



**Asia-Pacific
Economic Cooperation**

Advancing Free Trade
for Asia-Pacific **Prosperity**

Digital Transformation to Generate New Business Opportunities, Opening to New Markets in the MSMEs and Gender Focused Cooperatives, in Response to the Economic Crisis Caused by COVID-19

APEC Small and Medium Enterprises Working Group

July 2023



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APEC Small and Medium Enterprises Working Group

July 2023

APEC Project: SME 06 2021A

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Executive summary

Digital transformation has become a necessity for businesses around the world, including micro, small and medium-sized enterprises (MSMEs) and cooperatives in Asia-Pacific Economic Cooperation (APEC) member economies. The digital gap in the region has been a problem for many of these companies, as many have not fully embraced digital technology due to a lack of resources, knowledge, as well as support from external stakeholders to generate traction for change, such as governments, private and public development institutions, and larger companies within their economic chains.

Digital transformation offers numerous benefits for MSMEs and cooperatives, including process optimization, increased operational efficiency, improved productivity, reduced costs, expanded markets and improved customer satisfaction, all of which translate into improved business performance. In addition, the adoption of digital technologies can improve business resilience in the face of unforeseen crises and challenges, as the COVID-19 pandemic has demonstrated.

To close digital gaps and realize the benefits of digital transformation, businesses need to have access to resources and tools that enable them to implement digital technology effectively and efficiently. This can include employee training and education, adoption of digital tools specific to their industry, investment in technology infrastructure, and collaboration with digital experts.

In addition, it is important for governments and relevant organizations to promote and facilitate the adoption of digital transformation among MSMEs and cooperatives by providing supportive resources and policies and encouraging collaboration and sharing of knowledge and best practices between companies.

This project has been funded by APEC Small and Medium Enterprises Working Group: SME 06 2021 A, with the objective of reducing digital gaps in MSMEs and Cooperatives, as well as empowering women and youth in the incorporation and implementation of the different tools of digital transformation to generate a sustainable economic recovery.

To achieve the objective, the state of the art is developed to identify the gaps and barriers that different economies globally have found in the process, as well as to identify the needs of entrepreneurs in terms of the type of digital tools to use according to the different economic sectors in which they operate, generating inputs for the design of the instrument to be applied to the sample of entrepreneurs of APEC economies.

The results of the analysis of primary and secondary sources will serve as input for the design and development of an educational digital platform that will enable the development of skills for a successful digital transformation process.

Promoting the adoption of digital transformation is a priority for the governments of APEC economies, with the objective of providing the necessary resources and tools for MSMEs and Cooperatives to adopt digital technology effectively and efficiently.

Acronyms

APEC	Asia-Pacific Economic Cooperation
CEPAL	Economic Commission for Latin America and the Caribbean
CORFO	Chilean Economic Development Agency
CPS	Cyber-physical space
CRM	Customer Relationship Management
DCI	Directorate of Cooperatives and Institutionalism
DGITDF	Innovation, Technology, Digitalization and Formalization General Directorate
DEPA	Digital Economy Promotion Agency
DESI	Digital Economy and Society Index
DT	Digital Transformation
ERP	Enterprise Resource Planning
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross domestic product
ICT	Information and Communications Technology
INEI	National Institute of Statistics and Informatics
INEGI	National Institute of Statistics and Geography
KPI	Key Performance Indicators
LAC	Latin America and the Caribbean
MSME	Micro, Small and Medium Enterprise
OECD	Organization for Economic Co-operation and Development
SME	Small and Medium Enterprise
SEO	Search Engine Optimization
UF	Chilean Unit of Account
UIT	Peruvian Unit of Account
WIPO	World Intellectual Property Organization

Acknowledgments

We would like to thank the 3 APEC economies: Chile, Mexico and Peru that contributed to the survey data and the representatives of public and private organizations from the 5 invited economies, such as, Canada, Chile, Mexico, Peru, and Thailand.

To the entrepreneurs of micro, small and medium enterprises, as well as Cooperatives from each of the participating economies who shared their experience, knowledge, and perspectives.

Finally, we would like to express our gratitude to the Ministry of Production of Peru, the APEC Secretariat, the Digital Economy Agency of Thailand, the FAO Regional Office for Latin America and the Caribbean, the Fundación Superación de la Pobreza, the Yunus Corporation and the Secretariat of Economic Promotion and Development of the Government of the State of Guerrero for their support in conducting the questionnaires.

Table of Contents

Executive summary	3
Acronyms	5
Acknowledgments	Error! Bookmark not defined.
1 Introduction	10
2 Background	13
2.1 Digital Transformation (DT)	13
2.2 The role of public administration in the digital transformation of MSMEs and cooperatives	14
2.3 Background of the metrics of Digital Transformation implementation	16
2.4 Barriers to Digital Transformation	19
2.5 Digital Tools	19
3 Experience of APEC economies in digital integration	21
3.1 Chile case	21
4 Methodology	25
4.1 Study design	25
4.2 Study population and sample	25
4.3 Instrument	25
4.4 Metrics	27
5 Results	31
5.1 Questionnaire Results	31
5.1.1 Fields of application	35
5.1.2 Digital Tools	38
5.1.3 Gaps and barriers to digital transformation	44
5.1.4 The requirements for a successful digital transformation	45
5.1.5 E-Learning platform	46
5.2 Interview Results	49
5.2.1 Digital Economy Promotion Agency (DEPA) Thailand	49
5.2.2 Entrepreneurs MSMEs and Cooperatives Interviewed	51
6 Key Findings	52
6.1 Key findings on the determinants of the digital adaptation process for MSMEs and Cooperatives	52
6.2 Key findings on gender equality in the digital transformation process	53
6.3 Key findings on the need for an Educational Digital Platform	54
6.4 Key findings on the characteristics and specifications of an Educational Digital Platform	55
7 Conclusions	55

8	References.....	59
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Table of appendix

APPENDIX 1	63
APEC PROJECT SME 06 2021A.....	63
Informed consent protocol for participants	63
APPENDIX 2	64
SURVEY APEC SME 06 2021A	64
APPENDIX 3	74
Google Forms Questionnaire in Spanish Language.....	74
APPENDIX 4	86
Google Forms Questionnaire in English	86
APPENDIX 5	97
Google Forms Questionnaire in French	97

1 Introduction

Small and medium-sized enterprises (SMEs) are the engines of growth and innovation in the Asia-Pacific region. They account for more than 97% of all enterprises and employ more than half of the workforce in APEC economies. They contribute significantly to economic growth, with a share of GDP ranging from 40% to 60% in most economies (APEC, 2023c).

Digital transformation is significantly transforming the business activities of SMEs, bringing comparative advantages and associated risks such as a shortage of skilled labor and experienced managers and the inherent loss of competitiveness (Skare et al., 2023).

Different studies support the hypothesis that global socio-economic and market changes are forcing the digital transformation of small and medium-sized companies, being further influenced by risks and uncertainties caused by events such as pandemics causing disruptions in the global supply chain, inflationary pressure, the possibility of a recession, the end of the era of low interest rates altering the conditions for companies' access to financing and the energy crisis, which have become critical drivers of digital transformation, forcing SMEs to adapt their models and strategies (Mohamed Nazief Haggag Kotb Kholaf et al., 2022; Skare et al., 2023).

One of the topics discussed at the APEC 2022 Leaders' Meeting was to emphasize the need to create an enabling, inclusive, open, fair and non-discriminatory digital ecosystem for businesses and consumers, for the digital economy and digital transformation to further boost trade through the facilitation of e-commerce and the advancement of cooperation in digital trade, in order to unlock the full potential of our society and prepare people for the future of work in this digital age through education and skills advancement (APEC Secretariat, 2023). Also indicating that technology and innovation play a relevant role within APEC economies, improving access to services, as well as opportunities to generate income and improve the life opportunities of our people, including promoting the transition of actors from the informal to the formal economy. All this commits to deepening cooperation to reduce digital divides between and within

economies, facilitating access to digital infrastructure and supporting the development of digital skills and digital literacy (APEC, 2023a).

The Global Innovation Index 2022 highlights the existence of two new waves of innovation, the first wave of the Digital Era, based on supercomputing, artificial intelligence and automation that will contribute to the productivity of all sectors, including services, and a second wave will be deep science (World Intellectual Property Organization (WIPO), 2022). According to the results of technology adoption, there is evidence of a 5.7% increase in the use of broadband in the period 2021 with respect to 2020, and 7.6% in mobile band. It also reflects a penetration of 83.2% of inhabitants in 2021 in mobile band.

Furthermore, in the European Community, the Policy Agenda 2030 "Path to the Digital Decade" has been established to empower the EU Member States to collectively move forward in shaping their digital transformation. Tracking progress towards the objectives, targets, and multi-economy projects at EU level, as well as underlying global trends in digitization, will form part of the Digital Economy and Society Index (DESI) (European Commission, 2022), which establishes key performance indicators (KPIs) for each digital objective, as shown in Table 1.

Despite various efforts by governments in different regions, digitalization has not benefited all companies to the same extent and most MSMEs and Cooperatives lag large companies in terms of digitalization. This potential adoption of digital technologies will facilitate the various processes in the value chains of MSMEs and Cooperatives, in terms of customer relationship, data management, financial services, mobile technology, virtual warehousing, among others.

Table 1.

DESI 2022 dimensions and indicators related to the objectives of the Path to the Digital proposal.

DESI Dimension	Indicators related to the Path to the Digital Decade proposal
Human capital	At least basic digital skills ICT specialists Female ICT specialists
Connectivity	Gigabit for everyone (Fixed very high-capacity network coverage)
Integration of digital technology	SMEs with a basic level of digital intensity AI Cloud Big data
Digital public services	Digital public services for citizens Digital public services for businesses

(European Commission, 2022)

Based on the above background, this study aims to identify the fields of application of digital transformation, the needs, gaps and barriers of APEC MSMEs and Cooperatives in the digital transformation process, as well as to show which digital tools are required by these companies that contribute to the access of new business opportunities and the opening of new markets, information that will provide recommendations for the design of an E-Learning Web Platform.

This Project not only seeks to overcome digital gaps, but also the empowerment of women and young entrepreneurs for the economic reactivation of APEC economies.

2 Background

2.1 Digital Transformation (DT)

Nowadays there are concepts that are often used as similar to Digital Transformation (DT) such as Digitization, Digitalization and Industry 4.0.

According to Verhoef et al., (2021) "digitization" consists of converting analog information into digital. Digitization does not add value to activities. According to Gong & Ribiere (2021) digitization essentially refers to "taking analog information and encoding it into zeros and ones so that computers can store, process, and transmit that information" (Bloomberg, 2018) or "the technical process of converting analog signals into a digital form" (Legner et al., 2017).

Digitalization refers to a process in which companies apply digital technologies in a new way to optimize existing business processes, operational routines, and organizational capabilities, as well as entry into new or existing markets (Meier, 2023). This enables more efficient coordination between processes. It can add value once it improves the user experience (Gong & Ribiere, 2021). Digitalization is a process to improve competitive advantages, for example, by offering new services through virtual channels or enabling new systems or operations management, as well as incorporating digital financial technologies (Costa Melo et al., 2023; Rahayu et al., 2023).

Finally, Digital Transformation is considered the most generalized phase of a company's digitization process. It goes beyond digitization and changes the entire enterprise, leading to the development of a new business model, through the use of new digital technologies that influences all aspects of customers' lives and enables significant business improvements (Costa Melo et al., 2023).

Culot et al., (2020) through a systematic literature review, presents a breakdown on the underlying technological and non-technological elements of the different conceptions of Industry 4.0; identifying the different labels, suggesting it as a new phase in manufacturing through ICT-driven innovation; conceptualizing it as "digital transformation", emphasizing the considerations for strategy and innovation in manufacturing through ICT-driven innovation;

conceptualizing it as "digital transformation", emphasizing considerations for strategy and business model innovation.

Cruzara et al., (2020) presents an approach to the relationship between Industry 4.0 and digital transformation; understanding that Industry 4.0 is characterized by the integration of physical and virtual domains of an organization, carried out with the use of Cyber-Physical space (CPS); and for the implementation of CPS the organization first goes through a process called digital transformation that encompasses concepts such as smart mobility, smart logistics, smart buildings, smart products and smart networks.

To establish a unified definition of digital transformation, Gong & Ribiere, (2021) develops a systematic literature review defining it as "a process of fundamental change, enabled by the innovative use of digital technologies accompanied by the strategic leveraging of key resources and capabilities, with the objective of radically improving an entity and redefining its value proposition for its stakeholders".

2.2 The role of public administration in the digital transformation of MSMEs and cooperatives

MSMEs and Cooperatives may find it difficult to initiate the digital transformation process alone, as they must overcome barriers using only their own resources and capabilities. Government support in different economies provides small businesses with the resources through funds and accompaniment to overcome the barriers to digital transformation.

Having government support provides opportunities for enterprises in the field of digital transformation and will help them achieve their business goals. This study proposes that the role of the public administration is an indispensable component of the digital transformation framework for small service companies.

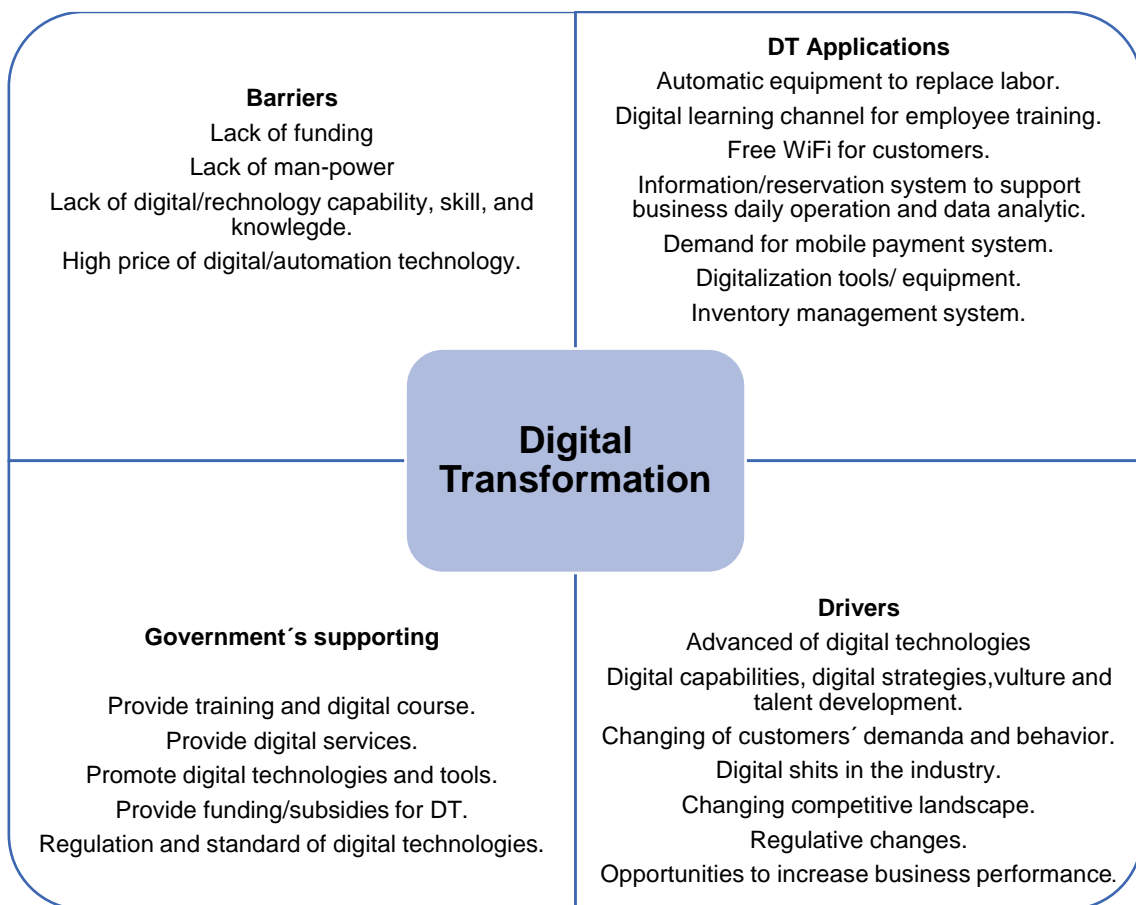
An important aspect identified by the studies is the need for simplicity and unification of efforts by the different agencies of the State or private society, since there is a diversity of digital transformation programs offered by different institutions, which causes the entrepreneur to be unable to identify the

appropriate tools or programs due to the excess of information, leading to inaction (APEC, 2023b; Chen et al., 2021).

Another important factor in the process of intervention and support of public administration agencies is the correct communication plan, the choice of channels according to the target audience, incentives, dissemination, program design and the added value offered.

The model suggested by Chen graphically explains the relationship between drivers, obstacles or barriers and government functions in the digital transformation of small businesses. Government support improves the business sustainability of small service enterprises, which has an impact on the economic sustainability of economies (Chen et al., 2021). See Table 2.

Table 2
Model of drivers, barriers, and government support for digital transformation in small businesses.



Source: Chen et al., (2021) Role of government to enhance digital transformation in small service business.

2.3 Background of the metrics of Digital Transformation implementation

As a result of the research Gong & Ribiere, (2021), a conceptual diagram (Figure 1) identifies the basic components of digital transformation, the elements involved in the transformation process. Evidencing that companies can incorporate these improvements in a radical way, with the actual implementation of Digital Transformation, or in an incremental way through digitization activities. All this generates expected results in organizations associated with digitization and digital transformation. Thus, it is possible to obtain economic results such as improved efficiency, cost reduction, error elimination and productivity; and those results driven by capabilities such as business model innovation, new revenue streams, radical changes in offerings and restructuring that generates changes in the rules of the business game.

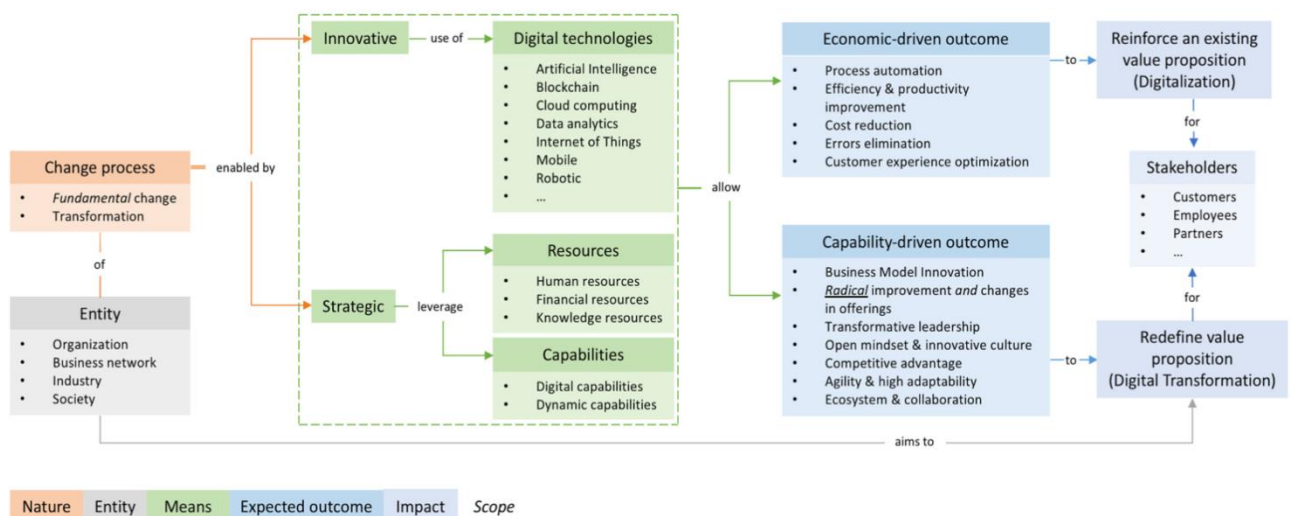


Figure 1. Digital Transformation conceptual diagram. (Gong & Ribiere, 2021)

Kraft et al., (2022) showed a poor understanding of digital transformation in relation to the managerial work of Swiss small and medium-sized enterprises, finding two patterns of adoption of digital tools in their work, one aimed at labor management and workflow and the second at team management and workflow. With respect to operational work, digital transformation relates to the organization of operational work as well as a combination of organization and change in the way employees work. They present a conceptual model that helps to understand

the management perspective for the adoption of digital technologies and tools in companies, and the expected results of the implementation of digital transformation, from a management perspective and from a technological perspective.

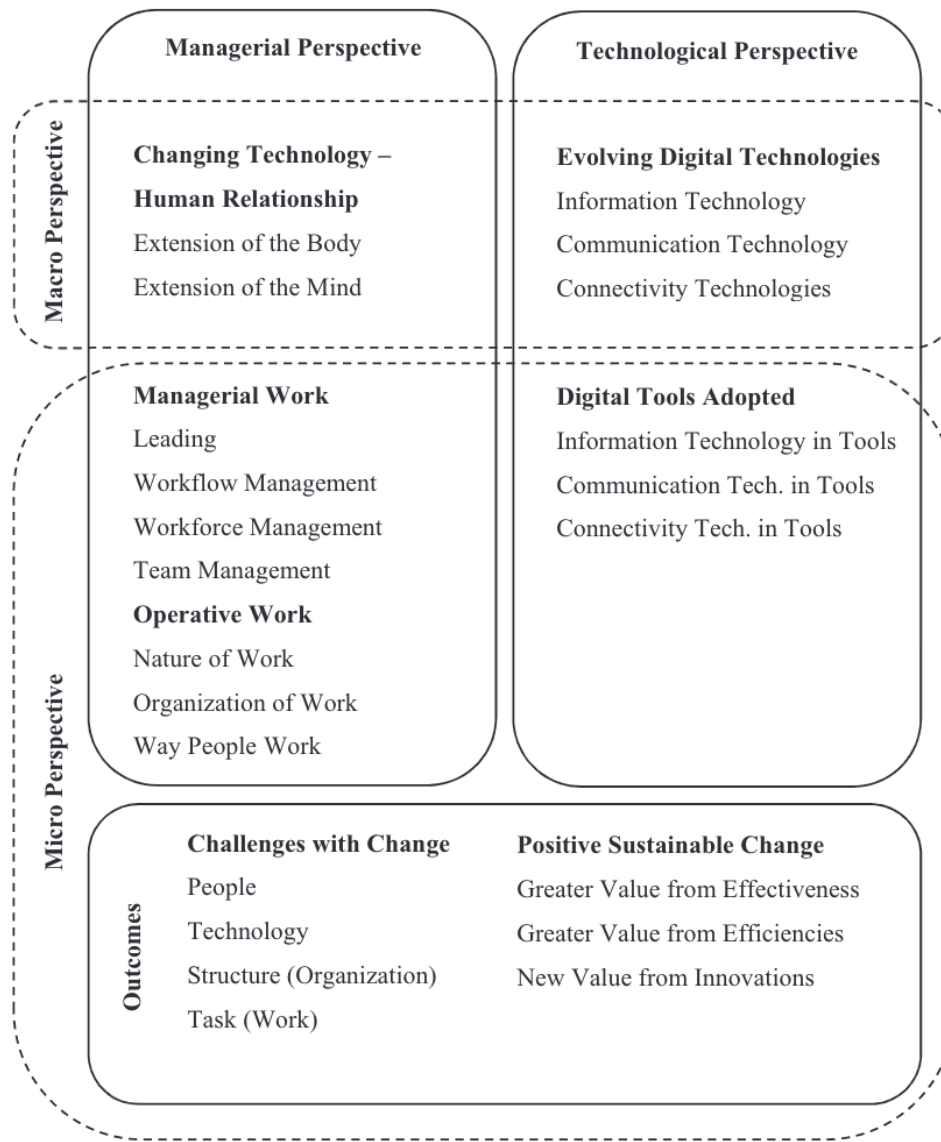


Figure 2. Digital transformation in SME. (Kraft et al., 2022)

In the study of Bai Rui et al., (2010), some digital applications in different dimensions of Indonesian MSMEs are presented for the achievement of sustainability and resilience strategies, such as e-commerce roadmap, e-payment system, online advertising, blockchain, technology solutions for outsourcing. Table 3 presents the dimensions, applications, objectives and benefits of digital transformation in the case of small business service companies.

Table 3

Dimensions, applications, objectives, and benefits of DT in small service business.

Nº	Dimension	DT Applications	Objectives and Benefit		
I	Organizational	-	-		
II	Process and System	Automation tools to replace labor	Increase cost efficiency		
		Using POS	Increase cost efficiency		
		Demand for a digital learning platform	Increase efficiency, increase employee skill		
		Information system of B&B	Increase efficiency, agile approach to work		
		Reservation online platform and customer data analysis	customer experience and customer insight		
		Using tools for customers' data analysis	customer insight		
		Demand for apply logistic system	an agile approach to work		
		Inventory management system	an agile approach to work		
		Integrate e-commerce, mobile, multimedia, and manufacturer app into one system	an agile approach to work, using digital marketing, enhance customers' experience		
		Social media account and social media advertising	engagement with customers, insight customer preferences		
		Online auction	increase sales and customers experience		
		Live broadcast sales	engagement with customers, increase sales and customer preferences		
		III	Customers	Chat robot	engagement with customers, increase customer preferences
				Demand for using digital menu	customer experience
				e-commerce for sales channel	increase sales and customers experience
Have a website for selling	engagement with customers, increase sales and customer preferences				
Database for customers	insight customers				
IV	Products	Free Wi-Fi	customer experience		

Source: Bair & Gereffi (n.d.)

2.4 Barriers to Digital Transformation

As suggested by Bai et al., (2021) poor infrastructure, network difficulties and the high cost of data have generated serious drawbacks in the process of adopting digital transformation in developing economies. It also identifies some of the challenges that developing economies must take into account to mitigate the gaps and barriers to a digital transformation process, such as the lack of diffusion of digital innovation through the supply chains of micro, small and medium enterprises that can benefit them; digital transformation for the sustainability of micro, small and medium enterprises requires the support of external stakeholders, such as government, supply chain partners and communities. As well as the various industry requirements that may hinder or support these initiatives, due to the uneven knowledge, experience and spread of digitization across industries.

Furthermore Bollweg et al., (2020) identified obstacles such as lack of available resources, low perception of external pressures, attitude towards digital, low intention to use and low current use of digitization in the German retail industry. Türkeş et al., (2019) obtained as a result the existence of obstacles by SMEs to the implementation of Industry 4.0, such as lack of knowledge about it, increased attention to the operation of these new technologies at the expense of the company's development, lack of understanding of the strategic importance of Industry 4.0, scarce human resources, the need for continuous training of employees and the lack of standards.

2.5 Digital Tools

Ciruela-Lorenzo et al., (2020) in its study on digitalization in agro-industrial cooperatives, identified the use of intelligent technologies such as the Internet of things, robots, artificial intelligence, blockchain, e-commerce, web and social media, big data and cloud computing, all of which have generated benefits in processes such as the impact of IoT technologies on the reduction of water or pesticide consumption.

Table 4 presents some digital tools and applications frequently used in the retail sector based on recent studies on technology trends in the retail sector (Bollweg et al., 2020).

Table 4

Digital tools and applications

Digital administration	Digital marketing	Digital sales channels	Digital service
Internet for Purchase	Online Advertisement	Own Online Shops	Digital support service
Software for Administration	Marketing support software	Third-party E-Marketplace	Digital payment system
Inventory Management System	Digital communication channels	In-store applications	Digital enabled delivery services

Source: Bollweg et al. (2020)

The use of digital technologies for the benefit of the execution of customer knowledge management strategies in SMEs, such as in customer relationship management for the improvement of communication and collaboration such as emails, blog, content management systems, the use of Customer Relationship Management (CRM) that contributes to the management of sales and customer retention, as well as online payments and knowledge management, the use of "online stores, online advertising, as well as the use of search engine optimization (SEO) tools (Bagale et al., 2021; Castagna et al., 2020).

According to García Pérez de Lema et al., (2022) the degree of digitization can be measured using different tools and the level of importance that companies perceive of them. As a result of an analysis of MSMEs in Ibero-America, 12 digital tools were identified, which were classified as basic and advanced.

Table 5
Digital technologies

Basic technologies	Advanced technologies
Web page	ERPs (integrated management systems)
E-commerce in own portal	Corporate intranet
E-commerce in Marketplace	Cybersecurity services
Social networks for commercial purposes	Big data and data analysis software
Digital banking	Robotization, sensorization
Telework	Localization, Internet of things

Source: García Pérez de Lema et al., (2022)

3 Experience of APEC economies in digital integration

The Asia-Pacific region has been considered the most dynamic economic region in the world, focused on a knowledge-based economy, supported by information and communication technologies (ICT), as an expression of innovation and transformation; however in APEC coexist economies with a disparity, which together account for 48% of trade and 62% of global GDP, thanks to the contribution of the most developed economies, plus China, Russia and Korea technology (Rangel Delgado et al., 2023).

3.1 Chile case

In the case of Chile, it has strengthened confidence in digital technologies, obtaining in 2019 a 73.1% perception of security of e-commerce, 59.6% confidence in privacy on the Internet, with the most mature digital ecosystem in Latin America and the Caribbean for start-ups serving the public sector, however it presented a drop in the number of students per computer from 1.7 in 2015 to 1.1. in 2018; and presents a gap in digital innovation indicators and high-tech exports, with 6.4% of total manufactured exports in 2018, compared to Latin America and the Caribbean averages of 8.6% and the OECD of 15.1% (OECD et al., 2020).

This has been achieved thanks to the member economy digital transformation strategy, which was launched in the late nineties, in 1999 with the strategy Chile: Towards the Information Society, which was replaced by the Digital Agenda Chile 2004-20106, then the Strategy for the “Digital Development of Chile 2007-2012”, the “Digital Agenda Imagina Chile 2013-2020”, “Digital Agenda 2020”, “Digital Economy 2021” of the “Digital Economy Foundation”, and the “Chile Digital Strategy 2035”, all of them long-term strategies, which counted on the union of the interests of the State, private actors and civil society (CEPAL et al., 2022).

The digital transformation strategy for Chile is based on two pillars: the first pillar, Chile connected without gaps, which includes initiatives, actions, programs and projects with the purpose of guaranteeing access, exploitation and adequate use of technology without any difference or discrimination; the second pillar, Chile digitized, which seeks the adoption of digital technologies in all economic and social activities in a generalized and sustainable manner; both pillars configure the digital ecosystem of Chile (CEPAL et al., 2022) in figure 3.



Figure 3: Chile Digital Strategy (CEPAL et al., 2022).

Chile, in its mission to generate the appropriate conditions to bridge the digital divide, has achieved the development of fixed and mobile broadband networks, obtaining 75.4% penetration of fixed broadband in homes, 122.3% in mobile broadband by 2020, compared to 82% in Mexico and 93.4% in Peru, compared to APEC economies in Latin America and the Caribbean.

Regarding the development of digital skills from the approach of citizenship in general, 80% of the population accesses the Internet, however only 34% use it in an advanced way (86.4% use in search engines; 47.2% for the acquisition of goods and services and 34.4% for online procedures; and 34.4% for online transactions). With respect to the capacity of the workforce, the low level achieved puts workforce in a situation of labor vulnerability, and there is a lack of professionals in STEM careers, which does not allow them to face the necessary digital transformation of production processes (CEPAL et al., 2022; CORFO et al., 2021).

The adoption of digital technologies by users has generated a development of the Chilean digital economy, achieving progress in banking, the proliferation of logistics services and the penetration of smartphones, all this generating the leadership in LAC in e-commerce; however these advances present a gap between SMEs and large companies, as can be seen in Figure 4 and 5, which show the basic and medium-advanced use of internet in companies.

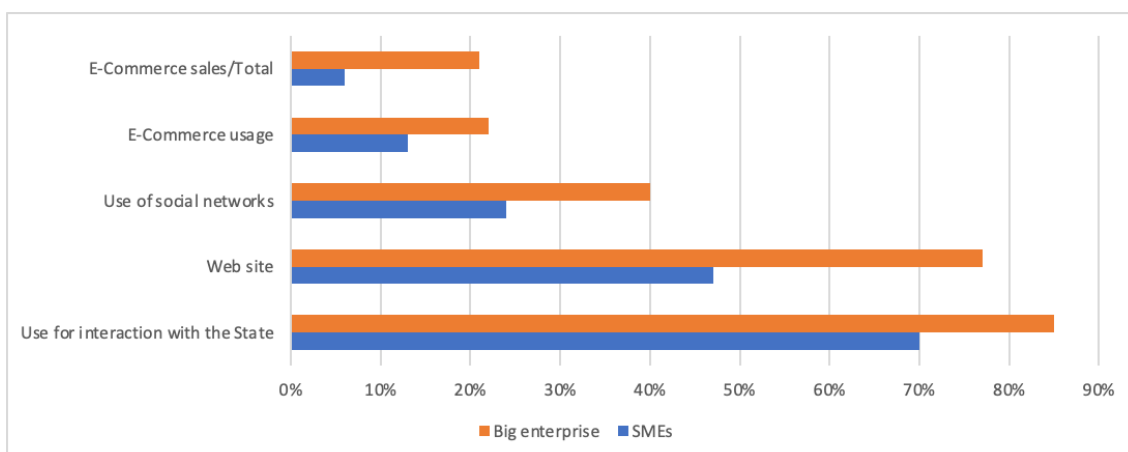


Figure 4. Basic internet usage in companies as of 2018. Adapted from CEPAL et al. (2022)

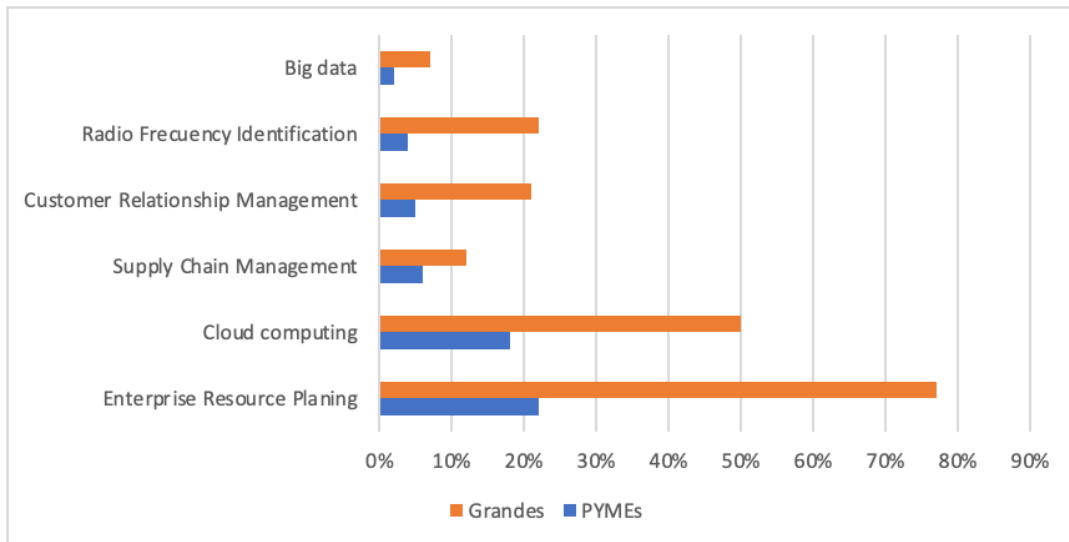


Figure 5. Medium and advanced internet usage in companies in 2018. Adapted from CEPAL et al. (2022).

Likewise Chile, in what corresponds to the Digital Transformation index, which includes 5 categories, being from 0 to 19% analog status, from 20 to 39% digital beginner, from 40 to 59% digital intermediate, from 60 to 79% digital advanced 7 from 80 to 100% digital leader; as can be seen in Figure 6, the dimension that has had a greater representation for the promotion of digital transformation has been the "Digitalization of processes and decision making", with an increase of 11% with respect to the year 2020 compared to 2019 (CORFO et al., 2021).

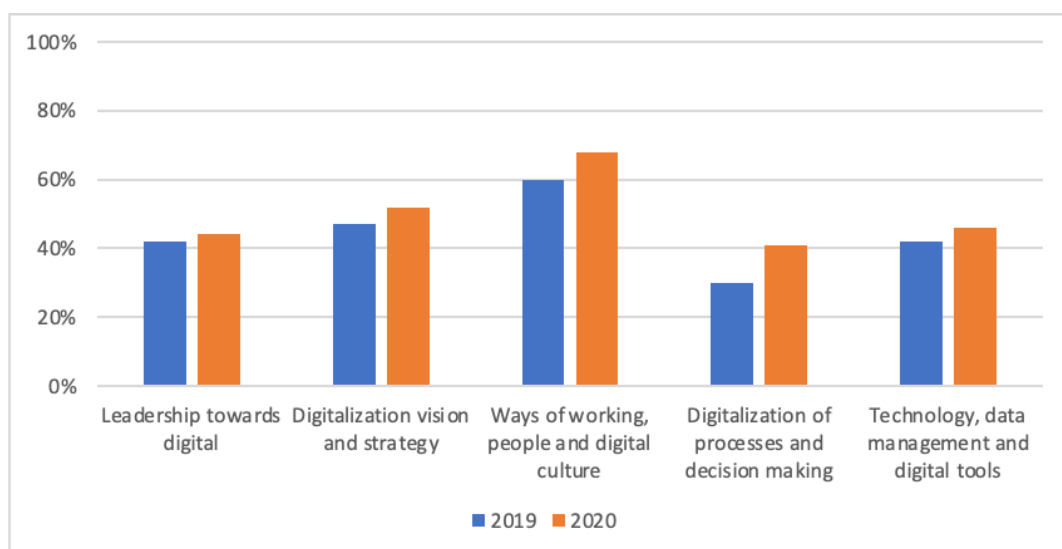


Figure 6. 2020 Digital Transformation Index. Adapted from CORFO et al. (2021)

4 Methodology

4.1 Study design

The present study “Digital transformation to generate new business opportunities, opening to new markets in the MSMES and gender focused cooperatives, in response to the economic crisis caused by COVID – 19”, aims to identify the fields of application of digital transformation, the needs, gaps and barriers of APEC MSMEs and Cooperatives in the digital transformation process, as well as to show which digital tools are required to generate business opportunities.

To approach the study, the research will have a qualitative approach, through the phenomenological design, which has the main purpose of exploring, describing, and understanding the experiences of people with respect to a phenomenon and discovering the common elements of such experiences (Hernández-Sampieri & Mendoza Torres, 2018).

4.2 Study population and sample

The study population is composed of micro, small and medium-sized enterprises (MSMEs) and cooperatives in the member economies of the Asia-Pacific Economic Cooperation (APEC).

The sample to be considered corresponds to a convenience sample, taken from at least three APEC economies, considering that at least 30% of the sample is made up of women and young entrepreneurs. The member economies that have been invited to be part of the study were: Canada, Chile, Mexico, Peru and Thailand. Invitations have been sent from the Directorate of Cooperatives of the Ministry of Production to foreign ministries or other offices in charge of working with MSMEs and cooperatives.

4.3 Instrument

For the study, a questionnaire was used as a research instrument, consisting of a set of questions regarding the variables to be identified, which developing the primary data collection through two fundamental ways: self-

administered and personal interview with the subject of the study (Hernández-Sampieri & Mendoza Torres, 2018).

The design of the questionnaire was based on the review of secondary information from other studies in the field of digital transformation, as well as the review of literature from scientific academic sources and reports from international organizations. Subsequently, the instrument was validated by conducting interviews with experts in the field of digital transformation, both from the academic and business fields.

The instrument was evaluated by the Peruvian Ministry of Production's project managers, who provided their input and comments.

The approved questionnaire was digitized through the Google Forms platform, with the objective of having the traceability and homogeneity of information.

The questionnaire had 8 sections, the first being the informed consent protocol for participants, the second section corresponds to demographic information and company data, the third section includes the concepts used in this study on digitization and digital transformation. The fourth section considers the fields of application of digital transformation, with closed questions with non-exclusive categories. The fifth section has the purpose of identifying the digital tools that the organization has used, for this purpose there were closed questions, with excluding categories. The sixth section has the objective of identifying the gaps and barriers to initiate a successful TD process measured through a Likert scaling with 5 hierarchical categories from totally disagree to totally agree.

The seventh section aims to identify the degree of agreement in 5 categories of the needs on the part of the company to ensure a successful transformation process. And the eighth section aims to establish the content of the E-learning platform, the features of the platform and the interaction and collaboration tools that the entrepreneurs expect the platform to have, measured with a Likert scaling of 5 categories from Not important to Very important.

The questionnaire designed and approved by the Directorate of Technology of the DGITDF and the Directorate of Cooperatives and Institutionalism (DCI) is shown in Annex 1 and Annex 2. The instrument was digitalized for the development of the field work, in Spanish, English and French, as shown in Annexes 3, 4 and 5.

Coordination with the Directorate of Cooperatives and Institutions (DCI), the body in charge of the Peruvian Ministry of Production, was carried out to identify public institutions with leadership in the field of MSMEs and cooperatives; this coordination and follow-up is carried out on an ongoing basis by the DCI.

Questionnaires developed on the google forms platform:

Google Forms Questionnaire in Spanish Language

<https://forms.gle/bmPeZTCsFRRRrt298>

Google Forms Questionnaire in English Language

<https://forms.gle/6sJfwF5iyTf3HTg97>

Google Forms Questionnaire in French Language

<https://forms.gle/2tR8scR5bhci99tE8>

The in-depth interviews with were conducted through the Zoom platform, after coordination with each of the participating companies.

4.4 Metrics

For this project, the following metrics have been defined, which constitute the elements that will contribute to the research to identify and understand the use of digital tools by MSMEs and cooperatives in the Asia-Pacific economies.

These metrics will help to identify possible barriers in the process of adopting digital transformation, the factors that entrepreneurs consider necessary for the efficient use and implementation of digital tools, as well as to identify the characteristics valued by entrepreneurs in terms of the design and development of a digital educational platform.

Table 6 shows the metrics applied in the instrument, as well as the objectives of each one of them.

Table 6
Metrics applied in the instrument.

Metric	Objective
1. Application of digital transformation to improve the efficiency and effectiveness of your processes in the field of Business Visibility.	Measures the perception of companies on the efficiency and effectiveness of the application of digital transformation to improve the company's Visibility, through website and social media profiles.
2. Application of digital transformation to improve the efficiency and effectiveness of your Digital Marketing processes.	Measures companies' perception of the efficiency and effectiveness of the application of digital transformation to improve processes in the field of Digital Marketing, through online advertising, email marketing and SEO.
3. Application of digital transformation to improve the efficiency and effectiveness of its processes in the field of e-commerce.	It measures the perception of companies on the efficiency and effectiveness of the application of digital transformation to improve in the field of e-commerce process through e-commerce platforms, online payment systems and virtual stores.
4. Application of digital transformation to improve the efficiency and effectiveness of your business management automation processes.	It measures the perception of companies on the efficiency and effectiveness of the application of digital transformation to improve in the field of business management automation processes, in the field of accounting management, human resources management, project management and invoicing processes.

<p>5. Application of digital transformation to improve the efficiency and effectiveness of your Operational Process Automation processes.</p>	<p>It measures the perception of companies on the efficiency and effectiveness of the application of digital transformation to improve the processes of the Automation of Operational Processes, in the field of engineering, methods and time management; scheduling management and production control and management of efficiency and productivity indicators.</p>
<p>6. Application of digital transformation to improve the efficiency and effectiveness of your support process automation processes.</p>	<p>Measures companies' perception of the efficiency and effectiveness of the application of digital transformation to improve support processes in the field of purchasing management, quotation management and inventory management.</p>
<p>7. Application of digital transformation to improve the efficiency and effectiveness of your data analysis processes.</p>	<p>It measures companies' perception of the efficiency and effectiveness of applying digital transformation to improve in data analytics processes in the fields of sales analytics, customer analytics, production analytics, cost analytics and data forecasting.</p>
<p>8. Use of digital business management tools.</p>	<p>It measures the use, as well as the interest in using digital business management tools.</p>
<p>9. Use of digital tools of Digital Marketing.</p>	<p>It measures usage as well as interest in using digital marketing tools.</p>
<p>10. Use of digital e-commerce tools.</p>	<p>It measures the use, as well as the interest in using digital e-commerce tools.</p>
<p>11. Use of digital data analysis tools.</p>	<p>It measures utilization as well as interest in using digital data analysis tools.</p>
<p>12. Use of digital tools for process automation.</p>	<p>It measures utilization as well as interest in using digital process automation tools.</p>
<p>13. Use of digital tools for the automation of logistic processes.</p>	<p>It measures the use, as well as the interest in using digital tools for the automation of logistic processes.</p>

14. Use of digital communication tools.	It measures the use, as well as the interest in using digital communication tools.
15. Use of digital tools of payment systems or digital wallets.	It measures the use, as well as the interest in using digital tools of payment systems or digital wallets.
16. Use of digital tools for training or education.	Measures utilization, as well as interest in using digital training or education tools.
17. Experience with Marketplace.	Measures usage as well as interest in using Marketplace.
18. Identification of elements that constitute gaps and barriers to initiate a successful digital transformation process.	Measures the degree of agreement on the elements that constitute barriers and gaps for MSMEs and Cooperatives to start a successful digital transformation process.
19. Identification of necessary and important elements for a successful digital transformation process in MSMEs and Cooperatives.	Measures the degree of agreement on the necessary and important elements for a successful digital transformation process in MSMEs and Cooperatives.
20. Identification of contents or Modules that should be included in a digital educational platform with the objective of developing and strengthening the digital transformation capabilities of MSMEs and Cooperatives.	Measures the degree of importance of considering the contents or modules suggested in a digital educational digital platform with the objective of developing and strengthening the capabilities in digital transformation in MSMEs and Cooperatives.
21. Identification of the characteristics valued by users of an educational digital platform.	Measures the degree of importance of elements or characteristics that should be considered in the design of an educational digital platform.
22. Identification of interaction and collaboration tools needed in an e-learning platform for digital transformation.	Measures the degree of importance of considering different interaction and collaboration tools needed in a digital transformation e-learning platform.

5 Results

5.1 Questionnaire Results

A total of 110 companies participated, including MSMEs and cooperatives from Chile, Mexico, and Peru. Table 7 presents the description of each economy, with respect to the number of MSMEs, cooperatives and internet coverage.

Table 7
Description of economies

Economy	Chile	
Micro, small and medium enterprises ¹	98,6%	1,276,018
Classification of companies ²	Law 20.416	Employees
Micro	0 - 2400 UF	1 - 9
Small	> 2400 - 25000 UF	10 - 49
Medium	>25000 - 100000 UF	50 - 199
Large	> 100000 +	200 and above
Cooperative 2021 - 2022 ³	1391	
Internet Coverage ⁴	95%	
Economy	Mexico	
Micro, small and medium enterprises ⁵	99,8%	6,360,422
Classification of companies ⁶	Law for the Development of Competitiveness of Micro, Small and Medium-Sized Enterprises	Workforce
Micro		0 - 10
Small		11 - 50
Medium		51 - 250
Large		251 and above
Cooperative 2021 - 2022 ⁷	194	
Internet Coverage ⁸	78,6%	
Economy	Peru	
Micro, small and medium enterprises ⁹	99,5%	2,118,293
Classification of companies ¹⁰	Law 30056	
Micro	0 - 150 UIT	
Small	> 150 - 1700 UIT	
Medium	> 1700 - 2300 UIT	
Large	> 2300 UIT	
Cooperative 2021 - 2022 ¹¹	3311	
Internet Coverage ¹²	45%	

1 (Subsecretaría de Relaciones Económicas Internacionales, 2023)

2 (Departamento de Estudios Extensión y Publicaciones, 2022)

3 (Ministerio de Economía Fomento y Turismo, 2021)

4 (CEPAL et al., 2022)

5 (INEGI, 2021a, 2021b)

6 (Cámara de Diputados del Congreso de la Unión, 2019)

7 (COOP, 2018)

8 (INEGI & IFT, 2023)

9 (Ministerio de la Producción, 2022)

10 (Congreso de la República, 2013)

11 (Anexo Directorio de Cooperativas Peru, n.d.; COOP, 2018)

12 (INEI, 2017)

The companies participated voluntarily and were informed of the objective of the study through the informed consent protocol contained in the body of the survey (Annex 1).

The demographic description of the study sample in the preliminary phase is shown in Table 8.

Table 8

Sample demographics

Variable		Frequency	Percentage (%)
Member Economy	Chile	35	31.8%
	Mexico	37	33.6%
	Peru	38	34.5%
Sex	Female	72	65.5%
	Male	38	34.5%
Company Age	1 - 5	48	43.6%
	6 - 10	25	22.7%
	11 - 15	7	6.4%
	16 and above	30	27.3%
Size	Micro	67	60.9%
	Small	24	21.8%
	Medium	4	3.6%
	Cooperative	15	13.6%
Economic Sector	Primary	13	11.8%
	Secondary	53	48.2%
	Tertiary	44	40.0%
Educational level	Primary	2	1.8%
	Secondary	4	3.6%
	Technician	22	20.0%
	Undergraduate	54	49.1%
	Postgraduate	28	25.5%
Number of employees	1 to 5	67	60.9%
	6 to 10	18	16.4%
	11 to 20	9	8.2%
	21 to 50	6	5.5%
	51 to 100	1	0.9%
	More than 100	9	8.2%

There has been a 65.5% participation of women in the three APEC economies intervened at the end of this preliminary report.

Figures 7, 8 and 9 show the characteristics of the MSMEs and Cooperatives that participated in the study.

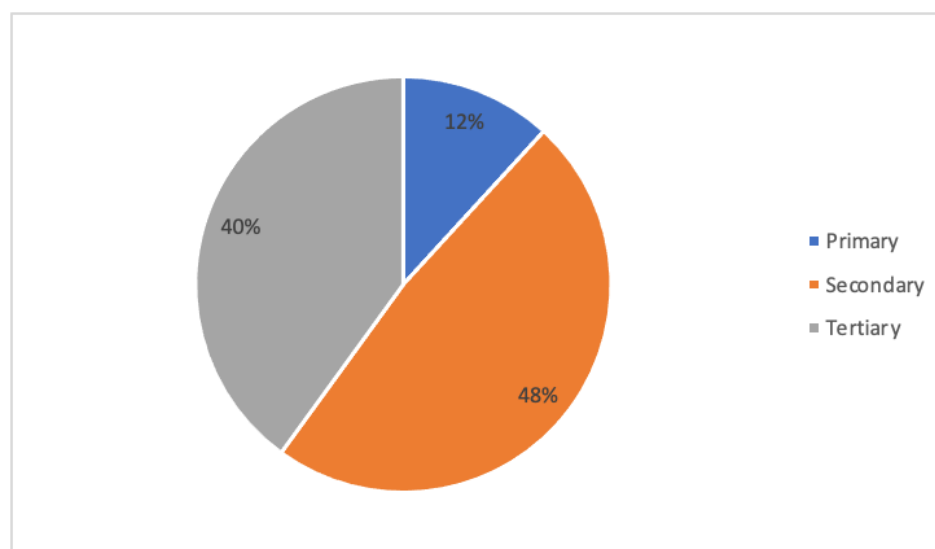


Figure 7. Economic sector

Primary (economic activities related to the extraction and transformation of natural resources into primary products: crops, livestock breeding and care, fishing, and extraction of forest resources).

Secondary (craft and manufacturing activities, production goods industry, consumer goods and the provision of services to the community).

Tertiary (services to society and business, from the smallest trade to high finance).

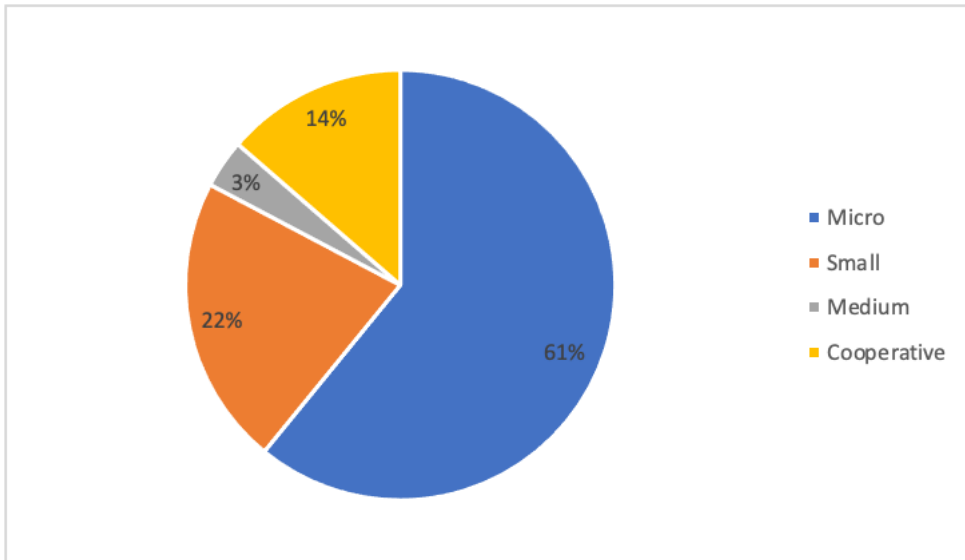


Figure 8. Size according to member economies classification

There have been 60.9% micro enterprises, 21.8% small enterprises, 3.6% medium enterprises and 13.6% cooperatives.

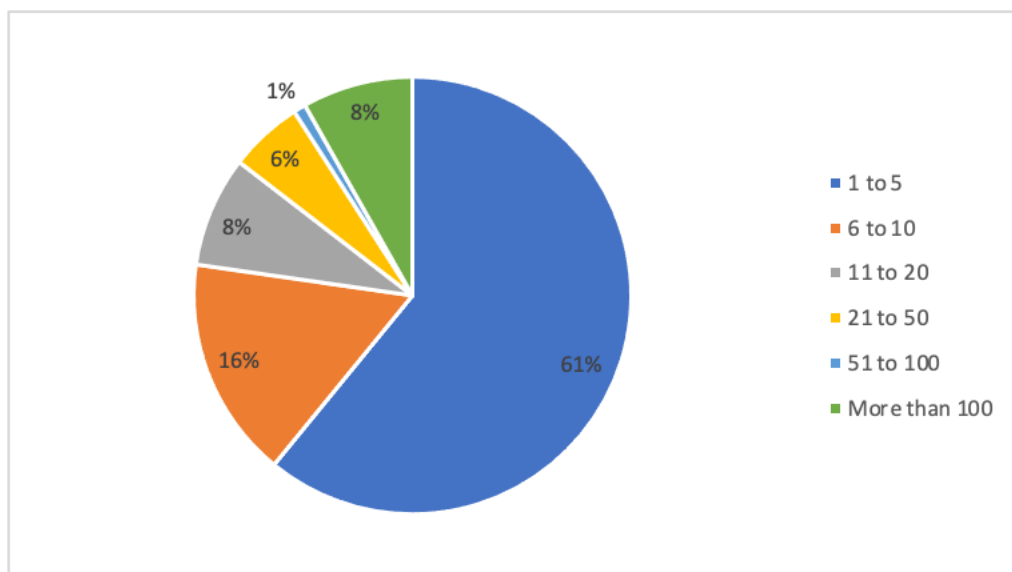


Figure 9. Number of employees

Of the respondent economies, 60.9% work with an average of 1 to 5 employees, 16.4% from 6 to 10, 8.2% from 11 to 20 and more than 100, 5.5% from 21 to 50 and 0.9% from 51 to 100.

5.1.1 Fields of application

Entrepreneurs of MSMEs and Cooperatives responded to the question in which field would you apply digital transformation to improve the efficiency and effectiveness of your business processes?

A high rate of applicability by MSMEs and Cooperatives of digital transformation for the improvement of their company's visibility is evidenced.

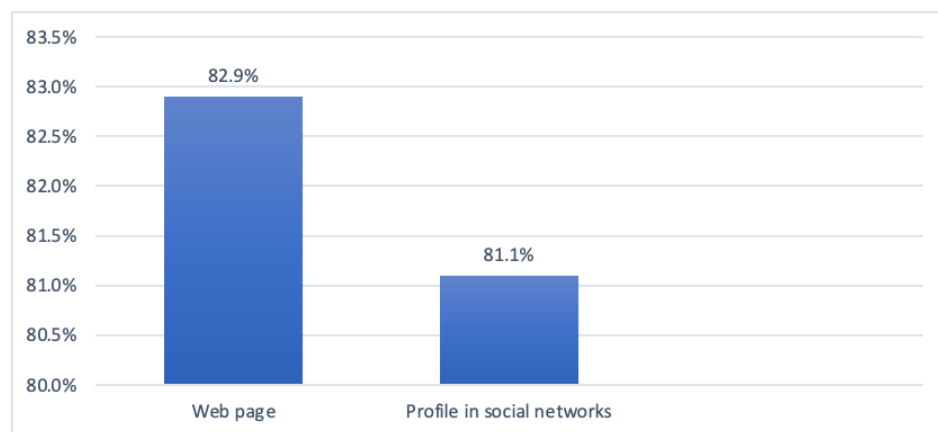


Figure 10. Company visibility

Regarding the field of application of digital marketing to improve the efficiency and effectiveness of their business processes, there is a greater preference for online advertising (82%), followed using search engine optimization (SEO) (66.7%) and for e-mail marketing (53.2%).

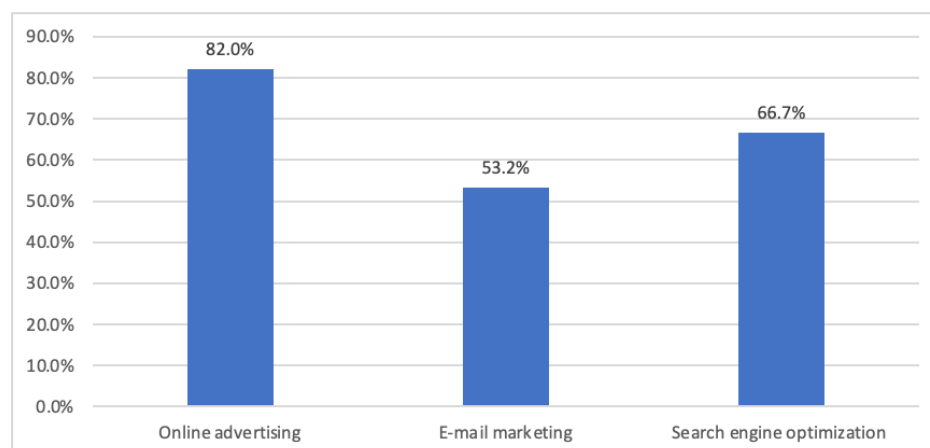


Figure 11. Digital Marketing

The 66.7% of companies consider that the use of e-commerce platforms and virtual stores contribute to their business processes, while 64.9% indicated the importance of the use of online payment systems.

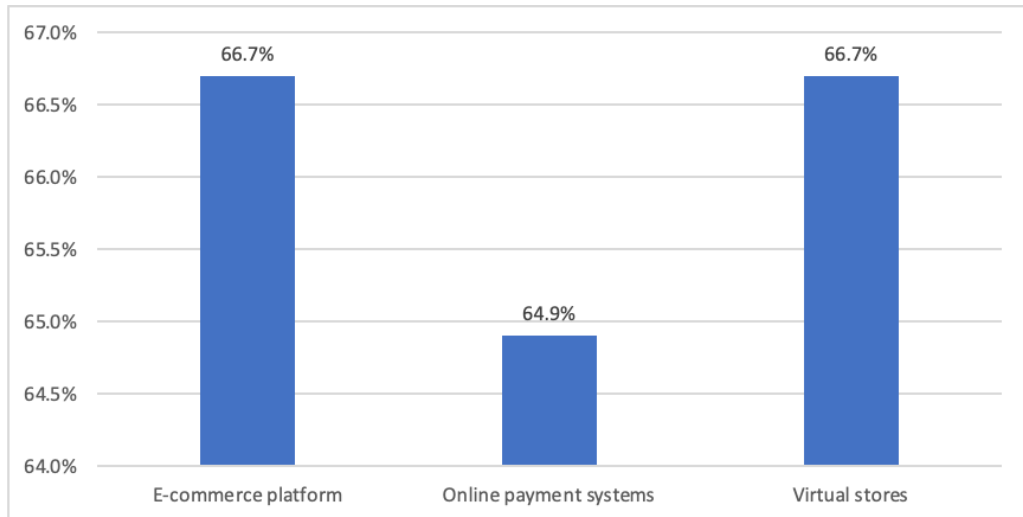


Figure 12. E-commerce

Companies show a high preference for the application of digital transformation in accounting management processes and for project management (67.6%), followed by the application and billing processes with 61.4% and only 46.8% would apply in the field of human resources management.

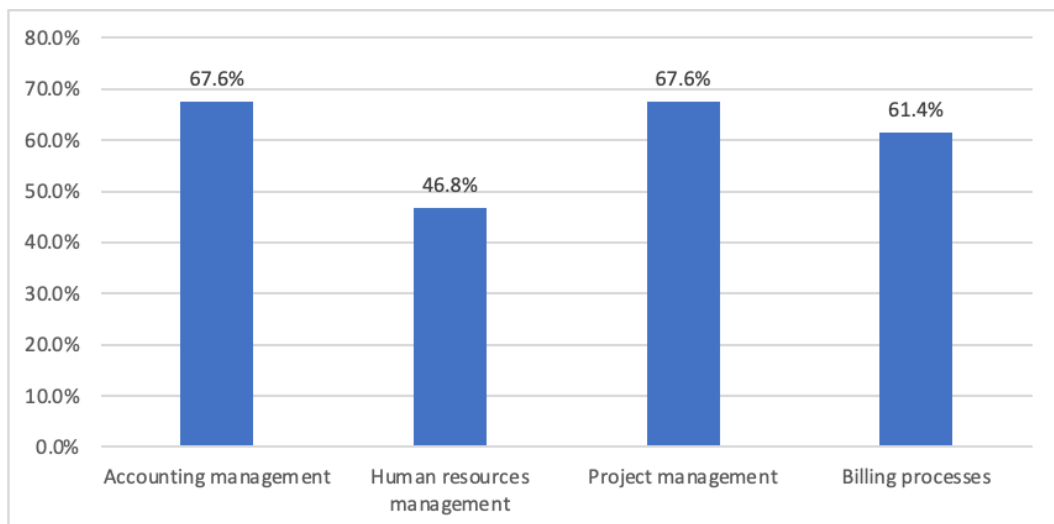


Figure 13. Business management automation

Companies consider important the application of digital transformation for the improvement in the management of efficiency and productivity indicators (81.1%), followed by the application on scheduling and production control management (65%), and to a minor level the application in the management of engineering, methods, and time (40.5%).

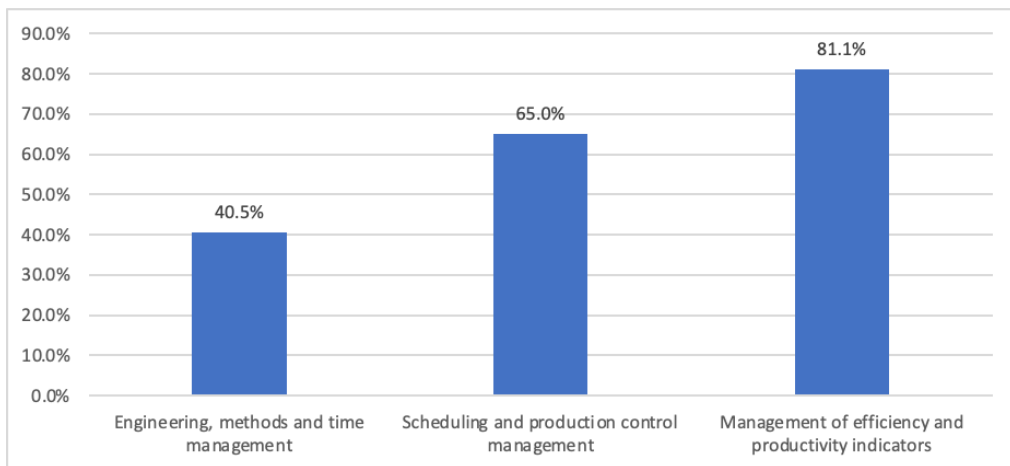


Figure 14. Automation of operations processes

Companies consider most important the application of digital transformation in the improvement of purchasing management processes (71.2%), followed by the improvement in inventory management (66.7%) and finally in the management of quotations (59.5%).

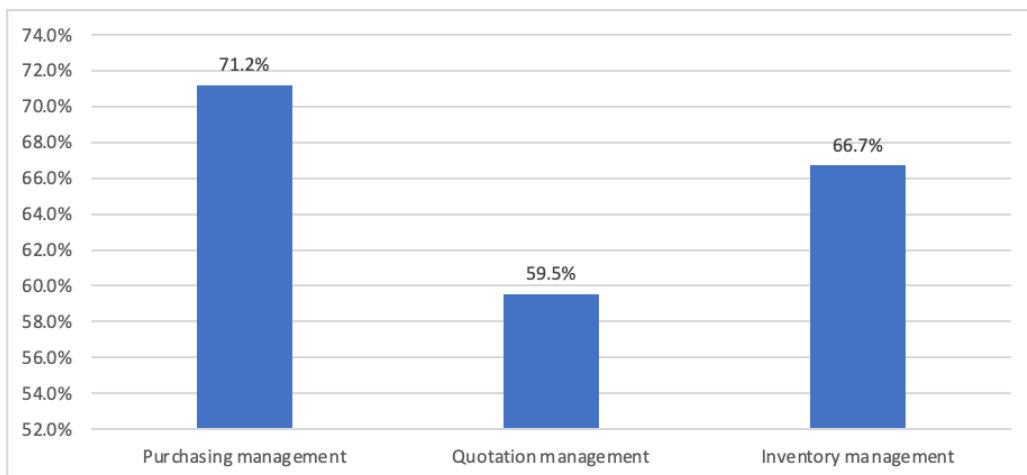


Figure 15. Automation of support processes

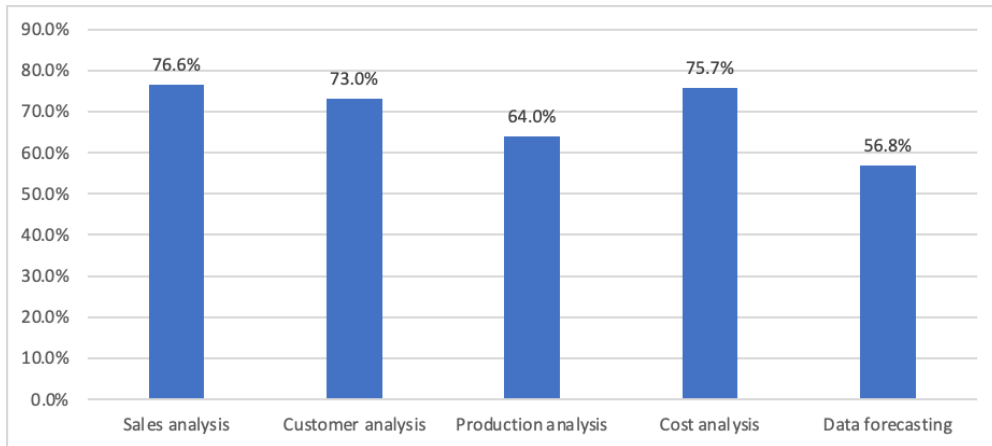


Figure 16. Data analysis

For companies, the application of digital transformation is very important to improve sales analysis (76.6%), as well as cost analysis (75.7%), followed by the application for customer analysis (73%) and, to a lower degree of importance, production analysis (64%) and data prediction (56.8%).

5.1.2 Digital Tools

To identify which digital tools are known and used by the participants, the questionnaire considered those that are freely available and accessible through the internet. This includes tools for business management, visibility, digital marketing, e-commerce, data analysis, and the automation of operational, logistical, and support processes.

The participants evidenced the knowledge and use of the digital tools in their companies to the question:

"Have you used any of the following digital tools in the development of the activities of your company?", likewise in the presence of an unknown tool, it was asked "Would you be willing to use any of the digital tools?"

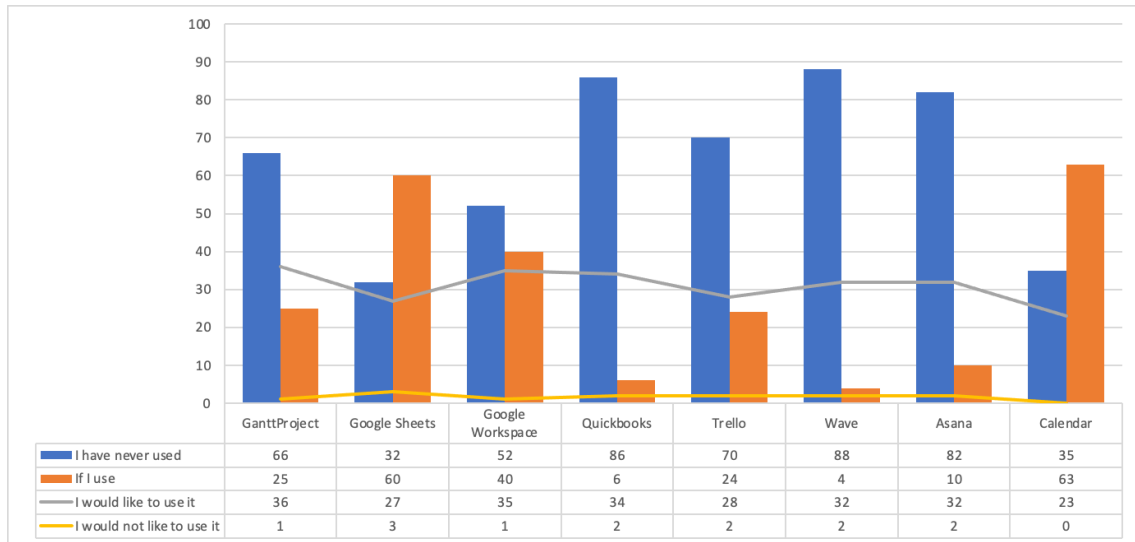


Figure 17. Use of business management tools

A limited use of digital business management tools was evidenced, 57% of companies have only used Calendar, Google Sheets (54.5%) and Google Workspace (36.6%) and Gantt project (22.7%), while the other tools are almost unknown.

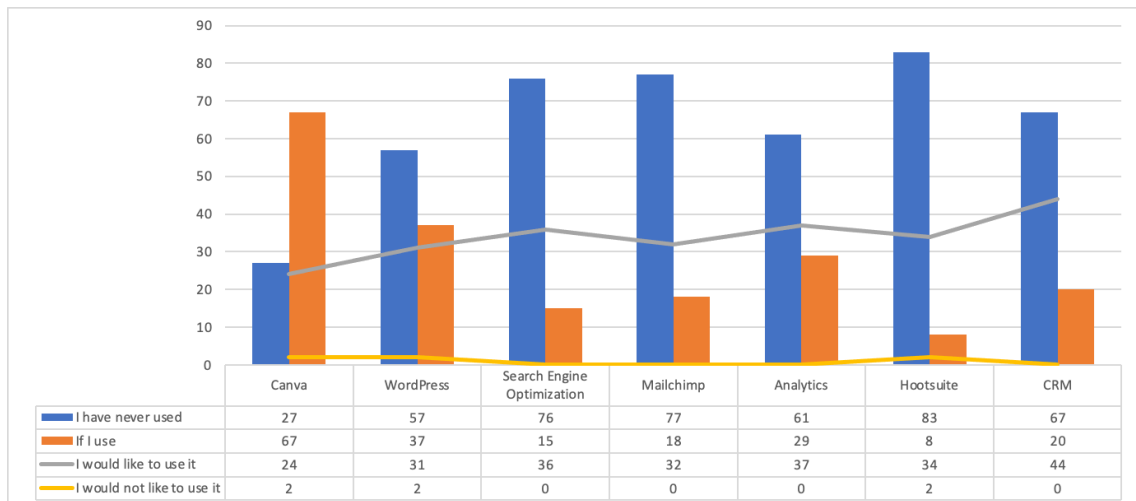


Figure 18. Use of digital marketing tools

Only the use of Canva as a digital marketing tool was evidenced (60.9%), followed by 33.6% WordPress and 26.4% Analytics, CRM (18.8%), and MailChimp (16.4%) other tools are almost unknown.

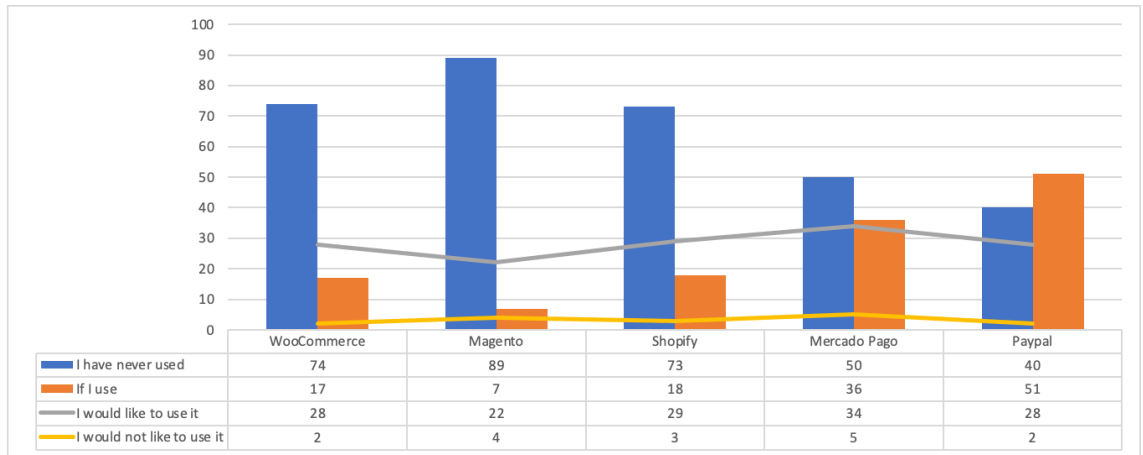


Figure 19. Use of e-commerce tools

Only 46.4% of companies have ever used PayPal as a digital e-commerce tool, 32.7% Mercado Pago, other tools are almost unknown.

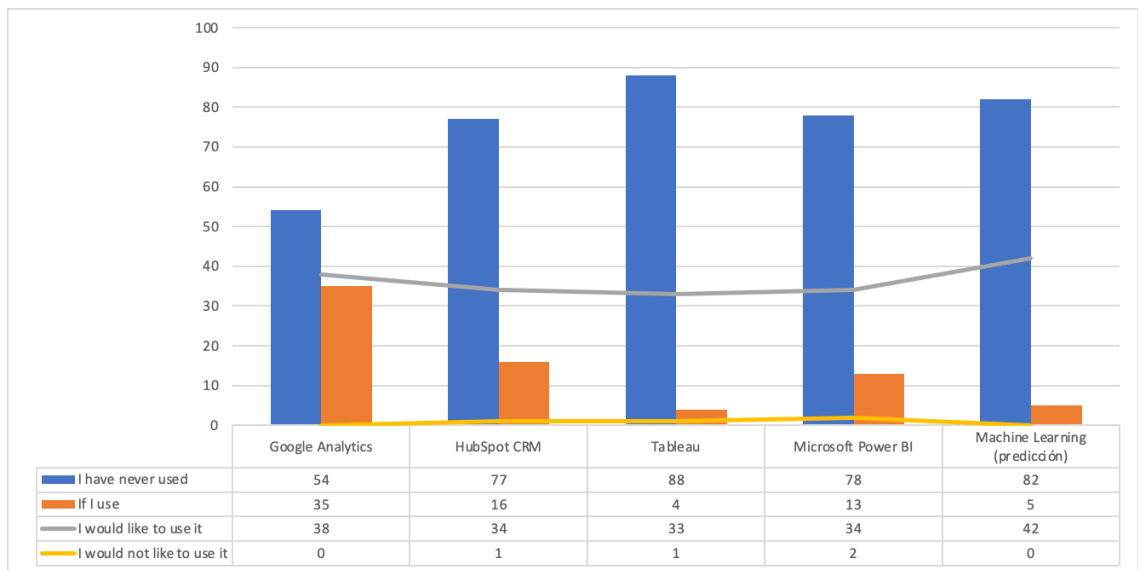


Figure 20. Use of data analysis tools

Only 31.8% have used Google Analytics, 14.5% HubSpot CRM and 11.8% Microsoft Power BI, as a data analysis tool, all other tools such as, Tableau and Machine Learnings are almost unknown. However, 36.2% are interested in learning about data analysis tools and using them.

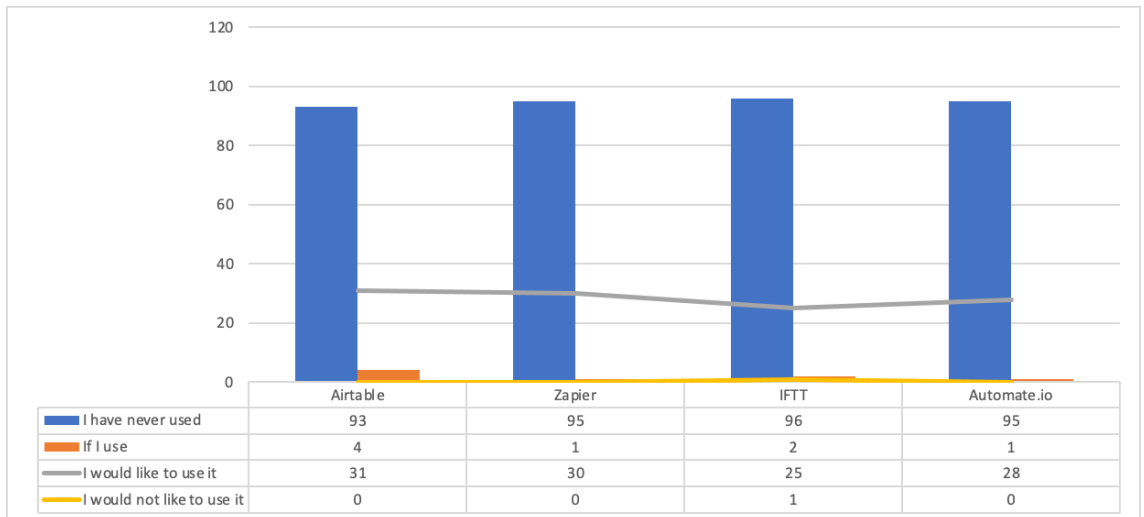


Figure 21. Use of process automation tools

Companies have not used digital tools for process automation. 25.9% of the companies are interested in learning about process automation tools.

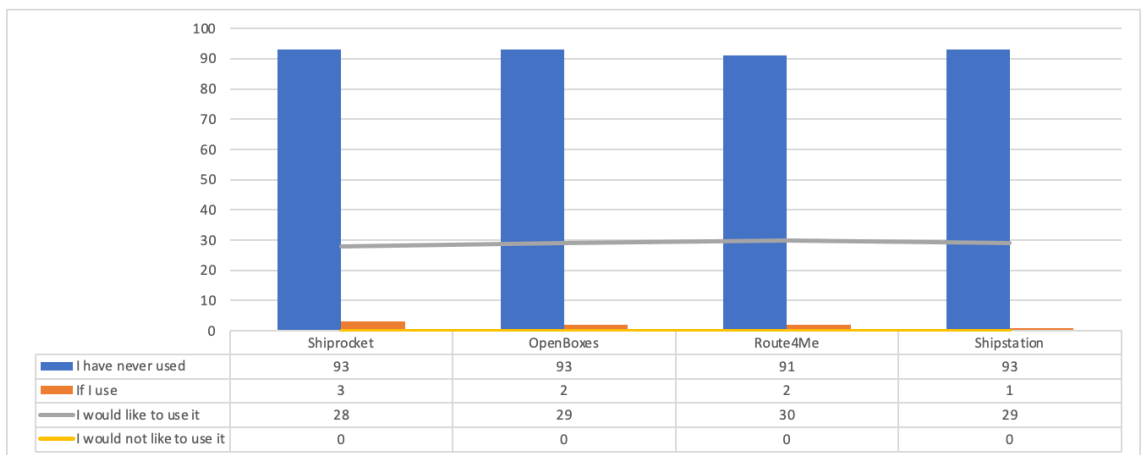


Figure 22. Use of logistics process tools

Companies have not used digital tools to improve the management of their logistics processes. However, 26.4% of the companies are interested in learning about logistics process automation tools and using them to improve their operations.

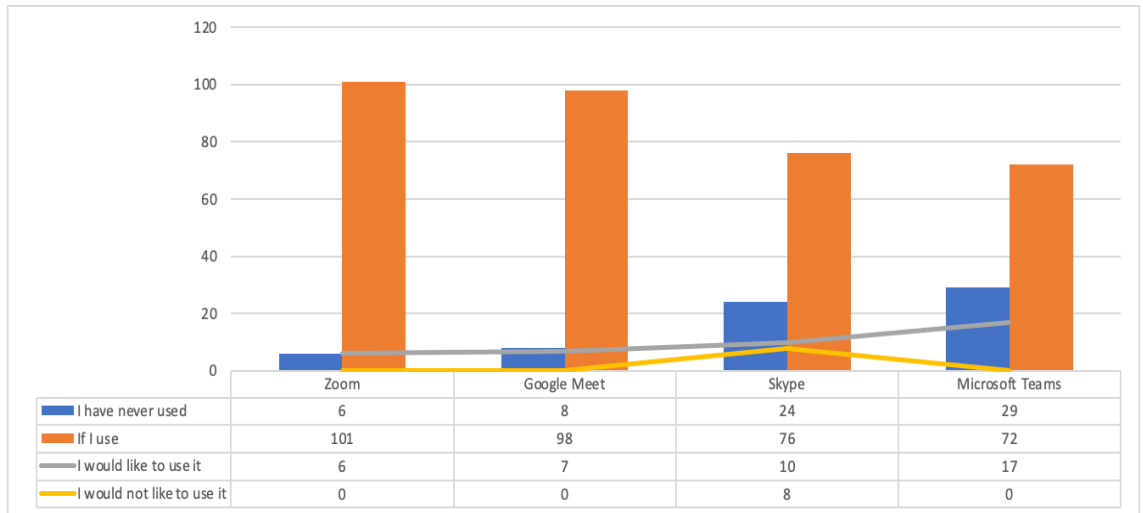


Figure 23. Use of communication tools

All the companies have used digital communication tools, the most widely used being Zoom and Google Meet.

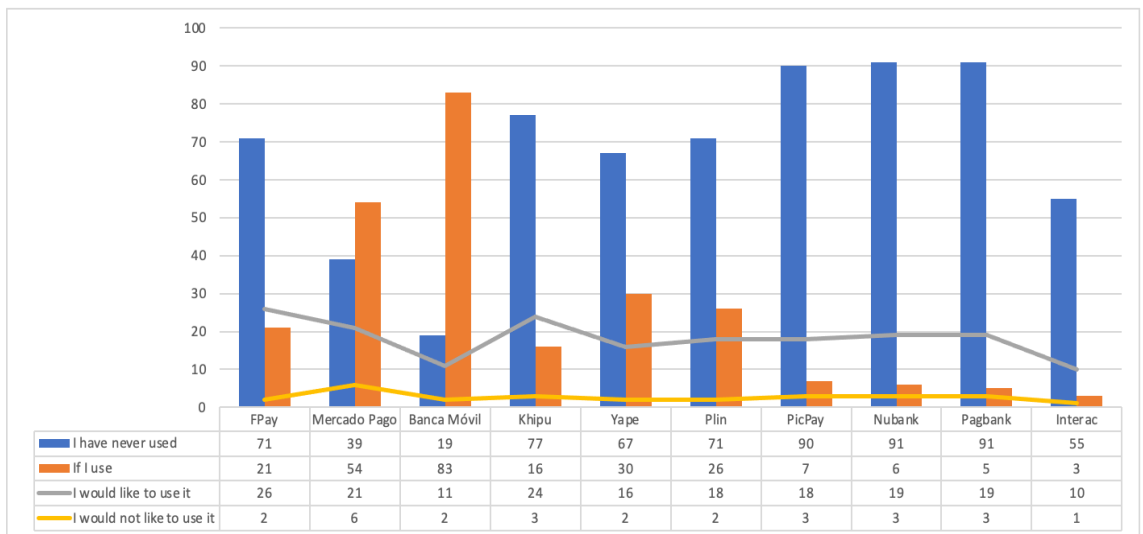


Figure 24. Use of tools for means of payment.

All companies have used digital tools for payment methods or digital wallets. The most common tools are Mobile Banking and Mercado Pago. 16.5% of companies are interested in learning about other payment platforms and using them, as they consider them important in their marketing process.

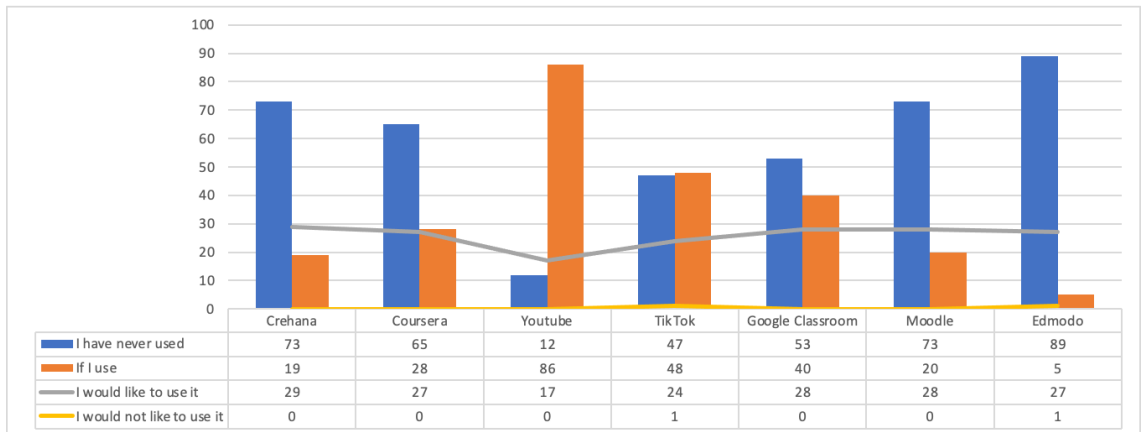


Figure 25. Use of digital training tools

All companies have used digital tools for training or education, the most used being YouTube, followed by TikTok, Google Classroom and Coursera. 25.5% are interested in learning about other educational platforms and using them, as they consider them important for their development.

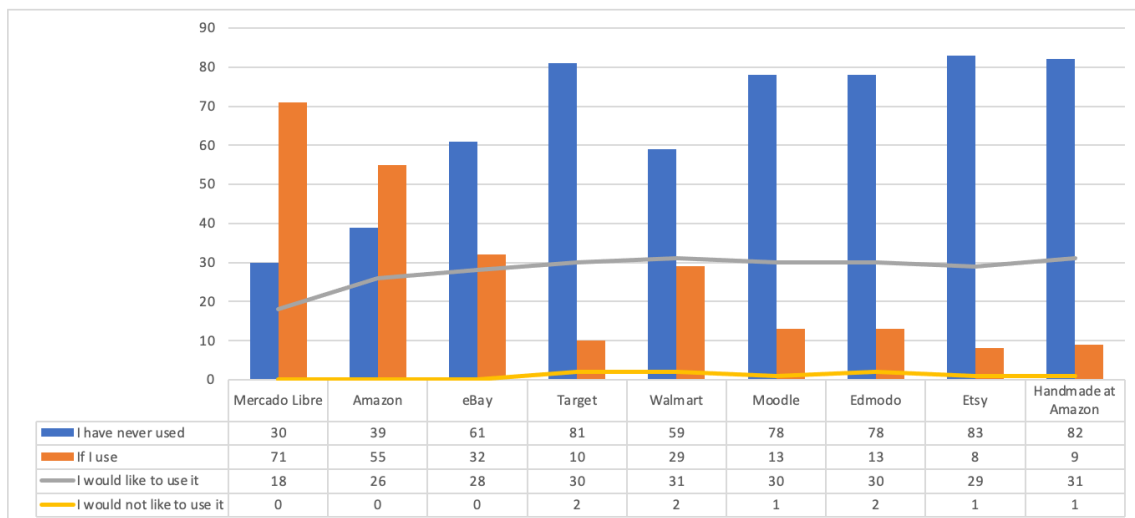


Figure 26. Experimentation with Marketplace tools

The most used Market Place by companies are Mercado Libre and Amazon, however 30.9% of companies have never experimented with either; but are very interested in learning how to use marketplaces for their marketing and procurement processes.

5.1.3 Gaps and barriers to digital transformation

The objective of this section is to identify from the perspective of the MSME or Cooperative business owner how much do you agree that the following elements constitute barriers and gaps to initiate a successful digital transformation process in your company or in MSMEs and Cooperatives in APEC economies?

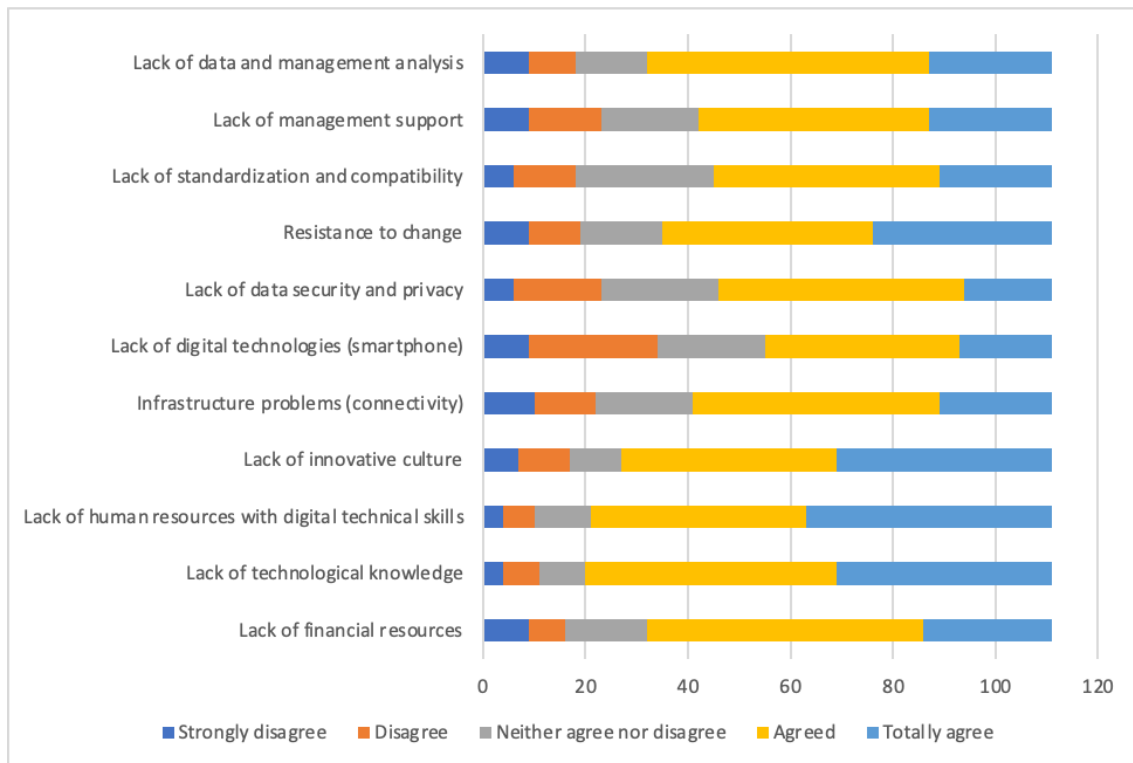


Figure 27. Gaps and barriers to initiate the digital transformation process.

The aspects that are most recognized as barriers to digital transformation are: Lack of technological knowledge and Lack of human resources with digital technical skills with 82.7% and 81.8% respectively, followed by lack of innovation culture with 76.4%, as well as the need for financial resources and lack of data and management analysis with 71.8%.

5.1.4 The requirements for a successful digital transformation

This section aims to identify the elements that are necessary for digital transformation from the stakeholders' point of view, asking the question: Do you consider that any of these elements are important for a successful digital transformation process in MSMEs and Cooperatives in APEC economies?

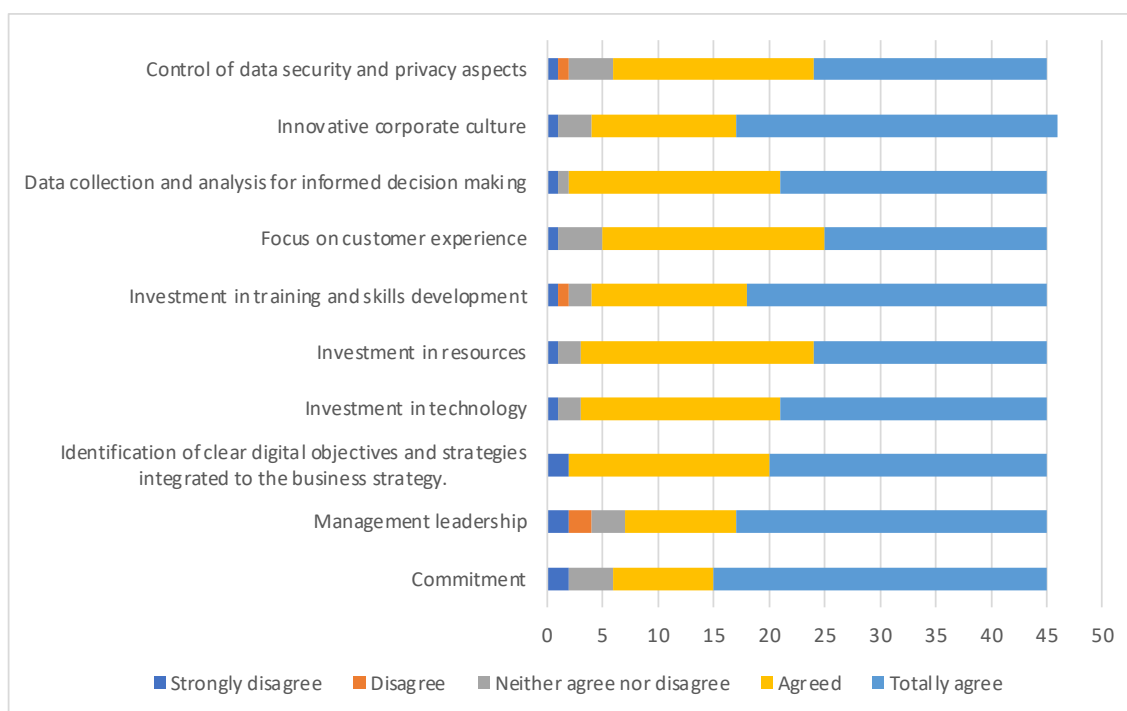


Figure 28. Requirements for the digital transformation process

93.6% of entrepreneurs consider it important and necessary to clearly identify digitization objectives and integrate digital transformation strategies with business strategies. 90.9% also agree on the importance of investment in technology, in hiring human resources and in training and development of digital capabilities. Likewise, 90% also consider it important to have a business culture of innovation and that data collection and analysis is necessary for informed decision making. In addition, 87% consider that commitment, management leadership, focus on achieving customer satisfaction and aspects of control and data security and privacy are also important.

5.1.5 E-Learning platform

Considering that e-learning platforms are an integral part of the digital transformation process in education, since they allow distance education, personalization of learning and online collaboration, which leads to a more flexible, accessible, and interactive experience.

The participants were consulted about the content needs, as well as the characteristics required of the platform and the interaction and collaboration tools that they suggest for the accompaniment from the platform.

5.1.5.1 What content or "Modules" do you think a digital educational platform should include to develop and strengthen the digital transformation capabilities of MSMEs and Cooperatives in APEC economies?

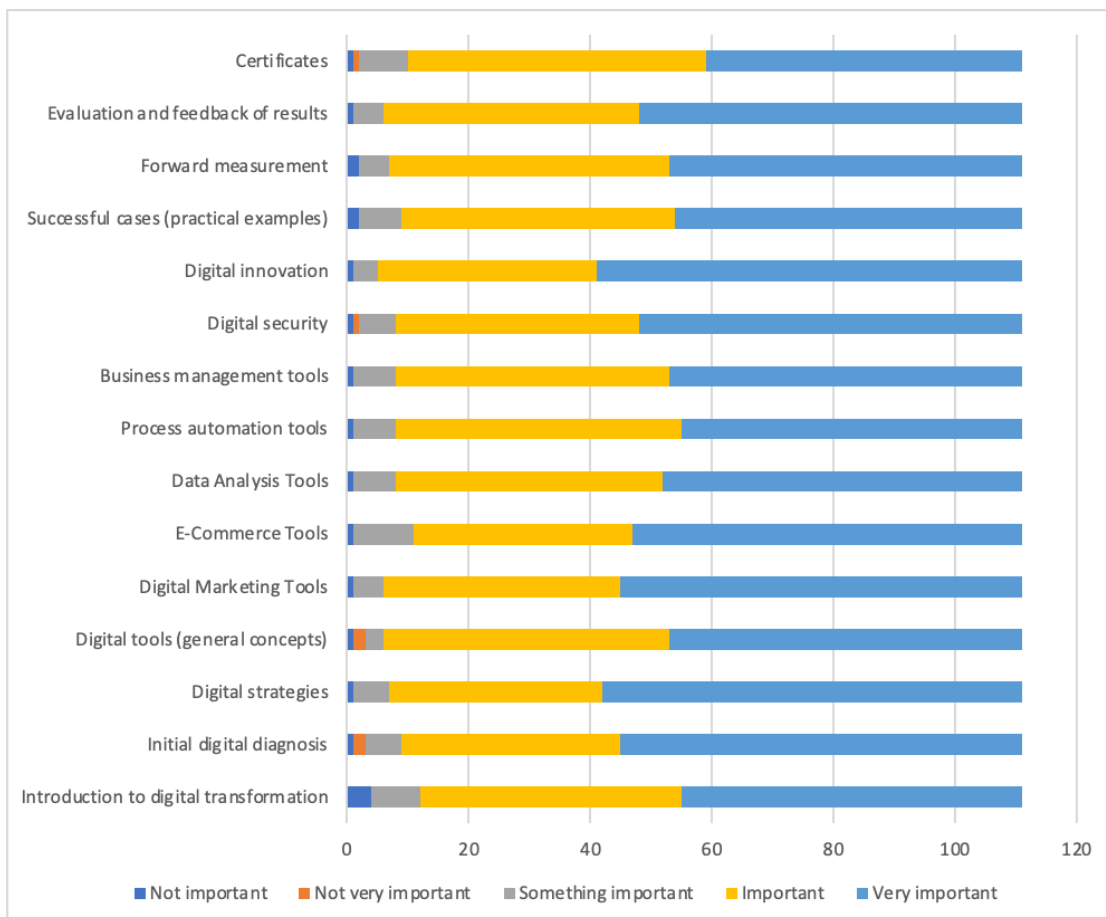


Figure 29. Suggested content

Regarding the modules that should be present in the educational platform, more than 98% of the companies surveyed agree that the suggested modules are important and should be part of the proposal. However, they suggest that there should be a customized presentation of options according to the type of activities, which means options for companies dedicated to manufacturing, different from those that are service companies.

The modules are detailed below:

- Introduction to digital transformation
- Initial digital diagnosis
- Digital strategies (theory and examples)
- Digital tools (general concepts)
- Instructions on how to use the tool and examples of successful use in diverse types of companies.
 - Digital marketing tools
 - E-Commerce tools
 - Data Analysis tool
 - Process automation tools
 - Business management tools
- Digital security
- Case studies (practical examples)
- Forward measurement
- Assessment and monitoring
- Certificates (digital)

5.1.5.2 What are the features that you value and consider important in an educational digital platform?

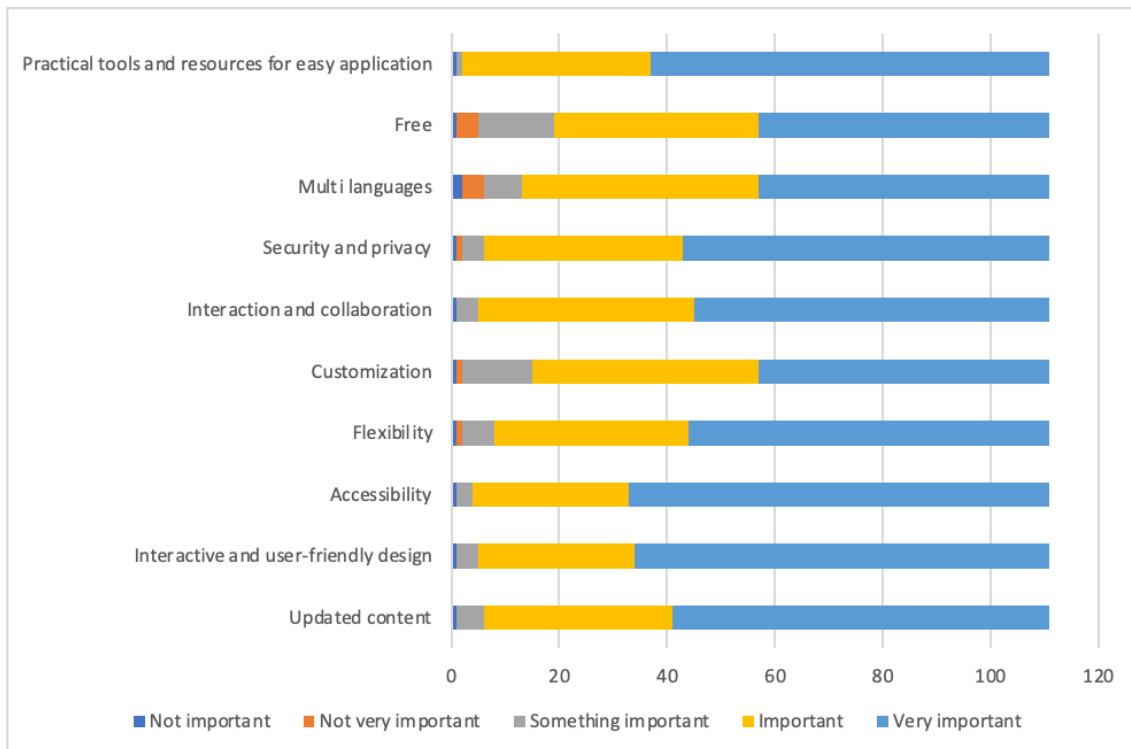


Figure 30. Characteristics valued in the E-Learning platform.

All the entrepreneurs surveyed considered it important for the educational platform to offer practical tools and resources that are easy to apply, as well as to keep the content updated, have an interactive and user-friendly design and be easy to access, considering this last point as the aspect of not having to access through multiple access routes or excessive steps, as well as collaboration support and interaction with platform administrators. Second with 99% platform customization features (manufacturing / services), flexibility and data security and privacy of personal information.

5.1.5.3 What interaction and collaboration tools would you like to find in a digital transformation e-learning platform?

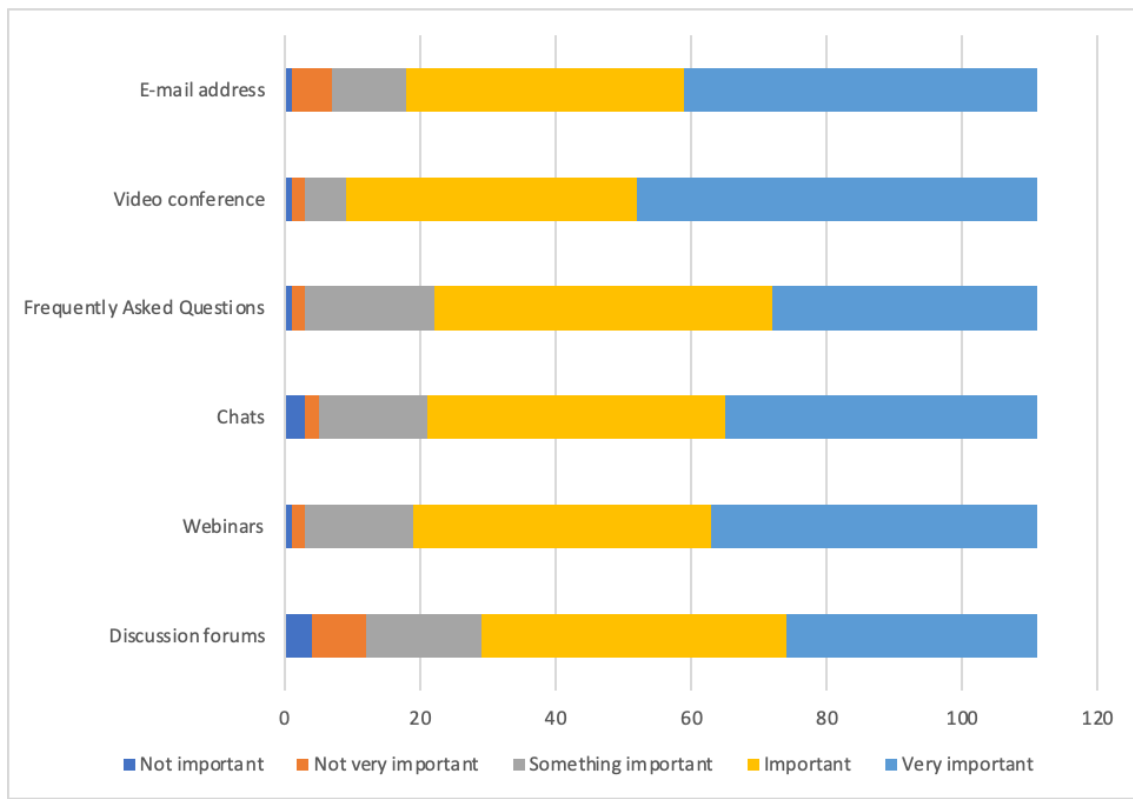


Figure 31. Interaction and collaboration tools

The most valued interaction and collaboration tool between users and mentors of the platform are video conferences, webinars and frequently Asked Questions - FAQs (98.2%), followed by chats (96.4%), direct email communication with specialized areas (94.4%).

5.2 Interview Results

5.2.1 Digital Economy Promotion Agency (DEPA) Thailand

The interview was conducted with Dr. Preesan Rakwatin, Executive Vice President of the Digital Economy Promotion Agency (DEPA), Thailand's government agency, which aims to support the development of the digital industry and innovation. It promotes the adoption of digital technology for the benefit of the economy's economy, society, culture, and security.

Thailand has approximately 69,794,997 populations, its formal business economic structure consists of 11,229,636 enterprises, of which 71.58% are agricultural enterprises, 28.30% MSMEs and 0.12% large enterprises.

DEPA has developed the Master Plan for Digital Economic Promotion 2023-2027, a plan compatible with economy strategies and government policies, which has as its pillars digital access, digital connectivity, digital data and digital automation.

This Master Plan aims to increase by 30% the contribution of the digital economy to GDP, contribute to the growth of productivity of MSMEs by 6% and will be implemented through 4 strategies:

Strategy 1: Transformation of human capital for the digital economy and society, which is developed through the creation of new skills for new generations, training and retraining of the existing workforce and formation of a pool of digital talent, with a target of 500,000 digital workforce. This training has the scope of work from childhood to programs with the elderly.

Strategy 2: Transform the traditional economy into a high-value digital economy, which will be achieved through the promotion to accelerate digital startups, accelerate the creation of value by the digital industry, accelerate the digitization of the manufacturing and services sectors, as well as the core economy. The goal is to generate 100,000 digital enterprises.

Strategy 3: Create new opportunities and ensure inclusive economic development by building livable smart cities, creating new inclusive opportunities, and building a digital quality society. The goal is to get 95% of people digitally literate and have access to digital technology.

Strategy 4: Optimized use of digital infrastructure: Develop the competitiveness of the Thai digital ecosystem and the optimization of digital infrastructure for all. The target being the establishment of three new digital infrastructure projects and the attraction of three large digital corporations to invest in Thailand.

5.2.2 Entrepreneurs MSMEs and Cooperatives Interviewed

The following findings were obtained because of the in-depth qualitative interviews conducted with entrepreneurs of MSMEs and Cooperatives in the economies studied on the perception of the importance of digital transformation in their organizations, as well as identifying their needs to be met in the event of having at their disposal a digital educational platform dedicated to developing capabilities in digital transformation.

"The use of information technologies and digitization are indispensable for business development, but before starting a digital transformation project it will be necessary a process of sensitization to change and strategic thinking aimed at business leaders, since it is evident that when people do not have the need to grow, they do not feel the importance of training."

José Abelardo López - AVANCOOP SC, Mexico

"In Canada, the government provides economic support to MSMEs for the development of digital transformation, with emphasis on process automation, to generate productivity improvement, as well as to reduce repetitive manual work with the use of robotic arms, which reduces ergonomic risks, as well as data analysis and operations management tools."

Amilcar Párraga - Yourbar Factory - Canada

"Digital platforms must be agile and friendly, especially because there are many users who are not digital natives, and the contents must consider easy-to-learn and replicable methodologies, as well as practical content."

Vanessa Guerrero - UNICAFE Cooperative / Dagoberto Fernandez - COOPECAN Perú

"It is important to consider the human challenge of facing digital transformation, the platform should demonstrate the potential of using digital transformation as a way to raise awareness and motivation."

Kasandra Leiva - DRONITY - Chile

6 Key Findings

6.1 Key findings on the determinants of the digital adaptation process for MSMEs and Cooperatives

Different determinants have been identified, which can be considered as gaps or obstacles or even as drivers for the digital transformation process.

The most important determinant factor that has been analyzed in different international research is knowledge and skills. Studies found empirical evidence that the members of the company are the real source for achieving high organizational performance through digitization, considering the individual knowledge and skills both at the level of the owner or manager as well as their employees (Meier, 2023). And this will be obtained with investment in training and skills development, as well as investment in the recruitment of human resources with digital skills, as evidenced in the results of the surveys of MSME and Cooperative entrepreneurs developed in this research.

The second predominant factor of digital transformation is constituted by the integration and exploitation of new digital technologies called SMACiT: Social (social networks), Mobile (mobile devices), Analytic (data analysis), Cloud Computing and Internet of Things (Del Do et al., 2023), as well as robotics, artificial intelligence (AI), big data and e-commerce (Bagale et al., 2021; Meier, 2023). Being for this important the decision of MSME and Cooperative entrepreneurs to invest in technology, ensuring the availability of infrastructure (connectivity) and compatibility, as was also perceived by the companies surveyed in the three economies under study.

Security and trust, referring to IT security, data quality and intellectual property are factors also considered important in the member economies and supported by international studies (Meier, 2023).

The strategy factor is also highlighted, comprising the alignment of business and digital strategy, prioritization and long-term orientation by management, this factor was valued by all MSMEs and Cooperatives companies under study as well as Meier's study,

The influence of both owner and employee commitment and attitude towards transformational change is highlighted (Chen et al., 2021; Del Do et al., 2023; Meier, 2023).

A factor highlighted in the literature is collaboration, being of importance the influence of the public and private sectors, through the link with supplier companies, partners and collaboration with the startup ecosystem valued as an accelerator in the implementation of innovation projects or the development of intervention programs to MSMEs or Cooperatives (APEC, 2023b; Del Do et al., 2023; Meier, 2023).

6.2 Key findings on gender equality in the digital transformation process.

In relation to the digital transformation and the development model, the 2030 Agenda raises the urgency of moving towards new models of growth and development with more sustainable and inclusive consumption and production patterns, while recognizing technologies for this purpose. In particular, "enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women" (Target 5b) (Comisión Económica para América Latina y el Caribe (CEPAL), 2023).

CEPAL identified as requirements to erode gender gaps and take advantage of digital transformation: ensuring access to devices and meaningful connectivity to all women in their diversity, developing critical and higher-level

digital skills, developing a comprehensive system of care, and ensuring strategic data governance (p.17).

The present study had the participation of 65.5% of women, business leaders who evidenced the same concern for the economic and sustained development of their companies, who highlighted the importance of digital transformation in their business management.

It was identified that public and private organizations have launched programs and digital platforms for the promotion of digital training aimed at women, as is the case of the Community of female entrepreneurs in Connectamericas, a platform for digital training and promotion of marketing. As well as the AHK program sponsored by the German Chamber of Commerce in the Women going digital program.

6.3 Key findings on the need for an Educational Digital Platform

The government can help MSMEs and Cooperatives to increase their digital capability by providing digital training or education, as well as developing a digital learning and training system to train their employees. Knowledge of digital technologies will drive entrepreneurs to develop a digital vision (Chen et al., 2021).

Learning and training programs should promote women entrepreneurs' access to information and communication technologies (The La Serena Roadmap for Women and Inclusive Growth (2019-2030) | 2019 APEC Ministerial Documents | APEC, n.d.).

Entrepreneurs of MSMEs and Cooperatives evidenced ignorance of the benefits of digitization programs, this is an important factor that must be countered with awareness campaigns and support in the process of adapting to the digital transformation.

Entrepreneurs must understand the consequences and the positive impact that the digital transformation process brings to their business (APEC, 2023b).

6.4 Key findings on the characteristics and specifications of an Educational Digital Platform

One of the features most valued by potential users of the Digital Platform is the simplicity in the menu of options of digital tools offered in the programs or platforms. Likewise, the customization of the menu of options according to the type of companies, considering that they have different needs.

Similarly, the existence of practical tools and resources of simple application was considered as an important feature of the platform. This aspect should consider an accessible language, easy to interpret, considering the different educational level of potential users. The incorporation of step-by-step examples of the use of the tools will ensure their correct use and the continuity of the entrepreneur in the digital education program.

7 Conclusions

Different studies show the importance of digital transformation in global economies, providing comparative advantages in a situation of constant risks due to geopolitical, climatic or health situations. This is why economies united through global communities and forums join efforts to move towards digital transformation.

As the Global Innovation Index 2022 indicates, we are facing a new wave of innovation, constituted by the Wave of the Digital Era, based on supercomputing, digital intelligence, and automation, which will drive the development of economies, through improved productivity. To this end, a series of objectives related to the improvement of human capital capabilities and the existence of ICT specialists must be established, the gap in terms of infrastructure for connectivity must be reduced, the integration of digital technology must be

promoted, and the quality and quantity of digital public services for citizens and businesses must be guaranteed.

As a result of the application of the research instrument, designed and developed from the analysis of scientific sources and reports from global organizations, conducted in the APEC economies of Chile, Mexico, and Peru, it was identified that the area of application of digital transformation where entrepreneurs believe they can improve the efficiency and effectiveness of their business processes, is in the visibility of the company (82.9%). Next, entrepreneurs would apply it to improve in the field of digital marketing with the use of online advertising (82%); then in the automation of operations processes such as the management of efficiency and productivity indicators (81%). They also considered its application in the field of Data Analysis, specifically for sales, cost, and customer analysis (76%).

The digital tools most used by MSME and Cooperative entrepreneurs are communication tools, which were enhanced due to the health emergency caused by Covid-19 worldwide. This behavior is also evident in the MSMEs 2022 Report of the FAEDPYME Observatory, where 80.3% of companies used social networks for commercial purposes and 69.2% had their own website (García Pérez de Lema et al., 2022).

The second most used digital tool is the digital means of payment or digital payment wallets, as in the study of Ibero-American MSMEs, which shows the adoption of digital banking by 71.7% of companies. The study also found that the use of digital training tools became widespread after the pandemic.

The gaps and barriers identified as the most important that prevent a successful transformation are the lack of data analysis and management, the lack of economic resources, the lack of technological knowledge and the lack of management support in the process of digital business transformation. Faced with this, it is necessary to consider the existence of a high level of commitment from top management, as well as from all collaborators involved in the change. Secondly, it is necessary to promote an innovative corporate culture, followed by management leadership in the process.

As part of the analysis of the results regarding the design of a digital e-learning platform, the entrepreneurs consider the importance of all the proposed modules or contents, such as digital strategies, where they suggest considering the description, explanation, and examples of the most important ones.

The Digital Marketing Tools module, where it is expected to find the development of the main tools in the market, as well as the self-training instruments in each of them, and practical examples of use. The diagnostic module is also considered important, with the aim that the company recognizes its shortcomings in digital transformation at the beginning of the training process.

Also, the E-Commerce Tools module, with its respective development of concepts, procedures of use and practical examples; as well as the Data Analysis Tool module. Followed by the module of evaluation and feedback of the progress and the instruments used to ensure the achievement of the training objectives of each module.

Among the required and most valued features for a digital educational platform are interaction and collaboration tools that support the online training process, content constantly updated according to market needs and the launch of new tools, accessibility, considering simple and short access paths, as well as interaction and collaboration tools such as videoconferencing, webinars, then chats and emails.

User-friendly and interactive design is also a feature highly valued by entrepreneurs. It is also important that the platform has practical and easy-to-apply tools and resources, followed by flexibility of schedules for its use, and that it has an asynchronous mode, as well as security and privacy of personal data.

The acceptance of the design and development of a digital educational platform has been unanimous in the economies analyzed, such as Chile, Mexico, and Peru. Companies consider that access to information, knowledge, and the ability to use data for business performance analysis are of vital importance for the survival of their organizations due to the constant changes in technology, volatility in customer preferences, and the significant economic and political instability in these economies. However, it has been evident that there

are differences in the state of digitalization, especially in Latin American economies, which have an average quality of connection, evaluated by the fixed and mobile broadband download speed, of 49 megabits per second, compared to an average of 98 in the rest of the global economies.

It is also important to note that there is a great lack of knowledge among entrepreneurs regarding the existence, use, and benefits of the different digital transformation tools available today. To counteract this, it is important for the institutions of APEC member economies to consider awareness strategies for the use of digital transformation and the importance of its incorporation in the management of MSMEs and cooperatives, even before the development and implementation of tools. This will ensure the effectiveness of different strategies and, above all, maximize the utilization of activities such as training and the implementation of digital transformation tools in businesses.

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APPENDIX 1

APEC PROJECT SME 06 2021A

Informed consent protocol for participants

The purpose of this protocol is to provide participants in this research: “Digital transformation to generate new business opportunities, opening to new markets in the MSMES and gender focused cooperatives, in response to the economic crisis caused by COVID – 19”, a clear explanation of the nature of the same, as well as the role they have in it.

The present research is developed on behalf of APEC and the Peruvian Ministry of Production, conducted by Rosa Patricia Larios Francia. The objective of this study is to identify the gaps, barriers, and good practices of MSMEs and Cooperatives for a successful digital transformation process, as well as to define the characteristics required in a web platform for the development of digital capabilities that contribute to the business economic reactivation.

If you agree to participate in this study, you will be asked to answer an interview, which will take 30 minutes of your time. The conversation will be recorded so that the researcher can transcribe the ideas you have expressed.

Your participation will be voluntary. The information collected will be strictly confidential and may not be used for any other purpose not contemplated in this research.

In principle, the interview developed with you will be confidential, therefore they will be coded using an identification number.

If you have any doubts regarding the development of the project, you are free to ask any questions you consider pertinent. In addition, you may terminate your participation at any time during the study without any prejudice to you.

Thank you very much for your participation.

I, _____
I give my consent to participate in the study and I am aware that my participation is entirely voluntary.

I have received verbal information about the above study and have read the enclosed written information. I have had the opportunity to discuss the study and ask questions in advance.

By signing this protocol, I agree that my personal data may be used as described in the information sheet detailing the research in which I am participating.

I understand that I can terminate my participation in the study at any time, without this representing any harm to me.

If you have any questions, please contact Mrs. Rosa Patricia Larios at patricia.larios.francia@gmail.com.

Rosa Patricia Larios Francia

Research

Date

APPENDIX 2
SURVEY APEC SME 06 2021A

“Digital transformation to generate new business opportunities, opening to new markets in the MSMES and gender focused cooperatives, in response to the economic crisis caused by COVID – 19”,

I. GENERAL COMPANY INFORMATION

1. Company name											
2. Main Activity:											
3. Economic sector:	(1) Primary	(2) Secondary	(3) Tertiary								
4. Name :											
5. Position in the company:		6. Sex:		Female (1):		Male (2):					
7. Educational level director / general manager	a)Primary (1)	b)Secondary (2)	c)Technical (3)	d)Undergraduate (4)	e)Postgraduate (5)						
8. Year of operation of the company	9. Manager's experience in the field of the business (years):										
10. Business address											
11. Member economy											
12. Phone and/or cell phone: (Indicate member economy code)											
13. Email:											
14. Web page / Instagram / facebook											
15. According to the classification of companies in your economy, your company is positioned in:											
(1) Micro		(2) Small		(3) Medium enterprise		(4) Cooperative					
16. How many people currently work in your company (mark with X)											
1 to 5 (1)		6 to 10 (2)		11 to 20 (3)		21 to 50 (4)		51 to 100 (5)		More than 100 (6)	

QUESTIONNAIRE

CONCEPTS

Digitization

Digitization refers to the process of converting analog information into digital format, offering new services through virtual channels or by implementing new systems. (Costa Melo et al., 2023).

Digital Transformation

Digital transformation is a process by which organizations use digital technologies to influence all aspects of customers' lives, improve the efficiency and effectiveness of their business processes, as well as to create new business models and business improvements (Costa Melo et al., 2023). Digital transformation involves not only the use of technology, but also cultural changes, an innovative mindset, and adaptation by the entire organization (Guo & Chen, 2023).

FIELDS OF APPLICATION OF DIGITAL TRANSFORMATION

17. In which field would you apply digital transformation to improve the efficiency and effectiveness of your business processes?

Check the options you consider appropriate.

1. COMPANY VISIBILITY (Internet Presence)
 - a. Web page
 - b. Profile in social networks

2. DIGITAL MARKETING
 - a. Online advertising
 - b. E-mail marketing
 - c. Search engine optimization to improve online visibility and reach new customers.

3. ELECTRONIC COMMERCE
 - a. E-commerce platform
 - b. Online payment systems
 - c. Virtual stores

4. BUSINESS MANAGEMENT AUTOMATION
 - a. Accounting management
 - b. Human resources management
 - c. Project management
 - d. Billing processes

5. AUTOMATION OF OPERATIONAL PROCESSES
 - a. Engineering, methods and time management
 - b. Scheduling and production control management
 - c. Management of efficiency and productivity indicators

6. AUTOMATION OF SUPPORT PROCESSES
 - a. Purchasing management
 - b. Quotation management
 - c. Inventory management

7. DATA ANALYSIS
 - a. Sales analysis
 - b. Customer analysis
 - c. Production analysis
 - d. Cost analysis
 - e. Data forecasting

USE OF DIGITAL TOOLS

**Have you used any of these digital tools?
If no, would you be willing to use any of them?**

8. Have you ever used a digital business management tool?

Tool	I have never used	If I use	I would like to use it	I would not like to use it
Gantt Project				
Google Sheets				
Google Workspace				
QuickBooks				
Trello				
Wave				
Asana				
Calendar				

9. Have you ever used any digital marketing tool?

Tool	I have never used	If I use	I would like to use it	I would not like to use it
Canva				
Search Engine Optimization				
Mailchimp				
Analytics				
Hootsuite				
CRM				

10. Have you ever used any digital e-commerce tool?

Tool	I have never used	If I use	I would like to use it	I would not like to use it
WooCommerce				
Magento				
Shopify				
Mercado Pago				
PayPal				

11. Have you ever used a digital data analysis tool?

Tool	I have never used	If I use	I would like to use it	I would not like to use it
Google Analytics				
HubSpot CRM				
Tableau				
Microsoft Power BI				
Machine Learning (predicción)				

12. Have you ever used a digital process automation tool?

Tool	I have never used	If I use	I would like to use it	I would not like to use it
Air table				
Zapier				
IFTT				
Automate.io				

13. Have you used any digital tool for the automation of logistic processes?

Tool	I have never used	If I use	I would like to use it	I would not like to use it
Ship rocket				
Open Boxes				
Route4Me				
Ship station				

14. Have you used any digital communication tool?

Tool	I have never used	If I use	I would like to use it	I would not like to use it
Zoom				
Google Meet				
Skype				
Microsoft Teams				

15. Have you used any digital payment tool or digital wallet?

Tool	I have never used	If I use	I would like to use it	I would not like to use it
FPay				
Mercado Pago				
Banca Móvil				
Khipu				
Yape				
Plin				
PicPay				
Nubank				
Pagbank				

16. Have you used any digital training or education tool?

Tool	I have never used	If I use	I would like to use it	I would not like to use it
Crehana				
Coursera				
YouTube				
TikTok				
Google Classroom				
Moodle				
Edmodo				

17. Have you experimented with any of the following marketplaces?

Tool	I have never used	If I use	I would like to use it	I would not like to use it
Mercado Libre				
Amazon				
eBay				
Target				
Walmart				
Moodle				
Edmodo				
Etsy				
Handmade at Amazon				

GAPS AND BARRIERS TO DIGITAL TRANSFORMATION

18. How much do you agree that the following concepts constitute barriers and gaps to initiate a successful digital transformation process in your company or in that of MSMEs and Cooperatives of APEC economies?

Concept	Strongly disagree	Disagree	Neither agree nor disagree	Agreed	Totally agree
Lack of financial resources					
Lack of technological knowledge					
Lack of human resources with digital technical skills					
Lack of innovative culture					
Infrastructure problems (connectivity)					
Lack of digital technologies (smartphone)					
Lack of data security and privacy					
Resistance to change					
Lack of standardization and compatibility					
Lack of management support					
Lack of data and management analysis					

NEEDS FOR A SUCCESSFUL DIGITAL TRANSFORMATION

19. Do you consider that any of these elements are important for a successful digital transformation process in MSMEs and Cooperatives in APEC economies?

Concept	Strongly disagree	Disagree	Neither agree nor disagree	Agreed	Totally agree
Commitment					
Management leadership					
Identification of clear digital objectives and strategies integrated to the business strategy.					
Investment in technology					
Investment in resources					
Investment in training and skills development					
Focus on customer experience					
Data collection and analysis for informed decision making					
Innovative corporate culture					
Control of data security and privacy aspects					

DIGITAL PLATFORM

E-learning platforms are an integral part of the digital transformation process in education, as they enable distance education, personalization of learning and online collaboration, leading to a more flexible, accessible, and interactive educational experience.

20. What content or "Modules" do you consider that a digital educational platform should include in order to develop and strengthen the digital transformation capabilities of MSMEs and Cooperatives in APEC economies?

Elements	Not important	Not very important	Something important	Important	Very important
Introduction to digital transformation					
Initial digital diagnosis					
Digital strategies					
Digital tools (general concepts)					
Digital Marketing Tools					
E-Commerce Tools					
Data Analysis Tools					
Process automation tools					
Business management tools					
Digital security					
Digital innovation					
Successful cases (practical examples)					
Forward measurement					
Evaluation and feedback of results					
Certificates					

21. What are the characteristics that you value and consider important in an educational digital platform?

Elements	Not important	Not very important	Something important	Important	Very important
Updated content					
Interactive and user-friendly design					
Accessibility					
Flexibility					
Customization					
Interaction and collaboration					
Security and privacy					
Multi languages					
Free					
Practical tools and resources for easy application					

22. What interaction and collaboration tools would you like to find in a digital transformation e-learning platform?

Elements	Not important	Not very important	Something important	Important	Very important
Discussion forums					
Webinars					
Chats					
Frequently Asked Questions					
Video conference					
E-mail address					

THANK YOU VERY MUCH FOR YOUR IMPORTANT PARTICIPATION

APPENDIX 3

Google Forms Questionnaire in Spanish Language

Sección 1 de 9

"Transformación digital para generar nuevas oportunidades de negocio, apertura a nuevos mercados en las MIPYME y cooperativas con enfoque de género, como respuesta a la crisis económica provocada por la COVID - 19"

Descripción del formulario

Correo *

Correo válido

Este formulario registra los correos. [Cambiar configuración](#)

111

Protocolo de consentimiento informado para participantes

El propósito de este protocolo es brindar a los y a las participantes en esta investigación: "Transformación digital para generar nuevas oportunidades de negocio, apertura a nuevos mercados en las MIPYME y Cooperativas con enfoque de género, como respuesta a la crisis económica provocada por la COVID - 19", una explicación clara de la naturaleza de la misma, así como del rol que tienen en ella.

La presente investigación es desarrollada por encargo de APEC y el Ministerio de la Producción del Perú, conducida por Rosa Patricia Larios Francia. El objetivo de este estudio es identificar las brechas, barreras y buenas prácticas de las MIPYME y Cooperativas para un proceso exitoso de transformación digital, así como definir las características requeridas en una plataforma web del tipo E-learning para desarrollar capacidades digitales que contribuyan a la reactivación económica empresarial.

Si usted accede a participar en este estudio, se le pedirá responder una encuesta/entrevista, lo que le tomará 30 minutos de su tiempo.

Su participación será voluntaria. La información que se recoja será estrictamente confidencial y no se podrá utilizar para ningún otro propósito que no esté contemplado en esta investigación.

En principio, la encuesta desarrollada con usted será confidencial, por ello será codificada utilizando un número de identificación. En caso de entrevista se solicitará su autorización para la grabación de la misma.

Si tuviera alguna duda con relación al desarrollo de esta investigación, usted es libre de formular las preguntas que considere pertinentes. Además, puede finalizar su participación en cualquier momento del estudio sin que esto represente algún perjuicio para usted.

Muchas gracias por su participación.

Consentimiento

He recibido información sobre la investigación mencionada anteriormente y he leído la información escrita adjunta. He tenido la oportunidad de discutir sobre ello y hacer preguntas previas.

Al aceptar este protocolo estoy de acuerdo con que mis datos personales, puedan ser usados según lo descrito en la hoja de información que detalla la investigación en la que estoy participando.

Entiendo que puedo finalizar mi participación en cualquier momento, sin que esto represente algún perjuicio para mí.

Ante alguna duda se puede comunicar con la señora Rosa Patricia Larios al correo electrónico patricia.larios.francia@gmail.com.

Yo (llenar nombre completo) *

Texto de respuesta corta

Doy mi consentimiento para participar en la investigación y soy consciente de que mi participación es enteramente voluntaria. *

Doy consentimiento

No doy consentimiento

DATOS GENERALES DE LA EMPRESA



Descripción (opcional)

Razón Social *

Texto de respuesta larga

Sector económico *

- Primario (actividades económicas relacionadas con la extracción y transformación de recursos naturale...
- Secundario (actividades artesanales y de industria manufacturera, industria de bienes de producción, los...
- Terciario (servicios a la sociedad y a las empresas, comercio más pequeño hasta las altas finanzas)

Actividad económica principal (descripción) *

Texto de respuesta larga

Cargo dentro de la empresa *

Texto de respuesta corta

Sexo *

- Femenino
- Masculino
- Prefiero no decirlo

Nivel educativo del director/gerente de empresa *

- Primaria
- Secundaria
- Técnica
- Universitaria
- Postgrado

Número de años de funcionamiento de la empresa *

Texto de respuesta corta

Experiencia del gerente en el rubro de la empresa (en años) *

Texto de respuesta corta

Dirección de la empresa (Indicar estado, región o provincia) *

Texto de respuesta larga

Economía miembro (APEC) *

- Chile
- México
- Perú
- Canada
- Tailandia

Teléfono o celular de contacto (incluir código de la economía miembro) *

Texto de respuesta corta

Correo de contacto *

Texto de respuesta corta

Página de web de la empresa ó instagram ó facebook. (de no tener redes sociales favor poner * NN)

Texto de respuesta larga

Tamaño de empresa de acuerdo a la clasificación de la economía miembro de APEC (Micro, * pequeña o Mediana empresa) , Cooperativa

- Micro empresa
- Pequeña empresa
- Mediana empresa
- Cooperativa

¿Cuántas personas trabajan actualmente en su empresa *

- De 1 a 5
- De 6 a 10
- De 11 a 20
- De 21 a 50
- De 51 a 100
- Más de 100

Sección 3 de 9

CONCEPTOS DE LA TRANSFORMACIÓN DIGITAL

Digitalización

La digitalización se refiere al proceso de convertir información analógica en formato digital, ofreciendo nuevos servicios a través de canales virtuales o habilitando nuevos sistemas (Costa Melo et al., 2023).

Transformación digital

La transformación digital es un proceso mediante el cual las organizaciones utilizan tecnologías digitales que influyen en todos los aspectos de la vida de los clientes, mejoran la eficiencia y la efectividad de sus procesos de negocio, así como para crear nuevos modelos de negocio y mejoras empresariales (Costa Melo et al., 2023). La transformación digital no solo implica el uso de tecnología, sino también cambios culturales, una mentalidad innovadora, adaptación por parte de toda la organización (Guo & Chen, 2023).

Después de la sección 3 Ir a la siguiente sección

Sección 4 de 9

CAMPOS DE APLICACIÓN DE LA TRANSFORMACIÓN DIGITAL

¿En qué campo aplicaría la transformación digital para mejorar la eficiencia y efectividad de sus procesos empresariales?

Visibilidad de la empresa (presencia en internet) *

- Página web
- Perfil en redes sociales

Marketing digital *

- Publicidad en línea
- Marketing por correo electrónico
- Optimización de motores de búsqueda para mejorar visibilidad en línea y llegar a nuevos clientes

Comercio electrónico *

- Plataforma de comercio electrónico
- Sistema de pago en línea
- Tienda virtual

Automatización de la gestión empresarial *

- Gestión contable
- Gestión de recursos humanos
- Gestión de proyectos
- Procesos de facturación

Automatización de procesos de operaciones *

- Gestión de ingeniería, métodos y tiempos
- Gestión de programación y control de producción
- Gestión de indicadores de eficiencia y productividad

Automatización de procesos de soporte *

- Gestión de compras
- Gestión de cotizaciones
- Gestión de inventarios

Análisis de datos *

- Análisis de ventas
- Análisis de clientes
- Análisis de producción
- Análisis de costos
- Predicción de datos

Después de la sección 4 Ir a la siguiente sección



UTILIZACIÓN DE HERRAMIENTAS DIGITALES



¿Usted ha utilizado algunas de las siguientes herramientas digitales en el desarrollo de las actividades de su empresa?

Si la respuesta fuera negativa, ¿estaría dispuesto a utilizar alguna de ellas?
(puede marcar más de una opción por fila)

Herramientas digitales de gestión empresarial *

	Nunca he utilizado	Si uso	Me gustaría utiliza...	No me gustaría uti...
GanttProject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Google Sheets (Ex...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Google Workspace	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quickbooks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trello	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wave	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calendar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Herramientas digitales de marketing digital *

	Nunca he utilizado	Si uso	Me gustaría utiliza...	No me gustaría uti...
Canva	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WordPress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Search Engine Opti...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mailchimp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analytics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hootsuite	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CRM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Herramientas digitales de comercio electrónico *

	Nunca he utilizado	Si uso	Me gustaría utiliza...	No me gustaría uti...
WooCommerce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Magento	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shopify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercado Pago	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paypal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Herramientas digitales de análisis de datos *

	Nunca he utilizado	Si uso	Me gustaría utiliza...	No me gustaría uti...
Google Analytics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HubSpot CRM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tableau	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Microsoft Power BI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Machine Learning ...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Herramientas digitales de Automatización de procesos *

	Nunca he utilizado	Si uso	Me gustaría utiliza...	No me gustaría uti...
Airtable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zapier	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IFTT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Automate.io	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Herramientas digitales de procesos logísticos *

	Nunca he utilizado	Si uso	Me gustaría utiliza...	No me gustaría uti...
Shiprocket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OpenBoxes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Route4Me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipstation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Herramientas digitales de comunicación *

	Nunca he utilizado	Si uso	Me gustaría utiliza...	No me gustaría uti...
Zoom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Google Meet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Skype	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Microsoft Teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Herramientas digitales para medio de pago o billeteras digitales *

	Nunca he utilizado	Si uso	Me gustaría utiliza...	No me gustaría uti...
FPay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercado Pago	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Banca Móvil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Khipu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Yape	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PicPay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nubank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pagbank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interac	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Herramientas digitales para capacitación o formación *

	Nunca he utilizado	Si uso	Me gustaría utiliza...	No me gustaría uti...
Crehana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coursera	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Youtube	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TikTok	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Google Classroom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moodle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Edmodo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ha experimentado con alguno de los siguientes Marketplace *

	Nunca he utilizado	Si uso	Me gustaría utiliza...	No me gustaría uti...
Mercado Libre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amazon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
eBay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Target	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Walmart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moodle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Edmodo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Etsy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Handmade at Ama...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sección 6 de 9

BRECHAS Y BARRERAS PARA LA TRANSFORMACIÓN DIGITAL

Descripción (opcional)

¿Qué tan de acuerdo está usted que los siguientes elementos constituyen barreras y brechas para iniciar un proceso de transformación digital exitosos en su empresa o en la de las MIPYME y Cooperativas de las economías APEC?

	Totalmente en ...	En desacuerdo	Ni de acuerdo, ...	De acuerdo	Totalmente de ...
Falta de recurs...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Falta de conoci...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Falta de recurs...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Falta de cultura...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problemas de i...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Falta de tecnol...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Falta de seguri...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resistencia al ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Falta de estand...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Falta de apoyo ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Falta de datos ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sección 7 de 9

NECESIDADES PARA UNA TRANSFORMACIÓN DIGITAL EXITOSA

Descripción (opcional)

¿Considera que alguno de estos elementos son importantes para un proceso exitoso de transformación digital en las MIPYMEs y Cooperativas de las economías APEC?

	Totalmente en ...	En desacuerdo	Ni de acuerdo, ...	De acuerdo	Totalmente de ...
Compromiso	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Liderazgo de la...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identificación d...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inversión en te...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inversión en re...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inversión en ca...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enfoque en la e...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recolección y ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cultura empres...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Control de los ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

PLATAFORMA DIGITAL E-LEARNING



Las plataformas de e-learning son una parte integral del proceso de transformación digital en la educación, ya que permiten la educación a distancia, la personalización del aprendizaje y la colaboración en línea, lo que lleva a una experiencia educativa más flexible, accesible e interactiva.

¿Qué contenido "Módulos", considera que debe incluir una plataforma digital educativa con el objetivo de desarrollar y fortalecer las capacidades en transformación digital en las MIPYMES y Cooperativas en las economías APEC?

	No es importa...	Poco importante	Algo importante	Importante	Muy importante
Introducción a ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diagnóstico di...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estrategias dig...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Herramientas d...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Herramientas p...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Herramientas p...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Herramientas p...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Herramientas p...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Herramientas p...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seguridad digital	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Innovación digi...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Casos de éxito ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medición de av...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluaciones y ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Certificados	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Cuáles son las características que usted valora y considera importantes en una plataforma digital educativa? *

	No es importa...	Poco importante	Algo importante	Importante	Muy importante
Contenido actu...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diseño interact...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accesibilidad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flexibilidad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personalización	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interacción y c...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seguridad y pri...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Multi idiomas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gratuita	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Herramientas y...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Qué herramientas de interacción y colaboración quisiera encontrar en una plataforma e-learning de transformación digital? *

	No es importa...	Poco importante	Algo importante	Importante	Muy importante
Foros de discu...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Webinars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chats	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preguntas frec...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video conferen...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Correo electrón...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Después de la sección 8 Ir a la siguiente sección

Sección 9 de 9

MUCHAS GRACIAS POR SU IMPORTANTE PARTICIPACIÓN

Descripción (opcional)



APPENDIX 4

Google Forms Questionnaire in English

Sección 1 de 9

" Digital transformation to generate new business opportunities, opening to new markets in the MSME and Cooperatives with a gender focused, in response to the economic crisis caused by Covid-19"

Descripción del formulario

Correo *

Correo válido

Este formulario registra los correos. [Cambiar configuración](#)

Informed consent protocol for participants

The purpose of this protocol is to provide participants in this research: "Digital transformation to generate new business opportunities, opening to new markets in the MSME and Cooperative with a gender focused , in response to the economic crisis caused by COVID – 19", a clear explanation of the nature of the same, as well as the role they have in it.

The present research is developed on behalf of APEC and the Peruvian Ministry of Production, conducted by Rosa Patricia Larios Francia. The objective of this study is to identify the gaps, barriers and good practices of MSMEs and Cooperatives for a successful digital transformation process, as well as to define the characteristics required in a web platform for the development of digital capabilities that contribute to the business economic reactivation.

If you agree to participate in this study, you will be asked to answer an interview or fill out the survey, which will take 30 minutes of your time. In the case of an interview, your permission is requested to record the conversation, so that the researcher can transcribe the ideas you have expressed.

Your participation will be voluntary. The information collected will be strictly confidential and may not be used for any other purpose not contemplated in this research.

In principle, the interview/survey developed with you will be confidential, therefore they will be coded using an identification number.

If you have any doubts regarding the development of the project, you are free to ask any questions you consider pertinent. In addition, you may terminate your participation at any time during the study without any prejudice to you.

Thank you very much for your participation.

Consent

I have received information about the above mentioned study and have read the enclosed written information.

By signing this protocol I agree that my personal data may be used as described in the information sheet detailing the research in which I am participating.

I understand that I can terminate my participation in the study at any time, without this representing any harm to me.

If you have any questions, please contact Mrs. Rosa Patricia Larios at patricia.larios.francia@gmail.com.

I (fill in full name) *

Texto de respuesta corta

I give my consent to participate in the study and I am aware that my participation is entirely voluntary. *

I give consent

No I do not consent

GENERAL COMPANY INFORMATION



Descripción (opcional)

Company Name *

Texto de respuesta larga

Economic Sector *

- Primary (economic activities related to the extraction and transformation of natural resources into prima...
- Secondary (craft and manufacturing activities, production goods industry, consumer goods and the provi...
- Tertiary (services to society and business, from the smallest trade to high finance)

Main activity (description) *

Texto de respuesta larga

Position in the company *

Texto de respuesta corta

Sex *

- Female
- Male
- I prefer not to say

Educational level director/general manager *

- Primary
- Secondary
- Technical
- Undergraduate
- Postgraduate

Year of operation of the company *

Texto de respuesta corta

Manger's experience in the field of the business (years): *

Texto de respuesta corta

Business address *

Texto de respuesta larga

Economies member (APEC) *

- Chile
- México
- Perú
- Canada
- Thailand

Phone and/or cell phone: (Indicate economies member code) *

Texto de respuesta corta

E-mail *

Texto de respuesta corta

Web page / Instagram / facebook OR (NN) *

Texto de respuesta larga

Company size according to your economy member's classification (Micro, small or medium enterprise), Cooperative *

- Micro
- Small
- Medium
- Cooperative

How many people are currently employed in your company? *

- 1 to 5
- 6 to 10
- 11 to 20
- 21 to 50
- 51 to 100
- More than 100

Sección 3 de 9

DIGITAL TRANSFORMATION CONCEPTS



Digitization

Digitization refers to the process of converting analog information into digital format, offering new services through virtual channels or by implementing new systems. (Costa Melo et al., 2023).

Digital Transformation

Digital transformation is a process by which organizations use digital technologies to influence all aspects of customers' lives, improve the efficiency and effectiveness of their business processes, as well as to create new business models and business improvements (Costa Melo et al., 2023). Digital transformation involves not only the use of technology, but also cultural changes, an innovative mindset, and adaptation by the entire organization (Guo & Chen, 2023).

Después de la sección 3 Ir a la siguiente sección

Sección 4 de 9

FIELDS OF APPLICATION OF DIGITAL TRANSFORMATION



In which field would you apply digital transformation to improve the efficiency and effectiveness of your business processes?

COMPANY VISIBILITY (Internet Presence) *

- Web page
- Profile in social networks

Digital Marketing *

- Online advertising
- E-mail marketing
- Search engine optimization to improve online visibility and reach new customers.

Electronic commerce *

- E-commerce platform
- Online payment systems
- Virtual stores

Business management automation *

- Accounting management
- Human resources management
- Project management
- Billing processes

Automation of operational processes *

- Engineering, methods and time management
- Scheduling and production control management
- Management of efficiency and productivity indicators

Automation of support processes *

- Purchasing management
- Quotation management
- Inventory management

Data analysis *

- Sales analysis
- Customer analysis
- Production analysis
- Cost analysis
- Data forecasting

USE OF DIGITAL TOOLS



Have you used any of these digital tools?
 If no, would you be willing to use any of them?
 (You can check more than one option per row)

Have you ever used a digital business management tool? *

	I have never used	If I use	I would like to use it	I would not like to ...
GanttProject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Google Sheets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Google Workspace	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quickbooks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trello	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wave	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calendar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you ever used any digital marketing tool? *

(You can check more than one option per row)

	I have never used	If I use	I would like to use it	I would not like to ...
Canva	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WordPress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Search Engine Opti...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mailchimp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analytics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hootsuite	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CRM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you ever used any digital e-commerce tool? *

(You can check more than one option per row)

	I have never used	If I use	I would like to use it	I would not like to ...
WooCommerce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Magento	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shopify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercado Pago	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paypal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you ever used a digital data analysis tool? *

(You can check more than one option per row)

	I have never used	If I use	I would like to use it	I would not like to ...
Google Analytics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HubSpot CRM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tableau	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Microsoft Power BI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Machine Learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you ever used a digital process automation tool? *

(You can check more than one option per row)

	I have never used	If I use	I would like to use it	I would not like to ...
Airtable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zapier	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IFTT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Automate.io	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you used any digital tool for the automation of logistic processes? *

(You can check more than one option per row)

	I have never used	If I use	I would like to use it	I would not like to ...
Shiprocket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OpenBoxes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Route4Me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipstation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you used any digital communication tool? *

(You can check more than one option per row)

	I have never used	If I use	I would like to use it	I would not like to ...
Zoom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Google Meet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Skype	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Microsoft Teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you used any digital payment tool or digital wallet?

(You can check more than one option per row)

	I have never used	If I use	I would like to use it	I would not like to ...
FPay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercado Pago	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Banca Móvil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Khipu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Yape	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PicPay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nubank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pagbank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you used any digital training or education tool?

(You can check more than one option per row)

	I have never used	If I use	I would like to use it	I would not like to ...
Crehana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coursera	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Youtube	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TikTok	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Google Classroom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moodle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Edmodo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you experimented with any of the following marketplaces?

(You can check more than one option per row)

	I have never used	If I use	I would like to use it	I would not like to ...
Mercado Libre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amazon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
eBay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Target	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Walmart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moodle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Edmodo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Etsy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Handmade at Ama...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sección 6 de 9

GAPS AND BARRIERS TO DIGITAL TRANSFORMATION

Descripción (opcional)

How much do you agree that the following concepts constitute barriers and gaps to initiate a successful digital transformation process in your company or in that of MSMEs and Cooperatives of APEC economies?

	Strongly disagr...	Disagree	Neither agree n...	Agreed	Totally agree
Lack of financi...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of technol...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of human ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of innovat...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Infrastructure p...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of digital t...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of data se...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resistance to c...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of standa...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of manag...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of data an...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sección 7 de 9

NEEDS FOR A SUCCESSFUL DIGITAL TRANSFORMATION Sección sin título

Descripción (opcional)

Do you consider that any of these elements are important for a successful digital transformation process in MSMEs and Cooperatives in APEC economies?

	Strongly disagr...	Disagree	Neither agree n...	Agreed	Totally agree
Commitment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Management L...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identification o...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investment in t...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investment in r...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investment in t...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Focus on custo...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data collection...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Innovative corp...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Control of data...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

DIGITAL PLATFORM E-LEARNING



E-learning platforms are an integral part of the digital transformation process in education, as they enable distance education, personalization of learning and online collaboration, leading to a more flexible, accessible and interactive educational experience.

What content or "Modules" do you consider that a digital educational platform should include in order to develop and strengthen the digital transformation capabilities of MSMEs and Cooperatives in APEC economies?

	Not important	Not very impor...	Something imp...	Important	Very important
Introduction to ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initial digital di...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Digital strategies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Digital tools (g...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Digital Marketi...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E-Commerce T...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data Analysis T...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Process autom...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business mana...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Digital security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Digital innovati...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Successful cas...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forward meas...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluation and ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Certificates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What are the characteristics that you value and consider important in an educational digital platform?

	Not important	Not very impor...	Something imp...	Important	Very important
Updated content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interactive and ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accessibility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flexibility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Customization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interaction and...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Security and pr...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Multi languages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Free	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Practical tools ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What interaction and collaboration tools would you like to find in a digital transformation e-learning platform?

	Not important	Not very impor...	Something imp...	Important	Very important
Discussion for...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Webinars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chats	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frequently Ask...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video conferen...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E-mail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sección 9 de 9

THANK YOU VERY MUCH FOR YOUR IMPORTANT PARTICIPATION

Descripción (opcional)



APPENDIX 5

Google Forms Questionnaire in French

Sección 1 de 9

"La transformation numérique pour générer de nouvelles opportunités commerciales, l'ouverture à de nouveaux marchés dans les MPME et les coopératives en mettant l'accent sur l'égalité des sexes, en réponse à la crise économique causée par COVID - 19"

Descripción del formulario

Correo *

Correo válido

Este formulario registra los correos. [Cambiar configuración](#)

Protocole de consentement éclairé pour les participants

L'objectif de ce protocole est de fournir aux participants à cette recherche : "Transformation numérique pour générer de nouvelles opportunités d'affaires, ouverture à de nouveaux marchés dans les MPME et les coopératives avec un accent sur le genre, comme réponse à la crise économique causée par COVID - 19", une explication claire de la nature de la crise, ainsi que de leur rôle dans celle-ci.

Cette recherche a été commandée par l'APEC et le ministère péruvien de la production, et menée par Rosa Patricia Larios Francia. L'objectif de cette étude est d'identifier les lacunes, les obstacles et les bonnes pratiques des MPME et des coopératives pour un processus de transformation numérique réussi, ainsi que de définir les caractéristiques requises dans une plateforme web de type E-learning pour développer les capacités numériques qui contribuent à la réactivation économique des entreprises.

Si vous acceptez de participer à cette étude, vous serez invité à répondre à une suivante qui prendra 30 minutes de votre temps.

Votre participation est volontaire. Les informations recueillies resteront strictement confidentielles et ne pourront être utilisées à d'autres fins que celles prévues dans le cadre de cette recherche.

En principe, l'enquête élaborée avec vous sera confidentielle, c'est pourquoi elle sera codée à l'aide d'un numéro d'identification.

Si vous avez des questions concernant le déroulement de cette recherche, vous êtes libre de poser toutes les questions que vous jugez appropriées. En outre, vous pouvez mettre fin à votre participation à tout moment au cours de l'étude sans que cela ne vous porte préjudice.

Nous vous remercions de votre participation.

Consentement

J'ai reçu des informations sur l'étude susmentionnée et j'ai lu les informations écrites ci-jointes.

En acceptant ce protocole, j'accepte que mes données personnelles soient utilisées comme décrit dans la fiche d'information détaillant la recherche à laquelle je participe.

Je comprends que je peux mettre fin à ma participation à tout moment, sans que cela ne me porte préjudice.

Si vous avez des questions, veuillez contacter Mme Rosa Patricia Larios à l'adresse patricia.larios.francia@gmail.com.

Je (nom complet) *

Texto de respuesta corta

Je donne mon accord pour participer à la recherche et je suis conscient que ma participation est entièrement volontaire. *

Je donne mon accord

Je ne donne pas mon consentement

DONNÉES GÉNÉRALES DE L'ENTREPRISE



Description (optionnel)

Nom de l'entreprise *

Texte de réponse large

Secteur économique *

- Primaire (activités économiques liées à l'extraction et à la transformation des ressources naturelles en pr...
- Secondaire (activités artisanales et manufacturières, industrie des biens de production, des biens de con...
- Tertiaire (services à la société et aux entreprises, du petit commerce à la haute finance)

Principale activité économique (description) *

Texte de réponse large

Position au sein de l'entreprise *

Texte de réponse courte

Sexe *

- Femelle
- Mâle
- Je préfère ne pas le dire

Niveau d'études de l'administrateur ou du directeur de l'entreprise *

- Primaire
- Secondaire
- Technique
- Université
- Troisième cycle

Nombre d'années d'activité de l'entreprise *

Texte de réponse courte

Expérience du directeur dans le secteur d'activité de l'entreprise (en années) *

Texte de réponse courte

Adresse de l'entreprise (État, région ou province) *

Texte de réponse large

Économie membre de l'APEC *

- Chili
- Mexique
- Pérou
- Canada
- Thaïlande

Téléphone de contact ou téléphone portable (y compris l'indicatif du économie member) *

Texto de respuesta corta

Adresse électronique du contact *

Texto de respuesta corta

Site web de l'entreprise ou instagram ou facebook (si vous n'avez pas de réseaux sociaux, veuillez mettre NN). *

Texto de respuesta larga

Taille de l'entreprise selon la classification de votre économie member (micro, petite ou moyenne entreprise), Coopérative *

- Micro-entreprise
- Petite
- Moyenne
- Coopérative

Combien de personnes sont actuellement employées dans votre entreprise ? *

- 1 à 5
- 6 à 10
- 11 à 20
- 21 à 50
- 51 à 100
- Plus de 100

LES CONCEPTS DE LA TRANSFORMATION NUMÉRIQUE

Numérisation

La numérisation désigne le processus de conversion d'informations analogiques en format numérique, l'offre de nouveaux services par le biais de canaux virtuels ou la mise en place de nouveaux systèmes (Costa Melo et al., 2023).

Transformation numérique

La transformation numérique est un processus par lequel les organisations utilisent les technologies numériques pour influencer tous les aspects de la vie des clients, améliorer l'efficacité et l'efficacité de leurs processus commerciaux, ainsi que pour créer de nouveaux modèles commerciaux et des améliorations commerciales (Costa Melo et al., 2023). La transformation numérique implique non seulement l'utilisation de la technologie, mais aussi des changements culturels, un état d'esprit innovant, l'adaptation de l'ensemble de l'organisation (Guo & Chen, 2023).

Después de la sección 3 - Ir a la siguiente sección

DOMAINES D'APPLICATION DE LA TRANSFORMATION NUMÉRIQUE

Où appliquez-vous la transformation numérique pour améliorer l'efficacité et l'efficacité de vos processus opérationnels ?

Visibilité de l'entreprise (présence sur internet) *

- Site web
- Profil des médias sociaux

Marketing numérique *

- Publicité en ligne
- Marketing par courrier électronique
- Optimisation des moteurs de recherche pour améliorer la visibilité en ligne et atteindre de nouveaux clien...

Automatisation de la gestion d'entreprise *

- Gestion comptable
- Gestion des ressources humaines
- Gestion de projet
- Processus de facturation

Automatisation des processus opérationnels *

- Ingénierie, méthodes et gestion du temps
- Gestion de l'ordonnancement et du contrôle de la production
- Gestion des indicateurs d'efficacité et de productivité

Automatisation des processus d'assistance *

- Gestion des achats
- Gestion des devis
- Gestion des stocks

Analyse des données *

- Analyse des ventes
- Analyse de la clientèle
- Analyse de la production
- Analyse des coûts
- Prédiction des données

LUTILISATION D'OUTILS NUMÉRIQUES



Avez-vous utilisé l'un des outils numériques suivants pour développer vos activités professionnelles ?
 Si ce n'est pas le cas, seriez-vous prêt à utiliser l'un d'entre eux ?
 (vous pouvez cocher plus d'une option par ligne)

Outils de gestion numérique des entreprises *

	Je n'ai jamais utilisé	Si j'utilise	J'aimerais l'utiliser	Je ne voudrais pas...
GanttProject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Google Sheets (Ex...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Google Workspace	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quickbooks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trello	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wave	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calendar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Outils de marketing numérique *

	Je n'ai jamais utilisé	Si j'utilise	J'aimerais l'utiliser	Je ne voudrais pas...
Canva	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WordPress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Optimisation des ...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mailchimp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analytics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hootsuite	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CRM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Outils numériques de commerce électronique *

	Je n'ai jamais utilisé	Si j'utilise	J'aimerais l'utiliser	Je ne voudrais pas...
WooCommerce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Magento	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shopify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercado Pago	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paypal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Outils d'analyse des données numériques *

	Je n'ai jamais utilisé	Si j'utilise	J'aimerais l'utiliser	Je ne voudrais pas...
Google Analytics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HubSpot CRM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tableau	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Microsoft Power BI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Machine Learning ...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Outils d'automatisation des processus numériques *

	Je n'ai jamais utilisé	Si j'utilise	J'aimerais l'utiliser	Je ne voudrais pas...
Airtable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zapier	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IFTT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Automate.io	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Outils numériques pour les processus logistiques *

	Je n'ai jamais utilisé	Si j'utilise	J'aimerais l'utiliser	Je ne voudrais pas...
Shippocket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OpenBoxes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Route4Me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipstation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Outils de communication numérique *

	Je n'ai jamais utilisé	Si j'utilise	J'aimerais l'utiliser	Je ne voudrais pas...
Zoom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Google Meet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Skype	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Microsoft Teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Outils numériques pour les moyens de paiement ou portefeuilles numériques *

	Je n'ai jamais utilisé	Si j'utilise	J'aimerais l'utiliser	Je ne voudrais pas...
FPay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercado Pago	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Banca Móvil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Khipu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Yape	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PicPay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nubank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pagbank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interac	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Outils numériques pour le renforcement des capacités ou la formation *

	Je n'ai jamais utilisé	Si j'utilise	J'aimerais l'utiliser	Je ne voudrais pas...
Crehana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coursera	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Youtube	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TikTok	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Google Classroom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moodle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Edmodo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

...

Avez-vous expérimenté l'une des places de marché suivantes ? *

	Je n'ai jamais utilisé	Si j'utilise	J'aimerais l'utiliser	Je ne voudrais pas...
Mercado Libre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amazon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
eBay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Target	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Walmart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moodle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Edmodo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Etsy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Handmade at Ama...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sección 6 de 9

LACUNES ET OBSTACLES À LA TRANSFORMATION NUMÉRIQUE

Descripción (opcional)

Dans quelle mesure êtes-vous d'accord pour dire que les éléments suivants constituent des obstacles et des lacunes pour initier un processus de transformation numérique réussi dans votre entreprise ou celle des MPME et des coopératives dans les économies de l'APEC ?

	En désaccord t...	En désaccord	Ni d'accord ni e...	Il s'agit d'un ac...	Je suis tout à f...
Absence de res...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Absence de sa...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manque de res...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Absence de cul...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problèmes d'in...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manque de tec...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manque de séc...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Résistance au ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Absence de no...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manque de sou...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manque de do...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sección 7 de 9

LES BESOINS POUR UNE TRANSFORMATION NUMÉRIQUE RÉUSSIE

Descripción (opcional)

Considérez-vous que l'un de ces éléments est important pour la réussite du processus de transformation numérique dans les MPME et les coopératives des économies de l'APEC ?

	En désaccord t...	En désaccord	Ni d'accord ni e...	Il s'agit d'un ac...	Je suis tout à f...
Engagement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership en ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identification d...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investissement...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investissement...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investissement...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mettre l'accent ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collecte et ana...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Culture d'entre...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suivi des quest...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

PLATE-FORME NUMÉRIQUE D'APPRENTISSAGE EN LIGNE



Les plateformes d'apprentissage en ligne font partie intégrante du processus de transformation numérique de l'éducation, car elles permettent l'apprentissage à distance, la personnalisation de l'apprentissage et la collaboration en ligne, conduisant à une expérience éducative plus flexible, accessible et interactive.

...

Quels "modules" de contenu pensez-vous qu'une plateforme éducative numérique devrait inclure dans le but de développer et de renforcer les capacités de transformation numérique des PMME et des coopératives dans les économies de l'ASEAN ?

	Sans importan...	Pas très impor...	Quelque chose...	Important	Très important
Introduction à l...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diagnostic nu...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stratégies num...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outils numériq...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outils de mark...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outils de com...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outils d'analys...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outils pour l'au...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outils de gesti...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sécurité numér...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Innovation nu...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Success storie...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mesurer les pr...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Évaluations et r...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Certificats	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Quelles sont les caractéristiques que vous appréciez et considérez comme importantes dans une plateforme numérique éducative ? *

	Sans importan...	Pas très impor...	Quelque chose...	Important	Très important
Contenu actual...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conception int...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accessibilité	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flexibilité	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personnalisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interaction et c...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sécurité et vie ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Multi-langues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gratuit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outils et resso...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

!!!

Quels outils d'interaction et de collaboration souhaiteriez-vous trouver dans une plateforme d'apprentissage en ligne pour la transformation numérique ? *

	Sans importan...	Pas très impor...	Quelque chose...	Important	Très important
Forums de disc...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Webinaires	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chats	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Questions fréq...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vidéoconféren...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adresse élect...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sección 9 de 9

MERCI BEAUCOUP POUR VOTRE IMPORTANTE PARTICIPATION



Descripción (opcional)