with other prestigious European schools of art and design, has introduced programs that merge craft traditions with state-of-the-art design and technology [170]. Such an academic curriculum trains students to work not only as artisans, but also as innovators in the craft sector to ensure the relevance of TCs in contemporary markets.

Moreover, initiatives like Crafting Europe and numerous national programs aim to reinforce craft education through cross-border collaborations to create one European curriculum on TCs [171]. These also ensure that standards and quality in education are harmonized, and promote the mobility of artisans and educators, paving the way for the free flow of knowledge across borders and the preservation of CH at a pan-European level. Such initiatives will encourage transnational exchange opportunities and collaboration to bring together different craft traditions while upholding the values of sustainability and innovation.

Finally, it is impossible to overstate the role of education and training in making TCs sustainable [143]. New technologies and methods of education continue to offer great prospects in preserving, teaching, and innovating in the sector of craft. These efforts, however, need to be supplemented with strong policy support and continued investment in both formal and informal education if TCs are to thrive in the future.

2.7. Role of European Policy

The role of European policy in sustaining TCs is critical for making those practices relevant and viable economically. Whereas TCs contribute greatly to Europe's CH and local economies, they face many challenges, including globalization, industrialization, and the erosion of traditional skills. Effective policy frameworks are needed to protect, promote, and revive these crafts, which should foster an enabling environment that encourages innovation, sustainability, and cross-border collaboration.

At the European level, several initiatives and policies have been developed to address such challenges. Among these instruments, one of the most important is the European Heritage Label as a recognition given to CH sites, including TCs, and their contribution to the European identity [172]. The European Heritage Label promotes the diverse CH of Europe, encouraging the arts professions, showcasing their work, and connecting with wider audiences while supporting tourism and local economic development. Similarly, the Creative Europe program supports the cultural and creative sectors in funding projects that combine TCs with contemporary practices and digital innovation [173]. Creative Europe supports the survival of TCs and their development within the contemporary creative economy through financial means and the enhancement of transnational cooperation.

The second highly important European-policy-level initiative is the strategy for the Cultural and Creative Industries (CCIs), which already positions TCs within the context of the creative economy [174]. CCI policy supports the sector with funding opportunities, skill development, and initiatives encouraging entrepreneurship among artisans. The Digital Agenda of the European Union also provides crucial support for the integration of digital tools and technologies into design practices [175]. Through initiatives such as Horizon 2020 [176] and Horizon Europe [177], funding is provided for research into digital innovation for the craft sector. Research results have the potential with their practical

application to support craft businesses in expanding their market reach and adopting new digital technologies.

Moreover, European policies concerning sustainability have important implications for the traditional craft sector. The European Green Deal [24] is a complex initiative to make Europe the first climate-neutral continent, bringing many challenges and opportunities for TCs. On the one hand, craftspeople should integrate environmental standards into the production process; on the other hand, TCs are aligned with sustainability goals since they often use natural materials and low-impact production methods. Policy initiatives that will lead towards sustainability in the craft sector, such as incentivizing eco-friendly production methods and encouraging the use of renewable resources, are relevant for the long-term viability of TCs within a sustainable economy.

The European Union has, in turn, identified that there is an increasing need for more intense cross-border collaboration to safeguard and promote traditional craft. Initiatives such as European Capitals of Culture and Erasmus for Young Entrepreneurs [178] permit artisans to participate in cultural exchanges and best practices, and reach markets other than their national ones. Such initiatives essentially facilitate the process for artisans to widen their networks, learn new skills, and combine modern design thinking with traditional techniques. Notwithstanding different efforts at the European level, there is still a lack of more coordinated policies to deal with specific challenges that traditional craftsmanship faces at both national and regional levels. A unified European strategy concerning TCs would be very welcome to harmonize efforts among the member states and ensure that artisans have consistent access to funding opportunities, training programs, and digital infrastructure. Policymakers should also focus on ensuring that TCs are integrated into broader cultural and economic policies, recognizing their value not only as CH, but also as a key driver of sustainable local economies.

3. Methodology

This study is based on ethnographic research conducted within the framework of the Craeft European Project, which explores the preservation and revival of TCs across Europe [179]. This research investigates eight craft instances, providing an examination of traditional craft practices, educational frameworks, and the impact of policy and digital technologies. The selected craft instances span a wide range of regions and disciplines, offering insight into diverse cultural contexts and the challenges faced by artisans today.

3.1. Research Design

This research is based on three main pillars: the interdisciplinary nature of its approach, the centrality of the role of artisans, and the comparative perspective. Its methodological orientation is based on an ethnographic protocol co-designed by social scientists and computer science researchers. This multi-phase protocol has been implemented throughout the craftsmanship instances covered by the project. The ethnographic approach is complemented by the collection of financial data gathered from the various educational, heritage, and business institutions that constitute the fabric of each craft instance. This research aims to provide an in-depth understanding of the factors influencing the sustainability of these crafts, focusing on defining the areas for potential interventions through the analysis of research data and then identifying those interventions at a craft level and an education and training level. An overview of the proposed methodology is presented in Figure 1.

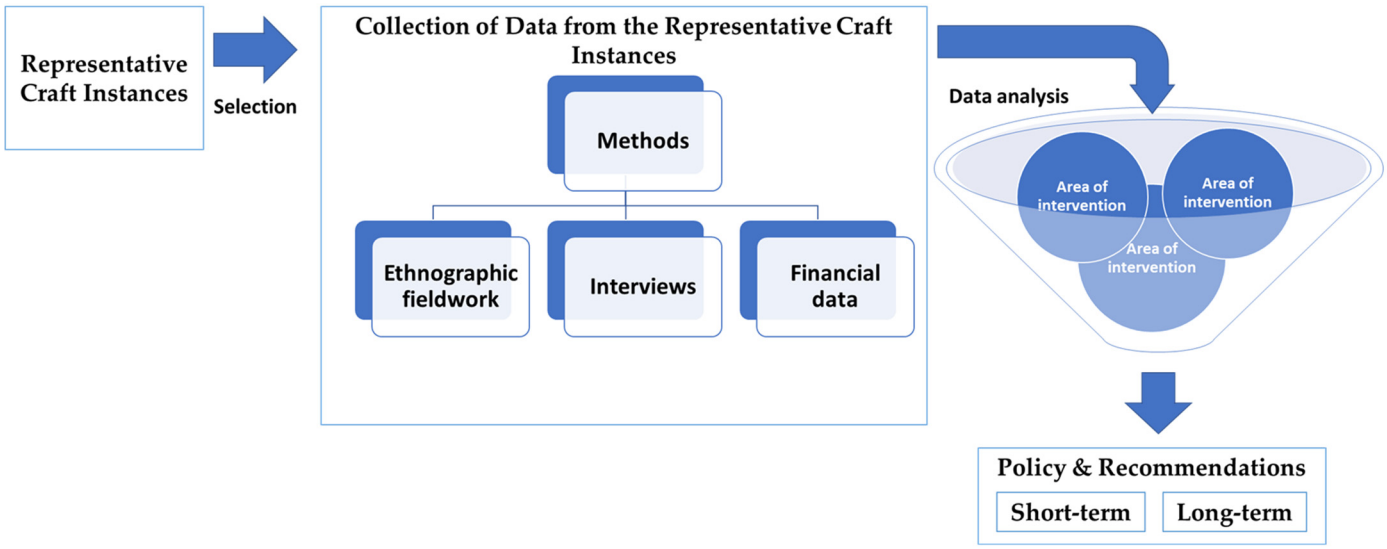


Figure 1. Overview of research design.

For the application of such interventions on a European scale, there is a need to complement actions with adaptations to the policy framework and the adaptation of existing policies to include crafts.

From this endeavor, we aim to provide a deeper understanding of the factors that influence the sustainability of these crafts. More specifically, we look at case studies and field observations and examine how craft practitioners integrate technologies uncovering both the challenges and opportunities of such tools. Furthermore, it allows us to study the potential for such integration in the future. Educators and trainees in craft schools help us explore how knowledge transfer evolves or can evolve with digital tools by identifying gaps in traditional and modern educational approaches and how curricula can integrate new skills without diminishing heritage practices. Policy documents and stakeholder interviews allow us to evaluate existing measures supporting crafts. This approach seeks to identify effective policies or define the need to adapt existing ones to support sustainability at regional and EU levels.

3.2. Data Collection

3.2.1. Ethnographic Fieldwork and Recording

The ethnographic protocol involves the convergence of diverse methodological approaches and disciplinary traditions within the Social Sciences and computer sciences. The protocol aims to enhance the understanding of craft processes through different methods of data collection, encompassing operational sequences, professional biographies, tacit knowledge, and practitioner movement. Its interdisciplinary approach seeks to refine the understanding of different technical processes in craft work environments, generating comparable data and providing tools for analysis.

Its collaborative perspective enabled a process of co-creation that placed the experience of artisans at the center of strategies for understanding craft and integrated the knowledge systems and perspectives of both researchers and craft communities. The fieldwork of each of the artisan examples was carried out in their respective workshops, workspaces, and craft-related institutions, allowing for detailed observations focusing on technical processes, daily routines, interactions between artisans, and the interactions between artisans, tools, materials, objects, and workplaces. Starting from the centrality given to the artisans, the different methodological tools made it possible to make a key selection of the technical gestures representative of each craft to link their training trajectories with their technical–

professional choices, and, based on their experiences, to address cross-cutting themes such as sustainability and valorization within the artisanal sector.

3.2.2. Interviews

Following the structure of the ethnographic protocol, the interviews with professional craftspeople were organized in two distinct phases that respond to different methodological orientations and seek to generate and collect different types of data.

Interviews were conducted with craft masters, craft educators, and craft students from various regions of Europe. Craft masters and educators had at least 10 years of experience in their respective craft traditions or learning subjects. Students were selected among the cases where an organized educational program and curricula existed.

The participants were selected by the partners participating in the Craeft Project responsible for representative craft instances and their collaborators. More specifically, these organizations include CERFAV (European Center De Recherches Et Formation Aux Arts Verriers), le CNAM (Conservatoire national des arts et métiers), National School of Art and Design, Limoges (ENSAD, Limoges), PIOP (Piraeus Bank Cultural Foundation), Silversmithing Museum of Ioannina, Tinos Marble Museum, Individual Marble carvers in Tinos, Ioannina Centre for Traditional Handicraft (KEPAVI), traditional silversmiths at the region of Ioannina, CETEM (Technology Centre of Furniture and Wood), Individual woodcarvers from the region of Yecla Spain, and Individual potters and textile weavers from the region of Heraklion and Rethimno in Crete. A purposive sampling method was followed to ensure diverse representation across crafts. The sampling aimed to capture the perspectives of artisans, educators, entrepreneurs, and academics in art and design. The objective was to cover a wide range of traditional skills, educational practices, and entrepreneurs.

Semi-structured interviews were conducted with craft masters and senior practitioners applying sociology based on the life course approach [180] to study how craft practices develop and evolve, emphasizing the interplay between their technical activities, social experiences, and personal biographies. These interviews allowed for in-depth conversations about the challenges and opportunities within their particular craft, the integration of digital technologies, and their views on education and training. This methodological approach analyzes how career trajectories are constructed and how life events, historical influences, and personal choices influence professional practices, knowledge acquisition, and the transmission of craft skills, allowing craft practices to be contextualized within broader life and social dynamics (see Appendix A). Interviews with craft educators were conducted in formal education spaces. These interviews aim to explore their perspectives on teaching methodologies, the integration of traditional and modern practices in craft education, the challenges they face in transmitting skills to new generations, and their views on how educational programs can adapt to evolving technological, cultural, and economic contexts. These conversations also seek to understand how educators inspire creativity and innovation among students while preserving the cultural and historical significance of traditional crafts (see Appendix B). The interviews with craft students aim to understand their motivations for pursuing a craft, the influences of family, culture, and community on their decisions, and their aspirations for the future. These conversations also seek to explore how students balance traditional practices with modern technologies, their experiences of learning from educators and mentors, and the challenges and opportunities they encounter while studying and, in some cases, working simultaneously in their chosen craft (see Appendix C).

In the second phase, which follows the phase of capturing and recording the gestures, interviews were carried out based on video elicitation techniques in which the practitioners were confronted with the video recordings of their gestural activity in progress. During

these interviews, practitioners are invited to describe their actions, their gestures, and their intentionality. The objective of this methodological approach is to collect the personal and emotional data linked to craft practices, allowing us to make explicit the practitioners' tacit knowledge (see Appendix D).

3.2.3. Financial Data Collection

Financial data were collected from the participating museums, craft training organizations, and entrepreneurial ventures regarding the economic viability and sustainability of TCs. This includes revenue derived from craft sales, funding for education and training programs, and expenditures related to the preservation of traditional techniques. The financial data allow for analyzing the economic impacts of craft practices and identifying models that contribute to the sustainability of the crafts.

3.3. Data Analysis

Qualitative and quantitative data analyses were performed through ethnographic fieldwork data, interview data, and financial record data.

3.3.1. Qualitative Data

Thematic analysis was performed on the ethnographic data, comprising fieldnotes and interviews. The themes identified and explored in-depth included those relating to sustainability, the role of digital technologies, and the influence of education and policy frameworks. Such an analysis provides a clear insight into the lived experiences of artisans, the challenges faced by them in continuing traditional craft practices, and their perceptions regarding the integration of new technologies.

More specifically, the qualitative data that we had at our disposal from the ethnographic fieldwork included practitioner recordings in videos from multiple angles including egocentric recordings, life stories of the practitioners using the life course approach, self-reflections on their craft practice collected by having the practitioners observe their craft methods and reflect, fieldnotes of the ethnographers, and transcripts from semi-structured interviews. For the thematic analysis, we followed Braun and Clarke's framework [181]: (a) Familiarization with the data: All recordings, life stories, self-reflections, fieldnotes, and interview transcripts were transcribed (where applicable) and thoroughly reviewed to gain a deep understanding of the content. (b) Generating initial codes: Data were systematically coded to identify recurring patterns, concepts, and narratives. Codes were derived from both inductive (data-driven) and deductive (theory-driven) approaches. (c) Searching for themes: Codes were grouped into broader themes based on their relevance to the research objectives, such as sustainability, the role of digital technologies, and the influence of education and policy frameworks. (d) Reviewing themes: Themes were refined and validated by cross-checking with the original data to ensure consistency and accuracy. For example, life stories and self-reflections were used to validate themes emerging from interview transcripts and fieldnotes. (e) Defining and naming themes: Each theme was clearly defined and labeled to reflect its significance. For instance, themes related to the life course theory [182] highlighted key transitions, challenges, and adaptations in artisans' careers. (f) Producing the report: The findings were synthesized into one report per craft instance.

The life course approach was particularly valuable for understanding how artisans' personal and professional trajectories intersected with broader socio-economic and cultural changes. Self-reflections provided insights into their creative processes, motivations, and perceptions of their craft practices.

3.3.2. Quantitative Data

The economic analysis focused on understanding the dynamism of the craft sector in each case study by examining four key dimensions: museum visits, tourism involving traditional crafts, and the income of craft practitioners. This approach provided a holistic view of the financial situation in the craft sector and informed the alignment of recommendations with economic realities.

- Museum visits: Data on visitor numbers and engagement with craft-related exhibitions were collected from local museums. This information helped gauge public interest in traditional crafts and their cultural significance.
- Tourism data: Tourism statistics, including the number of visitors participating in craft-related activities (e.g., workshops, craft fairs), were analyzed to assess the role of tourism in sustaining the craft sector.
- Craft practitioners' income: Income data from artisans were collected through interviews and self-reported financial records. This provided insights into the economic viability of craft practices and the challenges faced by artisans in sustaining their livelihoods.
- Craft training organizations: The analysis of figures for craft training organizations allowed us to assess their economic viability and whether they will remain sustainable in the future and, at the same time, the interest in receiving training in traditional crafts through the participation of young students and apprentices in their training programs.

The analysis was interpretive rather than formal, focusing on identifying trends and patterns rather than statistical rigor. For example, correlations between tourism growth and artisan income were explored to understand the economic impact of tourism on the craft sector. Similarly, museum visit data were used to assess the role of cultural institutions in promoting traditional crafts.

3.4. Case Studies

3.4.1. Case Study Selection

The eight craft instances studied in the Craeft Project represent a wide variety of European traditions and contexts. These include the following:

- Aubusson tapestry (France) is a very old textile craft producing extremely intricate woven tapestries.
- Limoges porcelain making in France, which is supported by the School of Fine Arts in Limoges.
- Silversmithing at Ioannina, Greece, is supported by local museums and the association of artisans.
- Textile weaving at Crete consists of artisan entrepreneurs who conserve traditional weaving in Crete.
- Traditional woodcarving within the region of Yecla, Spain.
- Glassblowing at the Cerfav (France) is a craft training organization concerned with both contemporary and traditional glassblowing techniques.
- Pottery making at the Margarites Village, Crete, Greece, specializes in traditional pottery making, connecting historical practices with modern uses.
- Marble carving at Tinos, Greece, is supported by local museums and artisans.

These cases were selected for their geographic diversity, the different craft forms they represent, and their involvement in various educational and policy frameworks. Both artisanal workshops and educational institutions are represented to provide a balanced overview of current challenges and potential solutions for safeguarding and promoting TCs. The diversity of these practices and their socio-cultural contexts increases the complexity of data collection, providing a set of elements for analysis. The comparative perspective of

the project and its interdisciplinary approach highlight this diversity with the intention of encouraging dialogue between different gestural knowledge. The aforementioned diversity is summarized in Table 1.

Table 1. Summary of the diversity of crafts.

Case	Material Type	Actions	Bound to Context	Active Educational Programs	Active Training Programs	Availability for Ethnographic Fieldwork	Education Curriculum Availability	New Designs and Artwork	Supported by a Cultural Organization/Museum
Glass	mineral, free-form	free-form	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Porcelain	mineral, free-form	free-form	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clay	mineral, free-form	free-form	Yes	No	No	Yes	No	Yes	No
Marble	mineral,	subtract, formation	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wood	flora, add/subtract	add/subtract	Yes	No	No	Yes	No	Yes	No
Silver	mineral, add/subtract/free-form	add/subtract/freeform	Yes	Yes	Yes	Yes	No	Yes	Yes
Aubusson tapestry	fibers	interlock	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wool textiles	fibers	interlock	Yes	No	No	Yes	No	Yes	No

Table 2 presents the rationale for the selection of each case study to prove their applicability for studying the European Crafts sector. Our selection is based on the material used in the craft, the type of processing of the material (e.g., freeform transformations, subtraction, interlocking, additive, etc.), the social and historical context, the products of the craft, the types of education applied (formal, informal, apprentice-based), the curricula used, and the new dimensions on crafts based on adopting modern technologies and art and design principles.

Table 2. Use case selection rationale.

Glass: (mineral, free-form). Context: For 250 years, Vannes-le-Châtel has had an increasingly strong celebration of the city's glassmaking tradition. CERFAV is an Apprentice Training Centre for glasswork. The product range is extremely broad (utilitarian, art, scientific, and other). CERFAV safeguards, transmits, and valorizes know-how. Education: CERVAF covers the spectrum of training courses related to glass material, art, technique, and technologies. Training: Glassblowing. Ethnography: @ CERFAV Curriculum: CERFAV Vocational Training Certificate CAP, French diploma for secondary studies and vocational education on the art of glass and crystal. New: artistic goblet/cup design, recovery of designs and techniques using experimental archaeology (J. P. Mateus glass master, two apprentices).	Porcelain: (mineral, free-form). Context: Limoges, France, is the French capital of ceramic arts. Since the 18th century, Limoges porcelain has been at the top of the market. Products: these are finely decorated pottery of characteristic color and impeccable texture. Education: provided in kaolin extraction, composition recipes, molding, pouring, enameling, and firing of this special clay. Training: free-form shaping and fine decoration. Ethnography: @ porcelain studio of ENSA-Limoges, collaborating with CNAM. Curriculum: ENSA-Limoges. New: decoration styles and artworks (G. Meynard, ceramic designer, director of Porcelain Studio, of ENSA-Limoges).

Table 2. *Cont.*

Clay: (mineral, free-form). Context: Ancient and modern Cretan pottery are practiced at the Kerameion at Crete, Greece. Products: these are utilitarian and artworks. Seminars are held for international students and visitors, disseminating pottery to the public. Visitors view and participate in the demonstration of traditional pottery to schools and adult groups. Education: clay recipes, motif semiotics, wood kiln firing conditions. Training: all stages from soil collection, clay kneading, shaping pottery on the wheel, burnishing with pebbles, firing pottery in a wood kiln, and decorating with natural pigments. Ethnography: @ Kerameion is a partner of the Psiloritis UNESCO Global Geopark [183] and its products are distinguished by a collective mark. Curriculum: pottery and archaeological experimentation workshops. New: contemporary products and artwork (G. Dalamvelas, pottery master and instructor).	Marble: (mineral, subtract). Context: Tinian marble craftsmanship (UNESCO inscription 2015 [184]) is an expression of the cultural identity of Tinos, Greece. Its highly esteemed artwork crossed borders three centuries ago. Products: these are mansions, churches, cemeteries, sculptures, built structures, and homeware. Education: quarrying, splitting large marble blocks into smaller ones, sanding, and cutting with diamond-studded wires. Training: handwork training on subtractive techniques for marble. Ethnography: @ Preparatory and Professional School of Fine Arts of Panormos of the island of Tinos, the official institution for the transmission of Tinian marble crafts, collaborating with PIOP's Museum of Marble Crafts at Tinos. Curriculum: Preparatory and Professional School of Fine Arts of Panormos. New: designs and artworks (instructors from the Fine Arts School of Panormos).
Wood: woodcarving (flora, add/subtract). Context: Yecla, Spain, is a cluster of industrial furniture production; its fair is the oldest in Spain. Yecla furniture is protected as products of the Murcia Region by a "brand of guarantee label" from the Spanish Chamber of Crafts, certifying quality, components, origin, and techniques. The Murcia region has a high tradition of carpentry and carving. Education: (1) Drawing/printing of design on the wood surface. (2) First carving/rough-down. (3) Draw-up and rough carving, which sculpts the design. (4) Draw-up and edges, which create figure outlines, and refine small details. (5) Finishing: polishing, painting, protecting, varnishing. Training: Handwork training of the subtractive techniques of woodcarving. Ethnography: @ Chamber of crafts of Murcia Region will collaborate with CETEM to ensure the protection of wood creations. Old wood will be re-used. Curriculum: industrial training with CETEM, handcraft training to create sculptures from old wood pieces. New: styles and products (instructors of CETEM and A. Martín, PhD in arts and wood carving master). Old wood pieces from derelict rural houses will be converted into new products.	Silver: (mineral, add/subtract/free-form). Context: Silversmithing (and goldsmithing) have been inextricably linked to the CH of Ioannina, Greece, since the 13th century. These crafts developed, flourished, and gave rise to interaction with other centers in the Balkans and the West. Products are jewelry, silverware, and—in the past—armory and armature. Ethnography: @ Centre of TCs of Ioannina collaborating with the Silversmithing Museum at Ioannina of PIOP. Education: raising (sheet drawing and shaping the object's form), sand casting. Training: free forming (molding, repoussé, chasing), subtracting (engraving, filigreeing), and adding (use of niello). Curriculum: Centre of TCs of Ioannina New: contemporary products (instructors of the Centre of TCs of Ioannina.)
Wool: Aubusson tapestry (fibers, interlock). Context: Aubusson tapestry (UNESCO inscription, 2009 [185]) consists of weaving an image and is an international Gold Standard. Products are large decorative wall hangings, rugs, and furniture coatings. Education: encoding motifs in the weft, dyeing recipes. Training: sheep breeding, shearing, washing, carding, combing, spinning, dyeing, and weaving, or interlocking, of wool strings into patterned fabric. Ethnography: @ Villa Châteaufavier. Curriculum: Villa Châteaufavier, ENSA-Limoges. New: decoration motifs and styles (C. Vignau, textile designer, director of the textile studio, ENSA-Limoges).	Wool: cotton textiles (fibers, interlock). Context: Weaving and knitting were known in all civilizations from ancient times, and their mechanization led to the Industrial Revolution. Fabrics and textiles are ubiquitous in everyday life and the past. Education: Weaving has been well studied in the literature and industrial manufacturing. Training: traditional weaving and decoration of fabrics with knitting and sewing. Ethnography: @ workshops of the Women Entrepreneurs Association of Crete that collaborates with FORTH. Curriculum: informal learning in duals. New: designs, materials (glass fibers), contemporary products, and garments (M. Pitsikaki, weaver and CEO of the association), reuse of wool spared in husbandry, and natural dyes.

3.4.2. Selection Rationale

The selection of cases for this study was guided by a combination of theoretical, geographical, and craft diversity considerations. The primary aim was to capture a wide

spectrum of practices, challenges, and innovations, reflecting the current dynamics of the craft sector. Our key criteria for this selection were as follows:

Craft Diversity and Representativeness: Selected crafts encompass a range of materials, techniques, and production scales. These included both material-specific crafts (e.g., glassblowing, silversmithing) and process-oriented traditions (e.g., weaving, marble carving) to illustrate how distinct sectors face shared and unique challenges.

Geographical Distribution: To ensure a pan-European perspective, cases were chosen from various regions, including northern, southern, and central Europe. This approach highlighted differences in cultural heritage approaches, economic landscapes, and policy environments.

Cultural and Historical Significance: The selected crafts hold significant historical and cultural importance within their communities and contribute to the local or national heritage landscape. This criterion ensured that the cases reflected crafts with long-standing traditional practices.

Economic and Sustainability Factors: Emphasis was placed on cases that demonstrate varying levels of economic viability and engagement with sustainability initiatives. This helped capture the transition from traditional models to more innovative or environmentally aligned practices.

Educational and Training Integration: Crafts with robust educational frameworks or apprenticeship models were prioritized to understand how knowledge transfer is maintained and modernized.

Technological Innovation: Particular attention was given to cases incorporating technological advancements, such as digital tools, 3D scanning, or AR-based training methods, to assess their impact on craft preservation and market engagement.

Policy and Community Support: Cases were selected based on the presence of supportive policy frameworks, community-driven initiatives, or institutional backing to understand how external factors influence craft sustainability.

The combination of these criteria ensured a comprehensive sample that provided a balanced view of TCs' challenges and opportunities. A comparative approach was adopted to identify patterns, success factors, and areas requiring policy and educational intervention. This study aimed to produce actionable insights applicable across diverse contexts while preserving the distinctiveness of each craft tradition.

3.4.3. Representativeness of the Use Cases

The selected crafts offer a well-rounded and geographically diverse sample, reflecting shared characteristics, challenges, and opportunities within traditional crafts across Europe. Below are key similarities with other European craft practices that further validate the selection as representative of the region's traditional craft landscape.

Textile arts (Aubusson tapestry, Crete weaving): Aubusson tapestry represents intricate and heritage-driven textile production, a tradition deeply rooted in French cultural history and recognized for its sophisticated craftsmanship [185]. This tradition aligns with practices in Flanders, Belgium, and Central Italy (Umbria), where woven textiles have historically been essential components of cultural identity and artistry [186]. The textile weaving tradition in Crete shares similarities with practices in Växbo, Sweden, where traditional hand-loomed textiles have experienced renewed interest through artisan entrepreneurship [187]. Both European practices face challenges regarding market relevance and the preservation of traditional techniques [188]. On a broader global scale, these textile traditions connect with Asia and India, where weaving holds a similarly significant cultural and artistic heritage [189]. In India, the Banarasi and Kanjeevaram silk weaving industries are renowned for their intricate patterns and deep historical roots [190]. These

crafts, much like Aubusson tapestry, are embedded in local identity and rely heavily on skilled craftsmanship and generational knowledge transfer. Similarly, regions such as Varanasi and Tamil Nadu face challenges in preserving traditional methods while adapting to modern market demands [191]. In East Asia, particularly in China and Japan, traditional weaving techniques such as brocade from Suzhou and Nishijin-ori from Kyoto share the meticulous and elaborate craftsmanship seen in Aubusson tapestry production [192]. Both crafts employ complex patterns and luxurious materials, often reserved for ceremonial and high-value purposes [193]. As in Crete and Växbo, these Asian weaving traditions have also seen renewed interest through artisan entrepreneurship and innovation, often integrating sustainable practices and digital marketing strategies to reach global markets [194].

Ceramics and porcelain (Limoges porcelain, Margarites pottery): Limoges porcelain making in France is internationally renowned for its fine craftsmanship and high-quality ceramic production, with strong educational and institutional support from the School of Fine Arts in Limoges. Similarly, pottery making in Margarites, Crete, Greece, has deep historical roots, preserving traditional forms while adapting to contemporary designs and uses. Both traditions exemplify the delicate balance between heritage preservation and innovation. These European ceramic traditions share parallels with significant practices in Asia, where porcelain and pottery have long histories of artistic and cultural importance [195]. In China, Jingdezhen is famously known as the "Porcelain Capital of the World," producing fine porcelain for over a millennium. The intricate techniques and aesthetic standards developed there have influenced global ceramic production, including Limoges porcelain [196]. In Japan, the ceramics tradition thrives in regions such as Arita and Seto, known for their distinctive styles and high craftsmanship standards. Japanese potters often blend traditional methods with modern aesthetics, similar to the innovations seen in Margarites pottery [197]. Likewise, Korean ceramics, especially Goryeo celadon and Joseon white porcelain, are revered for their elegance and technical precision, much like the refined craftsmanship of Limoges porcelain [198]. South Asian traditions, particularly in India, also have a rich ceramic heritage. The terracotta pottery of West Bengal and the blue pottery of Jaipur showcase intricate patterns and vibrant colors, echoing the creative ingenuity seen in Margarites pottery [199]. These practices, often tied to local cultural identities, have adapted to modern trends while maintaining traditional techniques. Across Europe and Asia, ceramic and porcelain crafts share common challenges, including competition from mass production, the need for technical training, and the preservation of traditional knowledge. However, through educational institutions, artisan cooperatives, and technological advancements, these crafts continue to thrive and maintain their cultural significance in an increasingly globalized market.

Metalwork (Ioannina silversmithing): The silversmithing tradition of Ioannina boasts a rich heritage influenced by Byzantine, Ottoman, and Eastern Orthodox cultural elements [200]. During the Ottoman period, Ioannina emerged as a key center for exquisite silver craftsmanship, specializing in techniques such as filigree and repoussé, which were often used for religious and ceremonial objects [201]. This craft shares strong ties with the silverwork traditions of the Eastern Orthodox Church, where silversmithing played a crucial role in the creation of sacred artifacts, such as liturgical vessels, icon frames, and reliquaries [202]. The influence of Byzantine aesthetics extended beyond Greece into Russia, Serbia, Bulgaria, and Romania, shaping the design and ornamental motifs of religious silver objects [201]. In Russia, particularly from the 17th century onward, the Russian Orthodox Church commissioned elaborate silver and gold ecclesiastical pieces, which often mirrored the intricate styles seen in Ioannina and other Balkan regions [203]. Artisans from both traditions excelled in repoussé work and delicate engravings used for religious icons and chalices. The continuity of these shared traditions highlights the transnational

influence of Eastern Orthodox Christianity on silversmithing. Ioannina's artisans continue to carry this legacy forward, blending their Ottoman and Byzantine heritage with broader Eastern European ecclesiastical design elements, maintaining a unique position within the European silversmithing landscape.

Woodcarving (Yecla woodcarving): Traditional woodcarving in Yecla, Spain, mirrors woodcraft traditions found in the Alpine regions of Austria and Switzerland, where both religious and decorative woodcarving have been maintained for centuries [188]. Similar to Yecla, these regions face challenges in sourcing sustainable materials and passing on skills to new generations [204].

Glassblowing (CERFAV): The CERFAV glassblowing training organization shares a pedagogical approach similar to other European centers for glass craftsmanship, such as the Royal College of Art Glass Workshop in London and the Ebeltoft Glass Museum in Denmark [205]. These institutions blend traditional and contemporary techniques, playing a vital role in introducing modern design while safeguarding heritage practices [206]. Furthermore, the renowned glass blowers of Murano in Italy, who have upheld centuries-old techniques for producing intricate glass artifacts, offer a parallel to CERFAV's efforts in preserving artisanal skills while promoting innovative applications [207]. Similarly, the glass artisans of Rattenberg in Austria, particularly the Molter glass workshops, are renowned for their delicate glass creations and dedication to passing down traditional knowledge through generations.

Stone craft (Tinos marble carving): The marble carving tradition of Tinos is deeply rooted in ancient Greek craftsmanship, which has significantly influenced European stonework practices [208]. The artisans of Tinos inherit techniques that date back to the Classical period, where Greek sculptors and stonemasons crafted monumental works such as the Parthenon and the Temple of Apollo at Delphi [209]. This heritage connects naturally with the broader European tradition of stone craftsmanship that flourished during the Roman Empire [210]. Roman builders adopted and expanded upon Greek techniques, leaving a legacy of stone-carved aqueducts, temples, and statues across the continent [211]. In Italy, regions like Carrara continue to be synonymous with high-quality marble carving, while Portugal's Alentejo region is famous for its stone craftsmanship rooted in Roman-era techniques [212]. This enduring tradition exemplifies the shared European heritage of stone carving, with Tinos standing as a vital link between ancient practices and modern craftsmanship.

3.5. Application of the Methodology

The case studies were developed for each of the eight craft instances, providing detailed insights into the specific challenges and opportunities facing traditional craft practices in different European contexts. The case studies contain descriptive accounts of the craft processes, together with an analysis of the impact of educational programs, digital technologies, and policy frameworks. The case studies highlight and demonstrate successful examples of TCs integrated with digital technologies, such as 3D scanning, VR, and digital reenactment, for their preservation and promotion. Also, we investigate the role of education and training within the craft sector, focusing on how artisans and educational institutions adapt to changing markets and new technology. Finally, we assess the effectiveness of European and national policies in supporting TCs, including funding mechanisms, CH initiatives, and sustainability agendas.

One should note that the scope is limited to the eight craft instances that were selected for analysis in this study. These cases provide a good cross-section of TCs in Europe, but they do not reflect all craft types or regions of Europe. Moreover, in using the ethnographic approach, rich qualitative data could be elicited, but the reading and interpretation of

fieldnotes and interviews may lead to the influence of one's perspective and the specific context in each instance.

4. Findings and Analysis

This section presents the key results of the research drawn from the ethnographic fieldwork, interviews, and data analysis of eight traditional craft practices across Europe. The analysis reflects the expertise and perspectives of craft masters, educators, and museum professionals, whose insights provide a deeper understanding of the peculiarities, challenges, and opportunities within these crafts.

4.1. Overview

Craft masters emphasized the unique cultural and historical significance of their practices, highlighting how these crafts are deeply tied to local identities and traditions. For instance, silversmiths in Ioannina discussed the influence of the region's Ottoman-era heritage on their intricate designs, while weavers in Aubusson described the integration of storytelling into tapestry making. Museum experts contributed valuable context, particularly in identifying how crafts like marble carving and Margarites pottery maintain historical techniques while adapting to contemporary aesthetics.

The interviews revealed widespread concerns about declining interest among younger generations, as noted by educators from CERFAV and the Limoges School of Fine Arts. Many craft masters expressed fears of a "skills gap" emerging as older practitioners retire without adequate successors. Financial pressures and difficulties accessing broader markets were also recurring themes, with museum experts observing that these issues are compounded in rural or remote regions.

Despite these challenges, participants identified numerous opportunities for revitalizing TCs. Educators from CERFAV and Limoges highlighted how integrating digital tools like 3D modeling into training programs has modernized TCs, attracting younger talent and enabling innovative designs. Craft masters in Crete and Yecla emphasized the importance of sustainability, with examples like the use of natural dyes and organic materials, aligning traditional methods with contemporary environmental concerns. Museum professionals from Tinos and Ioannina stressed the growing role of cultural tourism, which provides vital economic support while fostering an appreciation for TCs among diverse audiences.

Participants also shared insights into initiatives that have successfully addressed these challenges. Educators at CERFAV described how apprenticeships with industry professionals foster creativity and practical expertise, creating a dynamic exchange of knowledge between generations. Ioannina silversmiths discussed how expanding their market to include ecclesiastical objects for export to Eastern Europe has bolstered the economic resilience of their craft. Museum experts in Tinos and Ioannina highlighted the dual role of museums in preservation and education, serving as platforms for workshops, exhibitions, and public engagement.

The analysis also identified several emerging trends shaping the future of TCs. Craft masters in Limoges and CERFAV spoke of partnerships with contemporary artists and luxury brands, which have expanded their audience and diversified their product offerings. Tapestry makers described how integrating photorealistic and abstract designs into their work has helped TCs appeal to modern consumers, while weavers in Crete described how tourism has contributed to enhancing their income through thematic tours and textile weaving courses. At the same time, they described how the Association of Women Entrepreneurs has organized collective actions to promote textile products, demonstrating the potential of cooperative efforts to strengthen local crafts.

4.2. Common Challenges and Opportunities

Across these crafts, several common challenges have emerged. A generational gap has resulted in a significant skill deficit as younger individuals opt for modern professions over TCs. Furthermore, the high costs associated with maintaining traditional methods often limit growth and sustainability. As a result, many artisans struggle to expand their reach beyond local or regional markets. Despite these challenges, there are numerous opportunities to sustain and revitalize these crafts.

Balancing authenticity and modernization: Craft practitioners are increasingly integrating modern designs, materials, and technologies into traditional practices to appeal to contemporary consumers. Ioannina's silversmiths, for instance, have expanded their markets by exporting ecclesiastical objects to Orthodox communities in Eastern Europe, while the modernization of the production process made such exports more cost-effective for the craft practitioners.

Institutional support and training: Organizations like CERFAV, Ioannina's Traditional Craft Center, and the Professional School of Fine Arts of Panormos at Tinos provide essential education, skill development, and promotion infrastructure.

Entrepreneurial and community initiatives: The Association of Women Entrepreneurs in Crete promotes local textiles through collaborative actions, while tapestry artists in Aubusson are exploring photorealistic and abstract designs to attract diverse markets.

Tourism integration: Crafts like Margarites pottery and Cretan weaving benefit from blending workshops with cultural tourism, offering educational and immersive experiences for visitors.

4.3. Analysis per Case

The case-by-case analysis conducted in this work is based on a multi-method research approach, including interviews with craft masters, educators, and museum professionals; ethnographic fieldwork conducted within craft communities; self-reflective interviews where craft masters reflected on their methods through video recordings of their work; and financial data analysis. The interviews with craft masters and educators provided valuable qualitative insights into how these practitioners navigate challenges, innovate within traditional methods, and contribute to the broader craft ecosystem. Ethnographic fieldwork revealed the intimate connections between artisans and their communities, uncovering local dynamics and the socio-cultural context of each craft. The self-reflective interviews were particularly insightful: craft masters viewed recordings of themselves while working and reflected on their methods, shedding light on their creative processes, skill development, and adaptations to new tools or practices. This method allowed participants to engage in a deeper level of self-awareness and critique, which provided rich insights into the evolving nature of their craft practices. Finally, the financial data collection offered an economic perspective, detailing the sustainability of the crafts and their market integration. This combination of methods allows for a nuanced understanding of how these crafts are adapting to modern pressures while maintaining their cultural roots.

4.3.1. Aubusson Tapestry, France

Aubusson tapestry exemplifies how a historically significant craft can remain relevant in the modern era.

- Innovation in Craft: Aubusson weavers collaborate with contemporary artists to produce photorealistic and abstract tapestries, broadening their artistic scope and market appeal. While specific financial figures are not available, the ongoing efforts to innovate and collaborate with contemporary artists suggest a positive trajectory for the relevance and sustainability of Aubusson tapestry in today's cultural landscape.

- Institutional Support: The Cité Internationale de la Tapisserie plays a critical role by offering exhibitions, training programs, and digital documentation projects that ensure the preservation of traditional techniques while embracing modern artistic trends. With the addition of modern art and the continuation of excellent craftsmanship, Aubusson tapestries have become globally recognized and their client base has diversified. For instance, the Cité has undertaken projects like creating tapestries inspired by the works of Hayao Miyazaki, which underscores the commitment to blending traditional techniques with modern artistic expressions [213].
- Global Recognition: These efforts have diversified Aubusson's client base, making it a globally recognized symbol of craftsmanship.
- Insights: Aubusson demonstrates the importance of blending artistic innovation with robust institutional backing to ensure sustainability and relevance.

4.3.2. Limoges Porcelain, France

Limoges porcelain showcases how TCs can achieve modern relevance through strategic partnerships and education.

- Collaborations: The Limoges School of Fine Arts collaborates with luxury brands and museums, elevating the international status of Limoges porcelain.
- Curriculum Development: Advanced design techniques integrated into educational programs foster innovation while maintaining traditional processes.
- Market Strategy: Combining fine art and functionality has preserved Limoges porcelain's reputation for elegance and precision.
- Insights: This case highlights the potential of strategic branding and education in transforming a heritage craft into a luxury product.
- Skill Transmission: Educational facilities, such as the Limoges School of Fine Arts, are equipping their future artisans with traditional skills as well as modern entrepreneurial tools.

4.3.3. Silversmithing in Ioannina, Greece

Ioannina's silversmithing tradition has been revitalized through innovative strategies and strong institutional collaborations.

- Role of Museums: The Ioannina Museum of Silversmithing serves as both a cultural institution and community hub, preserving archives, conducting workshops, and engaging with schools.
- KEPAVI 's Contribution: This multi-functional center provides workshop spaces for artisans, retail opportunities to promote products, and exhibitions that educate the public and foster interest among younger generations.
- Market Expansion: Ioannina's silversmiths have broadened their reach by exporting ecclesiastical objects to Orthodox markets in Eastern Europe.
- Insights: Combining preservation, education, and market expansion ensures that this traditional craft remains both culturally and economically significant.
- Economically Innovative Business Models: Ioannina's silversmithing workshops, for example, now sell heritage designs from around the world via e-commerce. At the same time, through KEPAVI, silversmiths are selling their products using a cooperative model, allowing them to expand to greater markets.
- Skill Transmission: Apprenticeships supported by the museum in Ioannina and the KEPAVI foster skill transmission, ensuring the preparedness of young people to carry on these practices. At the same time, intergenerational transmission is still the case in silversmithing, allowing time-persistent family workshops to endure in this changing world.

4.3.4. Textile Weaving in Crete, Greece

The resilience of textile weaving in Crete reflects the entrepreneurial spirit of local artisans and community initiatives. Through a collection of interviews with members of the Association of Women Entrepreneurs in Crete, we can summarize the findings as follows.

- Tourism Integration: Workshops integrated into village tourism, such as in Anogeia, provide visitors with cultural experiences while supporting the sustainability of their craft. Selling woven artifacts as souvenirs of the workshop visit is currently the main source of income. In some cases, weaving traditional textiles for special occasions such as, for example, weddings is also another source of income.
- Economically Innovative Business Models: These are mainly combined with tourism activities by combining sightseeing with local gastronomy and visits to local craft workshops. In some cases, this is also combined with traditional shelters, allowing visitors to stay longer at the destination and, thus, explore more craft activities.
- Environmental Practices: Many weavers use organic wool and natural dyes from indigenous plants, thereby reducing their reliance on synthetic chemicals. This is not always the case because there is a lack of local thread factories that can transform the wool from local husbandry to thread. The last factory at Anogia, Crete, closed a couple of decades ago, so, currently, building with entirely sustainable material is not possible.
- Collaborative Efforts: The Association of Women Entrepreneurs in Crete organizes collaborative actions to promote textile products on a broader scale.
- Industrialization: In Crete, the weaving of some traditional patterns for daily used textiles has been industrialized. Traditional looms are used to create authentic products with added commercial value. This resulted in the loss of income from traditional weavers, since part of the textiles of the household that were traditionally hand-woven are now produced by industrial methods. The existence of local weaving factories has supported the preservation of traditional motifs, but these are currently facing pressure due to globalization.
- Insights: Blending tourism, sustainability, and cooperative promotion exemplifies how TCs can adapt to modern demands.
- Skill Transmission: Skills are transferred between generations from mother or grandmother to the next generation of female children of the family. As the economic and practical value of the craft declines, so does the interest of the modern generation to learn the craft.

4.3.5. Woodcarving in Yecla, Spain

Yecla's woodcarving tradition faces significant challenges, but also shows promise through cultural tourism and education.

- Cultural Tourism: Growing interest in cultural heritage and rural tourism has brought attention to Yecla's artisanal traditions.
- Preservation Efforts: Efforts to compile historical information and integrate new technologies aim to document and teach the craft to younger generations.
- Environmental Practices: Woodcarvers in Spain use FSC-certified timber as a means of encouraging responsible forestry.
- Insights: While deeply rooted in tradition, Yecla's woodcarving shows the importance of leveraging tourism and education to sustain endangered crafts.

4.3.6. Glassblowing at CERFAV, France

CERFAV exemplifies the role of formal training institutions in sustaining TCs while fostering innovation.

- Industry Collaboration: CERFAV students often collaborate with the glass industry, gaining practical experience while studying. Some apprentices simultaneously work in the industry, creating a seamless connection between education and real-world application.
- Innovative Techniques: By incorporating 3D modeling and other cutting-edge technologies into its curriculum, CERFAV allows students to innovate while respecting traditional methods. This was the case of our former research at CERFAV, where a museum glass artifact was recreated using modern industrial glassblowing methods to understand the process of creating the original object, which was not documented and, thus, lost. Furthermore, CERFAV was the winner of the National Program for Digitization and Valorization of Cultural Content—Grand Est in 2021 thanks to an unprecedented proposal for the digitization and valorization of intangible CH from glass to blowtorch. CERFAV provides access to the general public and professionals in the arts and crafts to 3D digital content of professional gestures around the job of blowtorch glass blower. The glassblowing techniques taught at CERFAV are complemented by experimental VR modules.
- Adoption of Eco-Friendly Methods: CERFAV is using recycled glass for its workshops and is recycling all the leftovers of the glassmaking process. Furthermore, glass blowers recycle waste glass into new creations, minimize waste, and conserve resources.
- Mentorship and Creativity: The interaction between students and established artisans fosters a dynamic environment of mentorship and creativity.
- Insights: CERFAV demonstrates how institutional support and industry partnerships can keep TCs alive and thriving.

4.3.7. Pottery in Margarites, Crete, Greece

Margarites pottery is a testament to the enduring appeal of functional and decorative ceramics rooted in ancient traditions.

- Tourist Engagement: Workshops for tourists provide both an additional source of income and an avenue for cultural education.
- Modern Adaptations: Some potters have introduced contemporary motifs and forms, appealing to new markets while maintaining traditional techniques.
- Adoption of Eco-Friendly Methods: In Margarites, a traditional finishing method using sea rocks to polish the clay objects makes them usable and nonabsorbent without the need to apply toxic glazes. At the same time, potters reuse clay trimmings and broken pieces, creating a closed-loop production system that economizes as much as it reduces its environmental impact.
- Reviving Lost Techniques: In Margarites, the ancient Minoan-age pottery technique has been revived by combining the extraction of local soil for clay and burning it in wood ovens created with the same technique for thousands of years. This technique gives their products a unique dark-raw-umber-style finishing and the delicate processing of natural clay allows for the creation of extremely thin shells.
- Insights: Margarites pottery highlights how innovation and tourism can sustain a craft's economic viability.

4.3.8. Marble Carving in Tinos, Greece

Tinos is a renowned center for marble carving where tradition and innovation coexist harmoniously.

- Museum's Role: The Tinos Museum of Marble Crafts preserves traditional techniques, offers training, and organizes exhibitions showcasing both historical and modern works.

- Technological Integration: While traditional methods are still employed for fine detailing, modern machinery like CNC machines expands creative possibilities and production capacity. Mechanical aids such as air-powered chisels are also used to improve efficiency. Hand-finishing objects are used to retain the personal touch of artisanship.
- Global Recognition: Marble artists have gained international acclaim with their sculptures adorning public spaces and private collections worldwide.
- Insights: Tinos demonstrates the power of combining heritage preservation with technological advancements to sustain global relevance.
- Economically Innovative Business Models: The cooperation of marble carvers on the island of Tinos enables resource sharing and bargaining, economizing while extending market access.
- Skill Transmission: The marble training school and the local craftspeople support skill transition through apprenticeships. At the same time, intergenerational transmission plays and important role.

4.4. Findings Overview

The case studies reveal critical pathways for sustaining European crafts, which are further elaborated in Section 5, towards proposing measures for the future of TCs.

- Strengthening Institutional and Industry Links: Partnerships between museums, training centers, and industries, as seen in CERFAV and ΚΕΠΙΑΒΙ, foster skill development and market integration.
- Promoting Innovation: Artistic experimentation and modern tools enhance the relevance of TCs.
- Encouraging Community Action: Collective efforts, such as Crete's textile cooperatives, amplify visibility and resilience.
- Expanding Global Markets: Strategic diversification, as demonstrated by Ioannina's silversmiths, opens new economic opportunities.

By addressing challenges and leveraging opportunities, these crafts showcase how cultural heritage can thrive in a modern context.

5. From Findings to Proposed Measures for the Future

The proposed measures of this work towards the sustainability of TCs are analyzed into three levels of interventions. The first level is the craft level, where innovation in materials, sustainable practices, and economic models can assist in the long-term sustainability of crafts. The second level concerns education and training involving curriculum development, digital integration, and knowledge transfer to enhance the capacity of educating and training new professionals. The third level is, of course, the policy level, where targeted interventions such as funding mechanisms, collaboration, recognition, and standards can support sustainability, preservation, and growth. By carefully studying these three levels of integration, short-term and long-term policy recommendations are provided that could potentially positively affect all three levels of intervention. Our proposed approach is graphically illustrated in Figure 2.

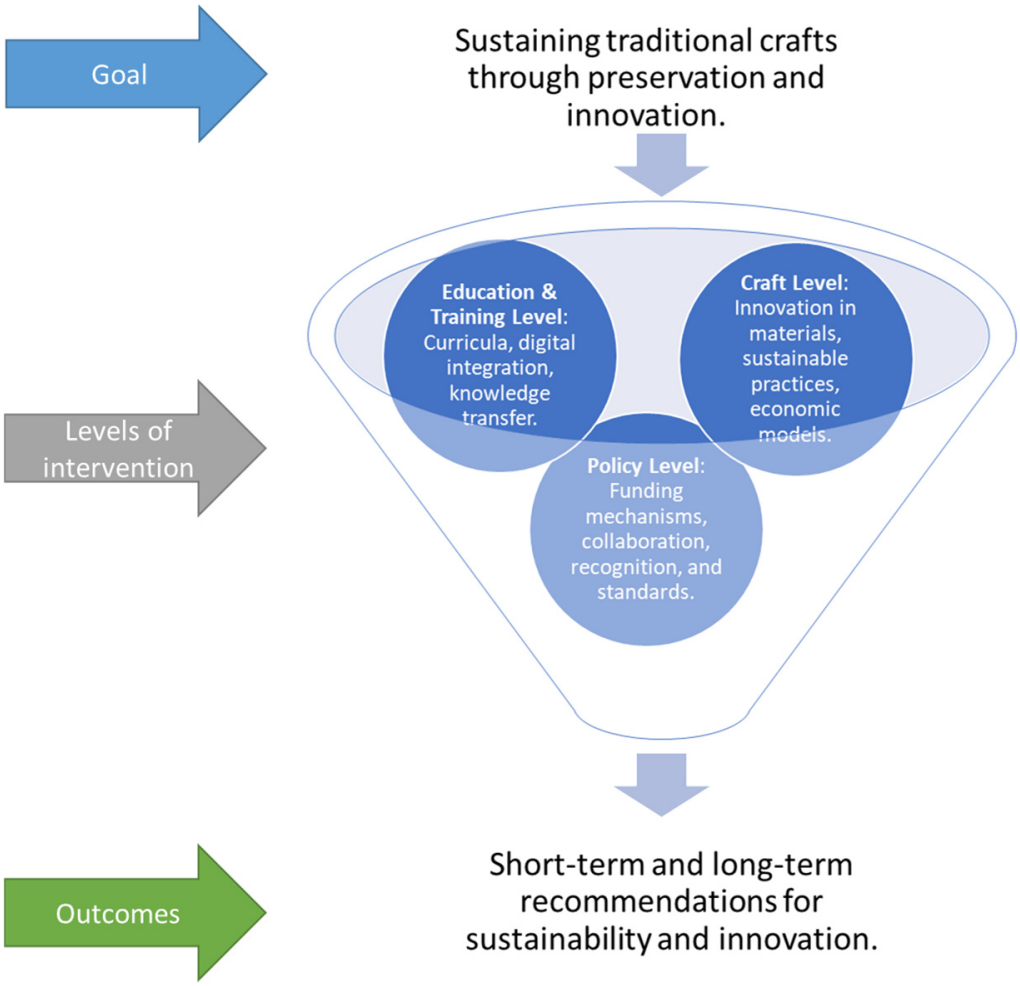


Figure 2. Towards short-term and long-term policy recommendations for sustainability and innovation.

5.1. At the Craft Level

TCs represent not only a legacy of CH, but also a field capable of innovation and adaptation to contemporary needs. By exploring innovation in materials and techniques and adopting sustainable practices and economic models, artisans can ensure the longevity and relevance of their crafts. These efforts must balance the authenticity of traditional methods with modern demands and environmental concerns.

5.1.1. Innovation in Materials and Techniques

The integration of new materials and techniques offers a promising pathway for the evolution of crafts while preserving their cultural essence. Traditional materials, though cherished, sometimes come with their problems, such as scarcity, environmental impact, or cost. The adoption of sustainable alternatives like biodegradable materials, recycled components, or advanced composites addresses these issues. For example, ceramic artists are working with more eco-friendly glazes to reduce toxicity in the firing process, while silversmiths are looking into working with recycled silver and other alloys to reduce reliance on raw mining processes.

The adoption of new methods, tools, and technologies is reshaping craft practices. Modern electric or air-powered tools, robotic equipment, digital fabrication technologies, 3D printing, and laser cutting are becoming integral to production processes. In some cases, advanced technologies have even enabled the revival of lost techniques. New methods may also relate directly to the craft itself rather than merely modernizing production,

such as innovative glazing techniques that render ceramic objects usable without applying traditional glazing materials.

Emerging digital technologies, including 3D modeling and Virtual Reality (VR), are playing a transformative role in the transmission and innovation of traditional crafts [62]. These technologies allow artisans and learners to visualize, simulate, and refine complex craft processes without material waste [45]. Three-dimensional modeling software enables the accurate preservation of traditional design patterns, which can then be digitally archived or modified for contemporary applications [69]. VR platforms offer immersive environments where trainees can interact with virtual representations of traditional tools and techniques, gaining hands-on experience in a risk-free setting [62].

Such innovations are further enhanced through collaborations between artisans and researchers. For example, nanotechnology applications in woodcraft and pottery enhance durability without compromising aesthetic qualities. Augmented Reality (AR) platforms have provided artisans with new ways to visualize, create, and perfect designs before actual execution: a true blend of traditional creativity with technological foresight. These advancements not only support the preservation of craft knowledge, but also encourage novel interpretations and creative innovation, ensuring the continued relevance of traditional craftsmanship in modern contexts.

5.1.2. Sustainable Practices and Economic Models

The adoption of sustainable practices puts TCs in step with the growing global emphasis on environmental responsibility. The sustainable management of resources has become paramount, as most artisans are seeking out eco-friendly materials. In tandem, circular economy principles are making their mark. Eco-certifications give added value to sustainable crafts, with labels such as Fair Trade or regional sustainability marks allowing the product to differentiate in the market and appeal to the eco-conscious consumer.

Economically, innovative models are helping artisans achieve financial viability. Digital platforms provide artisans with access to world markets. Cultural tourism brings in supplemental income, with evidence in the form of craft workshops and festivals that draw visitors and elevate local economies.

The creation of artisan clusters and the mutualization of workspaces represent an innovative strategic approach to supporting traditional European crafts. By bringing craftspeople together in shared spaces, these schemes not only significantly reduce individual operating costs, but also foster the emergence of an enriching collective dynamic. These craft hubs can integrate workshops equipped with traditional tools and modern technologies and exhibition spaces, as well as areas dedicated to training and the transmission of know-how. This configuration enables craftspeople to benefit from infrastructures they would not necessarily be able to afford individually, while creating an environment conducive to knowledge exchange and collaborative innovation.

By embracing innovation and sustainability, TCs can navigate contemporary challenges while preserving their cultural significance.

5.2. At the Education and Training Level

Museums, craft guilds, training schools, universities, and intergenerational knowledge transmission are important in sustaining crafts over time. Education and training are important for ensuring the continuity of TCs, especially as these practices face the dual pressures of modernization and globalization. By addressing the twin goals of preserving traditional skills and integrating contemporary tools and methodologies, education serves as a bridge between the past and the future, creating pathways for sustained craft practices.

5.2.1. Curriculum Development and Skill Preservation

The development of TC-oriented curricula will be vital for their survival. These curricula must focus on the documentation and transmission of time-honored techniques and hands-on training as well as theoretical instruction in priority.

The preservation of skills needs to be informed by an understanding of local traditions and the cultural contexts in which they evolved. Curriculum development in such contexts involves not only teaching technical weaving skills, but also fostering an appreciation for the cultural narratives embedded in each craft. This approach ensures that artisans are not merely technicians, but also custodians of their CH.

Moreover, curricula will have to meet the realities of modern education. Short-term workshops, online courses, and blended learning approaches give flexibility to training that may be reached by very diverse learners. This diversity is necessary to attract young people and professionals from outside the crafts sector who may also want to incorporate traditional skills into new contexts such as sustainable fashion or heritage tourism.

5.2.2. Integrating Digital Tools and Resources

The integration of digital tools into craft education such as 3D modeling, VR, and AR has the potential to offer new ways to teach and preserve crafts. Of growing importance in education are also digital repositories and online platforms that provide access to ethnographic videos, 3D scans of artifacts, and step-by-step tutorials. Several platforms have made craft knowledge accessible to a worldwide audience, while initiatives such as Europeana have contributed to the partial digitization of craft heritage into a shared resource to be used by students, educators, and researchers alike. Such tools support not only formal education, but also self-directed learning in TCs.

Digital learning tools, like gamified applications and AR guides, are some of the engaging methods for teaching crafts to younger audiences. For instance, a digital application developed for marble carving in Tinos allows users to explore carving techniques virtually, thus making learning accessible and enjoyable. Digital storytelling, where artisans share their journeys and expertise through multimedia platforms, further enriches educational experiences by humanizing the craft and its practitioners.

Lastly, partnerships between educational institutions and technology companies can also facilitate the development of specialized digital tools for specific crafts. Such partnerships ensure that digital inclusions are not only technologically advanced, but also culturally and contextually sensitive. In so doing, education systems will create a strong infrastructure to support both the preservation and advancement of TCs by embracing these digital innovations.

6. Policy Recommendations

In this section, we provide policy recommendations by aligning the results of our findings presented in Section 4 and the measures that we propose in Section 5. The rationale of this alignment is the following. At the first level, we propose the inclusion of TCs into existing funding and collaboration opportunities. At a second level, we propose building strong bases for the future by investing in training in TCs and capacity building to support the sustainability of the craft sector. Last, but not least, taking into account that a significant percentage of the craft sector is strongly bound to cultural tourism, we propose measures towards supporting and enhancing cultural tourism in Europe.

It is important to note that the role of European policy in safeguarding and reviving TCs is important by supporting and enhancing existing best practice examples and providing the framework and resources necessary to address challenges and foster opportu-

nities. By offering funding, creating incentives, and facilitating cross-border collaboration, European policies ensure that crafts remain integral to CH and economic development.

6.1. Support Traditional Crafts Through Existing Funding and Collaboration Opportunities

6.1.1. Funding and Incentives

The financing mechanisms are at the core of European support for TCs, and a multitude of programs exist to address financing barriers and encourage innovation. Probably one of the flagship programs in this regard is Creative Europe, which provides grants for projects that safeguard CH, contribute to the creative industries, and encourage innovation in TCs. It helps craft organizations and craftspeople in the development of new products, digitalization, and better market access.

The substantial contributions through the European Regional Development Fund and the European Social Fund are also important, which invest in the development of small- and medium-sized enterprises in the craft sector. Through these, the artisans modernize their ateliers, which invest in sustainable materials and help them access the international market. Specific national schemes in countries such as Greece, France, and Spain, through EU funding, underpin subsidies of training programs, enhancing local infrastructures related to crafts.

Incentives for artisans: The use of sustainable practices and digital technologies is encouraged by incentives tailored for artisans. Tax breaks and grants for green initiatives, like using eco-friendly materials or reducing energy consumption, would be in line with the objectives of the European Green Deal. Similarly, programs like Horizon Europe facilitate research and innovation, enabling craftspeople to explore new techniques and materials that integrate traditional skills with modern advancements.

Expanding funding opportunities: Future policy efforts could consider expanding the scope of funding to include micro-grants tailored specifically for small independent artisans who lack access to larger funding schemes. These grants could support early-stage innovation, participation in trade fairs, or joining collaborative networks.

6.1.2. Cross-Border Collaboration and Recognition

European policy also fosters cross-border collaboration, recognizing that CH transcends national boundaries. Initiatives like the European Heritage Label and UNESCO's Intangible CH program highlight crafts with significant cultural value, promoting international awareness and cooperation. These designations not only celebrate crafts, but also encourage shared strategies for their preservation and promotion.

The Erasmus+ program plays a critical role in enabling mobility and knowledge exchange among artisans, educators, and researchers. For example, partnerships between craft schools in Limoges, Ioannina, and CERFAV have facilitated the exchange of best practices, the development of joint training modules, and collaborative innovation projects.

Policy frameworks also emphasize the harmonization of standards, particularly for certifying and labeling artisanal products. The Protected Geographical Indication (PGI) and Traditional Specialty Guaranteed (TSG) labels ensure that TCs maintain their authenticity while gaining recognition in broader markets. These labels enhance consumer trust and provide economic benefits by positioning crafts as premium goods.

Strengthening collaboration networks: To bolster collaboration, the European Union promotes regional and thematic networks such as the European Network of TCs and ECHY (European CH Year) initiatives. These platforms connect stakeholders, fostering dialogue and facilitating the sharing of technological, educational, and policy-related resources.

Developing craft incubators: As an additional recommendation, the creation of craft-specific incubators across Europe could provide emerging artisans with access to shared

tools, mentorship, and market insights. These incubators could serve as hubs for innovation and training, combining traditional skills with advanced manufacturing techniques and sustainable practices.

6.2. Invest in Training and Capacity Building

Training plays a pivotal role in preserving TCs, ensuring that skills are passed on to future generations. Policies should emphasize integrating crafts into formal and informal education systems, promoting their cultural and economic value.

Vocational education and training programs: Establishing specialized VET programs that blend traditional techniques with modern technology can attract younger generations. For instance, programs could include modules on digital marketing, e-commerce, and sustainable production practices, equipping artisans with tools to thrive in contemporary markets.

Public awareness campaigns: Raising awareness of the cultural significance of TCs through public campaigns can increase interest and participation. Policies could support initiatives such as exhibitions, documentaries, and digital storytelling platforms that showcase the stories and skills of artisans.

Integrating technology into TCs provides an opportunity to enhance productivity, improve quality, and expand market access while respecting the authenticity of the craft. Creating and supporting digital platforms where artisans can showcase and sell their work directly to consumers can help them reach a global audience. These platforms can include virtual tours of workshops, detailed product narratives, and customization options.

6.3. Supporting Cultural Tourism

Cultural tourism, which emphasizes the exploration and appreciation of TCs and heritage, can significantly contribute to both the preservation and revitalization of TCs. European policies could focus on several key recommendations to enhance cultural tourism while ensuring the sustainability of TCs.

Developing specialized craft tourism routes: To promote cultural tourism, the development of dedicated craft tourism routes that highlight regions known for their artisanal heritage can be encouraged. By creating thematic itineraries that connect various craft hubs across Europe, tourists would have the opportunity to engage with crafts in an immersive and meaningful way.

Supporting cultural festivals and events: Cultural events such as craft fairs, festivals, and artisan workshops play a significant role in both promoting TCs and attracting tourists. The EU could provide funding and logistical support for these events through programs like the European Regional Development Fund and the Creative Europe program.

6.4. Short-Term Versus Long-Term Measures

To support TCs and ensure their sustainability, a dual approach is proposed. Short-term recommendations focus on actions that can be implemented within a year to address immediate needs. Long-term recommendations aim at creating structural changes and fostering resilience over time.

6.4.1. Short-Term Policy Recommendations

1. Immediate Funding and Incentives: European and national funding bodies should prioritize direct financial aid to artisans and craft organizations. This can be achieved through grants for urgent needs like upgrading tools, adopting sustainable materials, or improving workshop safety. Programs such as Creative Europe and national cultural funds can be leveraged to ensure the rapid disbursement of resources.

2. Promotion of E-Commerce Platforms: Digital platforms should be established or expanded to support artisans in accessing broader markets. Public–private partnerships can create user-friendly marketplaces that highlight the uniqueness of TCs while connecting artisans with global consumers. This approach has already shown success with Ioannina silversmiths selling heritage designs online.
3. Enhancing Cultural Tourism: Increased support for craft workshops, festivals, and museum-led initiatives can boost tourism revenues. Regions like Yecla in Spain and Tinos in Greece have already demonstrated the potential of linking crafts with tourism to attract visitors and generate income for artisans.
4. Rapid Skill Transfer Programs: Short-term apprenticeship schemes facilitated by museums and craft schools can address the immediate need for knowledge transfer between aging artisans and younger generations. These programs can be funded under Erasmus+ or similar frameworks to encourage rapid implementation.
5. Eco-Certifications and Labels: Fast-tracked certification processes for eco-friendly crafts, such as Fair Trade or regional sustainability marks, can help artisans differentiate their products in competitive markets while promoting sustainable practices.

6.4.2. Long-Term Policy Recommendations

1. Structural Investments in Education and Training: Over the next 3–5 years, investments should focus on curriculum development and the establishment of specialized training centers. Institutions like the Limoges School of Fine Arts and CERFAV in France offer models that can be replicated or adapted across Europe. Apprenticeship programs supported by these centers will ensure intergenerational knowledge transfer.
2. Sustainable Resource Management Frameworks: Policies encouraging the use of eco-friendly materials and circular economy principles must be embedded in craft practices. For instance, incentives for adopting FSC-certified wood in Spain or recycling glass at CERFAV can become widespread standards.
3. Cross-Border Collaboration: Long-term efforts should build on initiatives like the European Heritage Label and UNESCO's Intangible CH program. These efforts must go beyond recognition, fostering deeper collaboration among artisans, researchers, and educators across member states. Joint projects funded under Horizon Europe can integrate technological advancements with traditional techniques.
4. Standardization of Craft Certifications: Harmonizing Protected Geographical Indication (PGI) and Traditional Specialty Guaranteed (TSG) labels will help maintain authenticity and improve marketability. Establishing a central European registry for certified crafts will enhance consumer trust and streamline certification processes.
5. Integrating Craft into Broader Policy Agendas: Crafts should be a central focus in European Green Deal initiatives, with incentives for reducing carbon footprints and promoting local resource use. Policies addressing rural development and urban regeneration should also prioritize craft activities as engines of economic and cultural revival.
6. Digital Integration in Education and Production: Long-term investments in digital tools like AR/VR for training and design will modernize craft education while preserving traditions. Creating centralized digital repositories for ethnographic recordings, 3D scans, and instructional videos will ensure that future generations have access to craft knowledge.
7. Building Regional and Thematic Networks: Sustained collaboration can be achieved by strengthening existing networks like the European Network of TCs. Regional hubs should be established, facilitating resource sharing, policy alignment, and the collective promotion of crafts at international levels.

8. Funding Mutualization Schemes: The financing of these mutualization schemes could be based on a combination of public and private sources as part of territorial development and CH preservation policies. European funds, notably through the Creative Europe and FEDER programs, could be mobilized to support the acquisition and development of spaces, while local authorities could contribute by making buildings available or granting tax breaks. A hybrid economic model, including the participation of artisans in the form of contributions adapted to their income, income generated by tourism and educational activities, and support from private sponsors, would ensure the sustainability of these structures. This collective approach would also give craftspeople greater visibility and strengthen their ability to respond to contemporary challenges while preserving the authenticity of their practices.

7. Discussion and Conclusions

The findings of this study emphasize the relationship between traditional crafts (TCs), evolving technology, new societal needs, and policy frameworks. The discussion integrates relevant theoretical frameworks to deepen the academic contribution and provides comparative regional insights for broader international applicability.

7.1. Implications for Artisans and Communities

The sustainability of TCs is closely tied to the social and economic well-being of artisans and their communities. Individual artisans face the dual pressures of preserving tradition while adapting to a globalized market. This underscores the necessity of adopting modern technologies, such as 3D scanning, e-commerce platforms, and virtual demonstrations, to expand market access and preserve skills. However, these advancements come with challenges, including the need for technical training and financial investment.

7.2. Theoretical Integration

The theoretical frameworks that inform this study include key perspectives on cultural heritage, innovation, and sustainability. Bourdieu's concept of cultural capital underscores the value of traditional crafts as vital forms of identity and community cohesion, highlighting the importance of intergenerational knowledge transmission [214]. Rogers' diffusion of innovations theory provides insights into how artisans can overcome barriers in adopting new technologies [215]. The Creative Economy Framework, as articulated by Florida, situates TCs within regional innovation clusters that attract cultural tourism [216]. Sustainability frameworks, such as the triple bottom line [217] and the UN SDGs, emphasize how TCs align with responsible production, environmental sustainability, and social well-being. Additionally, place attachment and community resilience theories underscore how craft practices reinforce local identity and resilience against socio-economic disruptions [218].

At the community level, the decline in TCs often results in a loss of cultural identity and local pride. Conversely, revitalizing crafts can strengthen communities, enhance tourism, and foster a sense of place. To thrive, artisans require robust community-based support systems, including training facilities, cooperative structures, and local investments. Engaging younger generations is particularly crucial. While crafts rely on historical methods and aesthetics, they must also adapt to remain relevant in modern contexts. A careful approach is needed to use technology as an enhancement rather than a replacement. Sustainable practices also demonstrate how tradition and innovation can align.

7.3. Comparative Analysis

In Japan, traditional crafts are protected as "Intangible Cultural Properties," with strong state support for training and market development. South Korea's National Intangible Heritage Center and China's initiatives to integrate crafts into global markets

provide models for structured preservation and commercialization. The decentralized policy approach in the U.S., where nonprofit organizations like the American Craft Council support crafts, contrasts with European models. Canada's emphasis on indigenous craft preservation highlights the importance of inclusive cultural policies. Peru and Ghana provide examples of integrating crafts into sustainable tourism initiatives and global trade frameworks, emphasizing local craftsmanship's cultural and economic value.

7.4. Aligning Policies with Broader Sustainability Goals

European policies on cultural heritage (CH) must align with global sustainability goals, such as the United Nations' Sustainable Development Goals (SDGs). Craft practices intersect with goals related to decent work (Goal 8), sustainable communities (Goal 11), and responsible production (Goal 12). Policymakers can support TCs by incentivizing sustainable materials and practices, providing funding mechanisms that reduce carbon footprints, and promoting renewable materials. Aligning craft policies with the European Green Deal ensures that TCs contribute to environmental sustainability while preserving CH.

Sustainable practices should be incentivized to encourage the use of eco-friendly materials and techniques in TCs. Establishing consistent standards for recognizing artisanal quality, as seen with the Protected Geographical Indication (PGI) labels, can harmonize efforts across Europe. Inclusive policy design, where artisans actively participate in policy formulation, is essential for bridging legislative frameworks with the practical needs of the craft sector.

7.5. Key Insights

Digital tools, such as 3D scanning and Virtual Reality, hold transformative potential in documentation, education, and market expansion for TCs. These technologies enable artisans to preserve intricate craft processes while reaching global audiences. Sustainability efforts, including the adoption of eco-friendly materials and circular economic models, are vital for ensuring the longevity of crafts. Policy frameworks and funding mechanisms must align with grassroots needs to effectively support TCs. Additionally, cross-border collaborations, recognition programs, and training initiatives offer valuable pathways for empowering traditional craft sectors and fostering innovation.

7.6. Key Recommendations

Artisans should adopt digital technologies to preserve skills, engage younger generations, and reach global audiences. They should also forge partnerships with educational institutions and museums to support skill transmission and innovation. Furthermore, community-driven initiatives, such as cooperative models, can amplify artisans' visibility and market access, helping them thrive in evolving markets.

Educational institutions should develop curricula that integrate traditional techniques with modern tools to better prepare students for contemporary challenges. The expansion of virtual and AR applications can bridge geographical and generational gaps in knowledge sharing. Successful programs, like CERFAV and the Limoges School of Fine Arts, exemplify how balancing technical rigor with artistic creativity fosters innovation.

Policymakers must integrate TCs into broader cultural and economic sustainability agendas. Increasing funding for research, training, and market development—particularly in areas related to sustainable practices and digital tools—is vital. Promoting cross-border collaborations and establishing enhanced recognition mechanisms, such as certifications and quality labels, will further empower TCs. Craft-focused initiatives that address both legislative and grassroots needs will help sustain and elevate traditional crafts.

7.7. Future Directions for Research

Future research should explore the long-term impact of digitization on craft preservation, authenticity, and market dynamics. Investigating how digital technologies can create inclusive training and collaboration platforms is vital. Additionally, developing economic models that emphasize sustainability and circularity tailored to TCs can provide new pathways for artisans to thrive while minimizing environmental impact. Comparative studies across regions can identify best practices for funding, training, and cultural promotion. Evaluating the efficacy of existing European and international policies on TCs can inform the co-definition of future strategies. Finally, interdisciplinary studies connecting TCs with tourism, urban development, and contemporary design could highlight innovative applications of craft heritage in modern contexts, ensuring that TCs continue to evolve and contribute meaningfully to Europe's culture and economy.

8. Ethical Considerations

Ethical considerations were taken into consideration throughout the research process. All participants gave informed consent, and their anonymity and confidentiality were respected. This research also followed European Union data protection regulations, GDPR, in data collection, storage, and usage. This study aimed to be transparent in reporting the findings and to have the interests and contributions of artisans and other stakeholders correctly represented.

Author Contributions: Conceptualization, N.P., X.Z., C.M., A.D., I.M., C.R., A.Z., D.K., D.A., N.C., P.H., J.G., J.J.O., M.-A.B. and J.K.; methodology, N.P., X.Z., C.M., A.D., I.M., C.R., A.Z., D.K., D.A., N.C., P.H., J.G., J.J.O., M.-A.B. and J.K.; investigation, N.P., X.Z., C.M., A.D., I.M., C.R., A.Z., D.K., D.A., N.C., P.H., J.G., J.J.O., M.-A.B. and J.K.; resources, N.P., X.Z., C.M., A.D., I.M., C.R., A.Z., D.K., D.A., N.C., P.H., J.G., J.J.O., M.-A.B. and J.K.; data curation, N.P., X.Z., C.M., A.D., I.M., C.R., A.Z., D.K., D.A., N.C., P.H., J.G., J.J.O., M.-A.B. and J.K.; writing—original draft preparation, N.P., X.Z., C.M., A.D., I.M., C.R., A.Z., D.K., D.A., N.C., P.H., J.G., J.J.O., M.-A.B. and J.K.; writing—review and editing, N.P., X.Z., C.M., A.D., I.M., C.R., A.Z., D.K., D.A., N.C., J.G., J.J.O., M.-A.B. and J.K.; supervision, X.Z.; project administration, X.Z.; funding acquisition, N.P., X.Z., C.M., A.D., I.M., C.R., A.Z., D.K., D.A., N.C., J.J.O., M.-A.B. and J.K. All authors have read and agreed to the published version of the manuscript.

Funding: This work was implemented under the Craeft Project, which received funding from the European Union's Horizon Europe research and innovation program under grant agreement No. 101094349.

Data Availability Statement: Data are available upon request.

Acknowledgments: The authors would like to thank the anonymous reviewers for contributing to the enhancement of the quality of this manuscript.

Conflicts of Interest: The authors declare no conflicts of interest.

Abbreviations

TCs	traditional crafts
CH	cultural heritage
3D	three-dimensional
AR	Augmented Reality
VR	Virtual Reality
UNESCO	United Nations Educational, Scientific and Cultural Organization

PIOP	Piraeus Bank Group Cultural Foundation
CERFAV	FR: Centre Européen de Recherches et de Formation aux Arts Verriers EN: European Center De Recherches Et Formation Aux Arts Verriers
CETEM	Technology Centre of Furniture and Wood
Le CNAM	Conservatoire national des arts et métiers
ENSAD	FR: L'École nationale supérieure d'art et de design de Limoges EN: National School of Art and Design, Limoges
KEPAVI	Ioannina Centre for Traditional Handicraft

Appendix A. Craft Master Interview

Part 1: Background and Career Trajectory

Q1.1. Can you tell me about your journey into this craft? Do you recall the moment you thought of being involved in your craft?
Q1.2. What are some key turning points in your career as a craftsperson?
Q1.3. How has your background (e.g., family, community, education) influenced your career in this craft?
Q1.4. What role did mentors or senior practitioners play in your learning and growth?

Part 2: Evolution of Craft Practices

Q2.1. How have your craft practices evolved over the years?
Q2.2. Have you introduced any innovations or new techniques into your work? If so, what motivated these changes?
Q2.3. Can you describe how historical, cultural, or economic events have impacted your craft?
Q2.4. How do you balance preserving traditional methods with adapting to modern trends or demands?

Part 3: Integration of Digital Technologies

Q3.1. What role, if any, do digital technologies play in your craft practices?
Q3.2. Are there specific tools or platforms that have significantly changed how you work or reach your audience?
Q3.3. What are the benefits and challenges of integrating technology into your craft?
Q3.4. How do you see the future of your craft evolving with advancements in technology?

Part 4: Education and Skill Transmission

Q4.1. How did you acquire the knowledge and skills necessary for your craft?
Q4.2. What is your approach to teaching or passing on your craft to others?
Q4.3. Do you believe formal education and training programs help preserve traditional crafts? Why or why not?
Q4.4. What changes would you recommend to improve education and training for future generations of craftspeople?

Part 5: Challenges and Opportunities

Q5.1. What are the biggest challenges you face as a craftsperson today?
Q5.2. Are there any specific opportunities or trends that you think could benefit your craft?
Q5.3. How has the market for your craft changed over time?
Q5.4. What are your expectations at a regional, national, and European level concerning policy and legislation?

Part 6: Broader Life and Social Dynamics

Q6.1. How do you feel your craft has shaped your identity or personal development?

Q6.2. How has your craft practice influenced your relationships with your community or society at large?
Q6.3. Can you describe how your craft has been impacted by life events, such as family changes, relocations, or significant societal shifts?

Part 7: Closing Questions

Q7.1. Looking back, what advice would you give to someone starting in your craft?
Q7.2. What do you hope will be the legacy of your craft practice?

Appendix B. Craft Student/Apprentice Interview

Part 1: Background and Career Decision

Q1.1. What inspired you to pursue this craft, and how did you get started?
Q1.2. Did your family, community, or cultural traditions influence your decision to learn this craft?

Part 2: Learning Experience and Work-Study Balance

Q2.1. Are you currently working while studying this craft? If so, how do you balance your work and studies?
Q2.2. How has working in a craft-related setting (e.g., a factory, workshop, or studio) influenced your learning experience?
Q2.3. What skills or knowledge have you gained through hands-on work that you feel complemented your formal education?

Part 3: Aspirations and Challenges

Q3.1. What are your goals for the future in this craft?
Q3.2. What challenges have you faced as a student or apprentice, especially if you are also working?
Q3.3. How do you see your craft evolving in the future, and what role do you want to play in that evolution?

Part 4: Integration of Modern Technology

Q4.1. Are you using modern tools or digital technologies in your studies or work? How have they impacted your approach to the craft?
Q4.2. How do you feel about combining traditional methods with modern innovations?

Part 5: Reflections and Insights

Q5.1. How has learning this craft shaped your identity or outlook on life?
Q5.2. What advice would you give to someone considering studying this craft, especially if they plan to work and study simultaneously?

Appendix C. Craft Educator Interview

Part 1: Background and Role as an Educator

Q1.1. What inspired you to become a craft educator, and how did you transition from practitioner to teacher?
Q1.2. How has your experience as a craftsperson influenced your teaching methods?
Q1.3. What do you see as the primary role of a craft educator in preserving and advancing traditional crafts?

Part 2: Teaching Philosophy and Methods

Q2.1. What is your approach to teaching craft skills and techniques? Do you emphasize tradition, innovation, or a balance of both?

Q2.2. How do you tailor your teaching to accommodate students with varying levels of experience or learning styles?
Q2.3. Do you incorporate modern tools or technologies into your teaching? If so, how do they complement traditional methods?

Part 3: Integration of Work and Education

Q3.1. Some students work while studying crafts. How do you support them in managing these dual responsibilities?
Q3.2. What is your perspective on apprenticeships or industry placements as part of craft education?

Part 4: Challenges and Opportunities in Craft Education

Q4.1. What are the biggest challenges you face as a craft educator today (e.g., declining interest, resources, curriculum constraints)?
Q4.2. What opportunities do you see for improving craft education at local, national, or European levels?
Q4.3. How do you address generational differences in attitudes toward traditional crafts and modern innovations?

Part 5: Cultural and Community Impact

Q5.1. How do you incorporate the cultural or historical significance of a craft into your teaching?
Q5.2. Do you collaborate with local communities, museums, or industry partners to enrich your students' learning experiences?

Part 6: Reflections and Future Outlook

Q6.1. What do you hope your students take away from their time learning under you?
Q6.2. How do you see the role of craft education evolving in the future, especially with the rise of digital tools and global markets?
Q6.3. If you could change one aspect of how crafts are taught or valued, what would it be?

Appendix D. Framework for Self-Reflection: Craft Master Watching and Analyzing Their Practice

Part 1: Descriptive Observation

Q1.1. Can you describe step-by-step what you are doing in this recording?
Q1.2. Are there any particular techniques or tools you are using here? What makes them significant to your craft?
Q1.3. Can you explain why you chose to perform certain actions in this way rather than alternative methods?

Part 2: Embodied Knowledge and Discovery

Q2.1. While watching this, did you notice anything you do instinctively but hadn't consciously thought about before?
Q2.2. Can you identify moments where your body's movement or muscle memory takes over?
Q2.3. Are there parts of the process that you realized have become automatic over time, and why do you think that is?

Part 3. Reflections on Learning and Practice

Q3.1. Has watching yourself perform helped you recognize any inefficiencies or areas for improvement?
Q3.2. Did observing this recording help you recall how or when you first learned a specific technique?

Q3.3. Have you noticed any unique traits or methods in your practice that might be worth passing on to students or apprentices?

Part 4. Emotional and Cultural Dimensions

Q4.1. How does it feel to watch yourself practicing this craft?
Q4.2. Does observing your work remind you of any stories, traditions, or people who influenced your craft?
Q4.3. Are there cultural or personal values reflected in the way you approach your craft?

Part 5. Application and Future Implications

Q5.1. What new insights or ideas did you gain from watching yourself?
Q5.2. Would this reflection process change how you approach your work in the future? If so, how?
Q5.3. How do you think documenting and analyzing these processes can benefit your craft, your students, or the broader community?

References

1. Kirshenblatt-Gimblett, B. Intangible heritage as metacultural production1. *Mus. Int.* **2004**, *56*, 52–65. [CrossRef]
2. Evans, G. Contemporary crafts as souvenirs, artifacts and functional goods and their role in local economic diversification and cultural development. In *Souvenirs*; Routledge: London, UK, 2019; pp. 127–146.
3. Gauer, M.A.N. Crafting Identities: Female Crafters and Their Expressions of Identity Through Crafts. Master's Thesis, University of Oslo, Oslo, Norway, 2011.
4. Brown, K.E.; Brown, J.; Muñoz Brenes, T.; Soto Chaves, A. Community crafts and culture: Empowering indigenous communities. In *HERITAGE 2018. Proceedings of the 6th International Conference on Heritage and Sustainable Development Conference, Granada, Spain, 12–15 June 2018*; Green Lines Institute: Braga, Portugal, 2018.
5. Schultz, K. Traditional arts and crafts for the future. *Mus. Int.* **2002**, *54*, 56–63. [CrossRef]
6. Donkin, L. *Crafts and Conservation: Synthesis Report for ICCROM*; ICCROM: Rome, Italy, 2001.
7. UNESCO Living Human Treasures. Available online: https://ich.unesco.org/en/living-human-treasures (accessed on 5 December 2024).
8. Chatterjee, A.; Alvelos, H. Hands Versus Fingers: Leveraging Digital Technology Towards Sustaining TCs and Industrial Practices. In *Perspectives on Design and Digital Communication: Research, Innovations and Best Practices*; Springer: Berlin/Heidelberg, Germany, 2021; pp. 197–209.
9. Wood, N. *Transmitting Craft Knowledge: Designing Interactive Media to Support Tacit Skills Learning*; Sheffield Hallam University: Sheffield, UK, 2006.
10. Fuchigami, R.; Ishida, T. Virtual traditional craft simulation system in mixed reality environment. *Int. J. Grid Util. Comput.* **2023**, *14*, 553–561. [CrossRef]
11. Fong, J.C.H.; Poon, A.L.W.; Ngan, W.S.; Ho, C.H.; Goepel, G.; Crolla, K. Augmenting Craft with Mixed Reality. In Proceedings of the ACADIA, Online, 24–30 October 2020; pp. 436–445.
12. Rogers, E.M. Diffusion of innovations: An overview. In *Use and Impact of Computers in Clinical Medicine*; Springer: Berlin/Heidelberg, Germany, 1981; pp. 113–131.
13. Travis, J.A. Devising an E-Learning Model for the Teaching of TCs such as Ceramics. Doctoral Dissertation, Manchester Metropolitan University, Manchester, UK, 2016.
14. Osman, S.; Zin, N.A.H.M. Proposed model for courseware development of virtual teaching and learning traditional craft. In Proceedings of the 2010 International Symposium on Information Technology, Kuala Lumpur, Malaysia, 15–17 June 2010; IEEE: Piscataway, NJ, USA, 2010; Volume 1, pp. 1–6.
15. Inalhan, G.; Yang, E.; Weber, C. Place attachment theory. In *A Handbook of Theories on Designing Alignment Between People and the Office Environment*; Routledge: London, UK, 2021; pp. 181–194.
16. Florida, R.; Gates, G.; Knudsen, B.; Stolarick, K. The University and the Creative Economy. 2006. Available online: http://creativeclass.com/rfcgdb/articles/University%20For%20City%20and%20Community%204.pdf (accessed on 9 February 2025).
17. Adams, C.; Frost, G.; Webber, W. Triple bottom line: A review of the literature. In *The Triple Bottom Line*; Routledge: London, UK, 2013; pp. 17–25.
18. Mariño, R.; Banga, R.S. UN Sustainable Development Goals (SDGs): A time to act. *J. Oral Res.* **2016**, *5*, 5–6. [CrossRef]
19. RICHES Project Policy Brief. Available online: https://resources.riches-project.eu/wp-content/uploads/2016/04/EUROPEAN-POLICY-BRIEF_Craft_final.pdf (accessed on 5 December 2024).

20. Skublewska-Paszkowska, M.; Milosz, M.; Powroznik, P.; Lukasik, E. 3D technologies for intangible cultural heritage preservation—Literature review for selected databases. *Herit. Sci.* **2022**, *10*, 3. [CrossRef]
21. Partarakis, N.; Antona, M.; Stephanidis, C. Adaptable, personalizable and multi user museum exhibits. In *Curating the Digital: Space for Art and Interaction*; England, D., Schiphorst, T., Bryan-Kinns, N., Eds.; Springer: Berlin, Germany, 2016; pp. 167–179.
22. The Impact of Digital Technologies on TCs and Industries. Available online: https://itmunch.com/digital-technologies-on-crafts-and-industries/ (accessed on 9 February 2025).
23. A Digital Future for Cultural Heritage. Available online: https://amt-lab.org/blog/2020/3/a-digital-future-for-cultural-heritage (accessed on 9 February 2025).
24. European Green Deal. Available online: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en (accessed on 5 December 2024).
25. Feilden, B.M.; Jokilehto, J. Management guidelines for world cultural heritage sites. 1998. In *Historic Cities: Issues in Urban Conservation*; Getty Publications: Los Angeles, CA, USA, 2019; Volume 8, p. 425.
26. Kohsaka, R.; Rogel, M. Traditional and local knowledge for sustainable development: Empowering the indigenous and local communities of the world. In *Partnerships for the Goals*; Springer International Publishing: Cham, Switzerland, 2021; pp. 1261–1273.
27. Kofler, I.; Habicher, D.; Walder, M.; Fischer, M. The future of a digitalized craft sector? 3 possible scenarios for the craft sector. In Proceedings of the TAKE 2021 Conference, Porto, Portugal, 7–9 July 2021; p. 478.
28. Eneh, O.C. Artisanship Disconnect: Declining Technical Apprenticeship and Artisan Service and the Implication for Nigeria's Future Development. *Asian J. Ind. Eng.* **2010**, *2*, 37–51. [CrossRef]
29. Tomášková, A.; Śmietański, R. The Rise or Decline of Craft Trades? Evidence from Czech Republic and Poland. *Econ. Stud. Anal./Acta VSFS* **2021**, *15*, 131–154. [CrossRef]
30. Weissbach, L.S. Artisanal responses to artistic decline: The cabinetmakers of Paris in the era of industrialization. *J. Soc. Hist.* **1982**, *16*, 67–81. [CrossRef]
31. Karakul, Ã.Z. The effects of tourism on TCsmanship for the sustainable development of historic environments. *Eur. J. Sustain. Dev.* **2019**, *8*, 380. [CrossRef]
32. Taheri, S.; Khalilpour, F.; Ashayeri, M.; Shabani, A. Handicrafts as cultural creative clusters: A spatial-cultural planning approach for the regeneration of the urban historical fabrics. *Int. J. Tour. Cities* **2024**, *10*, 1393–1413. [CrossRef]
33. Rahman, S.S.; Baddam, P.R. Community Engagement in Southeast Asia's Tourism Industry: Empowering Local Economies. *Glob. Discl. Econ. Bus.* **2021**, *10*, 75–90. [CrossRef]
34. Fu, Y. Regional Circulation Symbiosis: Study on the Sustainable Development of Regional Traditional Handicraft. Doctoral Thesis, Università degli Studi di Camerino, Camerino, Italy, 2023.
35. Newisar, M.; Selim, G.; Li, M. Place-Based Perspectives on Understanding the Value of Sustainable Heritage-Inspired Arts and Crafts in Jordan. *Sustainability* **2024**, *16*, 7547. [CrossRef]
36. Zbuchea, A. Traditional Crafts. A Literature Review Focused on Sustainable Development. *Cult. Soc. Econ. Politics* **2022**, *2*, 10–27. [CrossRef]
37. Sun, Y.; Liu, X. How design technology improves the sustainability of intangible cultural heritage products: A practical study on bamboo basketry craft. *Sustainability* **2022**, *14*, 12058. [CrossRef]
38. Li, W.T.; Ho, M.C.; Yang, C. A design thinking-based study of the prospect of the sustainable development of traditional handicrafts. *Sustainability* **2019**, *11*, 4823. [CrossRef]
39. Aytekin, B.A.; Rızvanoğlu, K. Creating learning bridges through participatory design and technology to achieve sustainability in local crafts: A participatory model to enable the transfer of tacit knowledge and experience between the TCsmanship and academic education. *Int. J. Technol. Des. Educ.* **2019**, *29*, 603–632. [CrossRef]
40. Kofler, I.; Walder, M. Crafts and Their Social Imaginary: How Technological Development Shapes the Future of the Crafts Sector. *Soc. Sci.* **2024**, *13*, 137. [CrossRef]
41. Pandey, M.P.; Hasan, U. Empowering Indian Traditional Handicrafts Through Digitalization. In *Digital Cultural Heritage*; CRC Press: Boca Raton, FL, USA, 2024; pp. 40–56.
42. Zoran, A.A.S. Hybrid re Assembage: Bridging Traditional Craft and Digital Design. Doctoral Dissertation, Massachusetts Institute of Technology, Cambridge, MA, USA, 2013.
43. Zabulis, X.; Meghini, C.; Partarakis, N.; Beisswenger, C.; Dubois, A.; Fasoula, M.; Galanakis, G. Representation and preservation of Heritage Crafts. *Sustainability* **2020**, *12*, 1461. [CrossRef]
44. Patel, N.; Nindroda, V.; Patel, H.M. Preserving Cultural Heritage: Enhancing the Documentation and Promotion of Indian Handicrafts Through Machine Learning. In Proceedings of the International Conference on Advancements in Smart Computing and Information Security, Rajkot, India, 7–9 December 2023; Springer Nature: Cham, Switzerland, 2023; pp. 445–461.
45. Zabulis, X.; Meghini, C.; Dubois, A.; Doulgeraki, P.; Partarakis, N.; Adami, I.; Stefanidi, Z. Digitisation of traditional craft processes. *J. Comput. Cult. Herit. (JOCCH)* **2022**, *15*, 1–24. [CrossRef]

46. Sadar, J.S.; Chyon, G. 3D scanning and printing as a new medium for creativity in product design. In Proceedings of the Second Conference on Creativity and Innovation in Design, Eindhoven, The Netherlands, 19–21 October 2011; pp. 15–20.
47. Vilbrandt, T.; Pasko, G.; Vilbrandt, C.; Pasko, A. Digital Preservation of TCs and Three-Dimensional Modeling Technologies. *Int. J. Arts Sci.* **2010**, *3*, 1–10.
48. Kaufman, J. *Replication and Fabrication of Crafted and Natural Artifacts by Reverse Engineering Using Single Camera Photogrammetry*; Lancaster University: Lancaster, UK, 2018.
49. Martorelli, M.; Pensa, C.; Speranza, D. Digital photogrammetry for documentation of maritime heritage. *J. Marit. Archaeol.* **2014**, *9*, 81–93. [CrossRef]
50. Feltz, W.J. *A Study of 3D Photogrammetry and Oneota Ceramics*; Universidade de Wisconsin-La Crosse: La Crosse, WI, USA, 2017.
51. Roy Chakraborty, K. Craft Stories: An Augmented Reality Animated Interactive Documentary on Craft Artists from South Asia. Doctoral Dissertation, OCAD University, Toronto, ON, Canada, 2022.
52. Ji, Y.; Tan, P.; Duh, H.B.L. Research on personalized learning pattern in traditional handicraft using augmented reality: A case study of cantonese porcelain. In *Human-Computer Interaction. Interaction in Context: 20th International Conference, HCI International 2018, Las Vegas, NV, USA, 15–20 July 2018*; Proceedings, Part II 20; Springer International Publishing: Berlin/Heidelberg, Germany, 2018; pp. 304–316.
53. Arifitama, B.; Syahputra, A.; Permana, S.D.H.; Bintoro, K.B.Y. Mobile augmented reality for learning traditional culture using marker based tracking. *IOP Conf. Ser. Mater. Sci. Eng.* **2019**, *662*, 022038. [CrossRef]
54. Cangiano, S.; Fornari, D.; Seratoni, A. *Re-Enactment as Method*; Routledge: London, UK, 2018.
55. Zabulis, X.; Partarakis, N.; Meghini, C.; Dubois, A.; Manitsaris, S.; Hauser, H.; Metilli, D. A representation protocol for TCs. *Heritage* **2022**, *5*, 716–741. [CrossRef]
56. Zabulis, X.; Meghini, C.; Partarakis, N.; Kaplanidi, D.; Doulgeraki, P.; Karuzaki, E.; Beisswenger, C. What is needed to digitise knowledge on Heritage Crafts. *Mem. Rev* **2019**, *4*, 1–25.
57. Majewski, J. Playing with intangible heritage: Video game technology and procedural re-enactment. In *Safeguarding Intangible Heritage*; Routledge: London, UK, 2018; pp. 232–249.
58. Wachowiak, M.J.; Karas, B.V. 3D scanning and replication for museum and cultural heritage applications. *J. Am. Inst. Conserv.* **2009**, *48*, 141–158. [CrossRef]
59. Kantaros, A.; Ganetsos, T.; Petrescu, F.I.T. Three-dimensional printing and 3D scanning: Emerging technologies exhibiting high potential in the field of cultural heritage. *Appl. Sci.* **2023**, *13*, 4777. [CrossRef]
60. Arnold, D.; Kaminski, J. 3D scanning and presentation of ethnographic collections—Potentials and challenges. *J. Mus. Ethnogr.* **2014**, *27*, 78–97.
61. Al-Baghdadi, M.A.S. 3D printing and 3D scanning of our ancient history: Preservation and protection of our cultural heritage and identity. *Int. J. Energy Environ.* **2017**, *8*, 441–456.
62. Carre, A.L.; Dubois, A.; Partarakis, N.; Zabulis, X.; Patsiouras, N.; Mantinaki, E.; Zidianakis, E.; Cadi, N.; Baka, E.; Thalmann, N.M.; et al. Mixed-Reality Demonstration and Training of Glassblowing. *Heritage* **2022**, *5*, 103–128. [CrossRef]
63. Ringas, C.; Tasiopoulou, E.; Kaplanidi, D.; Partarakis, N.; Zabulis, X.; Zidianakis, E.; Patakos, A.; Patsiouras, N.; Karuzaki, E.; Foukarakis, M.; et al. Traditional Craft Training and Demonstration in Museums. *Heritage* **2022**, *5*, 431–459. [CrossRef]
64. Partarakis, N.; Zabulis, X. Applying Cognitive Load Theory to eLearning of Crafts. *Multimodal Technol. Interact.* **2024**, *8*, 2. [CrossRef]
65. Yang, H.O. Research on the Application of Interaction Design in the Digital Education of TCs. In *International Conference on Human-Computer Interaction*; Springer Nature: Cham, Switzerland, 2023; pp. 221–238.
66. Pagán, E.A.; Salvatella, M.D.M.G.; Pitarch, M.D.; Muñoz, A.L.; Toledo, M.D.M.M.; Ruiz, J.M.; Puren, M. From silk to digital technologies: A gateway to new opportunities for creative industries, TCs and designers. The SILKNOW case. *Sustainability* **2020**, *12*, 8279. [CrossRef]
67. Hung, C.S.; Chen, T.L.; Lee, Y.C. From cultural heritage preservation to art craft education: A study on Taiwan traditional lacquerware art preservation and training. *Educ. Sci.* **2021**, *11*, 801. [CrossRef]
68. Giang, N.T. Innovating education in the digital era for the traditional fine arts education professions, the applied fine arts training field in hanoi, vietnam. Проблемы Современной Науки И Образования **2023**, *8*, 66–73.
69. Zabulis, X.; Partarakis, N.; Demeridou, I.; Doulgeraki, P.; Zidianakis, E.; Argyros, A.; Krivokapic, J. A roadmap for craft understanding, education, training, and preservation. *Heritage* **2023**, *6*, 5305–5328. [CrossRef]
70. Hui, J.S.; Easterday, M.W.; Gerber, E.M. Distributed apprenticeship in online communities. *Hum.-Comput. Interact.* **2019**, *34*, 328–378. [CrossRef]
71. Gheorghiu, D.; Stefan, L. Experimental online solutions for teaching TCs. In *The International Scientific Conference eLearning and Software for Education*; " Carol I" National Defence University: București, Romania, 2016; Volume 2, p. 373.

72. Schmidt, M.; Makhkamova, A.; Spilski, J.; Berg, M.; Pietschmann, M.; Exner, J.P.; Lachmann, T. 3 Competence Development with Digital Learning Stations in VET in the Crafts Sector. In *Research in Vocational Education*; Wuttke, E., Seifried, J., Eds.; Verlag Barbara Budrich: Leverkusen, Germany, 2020; Volume 4, p. 39.
73. Sabani, N.M.; Razak, N.A. GeeksFelting: Web-based learning for needle felting craft. *J. ICT Educ.* **2022**, *9*, 51–61. [CrossRef]
74. Smirani, L.; Yamani, H. Analysing the Impact of Gamification Techniques on Enhancing Learner Engagement, Motivation, and Knowledge Retention: A Structural Equation Modelling Approach. *Electron. J. E-Learn.* **2024**, *22*, 111–124. [CrossRef]
75. Mabalane, D.K. Unlocking Knowledge in the Digital Savanna: Innovative Approaches to Crafting E-Learning Experiences at the University of Botswana. *Int. J. Multidiscip. Res.* **2024**, *6*.
76. Quintela, J.A.; Palotás, G. E-Learning platforms in Heritage Education: A strategy to preserve TCsmanship. In *Combining Modern Communication Methods with Heritage Education*; IGI Global: Hershey, PA, USA, 2023; pp. 101–114.
77. Martins, N.; Pereira, L.; Brandão, D.; Raposo, D.; Neves, J.; Silva, J. Craft Academy: Design of an e-learning solution for the handicrafts' industries preservation. In Proceedings of the 2021 16th Iberian Conference on Information Systems and Technologies (CISTI), Chaves, Portugal, 23–26 June 2021; IEEE: Piscataway, NJ, USA, 2021; pp. 1–6.
78. Orphanidou, Y.; Efthymiou, L.; Dekoulou, P. Creating an Innovative Vocational E-learning Model that Harnesses the Potential of Digital Cultural Heritage. In *Business in Uncertainty: Evolution, Transformation and Adaptation Across Disciplines and Typologies*; Springer Nature: Cham, Switzerland, 2024; pp. 183–202.
79. Siliutina, I.; Tytar, O.; Barbash, M.; Petrenko, N.; Yepyk, L. Cultural preservation and digital heritage: Challenges and opportunities. *Amazon. Investig.* **2024**, *13*, 262–273. [CrossRef]
80. Trillo, C.; Aburamadan, R.; Mubaideen, S.; Salameen, D.; Makore, B.C.N. Towards a systematic approach to digital technologies for heritage conservation. *Digit. Technol. Cult.* **2020**, *49*, 121–138.
81. Fresa, A. Digital cultural heritage roadmap for preservation. *Int. J. Humanit. Arts Comput.* **2014**, *8*, 107–123. [CrossRef]
82. Panezi, A. Europe's New Renaissance: New Policies and Rules for Digital Preservation and Access to European Cultural Heritage. *Colum. J. Eur. L.* **2017**, *24*, 596.
83. European Commission Recommendation of 27 October 2011 on the Digitisation and Online Accessibility of Cultural Material and Digital Preservation. Available online: https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:283:0039:0045:EN:PDF (accessed on 2 December 2024).
84. European Year of Cultural Heritage. 2018. Available online: https://culture.ec.europa.eu/cultural-heritage/eu-policy-for-cultural-heritage/european-year-of-cultural-heritage-2018 (accessed on 2 December 2024).
85. Creative Europe. Available online: https://culture.ec.europa.eu/creative-europe (accessed on 2 December 2024).
86. Siri, A. Advancing Science and Society: Unveiling the Societal Readiness Level (SRL) for Holistic Integration of Innovations. In Proceedings of the Compass Conference: Transferable Skills for Research & Innovation, Helsinki, Finland, 4–5 October 2023.
87. Gamble, J. Modelling the invisible: The pedagogy of craft apprenticeship. *Stud. Contin. Educ.* **2001**, *23*, 185–200. [CrossRef]
88. Littoz-Monnet, A. *The European Union and Culture: Between Economic regulation and European Cultural Policy*; Manchester University Press: Manchester, UK, 2013.
89. Gordon, C. Great expectations–the European Union and cultural policy: Fact or fiction? *Int. J. Cult. Policy* **2010**, *16*, 101–120. [CrossRef]
90. De Witte, B. Legal framework of the EU's cultural policy. In *European Union Economic Law and Culture*; Edward Elgar Publishing: Northampton, MA, USA, 2024; pp. 15–26.
91. Lähdesmäki, T. Identity politics in the European capital of culture initiative. *Nord. Kult. Tidsskr.* **2014**, *16*, 340–365. [CrossRef]
92. Laursen, F. *The Treaty of Maastricht*; Oxford University Press: Oxford, UK, 2012.
93. Trif, F. European cultural policy in regulation of the maastricht and lisbon treaties. *Rom. J. Hist. Stud.* **2019**, *2*, 30–35.
94. Manin, P. The Treaty of Amsterdam. *Colum. J. Eur. L.* **1998**, *4*, 1.
95. Sacco, P.L. Culture 3.0: A New Perspective for the EU 2014–2020 Structural Funds Programming; OMC Working Group on Cultural and Creative Industries: 2011. Available online: https://www.interarts.net/descargas/interarts2577.pdf (accessed on 9 February 2025).
96. Cooke, P.; De Propris, L. A policy agenda for EU smart growth: The role of creative and cultural industries. *Policy Stud.* **2011**, *32*, 365–375. [CrossRef]
97. Hopkin, D. The'dying art'of lacemaking and the Flemish cultural revival. *Datatèxtil* **2023**, *2023*. Available online: https://ora.ox.ac.uk/objects/uuid:dd23deec-1dc6-4385-a579-0a4712bbad4d/files/r6682x482m (accessed on 9 February 2025).
98. Turner, W.H.K. Wool textile manufacture in Scotland: An historical geography. *Scott. Geogr. Mag.* **1964**, *80*, 81–89. [CrossRef]
99. Polemitou, O.A. Tradition and Economics in Village Folk Crafts: The Lefkara Lace Making and Silversmithing Traditions. Doctoral Dissertation, Indiana University, Bloomington, IN, USA, 1981.
100. Lefkara Laces or Lefkaritika. Available online: https://ich.unesco.org/en/RL/lefkara-laces-or-lefkaritika-00255 (accessed on 2 December 2024).

101. Hughes, A.S. Persistence of Ethnic Dress Traditions in Contemporary Society: An Interpretive Study of Germany's Black Forest Trachten. Master's Thesis, Colorado State University, Fort Collins, CO, USA, 2014.
102. Smith, J.S.; Tzachili, I. *Cloth in Crete and Cyprus*; British School at Athens Studies: Athens, Greece, 2012; pp. 141–155.
103. Cipriano-Crespo, C.; Freire-Paz, E.; Medina, F.X. The cultural revalorisation of the ceramics of Talavera: From folk culture to haute cuisine. *Int. J. Gastron. Food Sci.* **2023**, *32*, 100683. [CrossRef]
104. Revilla, G.; Dodd, T.H. Authenticity perceptions of Talavera pottery. *J. Travel Res.* **2003**, *42*, 94–99. [CrossRef]
105. Kolláth, Á. The research history of Early Modern pottery in Hungary. *Antaeus Commun. Ex Inst. Archaeol. Acad. Sci. Hung.* **2021**, *37*, 283–328. [CrossRef] [PubMed]
106. Fekete, G. A Treasure-House of Applied Arts. In *A Guide to Hungarian Culture*; Napkút Kiadó Kft: Budapest, Hungary, 2017; pp. 121–142.
107. Süle, Á.K. On the functions of floral decorations in the houses of Budapest Art Nouveau. In *Art Nouveau & Ecology*; Historical lab 1_Art Nouveau Herbarium: Singapore, 2010.
108. Echegaray, E.P. The Transformation of the Medieval Iberian Economy 1200–1500. In *The Routledge Handbook of Spanish History*; Routledge: London, UK, 2024; pp. 38–48.
109. Osterhaug, A. *Nordic Hands: 25 Fiber Craft Projects to Discover Scandinavian Culture*; Schiffer Craft: Atglen, PA, USA, 2023.
110. Kuzmenkov, A.; Galaktionov, O.; Fedorova, A.; Emelianova, E. Possibilities of using wood and wood materials in the construction of the Republic of Karelia. *E3S Web Conf.* **2023**, *389*, 01013. [CrossRef]
111. Constantin, M. The craft-and-market process of artisanship in post-socialist romania. *Can.-Am. Slav. Stud.* **2007**, *41*, vii-434. [CrossRef]
112. Buchczyk, M. Beyond the Horniman Museum: History, Heritage and Craftsmanship in the Collection of Romanian Artefacts. Doctoral Dissertation, Goldsmiths, University of London, London, UK, 2015.
113. Ilieș, A.; Wendt, J.A.; Ilieș, D.C.; Herman, G.V.; Ilieș, M.; Deac, A.L. The patrimony of wooden churches, built between 1531 and 2015, in the Land of Maramureș, Romania. *J. Maps* **2016**, *12* (Suppl. S1), 597–602. [CrossRef]
114. Constantinescu, B. Romanian Architectural Wooden Cultural Heritage: The Present Status: A Survey. In *Wood Science for Conservation of Cultural Heritage-Braga 2008: Proceedings of the International Conference Held by Cost Action IE0601 in Braga (Portugal) 5–7 November 2008*; Proceedings e report; 67; Firenze University Press: Florence, Italy, 2010; pp. 1000–1006.
115. Namicev, P.; Namiceva, E. Wood carving-traditional art embedded in the historic objects. *Palimpsest Int. J. Linguist. Lit. Cult. Res.* **2018**, *3*, 227–239.
116. Giusti, L.; Polo, M.C. A review of the glass-making industry of Murano (Venice, Italy) under an environmental perspective. *Environ. Manag. Health* **2002**, *13*, 40–54. [CrossRef]
117. Langhamer, A. *The Legend of Bohemian Glass: A Thousand Years of Glassmaking in the Heart of Europe*; Tigris: Nechanice, Czech Republic, 2003.
118. Black, R.D. Damasquinado: The Metalworking that Helped Shape Contemporary Spain. Master's Thesis, Ohio University, Athens, OH, USA, 2021.
119. Lane-Poole, S. *The Story of the Moors in Spain*; G. P. Putnan's Sons: New York, NY, USA, 1896.
120. Hill, B. *Silversmithing: A Contemporary Guide to Making*; Crowood: Burnley, UK, 2014.
121. Brorsson, T. In the workshop of the Viking age goldsmith: Gold-and silverwork at Borgeby in Scania, southern Sweden. *Fornvännen* **1998**, *4*, 225–239.
122. Skjerven, A. Norwegian Rural Jewelry Traditions in the Era of Globalization. In Proceedings of the 9th Conference of the International Committee for Design History and Design Studies, Aveiro, Portugal, 8–10 June 2014.
123. Immonen, V. Sámi spoons as artefacts of ethnicity: Archaeological reflections on an ethnographic artefact group. In *People, Material Culture and Environment in the North*; University of Oulu: Oulu, Finland, 2006; p. 42.
124. Ernstell, M. Donation of 18th-century Swedish silver items. *Art Bull. Natl. Stockh.* **2023**, *28*, 9–12.
125. Koumara-Tsitsou, S.; Karachalis, N. Traditional products and crafts as main elements in the effort to establish a city brand linked to sustainable tourism: Promoting silversmithing in Ioannina and silk production in Soufli, Greece. *Place Brand. Public Dipl.* **2021**, *17*, 257–267. [CrossRef]
126. Marchand, S.L. *Porcelain: A History from the Heart of Europe*; Princeton University Press: Princeton, NJ, USA, 2020.
127. Granger, A.A. The ceramic industries of France since the end of the 19th century. *J. Am. Ceram. Soc.* **1923**, *6*, 205–212. [CrossRef]
128. Mangani, S.M.E.; Mazzinghi, A.; Mandò, P.A.; Legnaioli, S.; Chiari, M. Characterisation of decoration and glazing materials of late 19th-early 20th century French porcelain and fine earthenware enamels: A preliminary non-invasive study. *Eur. Phys. J. Plus* **2021**, *136*, 1079. [CrossRef]
129. Falke, J. The Late Imperial Porcelain Manufactory in Vienna: III. Third Period. 1784–1805. In *The Workshop*; Thomas J. Watson Library, The Metropolitan Museum of Art: New York, NY, USA, 1875; Volume 8, pp. 33–39.
130. Vladimirovna, S.N.O. Still-Lifes of "The Lesser Dutches" as Primary Sources "The German Flowers" Motifs in Porcelain Ware of European Countries. *J. Danub. Stud. Res.* **2019**, *9*, 393–407.

131. Strejc, J. Development of the porcelain factory Thun 1794 as, Nová Role.
132. Kuzvart, M. Kaolin deposits of Central Europe. *Clay Sci.* **1992**, *8*, 319–327.
133. Century, N. *The Marble Trade. The Lustrous Trade: Material Culture and the History of Sculpture in England and Italy, c.1700-c.1860*; Bloomsbury Publishing: London, UK, 2000; p. 156.
134. Primavori, P. Carrara marble: A nomination for 'global heritage stone resource'from Italy. *Geol. Soc. Lond. Spec. Publ.* **2015**, *407*, 137–154. [CrossRef]
135. White Carrara. Available online: https://www.platformarchitecture.it/en/white-carrara-2024-design-is-back/ (accessed on 3 December 2024).
136. Salta, M. Chapter seven the neoclassical cemetery of haghioi pantes [all saints] at leonidion: A notable glyptotheque of tinian artists on the arcadian shore, greece. In *Ancient Greek Art and European Funerary Art*; Cambridge Scholars Publishing: Newcastle upon Tyne, UK, 2019; Volume 147.
137. Littrell, M.A. Symbolic significance of textile crafts for tourists. *Ann. Tour. Res.* **1990**, *17*, 228–245. [CrossRef]
138. Abdou, A.H. The Role of TCs Centers in Maintaining Heritage and its Impact on Promoting Tourism (Case Study: Foustat TCs Center–Cairo, Egypt). *Int. J. Eco-Cult. Tour. Hosp. Plan. Dev.* **2020**, *3*, 47–68.
139. Popelka, C.A.; Littrell, M.A. Influence of tourism on handcraft evolution. *Ann. Tour. Res.* **1991**, *18*, 392–413. [CrossRef]
140. John, C. Smellscapes of Provence. In *Sensory Tourism: Senses and SenseScapes Encompassing Tourism Destinations*; CABI: Oxfordshire, UK, 2024; pp. 155–172.
141. Peach, A. Craft, souvenirs and the commodification of national identity in 1970s' Scotland. *J. Des. Hist.* **2007**, *20*, 243–257. [CrossRef]
142. Shah, A.; Patel, R. Problems and challenges faced by handicraft artisans. *Voice Res.* **2017**, *6*, 57–61.
143. Partarakis, N.; Zabulis, X. Safeguarding TCs in Europe. *Encyclopedia* **2023**, *3*, 1244–1261. [CrossRef]
144. Council, C.; Ireland, C.N. *Craft in an Age of Change*; Crafts Council: London, UK, 2012; Available online: http://www.nesta.org.uk/blog/where-do-creatives-cluster (accessed on 4 February 2025).
145. Vilmar, A. "We Know What We Are Doing": Campaign Toolbox against the Shortage of Young People in Skilled Crafts Professions. In *Social Marketing and Sustainable Development Goals (SDGs) Case Studies for a Global Perspective*; Springer International Publishing: Cham, Switzerland, 2023; pp. 79–94.
146. Cetinkaya, G. Challenges for the maintenance of traditional knowledge in the Satoyama and Satoumi ecosystems, Noto Peninsula, Japan. *Hum. Ecol. Rev.* **2009**, 27–40.
147. Wallace, M.; Kalleberg, A.L. Industrial transformation and the decline of craft: The decomposition of skill in the printing industry, 1931-1978. *Am. Sociol. Rev.* **1982**, *47*, 307–324. [CrossRef]
148. Lähdesmäki, T.; Čeginskas, V.L.; Kaasik-Krogerus, S.; Mäkinen, K.; Turunen, J. *Creating and Governing Cultural Heritage in the European Union: The European Heritage Label*; Taylor & Francis: Abingdon, UK, 2020; p. 300.
149. Traditional Craftmanship. Available online: https://ich.unesco.org/en/traditional-craftsmanship-00057 (accessed on 4 December 2024).
150. UNESCO Creative Cities Network. Available online: https://www.unesco.org/en/creative-cities (accessed on 4 December 2024).
151. Etsy. Available online: https://www.etsy.com/ (accessed on 4 December 2024).
152. Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property. Available online: https://www.unesco.org/en/legal-affairs/convention-means-prohibiting-and-preventing-illicit-import-export-and-transfer-ownership-cultural (accessed on 16 January 2025).
153. Malyshev, O.O. Theodoric the Great's Legislation on Protection of Monuments and the Significance of the Ostrogothic Renaissance in the Context of Heritage Law History. *Const. State* **2021**, *32*, 166–178. Available online: http://jnas.nbuv.gov.ua/article/UJRN-0001262686 (accessed on 4 December 2024). (In Ukrainian). [CrossRef]
154. Brovarets, T. A Grave Cross on Eastern-Slavonic Ritual Towels: Life and Death on Textiles. *Eikon/Imago* **2021**, *10*, 43.
155. Kokko, S.; Dillon, P. Crafts and craft education as expressions of cultural heritage: Individual experiences and collective values among an international group of women university students. *Int. J. Technol. Des. Educ.* **2011**, *21*, 487–503. [CrossRef]
156. Dai, Y.; Hwang, S.H. Technique, creativity, and sustainability of bamboo craft courses: Teaching educational practices for sustainable development. *Sustainability* **2019**, *11*, 2487. [CrossRef]
157. Colardyn, D.; Bjornavold, J. Validation of formal, non-formal and informal learning: Policy and practices in EU member states. *Eur. J. Educ.* **2004**, *39*, 69–89. [CrossRef]
158. Preston, A.A. The Decline of the Craft Apprenticeship System with Particular Reference to the Construction Industry. Doctoral Dissertation, University of Southampton, Southampton, UK, 1994.
159. Muehleman, S.; Wolter, S.; Joho, E. *Apprenticeship Training in Italy: A Cost-Effective Model for Firms?* University of Pittsburgh: Pittsburgh, PA, USA, 2018.
160. Bonnal, L.; Mendes, S.; Sofer, C. School-to-work transition: Apprenticeship versus vocational school in France. *Int. J. Manpow.* **2002**, *23*, 426–442. [CrossRef]

161. Winkelmann, R. Employment prospects and skill acquisition of apprenticeship-trained workers in Germany. *ILR Rev.* **1996**, *49*, 658–672. [CrossRef]
162. Chan, S. Crafting an occupational identity: Learning the precepts of craftsmanship through apprenticeship. *Vocat. Learn.* **2014**, *7*, 313–330. [CrossRef]
163. Osman, S.; Saharı, N.; Zın, N.A.M. Development of interactive multimedia courseware (E-craft) for craft education. *Turk. Online J. Distance Educ.* **2012**, *13*, 36–54.
164. SkillShare. Available online: https://join.skillshare.com (accessed on 5 December 2024).
165. Coursera. Available online: https://www.coursera.org (accessed on 5 December 2024).
166. Amarneh, B.M.; Alshurideh, M.T.; Al Kurdi, B.H.; Obeidat, Z. The Impact of COVID-19 on E-learning: Advantages and Challenges. In *The International Conference on Artificial Intelligence and Computer Vision*; Springer International Publishing: Cham, Switzerland, 2021; pp. 75–89.
167. Ryu, S.H. Research on Digital Content Development for AR-Based Traditional Craft Education and Training-Focusing on Lacquer Thread Sculpture. *Int. J. Internet Broadcast. Commun.* **2024**, *16*, 72–79.
168. Haltner, P.; Goddy-Worlu, R.; Forren, J.; Nicholas, C.; Reilly, D. A Comparative Evaluation of AR Embodiments vs. Videos and Figures for Learning Bead Weaving. In Proceedings of the 2023 IEEE International Symposium on Mixed and Augmented Reality (ISMAR), Sydney, Australia, 16–20 October 2023; IEEE: Piscataway, NJ, USA, 2023; pp. 1191–1200.
169. MFA Programme in Crafts, Jewellery Art. Available online: https://www.gu.se/en/study-gothenburg/mfa-programme-in-crafts-jewellery-art-k2til-smyk (accessed on 9 December 2024).
170. Royal College of Art London. Available online: https://www.rca.ac.uk/ (accessed on 9 December 2024).
171. Crafting Europe. Available online: https://www.craftingeurope.com/ (accessed on 5 December 2024).
172. European Heritage Label. Available online: https://ehl-bureau.eu/en/ (accessed on 5 December 2024).
173. Creative Europe Program-Cultural and Creative Sectors. Available online: https://culture.ec.europa.eu/cultural-and-creative-sectors/cultural-and-creative-sectors (accessed on 9 December 2024).
174. Cultural and Creative Industries. Available online: https://www.unesco.org/creativity/sites/default/files/medias/fichiers/2023/01/377863eng.pdf (accessed on 9 December 2024).
175. Digital Agenda for Europe. Available online: https://www.europarl.europa.eu/factsheets/en/sheet/64/digital-agenda-for-europe (accessed on 9 December 2024).
176. Horizon. 2020. Available online: https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-2020_en (accessed on 9 December 2024).
177. Horizon Europe. Available online: https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en (accessed on 9 December 2024).
178. The European Exchange Programme for Entrepreneurs. Available online: https://www.erasmus-entrepreneurs.eu/ (accessed on 9 December 2024).
179. Craeft. Available online: https://www.craeft.eu/ (accessed on 9 December 2024).
180. Elder, G.H. "Perspectives on the life course". In *Life Course Dynamics Trajectories and Transitions, 1968–1980*; Elder, G., Ed.; Cornell University Press: Ithaca, NY, USA, 1985; pp. 23–49.
181. Braun, V.; Clarke, V. Using thematic analysis in psychology. *Qual. Res. Psychol.* **2006**, *3*, 77–101. [CrossRef]
182. Elder, G.H. The emergence and development of life course theory. In *Handbook of the Life Course*; Springer: Berlin/Heidelberg, Germany, 2003.
183. Psiloritis UNESCO Global Geopark. Available online: https://www.unesco.org/en/iggp/geoparks/about (accessed on 4 February 2025).
184. UNESCO Inscription. 2015. Available online: https://ich.unesco.org/en/RL/tinian-marble-craftsmanship-01103 (accessed on 4 February 2025).
185. UNESCO Inscription 4.COM 13.39. 2009. Available online: https://ich.unesco.org/en/RL/aubusson-tapestry-00250 (accessed on 4 February 2025).
186. Munro, J.H. *Textiles, Towns, and Trade: Essays in the Economic History of Late-Medieval England and the Low Countries*; Ashgate Publishing: Farnham, UK, 2007.
187. Mazzarella, F.; Mitchell, V.; Escobar-Tello, C. Crafting sustainable futures. The value of the service designer in activating meaningful social innovation from within textile artisan communities. *Des. J.* **2017**, *20* (Suppl. S1), S2935–S2950. [CrossRef]
188. Greenhalgh, P. (Ed.) *The Persistence of Craft: The Applied Arts Today*; Rutgers University Press: New Brunswick, NJ, USA, 2003.
189. Guy, J. *Indian Textiles in the East: From Southeast Asia to Japan*; Thames & Hudson: London, UK, 2009.
190. Cort, C.R.C. The Brocades of Banaras. In *Traditional Folk Textiles and Dress: Selected Readings and Bibliography*; Kendall Hunt Pub Co.: Dubuque, IA, USA, 1986; Volume 139.
191. Mukhopadhyay, T.P. Issues and Challenges of the Indian Handloom Sector: A Legal Perspective. *Rupkatha J.* **2022**, *14*, 1–11. [CrossRef]

192. Zhao, F. Weaving technology. In *A History of Chinese Science and Technology*; Springer: Berlin/Heidelberg, Germany, 2014; Volume 2, pp. 379–493.
193. Dalby, L.C. *Kimono: Fashioning Culture*; Random House: North Sydney, Australia, 2001.
194. Niinimäki, K.; Hassi, L. Emerging design strategies in sustainable production and consumption of textiles and clothing. *J. Clean. Prod.* **2011**, *19*, 1876–1883. [CrossRef]
195. Needham, J. *Science and Civilisation in China: Volume 5, Chemistry and Chemical Technology, Part 5, Spagyrical Discovery and Invention: Physiological Alchemy*; Cambridge University Press: Cambridge, UK, 1983.
196. Gillette, M.B. *China's Porcelain Capital*; Bloomsbury Academic: London, UK, 2016.
197. Maezaki, S. *Qing-style porcelain in Meiji Japan: The ceramic art of Seifu Yohei III*; University of London, School of Oriental and African Studies: London, UK, 2009.
198. Koehler, R. *Korean Ceramics: The Beauty of Natural Forms*; Seoul Selection: Seoul, Republic of Korea, 2015; Volume 11.
199. Saraswati, B. *Pottery-Making Cultures and Indian Civilization*; Abhinav Publications: New Delhi, India, 1978.
200. Maria, C.D. Mathematics of byzantine silversmiths and goldsmiths. In Proceedings of the Education, International Congress on Mathematics MICOM 2009, Ohrid, North Macedonia, 16–20 September 2009.
201. Paolicchi, A. Silversmiths in Southeastern Europe: Visual Culture between Islam, Byzantium, and the Latin West. In *The Routledge Handbook of Byzantine Visual Culture in the Danube Regions, 1300–1600*; Routledge: London, UK, 2024; pp. 293–309.
202. Dautović, V. [Abstracts of papers] Southeast European Silversmithing: Liturgical Objects and the Construction of a Cultural, Technological and Iconographical Network in the Early Modern Period. 2022.
203. Gerd, L. Russian Sacred Objects in the Orthodox East. *Museikon. A J. Relig. Art Cult./Rev. D'art Et De Cult. Relig.* **2020**, *4*, 227–236.
204. Richards, G. *Cultural Tourism: Global and Local Perspectives*; Psychology Press: East Sussex, UK, 2007.
205. Cummings, K. *Techniques of Kiln-Formed Glass*; University of Pennsylvania Press: Philadelphia, PA, USA, 1997.
206. Reischman, D. Glass in the Art World: How Glass Crosses over into Contemporary Art. Master's Thesis, Fashion Institute of Technology, State University of New York, New York, NY, USA, 2022.
207. McCray, W.P. *Glassmaking in Renaissance Venice: The Fragile Craft*; Routledge: London, UK, 2017.
208. Adam, S. *The Technique of Greek Sculpture in the Archaic and Classical Periods*; The British School of Archaeology at Athens: Athen, Greece, 1966.
209. Mylonopoulos, J. *Greek Art*; Oxford University Press: Oxford, UK, 2009.
210. Strong, D.E.; Toynbee, J.M.; Ling, R. *Roman Art*; Yale University Press: London, UK, 1995; Volume 44.
211. Dodge, H. *The Architecture of the Roman Empire Vol. II an Urban Appraisal*; MacDonald, W.L., Ed.; Yale University Press: New Haven, CT, USA, 1986; 316p.
212. Janson, H.W.; Janson, A.F. *History of Art*; Harry N. Abrams Inc.: New York, NY, USA, 1995.
213. Hayao Miyazaki: A New Large-Scale Tapestry Project in Aubusson. Available online: https://www.nouvelle-aquitaine-tourisme.com/en/vassiviere-plateau-de-millevaches/the-cite-internationale-de-la-tapisserie-in-aubusson-a-must-see (accessed on 19 January 2025).
214. Huang, X. Understanding Bourdieu-cultural capital and habitus. *Rev. Eur. Stud.* **2019**, *11*, 45. [CrossRef]
215. Miller, R.L. Rogers' innovation diffusion theory (1962, 1995). In *Technology Adoption and Social Issues: Concepts, Methodologies, Tools, and Applications*; IGI Global: Hershey, PA, USA, 2018; pp. 1558–1571.
216. Florida, R.; Gabe, T. Assessing the rise and geography of the creative economy. In *Handbook of Creativity Assessment*; Edward Elgar Publishing: Cheltenham, UK, 2024; pp. 215–233.
217. Sala, S. Triple bottom line, sustainability and sustainability assessment, an overview. In *Biofuels for a More Sustainable Future*; Elsevier: Amsterdam, The Netherlands, 2020; pp. 47–72.
218. Zwiers, S.; Markantoni, M.; Strijker, D. The role of change-and stability-oriented place attachment in rural community resilience: A case study in south-west Scotland. *Community Dev. J.* **2018**, *53*, 281–300. [CrossRef]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.