

# Technology Adoption in Artisan Family Business: A Perspective Article

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## ABSTRACT

This study explores the necessity for artisan family businesses to adopt digital technology to be sustainable in the post-pandemic cultural tourism industry. The current study aims to highlight the importance of assessing the acceptance of technology by the artisan family business in terms of technology adoption before embracing the digital transformation journey. This study reviewed the existing works of literature related to the digital transformation of family businesses, particularly within the context of artisan family businesses in the cultural tourism industry. Digital transformation is one of the most influential factors for businesses from a long-term perspective. Hence, digital transformation is a critical element to the survival of organisations in the long run. Therefore, assessing technology acceptance related to artisan family businesses is crucial for successful adoption, which helps in the survival of such businesses and, in turn, supports the United Nations Sustainable Development Goals (UN-SDGs). This present study has effectively made a strong assertion of the significance of assessing the technological acceptance among artisan family businesses before adopting relevant kinds of technology. The study offers policymakers and stakeholders an analytical roadmap to help organizations bolster their efforts in their digital transformation processes.

**Keywords:** Artisan Family Business, Technology Acceptance, Digital Transformation, Cultural Tourism, Sustainability

## INTRODUCTION

The coronavirus disease (COVID-19) was declared by the World Health Organisation (WHO) on March 11, 2020. Since then, many sectors have been urged to temporarily halt operations for a few months, including the travel restrictions, which have a significant negative impact on the tourism sector, especially micro and small businesses (Melović et al., 2023). Although COVID-19 has accelerated the pace of technological transformation, there are low to moderate technology efforts from small and medium-sized family businesses, including artisan family businesses. This comprises factors such as perceived utility, expertise in technology, the availability of technology (Hisham, 2023; Mishrif and Khan, 2023), lack of technical efficiency (Loo et al., 2023), lack of financial resources, broadband connectivity, digital security, and lack of business culture (Begnini et al., 2023). Thus, this perspective article seeks to highlight the importance of assessing the acceptance of technology by the artisan family business in terms of technology adoption before embracing the digital transformation journey. This study also aimed to propose a framework for determining the preference of artisan family businesses located at heritage sites to adopt digital technology for business sustainability or discontinue their current operations due to insufficient knowledge and skills.

## Theoretical Foundation

### Digital Transformation

Digital transformation is often thought to involve the use of cutting-edge technology, such as social media, mobile technology, analytics, or embedded devices (Fitzgerald et al., 2014) to improve customer interaction or to digitalize activities in order to gain a competitive advantage (Vial, 2019). It is also referred to the realignment of

technology and business models (Solis et al., 2014) and the integration of digital technologies (Liu et al., 2011) to improve business performance (Westerman et al., 2011), engage and enhance customer experiences (Solis et al., 2014) and streamline operations (Fitzgerald et al., 2014). The process of digital transformation has evolved from relatively simple to more pervasive changes (Verhoef et al., 2021). It needs integration of technology and people (Nadkarni & Prügl, 2021) to execute the digital transformation process.

Few studies have used several terms to represent the process of digital transformation (see table 1), such as level of digital transformation (Garzoni et al., 2020), phase of digital transformation (Verhoef et al., 2021) and stage of digital transformation (Perera et al., 2023; Soluk & Kammerlander, 2021). Even though the terms are different, they all point to the same concept. This study preferred to use stages of digital transformation to portray the process of digital transformation. Based on studies by previous scholars, it shows that the stage of digital transformation is starting from digital awareness to digital enquirement (Garzoni et al., 2020) to digitization (Verhoef et al., 2021) to digitalization (Perera et al., 2023; Soluk & Kammerlander, 2021; Verhoef et al., 2021) and digital collaboration (Garzoni et al., 2020) and finally the digital transformation (Garzoni et al., 2020; Perera et al., 2023; Soluk & Kammerlander, 2021; Verhoef et al., 2021).

Table 1: Stages of Digital Transformation by Previous Studies

Stages of Digital Transformation	Authors
Level 1: digital awareness Level 2: digital renquirement Level 3: digital collaboration Level 4: digital transformation	Garzoni et.al (2019)
Stage 1: Process Digitalisation Stage 2: Product and Service Digitalisation Stage 3: Business Model Digitalisation	Soluk and Kammerlander (2021)
Phase 1: Digitization Phase 2: Digitalization Phase 3: Digital Transformation	Verhouf et. Al (2021)
Stage 1: Basic Digitalisation Stage 2: Advanced Digitalisation Stage 3: Smart Digitalisation Stage 4: Transformative Digitalisation	Perera et al. (2023)

This study applied six stages of digital transformation which are digital awareness, digital enquirement, digitization, digitalization, digital collaboration, and digital transformation. These stages of digital transformation are important because it will give a picture of the interest among artisan entrepreneur towards digital transformation. Although the adoption of digital technologies by well-established sectors such as manufacturing (Garzoni et al., 2020; Liere-Netheler et al., 2018; Martinelli et al., 2020), construction (Perera et al., 2023) and education (Rodríguez-Abitia & Bribiesca-Correa, 2021) has been extensively studied from a technical point of view, previous research lacks insight into heritage tourism sector, which focused on artisan business.

Table 2: Stages of Digital Transformation and its Definition

Stages of Digital Transformation
<b>Stage 1: Digital Awareness:</b> This level is grounded on the awareness about the potentiality of Digital Transformation by artisan entrepreneur business. Digital awareness, that is education, readiness and proneness

to digital utilization, is expected to be an antecedent of the digital transformation of working practices (Li et al., 2018, Garzoniet al., 2020).
<b>Stage 2: Digital Enquirement:</b> At this level, the engagement of artisan entrepreneur regards a more powerful interest in digital transformation is detected through their involvement in any working sessions, seminars, focus group, etc.
<b>Stage 3: Digitization:</b> The action to convert analog information into digital information. Examples concern the use of digital forms in ordering processes, the use of digital surveys, or the use digital applications for internal financial declarations. Typically, digitization mainly digitalizes internal and external documentation processes, but does not change value creation activities
<b>Stage 4: Digitalization:</b> Through digitalization firms apply digital technologies to optimize existing business processes by allowing a more efficient coordination between processes, and/or by creating additional customer value through enhancing user experiences
<b>Stage 5: Digital Collaboration:</b> On the basis of their interests, companies are accompanied into an activity of exploration of the potential benefits of digitalization in their own business processes and strategies. At this level, a number of limited companies are engaged; they are allowed to use the G Suite to sustain their administrative and communication processes.
<b>Stage 6: Digital Transformation:</b> This is the level of highest engagement that sees a limited number of SMEs interested in. SMEs in this level show a major interest towards the digitization process and that can represent pivotal set for the project's goals. In this stage, the technologies made available are mainly digital solutions for production, distribution and with a more relevant impact on the company's in terms of strategic and organizational issue for the business strategy and organizational settings.

Source: Authors Elaboration

## Artisan Family Business and Technology Adoption

The pandemic has accelerated digital transformation (Cavalcanti et al., 2022; Giannini and Bowen, 2022; Mishrif and Khan, 2023) across different industries. This is particularly true for small and medium-sized businesses (Klein and Todesco, 2021), albeit with insufficient competencies and resources (Li et al., 2018). The process is different among artisan family businesses due to the business nature of entrepreneurship. It focuses less on business growth while emphasising product authenticity and prioritising consumer satisfaction over profits (Abd Hamid et al., 2024; Solomon and Mathias, 2020). In the cultural tourism industry, the artisan family business penetrates the market through tourism (Yi, Liu, and Lyu, 2023) and provides a unique experience to tourists through authentic and original products (Ratten, Costa, and Bogers, 2019) by selling traditional crafts and food (Ferreira et al., 2019; Tregear, 2005). They often rely on traditional business models, such as establishing a local shop with relevant cultural services and products.

The travel restriction due to the pandemic engendered artisan shops to halt relevant operations, especially during the lockdown measures. Several studies revealed that the pandemic significantly impacted business resilience and investigated the sustainability of artisan family businesses through digital technology adoption, such as social media and e-commerce platforms (Priyono, Moin, and Putri, 2020; Fahmi and Savira, 2021; Purnomo et al., 2021; Ariffien et al., 2023). Meanwhile, the adoption of digital technology depends on contemporary digital trends and knowledge. The older generation struggles to use digital technology due to the inability and anxiety of disrupting the original pattern (Ferreira, Sousa, and Gonçalves, 2019; Nambisan, Wright, and Feldman, 2019; Fahmi and Savira, 2021). This is compared to the younger generation, who are more familiar with the latest digital technology (Nasution et al., 2021; Suddaby and Jaskiewicz, 2020).

While COVID-19 has accelerated digital transformation in various sectors, artisan family businesses face different challenges and opportunities on this path. These types of family businesses value product quality and customer satisfaction over business growth. They often lag behind when it comes to the swift take-up of digital technology. The change is made even more difficult by the generational factor, whereby most older artisans are reluctant to change their working methods, resulting in accumulating changes. In contrast, the young ones are

keen on using new technologies in their work. However, for artisan family businesses to become sustainable and ready again for any future disruptions, the incorporation of digital technologies while maintaining the traditional aspects of their operation will be imperative (Deb, Mohanty, and Valeri, 2022; Gandrita, 2024). Therefore, to encourage their motivation to adopt technology, assessing and predicting their technology acceptance is crucial (Loo, Ramachandran, and Raja Yusof, 2023).

### **The Importance of Assessing the Technology Readiness and Acceptance Among Artisan Family Businesses**

Digital transformation is performed by incorporating digital technologies (Fitzgerald et al., 2013) into various facets of commercial operations for business operations and high value to customers. Digital transformation depends on the application of technologies to improve business performance by altering or improving business models through the innovation ecosystem (Westerman and Bonnet, 2021). Digital technology could support tourism businesses by establishing resilience on several levels. This includes preparing for an impending catastrophe (Khurana, Dutta, and Singh, 2022), adapting to challenging environments (Skare and Soriano, 2021), and increasing anti-fragility (Corvello et al., 2023). Nonetheless, certain businesses did not succeed in the digital transformation journey (Tabrizi et al., 2019) due to the application of technologies requiring specific skills and knowledge with the integration of people and technology (Nadkarni and Prügl, 2021). Lack of or low digital literacy and the possibility of disrupting present processes are the main hurdles to adopting technology, especially in traditional businesses (Brunetti et al., 2020; Zapata-Cantu et al., 2023). Furthermore, it depends on corresponding business requirements, such as marketing strategies, consumers, and financial resources (Fitzgerald et al., 2013; Westerman and Bonnet, 2021).

Digital transformation is a long-term journey owing to the evolution from relatively simple to more challenging processes (Verhoef et al., 2021). Through a systematic review, there is a variety of ever-evolving stages of digital transformation that various scholars describe in different ways. Verhoef et al. (2021) broke it down into three phases: A concept closely connected to digital is their gradual progression expressed as digitization, digitalization, and, finally, digital transformation. Four levels are explored by Garzoni et al. (2020), including level one or digital awareness; level two or digital inquiry; level three, described as digital collaboration; and level four as digital transformation. However, the journey is termed an early transition and a mature stage, according to Perera et al. (2023), and this seems to point to the advancement, sophistication, and integration aspects of digital technologies. Many aspects are taken into consideration, such as human behaviour, innovation, psychology, environmental influences, and demography factors such as gender, age, experience, and voluntariness of use. Theory such as Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM), TAM2 and Unified Theory of Acceptance & Use of Technology (UTAUT) are the most popular technology acceptance theories that are being used worldwide in different settings (Samaradiwakara & Gunawardena, 2014). In addition, these theories were developed to determine a few aspects such as the level of adoption of technology, the readiness to adopt technology, the usage and intention to adopt technology, and lastly, human behaviour and attitude towards the adoption of innovation.

Therefore, assessing technology readiness and technology acceptance levels is increasingly vital when users are ready to utilise a specific technology, although technical difficulties might hinder the intention to adopt the technology. These two dimensions, while conceptually distinct, are deeply interconnected and should not be examined in isolation (Rinjany, 2020). A critical tension emerges when user demonstrate a high level of readiness such as having the necessary skill or motivation but face persistent technical barriers or usability concerns that undermine their acceptance of the technology. This misalignment can ultimately deter adoption, highlighting the need for integrated approach (Rinjany, 2020). In addition, the low degree of digital technology adoption caused businesses to be significantly and negatively impacted by global issues like pandemic (Bai, Quayson, and Sarkis, 2021). As such, determining the levels of technology readiness and acceptance is integral to comprehending respective coping mechanisms and boosting resilience in the post-pandemic era. The digital transformation journey for the artisan family business will be more consistent with accurate information regarding the acceptance levels through the most appropriate type of technology adoption. It also includes strategies for sustaining culturally-based business models that emphasise local and cultural handicrafts (Ratten and Ferreira, 2017).

## Case Vignette: Digital Transformation Pathways in Artisan Family Businesses

A successful case of digital transformation among artisans is illustrated by the Women E-nspire project in Chiang Mai, where upland ethnic women acquired digital skills to design, market, and document their traditional crafts, particularly textiles used in Hmong rituals (Denes & Boonyasurat, 2023). This initiative not only improved their income and visibility but also supported the intergenerational transmission of craft through digital archiving. Similarly, a study on SMEs shows that digital transformation can take three main paths, (1) accelerating digitalization, (2) digitalizing sales functions, or (3) partnering with digital firms (Priyono et al., 2020). Each part depending on factors like digital maturity, learning culture, and product type. For example, a study by Anggadwita et al. (2023) found that women batik entrepreneurs in Trusmi region, Cirebon, Indonesia utilized digital technology in order to maintain their livelihood during the pandemic. These successful case studies highlight the importance of recognizing diverse

## CONCLUSION

The artisan family business is engaged in preserving a historic cultural practice that is culturally endangered. The pandemic has negatively impacted the business to various degrees owing to tourism restrictions. Accordingly, digital transformation generated alternative opportunities for different sectors and business entities, including small businesses (Mandviwalla and Flanagan, 2021). Artisan family businesses emphasise independence over conglomeration, manual production over mass production, localisation over quantity, and value creation over profit maximisation (Solomon and Mathias, 2020). Moreover, businesses encountered significant challenges in adopting digital technology that discouraged business owners from engaging in relevant adoption processes when digital technology is valued differently (Fahmi and Savira, 2023). According to Priyono et al. (2020), three situations could be observed for a business entity: certain business entities are prepared to transition to a digitalised firm, several businesses may adopt selective digital adoption due to financial distress, or a business possesses abundant social capital. However, there is a deficiency in digital literacy, which motivates engagement in collaboration. Thus, appraising the levels of technology acceptance is the first key step to determining the digital transformation level before deciding on the type of technology most optimal for the business needs. In this study, the authors propose that the transition should begin with an assessment of technology readiness and acceptance. Based on this assessment, stages of digital transformation can be identified, comprising of six phases from digital awareness, enquirement, digitisation, digitalisation, collaboration, and transformation. Finally, the decision to adopt technology can be made accordingly. The following figure 1 illustrates a technology adoption framework suggest in this study.

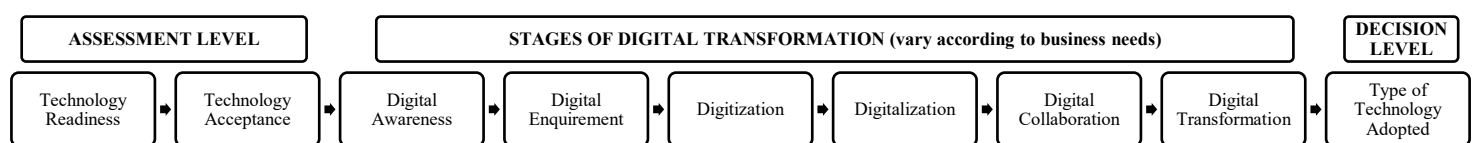


Figure 1: Technology Adoption Framework

## Limitation And Future Research

This perspective article is conceptual and does not incorporate empirical data to validate the proposed

framework. While the literature and case vignettes provide valuable insights, future research should include qualitative or quantitative investigations involving artisan family businesses to assess the applicability and impact of the technology adoption framework in real-world settings. Furthermore, comparative case studies across regions with varying levels of digital infrastructure would help identify context-specific challenges and opportunities. Besides, an in-depth exploration of intergenerational dynamics, especially regarding mentorship and knowledge transfer between older and younger artisans. Therefore, it could further illuminate strategies for overcoming resistance to the adoption of technology. Policymakers are encouraged to support such efforts with tailored digital literacy programs and targeted investments in infrastructure. Future work may also explore how technology adoption influences the long-term sustainability of artisan family businesses, especially in heritage tourism destinations.

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