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# Digital Marketing and Handicraft Entrepreneurial Ventures in Tacna, Peru

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#### **ABSTRACT**

The COVID-19 pandemic has accelerated the growth of e-commerce as a viable option for purchasing products and services online. This research study examines how the adoption of online technologies has impacted small craft producers in the cross-border region between Peru and Chile, particularly in the city of Tacna. We created web pages with online stores for 30 small craft producers and installed them on their smartphones. Additionally, they received training and were given autonomous management of the application. After two months, the web pages received 53,790 visits from the United States, Brazil, and Canada, highlighting the positive impact of technology adoption by small entrepreneurs. They were able to increase their sales and connect with customers worldwide, providing them with opportunities to enter export markets.

**Keywords:** digital marketing, e-commerce, crafts, entrepreneurs, web analytics.

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#### INTRODUCTION

On March 11, 2020, the World Health Organization declared the outbreak of COVID-19 a global pandemic. At that point, the virus had already spread to 116 countries worldwide, including Peru, causing a health crisis that affected all economies. In response to the pandemic, the Peruvian government issued DS No. 044-2020-PCM, which mandated the closure of all economic activities, except for banks, pharmacies, and stores selling necessities, and also closed borders. These restrictions were supposed to be in effect for 15 days, starting from March 16, 2020. However, restrictions were partially lifted on July 1, 2020, after 107 days.

Small entrepreneurs were particularly affected by these measures. In this challenging context, many entrepreneurs turned to digital marketing and their smartphones to stay in touch with their customers, with whom they had built close business relationships before the pandemic. Many of these customers would come from northern Chile attracted by Peruvian gastronomy and, in passing, to buy handmade products in Tacna, Peru. Over 12,000 tourists would visit the city every weekend to attend promotional and sales craft fairs organized by the Provincial Municipality of Tacna and the Ministry of Industry and Tourism. Transit flow between Tacna and Arica was reopened on January 4, 2022.

While there are many online shopping web pages for electronic devices, clothing, and other products, there are very few that are dedicated to selling handmade products. Online shopping web

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pages for handicrafts allow consumers to purchase goods and services directly from vendors on the internet. For all of these reasons, it is essential to provide entrepreneurs with access to digital resources to ensure business continuity, strengthen their abilities, expand their businesses, and reach different export markets.

This research aims to contribute to the understanding of venture management by exploring the adoption of digital technologies for attracting and retaining new customers.

#### **Entrepreneurial Venture**

Starting an entrepreneurial venture involves directly initiating a business or activity based on an idea or need. In Latin America, this is a recurring factor (Puente et al., 2019). This idea materializes with the design, organization, and creation of a company. Its success is determined by the capacity of the entrepreneur to maintain and grow it over time using strategies and development in the environment (Malecki, 2018).

Past and present scientific research consider entrepreneurs key elements in economic and innovative growth. Various perspectives have been studied to understand the personality and motivations of entrepreneurs (Terán & Guerrero, 2020), including factors such as the pursuit of additional income, achieving labor independence, family tradition, and more.

# **Experience in Undertaking Craft Entrepreneurial Ventures**

The experience of handicraft entrepreneurs in Tacna is similar to that of other regions with a long tradition of handicraft expression, such as Cusco, Puno, Cajamarca, and Arequipa. In most cases, it began with a pair of knitting needles or a hand-spin machine (known as *phuskay* in Aymara) to create hand-woven products with bright colors that reflect the cultural iconography of their region. Similarly, leather crafts started with a cutter, sandpaper, and a lot of imagination and determination. Over time, as profits from their sales have grown, artisans have invested in training courses and adopted appropriate technologies to increase their productivity and improve the quality of their products for customer satisfaction.

The handicraft industry plays a crucial role in economic progress as it provides a source of income for artisans and their families; it also serves as a means of cultural expression to communities (Ordóñez et al., 2023). In many countries around the world, the

handicraft sector has been used to maintain and promote cultural and artistic traditions and has also been an important source of employment and income (Grobar, 2019).

It is worth mentioning that entrepreneurs are currently striving to be proactive and find new market opportunities, even in difficult economic times. The proactive guilds are usually the first to launch new products, services, or processes, and they are the ones that innovate the fastest. As a result, they are considered the most representative of the tradition of each community and culture (Fernández et al., 2020).

Handicrafts are objects created by skilled artisans who possess knowledge passed down through generations. These objects not only satisfy market demand, but also reflect the customs, traditions, and beliefs of a cultural group (Fernández et al., 2020).

The handicraft sector is a small-scale industry that produces a variety of valuable objects, mainly to supply the travel and tourism industry. As an integral part of the informal economy, handicrafts generate income, provide employment opportunities, and help combat poverty (Wondirad et al., 2022).

According to Grobar (2019), the handicraft sector employs more than 10% of the labor force in many countries. However, more documentation is needed to develop policies that can maximize opportunities in this sector. Governments should undertake measures to preserve the cultural heritage embodied in handicrafts and promote the export of these products.

# The Internet and Entrepreneurial Ventures

The COVID-19 pandemic has brought about many changes, causing companies to face great challenges. Global markets have been affected by uncertainty, chaos, and crisis, and this has required a revision of organizational structures. According to Colina et al. (2021), 66% of MSEs in Lima, Peru, have opted for new sales modalities that involve "face-to-face - delivery", allowing them to implement technology to maintain their productivity.

Entrepreneurial skills and information technology skills have become increasingly important due to the strategic role played by entrepreneurs. Thus, entrepreneurial skills and information technology, which is used as a mediator, have a positive impact on business success (Marei et al., 2023).

Nowadays, creating a business web page or e-commerce store is easier than ever before. In this new technological era, having a web page is not an

option, but a necessity for the growth of a business. Finding a web page online is just a matter of a few simple steps and entering the right keywords. Having an e-commerce web page is not just about online business; it also provides valuable content to attract potential customers and engage with users. Persuasive web page design plays a role in leading users to adopt and continue to visit these web pages, and to purchase more products or services (Loh & Hamid, 2021).

Managerial competence becomes a key pillar for an effective digital transition. It helps to improve the readiness and knowledge of both management and operational staff and to cope with negative events or external circumstances such as the COVID-19 pandemic. In the wake of the COVID-19 pandemic, digital transformation has become important for effective management in challenging times. Research has shown that managerial competencies have played a critical role in facilitating the successful digital transition of small and medium-sized fast-moving consumer goods (FMCG) companies in Zone 3 of Ecuador during the post-pandemic era. Therefore, it is recommended that managers receive regular training through seminars, courses, and other mechanisms to ensure they are optimally prepared to make the right decisions (Gamboa et al., 2023).

# E-marketing and Customer Relationship Management (CRM)

Electronic marketing, also known as e-marketing, has a significant positive influence on e-loyalty. This means that greater use of e-marketing could lead to increased online loyalty from customers. Furthermore, the roles of e-marketing and e-CRM have a simultaneous and significant positive influence on the loyalty of web page visitors (Sasono et al., 2021).

According to Guerola et al. (2022), CRM is a highly effective business management strategy and a powerful technological solution, with a particularly significant impact in the realm of entrepreneurship. Moreover, CRM has proven to be an effective tool for driving growth and achieving high return on investment (ROI) wherever it has been implemented.

On the other hand, e-CRM is a marketing strategy that integrates all business activities to attract and retain customers through the Internet. Its primary goal is to consolidate retention, cross-buying, brand loyalty, and customer satisfaction (Zaim et al., 2020). This strategy uses the internet to create web pages that can be accessed by customers from any location at any time to enhance customer satisfaction and loyalty. As a result, it indirectly enhances

the marketing strategy of the company and its competitive advantage.

The objective of this research is to demonstrate the impact of e-commerce on the continuity of entrepreneurial ventures in the handicraft sector, particularly in high-volatility contexts such as the COVID-19 pandemic. Also, this study aims to show how e-commerce can help emerging businesses maintain contact with their markets, expand their reach and growth, and explore new markets.

# **Hypothesis**

The implementation of digital marketing will have a positive impact on the sales of entrepreneurs in the handicraft sector during times of volatility, such as the COVID-19 pandemic

#### **METHODOLOGY**

The study focuses on the implementation of e-commerce or online stores to sell physical products, such as handicrafts, aiming to increase sales by remotely reaching new markets. For setting up online stores, the recommendations of Bastón et al. (2021) were taken into account; they suggest paying attention to the seven important aspects shown in Figure 1.

The entrepreneurial ventures were already operating before the pandemic, and their continuity and growth are sought in this study through the adoption of digital technologies. The entrepreneurs specialize in making products such as leather goods, woven garments made from alpaca wool, and various decorative products with historical and cultural iconography from Tacna and Peru. Their customers are primarily tourists from Chile, who according to statistics from the Santa Rosa border control, exceeded 12,000 tourists per day during the weekends and holidays.

The e-commerce implementation process involved visiting craft fairs that were set up for a few days on weekends in prominent public places of circulation for tourists in the main avenues of Tacna (Figure 2). Over approximately three months, the necessary data on 30 artisans was collected using the format shown in Figure 5, which was used to create the web pages. However, some artisans did not show interest in having a web page due to their advanced age or satisfaction with their current level of sales.

To understand the scope of using web pages as an e-marketing tool, we decided to create individual web pages for a group of 30 artisans in the city of Tacna, Peru. Most of them serve Chilean tourists, who often visit the city on weekends due to its short

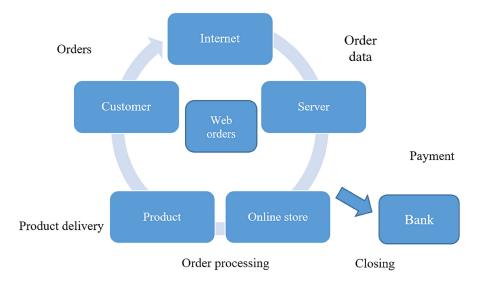


Figure 1. Key components for the successful implementation of e-commerce.

Source: Prepared by the authors.



**Figure 2.** Trips to craft fairs in the city of Tacna, Peru.

Source: Photograph taken with the authorization of Asociación de Artesanos Sin Fronteras.

distance (only a one-hour drive from Arica to Tacna). The tourists usually go sightseeing and buy handicraft products made of leather, woven alpaca wool, and other products decorated with iconography representing the cultural heritage of Tacna and Peru.

During the process, we noticed that some of the participants had already established a commercial logo and slogan, as shown in Figure 3. However, they had not yet taken the steps to protect their intellectual property. Some of them had Facebook pages to showcase their products, but they were not using the platform effectively due to a lack of time or knowledge. In some cases, a family member had created the Facebook page a long time ago, and there was very little content on it.

We also noticed that some of the artisans had advanced leatherworking techniques for creating backpacks, bags, purses, and wallets. These products were frequently sought out by tourists in the area, which indicated a high demand for these items, as shown in Figures 3 and 4.

To identify each of the entrepreneurs involved in the project, a single form was developed to collect the necessary information to create the web pages. This form was applied uniformly to all 30 artisans, as shown in Figure 5. The collected data included contact information, whether they had money transfer apps such as Yape or Plin, which are commonly used in Peru for physical store purchases, as well as their vision, mission, and other relevant details



Figure 3. Entrepreneurial venture with an established logo and slogan. Source: Photograph taken with the authorization of the artisans.



Figure 4. Handicraft products made of leather and various materials.Source: Photograph taken with the authorization of the artisans.

to be included on their web pages. Photographs were taken of each product they wanted to display on the web, along with their measurements and weight for packaging, shipping costs, and customs control purposes.

It was found that some entrepreneurs used electronic wallets for transactions, while others solely relied on bank transfers. Some also lacked a clear vision and mission for their company. Therefore, we assisted them in crafting a vision and mission statement based on their venture's history and reality.

Next, we designed and created web pages for both informational and transactional purposes. Due to the simplicity and flexibility of WooCommerce technology in WordPress, we selected this platform. Entrepreneurs can easily add content, and the limited number of products in each catalog made it a perfect choice.

Afterward, we purchased two hosting services (Figure 7) to host all 30 web pages equally. We also bought 30 domains, taking into account the name preferences of each entrepreneur.

Then, we installed connectivity with a payment gateway, established an order processing flow, and operation closing, and created a system for the shipment of sold products. Finally, we provided personalized training to each participant on how to manage their web pages, update prices, and add content, which were accessible on their smartphones.

#### **RESULTS**

This section presents the results of the e-commerce implementation process. The analysis of the environment was carried out, which included two important aspects. Firstly, an analysis of similar existing applications in similar contexts was conducted.

		WEB PAGE CI	REATION FORM							
DESIRED NAME FOR THE WEB PAGE	creacionesamalia.com									
COMPANY DETAILS										
COMPANY NAME	Creaciones Amalia									
COMPANY ADDRESS	Calle Los Uros Mz J Lt 6 Alto de la Alianza									
COMPANY TAXPAYER ID (RUC)	10450641184									
FULL NAME OF THE OWNER	Amalia Ledy Chambe Quispe									
COMPANY/OWNER E-MAIL	ledyamalia@hotmail.com									
CELLPHONE NUMBER (WHATSAPP)	952841662 (WhatsApp) 931632500 (calls)									
MEANS OF PAYMENT										
PLIN CODE	YES		NO	X						
YAPE CODE	YES	X	NO		931632500					
PAYPAL	YES		NO	X						
BANK ACCOUNTS TO RECEIVE PAYMENTS (INTERBANK ACCOUNT CODE (CCI) AND ACCOUNT NUMBER), PREFERABLY THE	BCP -									
	INTERBANK -									
	SCOTIABANK -									
OWNER SHOULD BE THE ACCOUNT HOLDER.	BBVA -									
OTHERS: -										
WEB PAGE CONTENT										
WEB PAGE CONTENT ON "ABOUT US"										
Our venture is dedicated to the pro-	duction of personal	ized handicrafts an	d leather goods tha	at showcase cultura	l customs and mot	tifs				
VISION										
To establish ourselves as a reputable brand in the market.										
MISSION										
Our mission is to become a well-kr	nown company and	expand our busine	ss through exportin	ng.						
ADDITIONAL INFORMATION T	O BE ADDED TO	THE WEB PAGE								
We have been practicing this art fo	r nine years and ha	ve put our knowled	lge into action for t	he past five years.						
SOCIAL NETWORKS										
Facebook:	If you do not have any social network accounts, would you like us to create one for you?									
Other:	Yes: ( ) No: (×)									
PRODUCTS										
Name	Price	Weight	Width	Length	Height	Description				
Braided purse	20	36 g	2 cm	12 cm	11 cm	Llama leather				
Double zipper purse	10	19 g	1 cm	9 cm	7 cm	Sheep leather				
Coin purse	12	21 g	-	8 cm	7 cm	Goat leather				
Badana coin purse	7	15 g	-	9 cm	7 cm:	Sheep leather				
Miniwallet	10	18 g	1 cm	7.5 cm	8 cm	Sheep leather				
Document holder	13	23 g	0.7 cm	11.5 cm	7.5 cm	Sheep leather				
Document holder wallet	17	27 g	1 cm	<u> </u>	11.2 cm	Sheep leather				

**Figure 5.** Single form to collect information for the creation of web pages.

Source: Prepared by the authors.

Secondly, the economic and financial aspects, human potential involved in the 30 ventures participating in the study, and the current use of digital tools by artisans in managing their businesses were evaluated.

Upon completion of the standard web page creation process (Fig. 6), it was subsequently replicated for the 30 artisans involved in the project.

As shown in Figure 6, the web page design is simple and displays the company's location, brand, and product information such as prices, weight, and photos. It also provides an option to easily add the products to a shopping cart.

Web pages must be hosted on a hosting platform, as shown in Figure 7. The characteristics of the hosting

web that have been selected to host the web pages of the 30 entrepreneurs are also shown.

Once the web page was created for each artisan and hosted, the contents were added. This included edited photographs of their products, price, descriptions (size, weight, packaging), and shipping costs, among other data. The shopping cart option and different payment methods such as electronic wallets, payment gateway through PayPal, bank transfer, in-store, etc. were also added. The automatic calculation of shipping costs, taking into account the total weight of the products purchased online, can be seen in Figure 8.

Personalized training was provided to each artisan so that they could manage their web pages. An application was installed on their smartphones, which YARICSA YULIANA VILCA COAQUERA, PIERO ALEJANDRO ARA ROMERO, MARÍA DE LOS ÁNGELES TORRICO ORDOÑEZ



**Figure 6.** Web page created for one of the 30 artisans participating in the study. Source: Prepared by the authors. Screenshot of the standard web page cover of an artisan.

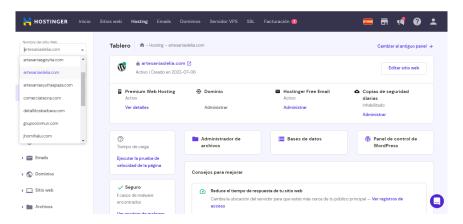
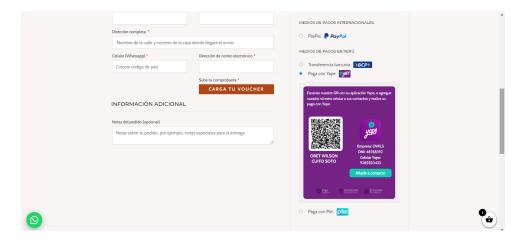


Figure 7. Web page hosting.

Source: Prepared by the authors based on the hosting report.



**Figure 8.** Implementation of different payment methods. Source: Prepared by the authors based on the web page report.

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enabled them to add content to their pages. Figure 9 shows two female entrepreneurs receiving training.

After two months of installation, the artisans were granted access to a control panel that displayed the number of visits their web pages had received in the last hour, last 6 hours, last 24 hours, and last 7 days, as can be seen in Figure 10.

The information gathered in the last 7 days allowed us to obtain a broader view of the number of visits. Thus, we were able to identify the top ten countries from which the visits originated. As of December 31, 2022, there were a total of 53, 790 visits among the thirty web pages created. The majority of visits came from the United States of America, followed by Canada, China, France, and others, as shown in Figure 11.

Figure 12 displays the flow of visits to the web pages of different entrepreneurial venture types. The most

visited were those related to alpaca wool-based textiles, followed by leather handicrafts, and nine (9) other types. The number of businesses involved in the project is as follows: 11 in alpaca wool-based textiles, five (5) in leather handicrafts, three (3) in clay pottery and cold porcelain, two (2) in wine and others, two (2) in metal jewelry, and two (2) in home textiles.

When considering the total number of visits per country, it is evident that the United States of America, Brazil, and Canada are the three countries with the most interest in Peruvian handicrafts.

Moreover, after monitoring the impact of digital marketing on the sales of the participants before and after the implementation period, an average increase of 19.38% was observed. This evidence is statistically significant at a 95% confidence level, as shown in Table 1.



**Figure 9.** Artisans receive training on how to edit web pages using their smartphones. Source: Prepared by the authors.

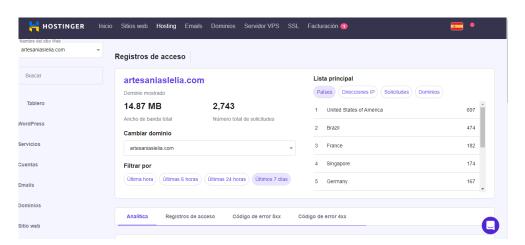
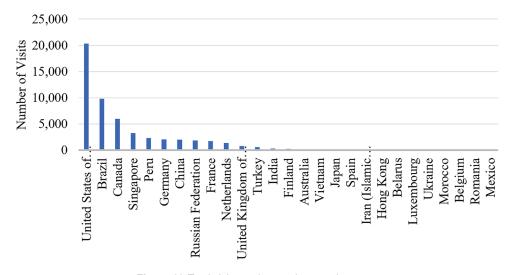
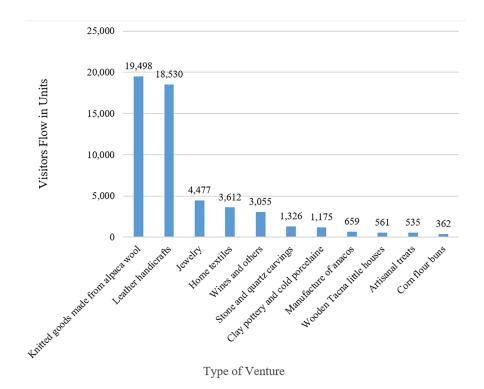


Figure 10. Web page visitor report obtained from hosting provider.

Source: Prepared by the authors.



**Figure 11.** Total visits made to web pages by country. Source: Prepared by the authors based on the visits recorded on the web pages.



*Figure 12.* Visitors flow to the web page by type of entrepreneurial venture. Source: Prepared by the authors based on the visits recorded on the web pages.

Table 1. Impact of Digital Marketing on Sales.

## **One Sample Test**

	Test Value = 0									
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference					
					Lower	Upper				
Before	57.730	29	.00	6215.79700	5995.5871	6436.0069				
After	66.089	29	.00	7412.28933	7182.9040	7641.6747				

Source: Prepared by the authors based on the sample data.

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# **Hypothesis Testing**

Null hypothesis:

H<sub>0</sub>: The implementation of digital marketing will not have a positive impact on the sales of entrepreneurs in the handicraft sector during times of volatility, such as the COVID-19 pandemic.

Alternative hypothesis:

H<sub>1</sub>: The implementation of digital marketing will have a positive impact on the sales of entrepreneurs in the handicraft sector during times of volatility, such as the COVID-19 pandemic.

The hypothesis testing is performed by comparing the *t*-distribution of means for a sample of sales of entrepreneurs before and after the adoption of digital marketing resources. This comparison is done at a statistical significance level of 95% with a *p*-value less than 0.05, as shown in Table 1. Consequently, the research hypothesis stating the positive impact of digital marketing on the sales of entrepreneurs in Tacna is demonstrated.

#### DISCUSSION

According to Guo and Ahn (2021), rapid industrialization has brought new challenges for the handicraft sector. The preservation of the traditional craft industry and cultural sustainability have become a major concern for designers. Achieving a culturally sustainable future requires combining traditional craftsmanship with contemporary social needs. During the development of this study, it was observed that artisans make souvenirs for everyday use, such as glass bottle adornments made from clay,

cups, bathroom accessories, doll clothes, etc. (Fig. 13). The use of web pages can ensure that such items remain over time.

The results obtained were similar to those of Irfan and Salam (2020) in Pakistan. Few artisans were able to quickly acquire the skills for managing the store on their smartphones and needed more time to do it well. Some requested training in popular social media marketing skills such as Facebook, as it was the most used social network among them.

Understanding the potential markets for Peruvian handicrafts allows products to be customized more quickly to the preferences of customers from different cultures. To attract customers, it is important to create web pages that can reach a target audience likely interested in the products (Sagot et al., 2022).

As shown in Figure 14, companies also focused on positioning their official Facebook page in visible places on their web pages, as social networks provide a modern way for companies to develop stronger relationships with their customers. It is recommended that the content published should be entertaining and informative about the brand.

According to a study conducted by Ynzunza e Izar (2021) in Mexico, the government should provide technological, business, and financial support to strengthen the entrepreneurial potential and success rate of new businesses. Educational institutions and government agencies can play a crucial role in ensuring the sustainability and growth of these ventures.

Latin American governments are seeking to strengthen financing and technical assistance programs



Figure 13. Hand-woven bathroom accessories and decor.

Source: Photograph taken with the authorization of the entrepreneur.





Figure 14. Incorporation of Facebook social network on the web page. Source: Prepared by the authors based on the research results.

to support the creation, development, and consolidation of microenterprises. However, while these ventures can have positive economic and financial results in the short term, few of them manage to expand and provide expected benefits such as employment generation, payment of taxes and bonuses, participation in local development, and promotion of economic competition (Aguilar & Orraca, 2021). Therefore, it is important to increase their capabilities to facilitate market diversification.

In Ecuador, Solis et al. (2021) conducted a study on MSMEs in Azogues and found that digital transformation did not have a positive impact on entrepreneurship and innovation in family businesses that depended on the local market without any prospects. However, in the case of businesses located in Tacna, 85% of the demand for handicraft products (souvenirs) came from Chilean tourists.

It is important to consider the factors that affect innovation in small and medium-sized exporting companies, which primarily operate in international markets. A study on Ecuadorian exporting SMEs, conducted by Carvache et al. (2022), found that technology, management, and human potential are the key factors that influence innovation. Technology and management play a crucial role in the innovation process, as technology helps to enhance technical knowledge and research and development of products, while specialized management aids in the management of resources, internal capabilities, and knowledge to achieve product innovation. Similarly, a study conducted by Escandón and Hurtado (2014) in Colombia also highlighted that technology is a vital factor for the early internationalization of companies.

The creation of web pages for artisans has shown them that they could reach a wider audience if they invested a little more in their continuity and management. Innovation is a vital component for the competitiveness of companies, leading to economic growth not only for the business but also for the country. It is particularly crucial for recovery during economic crises such as the one experienced due to COVID-19 (Aguirre et al., 2021).

In a study conducted by Wondirad et al. (2022) in Ethiopia, it was found that local communities that have been producing handicrafts for many years have not yet adopted modern technologies for their production and marketing processes. This has restricted the growth potential of family-run businesses.

Similarly, Al-Zaam and Al-Mizeed (2021) conducted research in Jordan and found that companies need to adopt digital strategies to leverage technology and increase brand awareness through online platforms to stay competitive in the current market.

## **CONCLUSIONS**

In Tacna, Peru, many entrepreneurs come from artisan families. Over the years, they have honed their knowledge and skills to produce unique and appealing products that are popular among tourists. However, due to the lack of digital presence, most of them have been selling their products at craft fairs organized by government institutions. These fairs are installed for a certain number of days in areas frequented by Chilean tourists.

With the advent of new marketing techniques, it has become imperative for these entrepreneurs to use social networks and web pages to offer their products not only at a local level but also internationally. Digital technologies have become their best ally in achieving innovative and qualified production processes, as well as the diversification of sales in international markets.

This research study has demonstrated the positive impact of digital marketing on entrepreneurs located in Tacna. By adopting digital marketing techniques, they have been able to increase their sales and maintain contact with their customers. Additionally, digital marketing has helped them explore new export markets for their products.

This research has contributed by making digital marketing available to entrepreneurs as a way to support their businesses and expand networks internationally. This research has demonstrated the potential for digital marketing applications to help entrepreneurs maintain continuity and grow their businesses.

The experience gained from working with artisans in Tacna has been valuable and informative. This experience can be applied to other activities, such as bringing rural agriculture closer to urban markets to expand sales options and improve income for those involved.

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