

E-commerce sustainability strategy in the entrepreneurship Victoria de Durango, Dgo. Mexico

Comercio electrónico estrategia de sostenibilidad en el emprendimiento Victoria de Durango, Dgo. México

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Abstract

Electronic commerce is the purchase - sale of products and / or services using electronic means, it has been a business strategy that entrepreneurship has used as an alternative of sustainability in the face of the conditions of the new normal. The objective of the study is to analyze electronic commerce as a sustainability strategy of entrepreneurship in the city of Victoria de Durango, Dgo. A quantitative approach was used for the research, with a descriptive, explanatory and correlational design and a cross-sectional scope. The sample was made up of 253 enterprises located in the city of Victoria de Durango. The results show that entrepreneurs made use of information technologies to implement electronic commerce, social networks as part of electronic commerce to promote and publicize their products and / or services and invested in training to strengthen this commercial strategy of sustainability. For entrepreneurs, the implementation of e-commerce in their business was part of the search for opportunities to remain in the highly competitive market. The information generated from this research will serve as background for future studies related to electronic commerce and entrepreneurship such as the importance of digital transformation in entrepreneurship, the importance of organizational culture in technological change in entrepreneurship.

E-commerce, Entrepreneurship, Organizational culture, Search for opportunities, Information and communication technologies

Resumen

El comercio electrónico es la compra - venta de productos y/o servicios haciendo uso de medios electrónicos, ha sido una estrategia empresarial que el emprendimiento ha usado como alternativa de sostenibilidad ante las condiciones de la nueva normalidad. El objetivo del estudio es analizar el comercio electrónico como estrategia de sostenibilidad del emprendimiento en la ciudad de Victoria de Durango, Dgo. Para la investigación se usó un enfoque cuantitativo, con un diseño descriptivo, explicativo y correlacional y un alcance transversal. La muestra quedó conformada por 253 emprendimientos ubicados en la ciudad de Victoria de Durango. Los resultados muestran que los emprendedores hicieron uso de tecnologías de información para implementar el comercio electrónico, de las redes sociales como parte del comercio electrónico para promocionar y dar a conocer sus productos y/o servicios e invistieron en capacitación para fortalecer esta estrategia comercial de sostenibilidad. Para los emprendedores la implementación del comercio electrónico en sus negocio fue parte de la búsqueda de oportunidades para permanecer en el mercado tan competido. La información generada de esta investigación servirá como antecedentes para futuros estudios relacionados con comercio electrónico y emprendimiento como la importancia de la transformación digital en los emprendimientos, la importancia de la cultura organizacional en el cambio tecnológico en los emprendimientos.

Comercio electrónico, Emprendimiento, Cultura organizacional, Buscar oportunidades, Tecnologías de la información y comunicación

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Introduction

The digital revolution has generated an increase in changes that have led to a transformation of the economy. At the end of the 1980s, with the use of the internet, the transformation towards the automation of business models began, through the use of digital platforms (Alejos & Pérez, 2022). Currently, forms of business activities are being sought that incorporate other dimensions, such as social and environmental (ECLAC, 2021), and that also incorporate value propositions in products and services (Alejos & Pérez, 2022).

In addition to this transformation, new challenges have arisen, such as the COVID-19 pandemic, which has immobilised and transformed the world in an inconceivable way. These exchanges have promoted the use of digital tools in the face of the economic shock we are experiencing, with e-commerce being the most popular (Misas, Silva & Ruiz, 2021).

E-commerce in the face of the new normal has come to revolutionise and generate competitive advantage in business ventures. In the business world, businesses must be competitive, as this is the only way to remain in today's highly competitive markets. That is why, when creating an organisation or enterprise, the best business strategy to follow must be chosen, as this is of utmost importance to achieve success, no company can be competing without a mission, without objectives, without goals and without the necessary strategies to achieve these objectives, so it is very important that the decision is thoroughly analysed (Nevárez, Hernández, Sierra & Reyes, 2021).

In this sense and according to Porter, the characteristics of the environment make it possible to increase innovation and quality of business processes, success is based on the strategic relationships maintained and the ability of enterprises to innovate, at this point it is important to note that one of the fundamental pillars of any business that wants to grow, develop and consolidate, is its ability to innovate and adapt to change, attention should be paid to the product, design, marketing and distribution of products; This allows managers to isolate the sources of value related to price (Villarreal, 2022).

In relation to entrepreneurship, the emphasis is on the creation and understanding of commercial opportunities to add value, these can have two externalities, one of which can be beneficial or detrimental to the welfare of society and third parties; whereby consumers and stakeholders have the responsibility to generate social change, being in this case sustainable entrepreneurship that provides a different outcome, contributing to social transformation and balancing the pattern of economic growth (Hummels and Argyrou, 2021). Currently this new approach entered a new phase of development within the era of digital technology, influenced by the innovative tendencies of entrepreneurs who must evaluate, create, track and identify business value opportunities taking the possible risks (Kurniawati, E., Al Siddiq, I. H., and Idris, F., 2020), under this approach, the implementation of e-commerce as a sustainability strategy has come to strengthen entrepreneurship under the conditions of the new normality, therefore, the strategy must be real and achievable otherwise the venture will not be able to carry it out (Nevárez, Hernández, Sierra & Reyes, 2021) and this will impact on the survival of the same.

Entrepreneurship as a pillar of economic and social development has been studied and analysed in aspects such as how it is produced, how products and services are promoted and how they are sold to customers. E-commerce is a bridge between the digital society and the transition to a sustainable economy (Ecommerce Europe, 2021).

However, the reality of each country, state, municipality or city, as is the case of Victoria de Durango, Durango, and the economic systems are different, so e-commerce has developed in different ways in these environments, which has led to and brought with it a number of aspects to consider (Misas, Silva & Ruiz, 2021) so that businesses can implement it as a strategy for sustainability in the face of the new normality. Given these precedents, the objective of this study is to analyse e-commerce as a sustainability strategy for entrepreneurship in the city of Victoria de Durango, Dgo.

Concept of e-commerce

The fourth digital revolution has given rise to an evolution for human beings that thrives without precedent, bringing about changes in the lifestyles of consumers and entrepreneurs. These changes do not mean an exception for the commercial sphere; on the contrary, they propose a transformation in the industry, for those who choose to adapt to this new lifestyle by offering sustainable products and services, which fit both conventional media and new technologies (Misas, Silva & Ruiz, 2021). This transition has been a challenge for all, especially for companies worldwide, as they must make improvements in their standards to mitigate the impact of their operations (Misas, Silva & Ruiz, 2021).

The World Trade Organization (1998) defines e-commerce as the production, distribution, marketing, sale or delivery of goods and services by electronic means (WTO, 1998).

The Organisation for Economic Co-operation and Development (2011) conceptualises e-commerce as the buying or selling of goods or services over computer-mediated networks, whether between businesses, households, individuals, governments and other public or private organisations.

Vanhoose (2003) describes it as any process that involves the exchange of property or the use of rights to goods and services electronically by linking devices and communicating interactively within the network.

E-commerce is a commercial business model where individuals interact electronically, without having to go in person to a physical shop; this type of business model desisted from offering products or services through simple catalogues in immovable pages, becoming an indispensable channel through which sales and profits are made that benefit entrepreneurs; serving as a business model for different areas of companies at national and international level (Mora, 2019)

According to Sánchez (2015, cited in Sumba et al., 2020), they argued that e-commerce has generated opportunities and benefits for companies, reaching users more quickly and accurately, managing to eliminate barriers and intermediaries, without the need to spend a lot of money.

In these definitions, two important elements can be identified: the use of technology and commercial exchange, which generates the activity of buying and selling or the exchange of goods or services using information technologies.

The users of Information and Communication Technologies with the increase in their use has given rise to a great diversity of interactions in their application, four forms of electronic commercial exchange are recognised: consumer to business e-commerce (C2B), business to consumer e-commerce (B2C), consumer to consumer e-commerce (C2C) and business to business e-commerce (B2B), the two most notable being B2C e-commerce and B2B e-commerce (Misas, Silva & Ruiz, 2021).

The first type is where entrepreneurs or a digital specialist, through an e-shop, provide potential consumers with their products or services. In the second, business-to-business transactions take place. Organisations make electronic purchases from their suppliers, who have developed websites or applications tailored to their business such as online shopping platforms (Misas, Silva & Ruiz, 2021).

Concept of Entrepreneurship

Talking about entrepreneurship is very interesting, even more so in the critical times that humanity is facing due to COVID 19, which is why it is of great interest nowadays (Jurado-Paz, 2022).

Entrepreneurship is a concept of recognised importance nowadays that plays an essential role in the economic development of a country and in social cohesion, as it represents a vehicle for personal development and offers the opportunity to improve employability (Krauss, 2011; Marina, 2010; Raposo and Paço, 2011; Rodríguez and Prieto, 2009).

Entrepreneurship is currently considered as a tool for states to promote economic, social, productive and even cultural development within the territories, however, despite the benefits of this trend, there are still considerable challenges for the contributions obtained to be truly sustainable and impactful (Jurado-Paz, 2021).

Entrepreneurship refers to the ability to start from scratch to create a project, an initiative or a business (Morales-López & Espitia-Rodríguez, 2021).

Entrepreneurship is the human capacity to start their own initiatives, lead them and make them the ideal scenario to benefit not only the individual but society in general. (Jurado-Paz, 2022).

Entrepreneurship is that attitude and aptitude of each university student that helps to initiate new projects and challenges (Machaca-Huancollo, Larico-Mamani, Condori-Cari & Coila-Alcocer, 2021).

There are also other perspectives that broaden the concept such as: Entrepreneurship means using creativity and applying innovative ideas to make a difference in the community by addressing a need or creating a socially conscious business and entrepreneurship is a way of thinking that extols collaboration, risk-taking and activation (Morales-López & Espitia-Rodríguez, 2021).

Ventures must adapt to technological advances to become more profitable (Castro, Bourne, Véliz & Ramírez, 2021).

Conceptualising sustainability

The word sustainable stands for something that is able to be preserved or reproduced by its own particularities without external support. The term can be applied to various issues: production methods, economic processes, among others (Isabel, Alarcón, Ronald & Johanna, 2016).

Sustainability is a complicated concept that goes beyond the environmental concept. It is an activity that seeks to satisfy economic, social, cultural diversity and healthy environmental needs. Although sustainability is a relatively new phenomenon, it has become a focus of attention in recent years as it has been proven that the development of sustainable ventures is not only the most feasible way to care for and preserve the planet, but also a new way to grow economically and add value to businesses (Montero & Laguardia, 2022).

Sustainability in business has a meaning of balance in the economic and social spheres. According to Ricart (2016), the search for sustainability requires a paradigm shift, which aims to involve changing the values of companies, i.e. instead of thinking that maximising shareholder value is the ultimate value of companies, it is about a change, a new vision where the company becomes aware of society, with the aim of surviving in the face of adverse circumstances. In this context, the main benefit is to achieve survival through productivity and wealth creation, affecting entrepreneurship and society in general.

Sustainability is the balance achieved by ventures during the different stages of the entrepreneurial process in their aim to survive in the face of the various obstacles presented and whose main consequence is survival.

Despite the importance of entrepreneurial activity, the generation of a significant impact on the economy implies guaranteeing the sustainability over time of the ventures and therefore the generation of value, but what is evident in reality is that a high percentage of these companies disappear in the short term (Sepúlveda & Reina, 2016).

E-commerce as an entrepreneurial sustainability strategy

A business strategy for sustainability is a process of discovery and innovation and continuous improvement based on business plans and actions that chart the course of an organisation. It is important to establish business strategies according to the needs of each organisation in order to obtain a competitive advantage that will allow the company's objectives to be met (Alaña et al., 2018).

E-commerce is a strategy that gives the company its development, expanding borders, reaching more customers, providing customer advice, marketing in a practical, fast and simple way, thus obtaining customer satisfaction and subsequent customer loyalty (Carrión-Carrión, Muñoz-Jimbo, Romero-Black & Mora-Sánchez, 2021).

E-commerce as a sustainability strategy provides a number of benefits to both companies and users, so that this tool allows efficient interaction in which the time of the company and the customer is optimised in the processes of purchase, sale by its ease of access to any virtual platform and thus provide a better service as the advice that is given as soon as the customer wants information of such product or service (Guzman and Abreo, 2017).

Globally e-commerce plays an important role in companies; by 2021 micro businesses will have a remarkable growth until 2022, currently Latin America leads in e-Commerce however in recent periods has obtained much profitability by this means, regionally Brazil leads the market with more than 28,000 million in sales using e-commerce as a tool in 2018, in second place is Mexico with 18,000 million at the same time Argentina earned 11,000 million and Colombia 6,000 million in profits from online product sales (Guerrero, 2019).

E-commerce as a sustainability strategy for entrepreneurship has become an essential factor, within the framework of the COVID-19 pandemic, where the main reason is to establish means of communication between companies and consumers, thus demonstrating a significant increase in sales in the ventures that already apply it; however, new companies face a great challenge in having to sacrifice their resources, which could be limited in order to obtain more sales (Unzueta, Hilares, Gumán & Wong, 2022).

Methodology

Taking into account the requirements established by the National Council of Science and Technology (CONACYT), the study is in the area of social sciences, in the field of administration and business; discipline: administration and management; sub-discipline: innovation management.

The research was carried out in the city of Victoria de Durango, the municipal capital of the municipality of Durango and capital of the state. The city has a population of 616,068 inhabitants according to the 2020 results of the XIV Population and Housing Census of the National Institute of Statistics and Geography (INEGI, 2020), it ranks 30th among the most populated cities in the country. It is located between the parallel 23°57' and 24°05' north latitude, between the meridians 104°33' and 104°43' referring to Greenwich (Inafed, 2016). The valley where it is located has an area of approximately 700 km² and is bordered to the north by the valley of Canatlán, to the south and west by the Sierra Madre Occidental, to the southeast by the Sierra del Registro and to the east by the plains area bordering it with a series of hills and elevations (Inafed, 2016) (See figure 1).



Figure 1 Geographical location of the study subject
Source: INEGI/CONABIO, (2010)

The study began with a literature review, which allowed the construction of the research context, as well as the strengthening of the theoretical framework on the topics of e-commerce, entrepreneurship and e-commerce as a sustainability strategy for entrepreneurship under the conditions of the new normality.

The approach of this work is quantitative, where the variables of e-commerce as a sustainability strategy and entrepreneurship were analysed.

The research design is correlational by establishing the relationship between the variables of the study. It is descriptive and explanatory in that it seeks to specify properties, characteristics and important features of the phenomenon, event, community, context or situation being analysed, non-experimental, as no manipulation of the variable is carried out (Hernández et al., 2017).

The scope is cross-sectional, i.e. the collection of information was carried out in a single period of time.

The technique used to collect the information was the survey and the instrument used was the questionnaire.

The design of the survey was based on the operationalisation of the variables after an exhaustive literature review (see table 1). The questionnaire consists of 50 questions to analyse each of the research variables (e-commerce as a strategy for sustainability and entrepreneurship), five questions for each factor of analysis, using the Likert scale, with the following values depending on the case, 0 totally disagree, 1 Disagree, 2 I am indifferent, 3 Agree and 4 Totally agree.

Variable	Factor
E-commerce as a sustainability strategy	Organisational culture
	Use of social networks
	Use of Information and Communication Technologies
	Knowledge in the use of Information and Communication Technologies
	Change of consumption patterns
Entrepreneurship	Taking Risks
	Initiative
	Perseverance
	Independence
	Seek Opportunities

Table 1 Variables of the subject of study and their factors of analysis

Source: Own elaboration, (2022)

To assess the validity of the questionnaire, the technique of expert judgement was applied, where their feedback allowed the instrument to be strengthened.

Subsequently, a pilot test was carried out and the reliability of the instrument was analysed using Cronbach's Alpha coefficient, obtaining a value of .901, which is considered to be a strong reliability.

The sample was determined from the population, with a confidence level of 95% and an error of 5%, as well as the type of sampling. Non-probability convenience sampling was used, considering the characteristics of the sample. The sample was determined following the inclusion criterion: enterprises in the city of Victoria de Durango, and consisted of 250 enterprises.

The information was collected through a formal request to the different subjects of the study.

Once the survey was applied, the database was created in Excel and then imported into SPSS ver. 25 for data processing, analysis and interpretation.

Results and discussion

This section shows the results obtained from this research whose objective is to analyse e-commerce as a strategy for sustainability in entrepreneurship in the city of Victoria de Durango, Dgo. Mexico. Once the fieldwork had been carried out, in which 253 entrepreneurs, owners of these enterprises in the state capital, were surveyed, the database was compiled and analysed, and the results are presented in the following sections: characterisation of the entrepreneurs who own the enterprises under study, characterisation of the enterprises surveyed, descriptive and statistical analysis of the factors and variables of the subject of the study.

Characterisation of the entrepreneurs who own the ventures under study

The characterisation of the entrepreneurs studied shows the most significant attributes of the sample studied, which are mentioned below: the average age of the entrepreneurs is 34.6 years; 53% (134) belong to the male gender while 47% (119) belong to the female gender, showing a reduction in this gap and with it the empowerment of women as the breadwinners of their families. In relation to marital status, 42% (106) are married, while 33% (84) are single.

Academic degree is another important factor, which shows that 23% (58) have primary school, 28% (71) secondary school, 25% (63) high school and 20% (51) bachelor's degree and only 4% (10) postgraduate degree. Regarding the socio-economic level, the data show that 88% (223) have an intermediate level. These data are shown in table 2.

N		253
Factor	Indicator	Value
Gender	Female	47% (119)
	Male	53% (134)
Marital Status	Single	33% (84)
	Married	42% (106)
	Unmarried	21% (53)
	Widowed	4% (10)
Academic degree	Primary	23% (58)
	Secondary	28% (71)
	High school	25% (63)
	Bachelor's degree	20% (51)
	Postgraduate	4% (10)
Socio-economic status	High	8% (20)
	Medium	88% (223)
	Low	4% (10)

Table 2 Characterisation of the entrepreneurs surveyed.
Source: Own elaboration, (2022)

Characterisation of the enterprises surveyed

Of the enterprises studied, 86% (218) are micro, i.e., they have 0 to 10 employees and an average annual sales of up to 4 million pesos (DOF, 2009), while 12% (30) are small, with 11 to 50 employees and an average annual sales of 4.01 to 100 million pesos (DOF, 2009). Regarding the type of organisation, 23% (58) are ventures created and run by family members; in relation to the stage of the venture, 43% (109) are in start-up and growth, i.e. have an average age of 3 years, 38% (96) are in consolidation with an age of more than 3 years, but less than 10 years and 19% (48) are in expansion with an age of more than 10 years; 58% (147) of the surveyed enterprises belong to the service sector, 32% (81) to the consumer sector; 73% (185) of the enterprises in the study sample were created out of necessity, showing that they were created seeking to generate immediate income and their creation was done with very little rigidity in terms of the analysis of the business idea. These results are shown in table 3.

N		253
Factor	Indicator	Value
Firm size	Micro	86% (218)
	Small	12% (30)
Factor	Medium	2% (5)
	Non-family	77% (195)
Type of organisation	Family	23% (58)
	Non-family	77% (195)
Stage of entrepreneurship	Idea	0% (0)
	Start-up and growth	43% (109)
	Consolidated	38% (96)
	Expansion	19% (48)
Turn	Services	58% (147)
	Industrial	8% (20)
	Consumer	32% (81)
	Transformation	2% (5)
Type of enterprise	By necessity	73% (185)
	By opportunity	27% (68)

Table 3 Characterisation of the surveyed enterprises
Source: Own elaboration, (2022)

Descriptive statistical analysis of the variables e-commerce as a strategy for sustainability and entrepreneurship

For the e-commerce variable, the most significant factor was Organisational Culture with a mean of 4.6 ± 0.3 , indicating that the implementation of e-commerce in the ventures implies a change in organisational culture and at the time there was resistance to this change. In this order, the next significant factor was the Use of Information and Communication Technologies with a mean of 4.5 ± 0.5 , which shows that the entrepreneurs had to make use of technological tools to automate their processes; then the Use of Social Networks factor with a mean of 4.4 ± 0.5 , which explains that they have been an option to promote themselves and an alternative to e-commerce sales at no extra cost. Along the same lines, the factors of Knowledge in the use of Information and Communication Technologies and Change of consumption patterns with a mean of 4.3 ± 0.5 , the competences and knowledge in information technologies of the collaborators and as a group were the decisive force in determining the success of this sustainability strategy such as e-commerce. In addition to this, the change of patterns experienced by consumers also influenced the cultural change by talking organisationally and implementing e-commerce as part of the sustainability of the venture under the conditions of the new normality.

For entrepreneurship, the factor that presented the greatest significance for the entrepreneur was Seek Opportunities with a mean of 4.5 ± 0.3 , showing that e-commerce has been part of the opportunities that entrepreneurs sought as a sustainability strategy; the next significant factor was Take Risk with a mean of 4.3 ± 0.4 , showing that entrepreneurs decided to take the risk of investing in information technologies to automate their processes to buy and sell their products and/or services. In this order of significance was the Initiative factor with a mean of 4.2 ± 0.5 , showing that entrepreneurs must have the capacity to transform and innovate within the businesses created. These results are shown in table 4.

Variable	Factor	Media σ
E-commerce as a sustainability strategy	Organisational culture	4.6 ± 0.3
	Use of social networks	4.4 ± 0.5
	Use of Information and Communication Technologies	4.5 ± 0.5
	Knowledge in the use of Information and Communication Technologies	4.3 ± 0.5
	Change of consumption patterns	4.3 ± 0.5
Entrepreneurship	Taking Risks	4.3 ± 0.4
	Initiative	4.2 ± 0.5
	Perseverance	3.8 ± 0.5
	Independence	4.1 ± 0.7
	Seek Opportunities	4.5 ± 0.3

Table 4 Factors for the variables e-commerce as a strategy for sustainability and entrepreneurship
Source: Own elaboration, (2022)

Inferential statistical analysis of the variables e-commerce as a strategy for sustainability and entrepreneurship

The Eta squared coefficient (η^2), shows the association between the factors considered to evaluate the variables considered in a study, in which there is an independent variable and a dependent variable. A strong effect was observed for each of the factors used to analyse e-commerce as a strategy for sustainability and entrepreneurship.

Analysing the e-commerce variable, the factor with the strongest association is Organisational Culture with a squared Eta of 0.656, explaining that the organisational culture of the enterprises has been an impediment to the implementation of e-commerce, breaking traditional cultural paradigms for some entrepreneurs has not been easy, they have had to make changes in their organisational structure, in their processes; then the factor of Use of Information and Communication Technologies with a squared Eta of 0.536, businesses have had to automate their processes, streamlining and facilitating accessibility to information, influencing the reduction of their costs and an approach to their customers through the design of sales strategies to meet their demands.

Then the factor Use of Social Networks with a square Eta value of 0.511, this factor together with the previous one complements the process of buying and selling products and / or services offered by electronic media of these enterprises studied; the factor with significance in this order of association was Knowledge in the use of Information and Communication Technologies with a square Eta value of 0.498, showing that in addition to the use of social media, the factor Use of Information and Communication Technologies was also significant. 498, showing that in addition to investment in technology, the entrepreneurs also invested in training to face and overcome resistance to technological change and to keep up with the demands of the new normal. And finally, the factor of Change in consumption patterns with a squared Eta of 0.306, indicating that companies have had to create tailor-made services and/or products, taking into account the needs of consumers, since e-commerce has been reactivated and has become a sustainability strategy for companies.

For the entrepreneurship variable, the factor with the highest association was Seek Opportunities with a squared Eta value of 0.697, this shows that entrepreneurs through e-commerce sought new opportunities for growth, development, consolidation and expansion; followed by the Initiative factor with a squared Eta value of 0.636, indicating that the ventures have innovated in their different activities, including the implementation of e-commerce to buy and sell products and/or services; then in this order of association, the Risk Taking factor with a squared Eta of 0.634, this explains that entrepreneurs have had to create services and/or products tailored to the needs of consumers, since e-commerce was reactivated and has become a sustainability strategy for the companies. 634, which explains that the entrepreneurs, faced with the conditions of the new normality, had to take the risk and implement e-commerce in their businesses in order to remain in the market, which is why they invested in information technologies and digital platforms, in training, and changed their organisational structure to enter this new business model.

Then the Independence factor with a squared Eta of 0.441, explaining that the implementation of e-commerce within the entrepreneurial activity generates freedom in the operational activities of the businesses. These results are shown in table 5.

Partnership measures			
Variable	Factor	Eta	Square Eta
E-commerce*Organisational culture		0.837	0.656
E-commerce*Use of Social Media		0.721	0.511
E-commerce*Use of Information and Communication Technology		0.737	0.536
E-commerce*Information and Communication Technology skills		0.698	0.498
E-commerce*Changing consumption patterns		0.537	0.306
Entrepreneurship* Risk-taking		0.793	0.634
Entrepreneurship* Initiative		0.796	0.636
Entrepreneurship * Perseverance		0.549	0.312
Entrepreneurship * Independence		0.559	0.441
Entrepreneurship* Seek Opportunities		0.898	0.697

Table 5 Measures of association between the variables of e-commerce as a sustainability and entrepreneurship strategy and their factors
 Source: Own elaboration, (2022)

Correlation analysis of the variables of e-commerce as a sustainability strategy and entrepreneurship

Correlation analysis indicates whether two variables are related. In this case the results show that e-commerce as a sustainability strategy and entrepreneurship are related, i.e. if the value of e-commerce increases, entrepreneurship will also increase (see table 6). Translated to the operational part of the study, this indicates that the implementation of e-commerce in businesses has been a positive sustainability strategy, which has allowed them to survive, develop, consolidate and expand in today's competitive markets.

Correlations			
E-commerce	Entrepreneurship		
E-commerce	Pearson correlation	1	.895**
	Sig. (one-sided)		.000
	N	253	253
Entrepreneurship	Pearson correlation	.895**	1
	Sig. (one-sided)	.000	
	N	253	253

Table 6 Correlation analysis of the variables of e-commerce as a sustainability strategy and entrepreneurship
 Source: Own elaboration, (2022)

Conclusions

The study fulfils the objective: to analyse e-commerce as a strategy for the sustainability of entrepreneurship in Victoria de Durango, Durango, Mexico, in this sense, once the study variables were analysed, the entrepreneurs in the city of Victoria de Durango, Dgo. Mexico, the results show that the average age of the entrepreneurs is 34.6 years; 53% (134) belong to the male gender while 47% (119) belong to the female gender, observing a reduction in this gap and with it the empowerment of women as the breadwinner of their families; the data show that 88% (223) have a medium socioeconomic level.

Of the enterprises studied, 86% (218) are micro, i.e. they have 0 to 10 employees and an average annual sales of up to 4 million pesos (DOF, 2009), 23% (58) are enterprises created and run by family members; 58% (147) of the enterprises surveyed belong to the service sector, 32% (81) to the consumer sector, 73% (185) of the enterprises surveyed belong to the service sector, 32% (81) to the consumer sector and 73% (185) of the enterprises surveyed are micro enterprises; 73% (185) of the enterprises in the study sample were created out of necessity, showing that they were created seeking to generate an immediate income and their creation was done with very little rigour in terms of the analysis of the business idea.

Given the conditions of the new normal, the enterprises implemented sustainable business strategies aligned with the use of e-commerce, the use of social networks such as Facebook, WhatsApp and digital platforms, assuming with responsibility and commitment their activity to meet the demands of consumers and society in general.

On the other hand, these ways of doing business have led to the optimisation of resources in the operation of enterprises, operating costs have been reduced, teleworking has regained value and in some cases entrepreneurs have stopped paying rent, under a sustainable development model that entrepreneurs could take into account in order to adopt on a permanent basis.

E-commerce as an aid to entrepreneurship had to break traditional paradigms of buying and selling, where the organisational culture of these had to undergo changes in order to implement it, as explained in the results section, where it is shown that it was the most significant factor in the e-commerce variable.

This e-commerce tool contributes significantly to the economic development of the enterprises as it allows them to generate income through both virtual and traditional sales, without doubt the use of Information and Communication Technologies has come to transform the way of doing business, being in the analysis the second most significant factor for the e-commerce variable.

The use of Social Media as part of the marketing strategy in the implementation of e-commerce by the enterprises complemented the business strategy.

Knowledge in the use of Information and Communication Technologies had to be strengthened, so entrepreneurs had to invest in training to prepare their employees and make e-commerce as a sustainability strategy more efficient and effective.

The change in consumption patterns meant that businesses have had to create tailor-made services and/or products, taking into account the needs of consumers, as e-commerce was reactivated and has become a sustainability strategy for companies.

The study also shows that entrepreneurs, faced with the conditions of the new normality, had to look for opportunities to remain in the market and in this search, e-commerce was an alternative solution and a sustainability strategy. Along the same lines, the initiative factor allowed them to innovate in the different buying and selling activities within their businesses, and they also decided to take risks and invest in infrastructure and information technologies, digital platforms, social networks and training to face the change in patterns and meet the demands of society, in addition to the above, the security of transactions required by e-commerce has also been an aspect that entrepreneurs have decided to address.

In conclusion, the implementation of e-commerce in entrepreneurship has been a positive sustainability strategy, which has allowed them to survive, develop, consolidate and expand in today's competitive markets.

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