



## Digital Transformation in Ecuador COVID-19 Pandemic as an accelerator to E-Commerce

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### Abstract

Following the study on digital transformation that Ecuador has been experiencing in the first year of the COVID-2021 Pandemic, this report submits the growth prospect of e-commerce, marketing and digital advertising. This study is based on the quantitative data published by the metrics of digital communication that take as a starting point statistics gathered from the study of the World Internet Project. Which from the theoretical approach of the Human Ecology of Communication of Ecuador, seeks the endogenous and exogenous particularities of communication behavior in Ecuadorian society, explaining the accelerated process of digital transformation. Ecuador's e-commerce growth of 54% reached 2.2 billion dollars in sales, compared to 2019, and with preference channels for purchases made by Whatsapp in 49%, Apps 44% and Websites 35%. The main volume of visits for e-commerce websites came from search engines 60,81%, direct visits 30,40% and social networks with 4,12% in 2020.

**Keys Words:** E-Commerce, Ecuador, consumption, marketing, digital advertising, ecology, communication.

### Resumen

Tras el estudio sobre transformación digital que viene experimentando Ecuador en el primer año de la Pandemia COVID-2021, este informe presenta la perspectiva de crecimiento del

comercio electrónico, el marketing y la publicidad digital. Este estudio se basa en los datos cuantitativos publicados por las métricas de comunicación digital que toman como punto de partida las estadísticas recogidas del estudio del World Internet Project. El cual desde el enfoque teórico de la Ecología Humana de la Comunicación del Ecuador, busca las particularidades endógenas y exógenas del comportamiento comunicativo en la sociedad ecuatoriana, explicando el acelerado proceso de transformación digital. El crecimiento del comercio electrónico en Ecuador alcanzó en 2020 un 54%, con 2.200 millones de dólares en ventas, siendo los canales preferidos para realizar compras, Whatsapp en un 49%, aplicaciones móviles con un 44% y sitios web con un 35%. El principal volumen de visitas para sitios web de comercio electrónico provino de motores de búsqueda con un 60,81%, visitas directas con un 30,40% y redes sociales con un 4,12% en 2020.

**Palabras Clave:** Comercio electrónico, Ecuador, consumo, marketing, publicidad digital, ecología, comunicación.

## 1. Introduction

Last year Ecuador made a distinction as a trigger for the establishment of e-commerce as an accepted and reliable option for the transaction of goods and services due to the confinement of its population ordered by the national government, due to the vital risks infection due to COVID-19 pandemic.

This phenomenon was initially witness by the qualitative longitudinal study of the World Internet Project –WIP-Ecuador and in recent years, focused its studies in different platforms and research centers of quantitative metrics, such as Facebook, Google, Twitter, We are social, App Annie and Alexa, Statista, Wordstream, Groupm Nextyear Media Forecasts among others. As well as specialized data analysis centers such as Mentinno, Statcounter, Semrush.com, Similar Web, Kantar Ibope Media Ecuador and the Ecuadorian Chamber of Electronic Commerce, Adcuality, Superintendency of Companies Ecuador.

In this article, this transformation analysis was gather from 2020 data -the first year of the COVID-19 pandemic-, based on consumer purchasing habits, and advertisers' patterns through new digital media in relation to interactivity and interrelation in social networks, websites, and applications, provided in real time by the quantitative metrics of the platforms mentioned in the previous paragraph.

The approach used to debate the phenomenon of technological transformation to e-commerce in Ecuador, is part of the Human Ecology of Communication model, published in 2016 by the Communication and Society Magazine of Navarra's University. Which identifies the endogenous and exogenous aspects of the media components of society, in the company of colleagues Javier Odriozola and Juan David Bernal.

The analyzed data evidences the growth of consumer cybernauts' trust in commercial platforms, consolidating a new digital market, which although detonated during 2020 pandemic.

Platforms that begun its early transformation over the past 10 years, and although reticently, the commercial ecosystem found an ideal environment of development from the consumption habits of the new digital media, which allowed an unprecedented acceleration, towards the establishment of e-commerce, defining itself as a the new normality, next to remote work and homeschooling.

The last decade constitutes for Ecuador, an accelerated change of digital transformation, a phenomenon observed mainly by the research of the qualitative longitudinal study of the World Internet Project -WIP-Ecuador, led in the country, by “Centro de Altos Estudios de Internet y Sociedad de la Información of the Faculty of Communication and Information Technologies of Universidad Hemisferios. In recent years, platforms and research centers aimed quantitative metrics studies such as: Facebook, Google, Twitter, We are social, App Annie and Alexa, Statista, Wordstream, Groupm Nextyear Media Forecasts, among others. Specialized data analysis centers such as Mentinno, Statcounter, Semrush.com, Similar Web, Kantar Ibope Media Ecuador and the Ecuadorian Chamber of Electronic Commerce, Adcuality, Superintendence of Companies Ecuador, among others. El crecimiento del comercio electrónico en Ecuador alcanzó en 2020 un 54%, con 2.200 millones de dólares en ventas, siendo los canales preferidos para realizar compras, Whatsapp en un 49%, aplicaciones móviles con un 44% y sitios web con un 35%.

This article offers results, as a second part of the studies on digital transformation that Ecuador has undergone, especially in the last year 2020, -the first year of the COVID-19 pandemic, from the perspective of e-commerce growth, marketing and digital advertising, information provided by metrics specialized in quantitative data gathered from the platforms mentioned the above paragraph.

For the data interpretation, we use the theoretical approach of Human Ecology of Communication, published in 2016 by University of Navarra’s journal of Communication and Society, in which endogenous and exogenous aspects were identify from the exercise of communication in the Ecuadorian society, and which led to the identification of the presence of a particular communicative ecosystem.

Year 2020, generates the outcome of digital transformation in the country, that started in 2010 and it was evident by the exponential growth of internet consumption, it warned the ideal scenario for the exchange of goods and services through the new media and consolidated platforms. The first year of the pandemic -2020-, found the confidence and consumption needs of Ecuadorian netizens, and the digitization and supply of products by traditional companies, consolidating e-commerce as a new commercial phenomenon based on digital communication. The main volume of visits for e-commerce websites came from search engines at 60.81%, direct visits at 30.40% and social networks at 4.12% in 2020.

## 2. Background

In March 12, 2020, the Emergency Committee of Ecuador (COE) ordered the total confinement of Ecuadorian society, with the exception of health care institutions, and some strategic production sectors. This regulation authorized remote work and homeschooling.

Qualitative studies of internet consumption and its classification in different countries outweighed in the last decade, mainly by the World Internet Project-WIP, which was born in the Political Communication Center of the University of California -UCLA-, in cooperation with the Singapore School of Communication Sciences UNT and the Italian Observatory of Internet, of the Bocconi University of Milan.

Currently, the project is directed by the Center of Digital Future Communication School “Annenberg” from the Southern California University -USC-, by its founder and current director Jeffrey Cole. In 2020, the project had the participation of 34 countries, including Ecuador, with the leadership of the Center for Advanced Internet Studies, of the Communication Faculty and Information Technologies of Hemisferios University.

Simultaneously, the World Stats Project, in the last decade, carries out quantitative studies of Internet diffusion in 246 countries with monthly update of statistical data. The line of research on consumer habits in Ecuador, in addition to the WIP-Ecuador project, stands out the study of the “The Interactive Generation in Ecuador” (Bringué & Sádaba, 2011). On the other hand, the Ministry of Telecommunications -MINTEL- publishes an “Annual Report on Statistics of Information and Communication Technologies”, and more recently the National Institute of Statistics and Censuses, carries out studies of information and communication technologies, even with qualitative methodologies.

On the other hand, most recently, the Worldmeter portal offers statistical data on Internet consumption, in real time, which has generated a certain distrust among the academic community of digital communication. However, it provides statistical trend data on the economics of technological production that uses qualitative prospective studies.

Now days, qualitative studies has been reinforced by quantitative studies, produced by the statistics departments of each country, and especially by the metric measurement systems of each of the digital communication technology platforms, according to the nature of the service, and in accordance with the database that is produced from the registration of users. In this sense, the metrics were develop around the use of new digital communication media, social networks, business and political marketing, use of software, website visits, video games, betting, email, and in our case, E-Commerce, and its marketing and digital advertising components. In that way, search engines as Google, social networks such as Facebook and Twitter, among others, as well as measurement systems like App Annie and Alexa, dedicated a segment of their business model to measuring consumer habits.

Internet users, better identified as cyber consumers and prosumers, which would allow them to identify behaviors and predict decisions of each person, from the generation of particular profiles, far from the strategic predecessors of marketing, based on segmentation. Now based on the fragmentation of audiences, or better, to the personalization of consumption, as carried out by research centers dedicated to the intelligence of digital markets, such as Menntino in Ecuador; under the direction of its main researcher Juan Pablo Benalcazar, who, through cross-checking data from different metrics have been providing sources of information for business decision making.

Because of qualitative research, an attempt was made to theorize about new universal categories that would explain social communication. In this line, the contributions to the science of Communication, from the American Functionalist School, have been significant. Laswell (1948), Lazarsfel and Stanton (1949), Shannon and Weaver (1949), Hovland et al. (1949), Defleur (1964), Lippman (1922), Sears et al. (1973). Petty and Priester (1981), Hermeneutic School or Italian Symbolic Interactionism, Eco (1986), Barthes (1972), Latin American Cultural Studies, Barbero, Rey (1999), from the Frankfurt School of Cultural Industries, Habermas (1989), Adorno y Horkeimer (1972), Mattelart (1997), Marcuse (2001), Mass Media School, Newman (1982), McQuail (1983), McCombs (1993) y Levy (1977).

Nevertheless, none of these schools provided an adequate explanation of the communicative phenomena that develop, since the arrival of Internet in the 90s; and especially its relationship with commercial activities, which, in this case, are of sufficient a priori evidence. The result of the communicative flows that emerge from the technological revolution of the new information and communication technologies, and that still, it is necessary to validate empirically the particularities and components of the E-Commerce phenomenon.

The School that somehow foresaw much of the globalizing effects of digital media was the Canadian School promoted by MacLuhan. In contrast, its deterministic approach, in which -technology determines culture-, closed the door to the study of the particularities of each community, each society, each country. Its globalizing approach distorted any significant relevance of the locality, despite the re-founding of this school, and its turn towards an ecosystem vision called Media Ecology, Altheide, (1994) and Krekchove, (2002), Cali (2012), who for the first time used the term Ecology of Communication. However, the inability to explain the new phenomena of digital communication, Scolari (2008) led to the search for new theoretical categories that would give an explanation, beyond global trends, to local particularities.

In such a way, the approach of the "Human Ecology of Communication" López, (2016) was proposed, in which from an interdisciplinary vision of the communicative social reality, could be understood from different disciplinary point of view. Such as: anthropology, politics, economics, sociology, social psychology, history, and all those necessary disciplines, depending on the approach, in which culture is what determines technology, and not the other way around.

Human Ecology of Communication seeks the explanation of local communication phenomena from an heuristic approach of the social media ecosystem, in which the pioneering studies of Carpenter, (1956), Mumford, (1967), Langer (1967), Ellul (1967), McLuhan (1970) (1996 ed.), Havelock (1981), Eisenstein (1983), Cabrera, (1988), Innis (1999), Postman (1988), (2000), and Schofield (2009). It is necessary to point out that this theoretical approach arose due to the longitudinal investigation of the World Internet, Project- Ecuador chapter. In which each year, the different research groups associated with the project from each of the member countries met to share the data referring to the classification of national Internet consumption. In this project, reported in several publications made by López, Odriozola, Bernal, (2016), López, Callejo, Cajiao (2013), López, Eguiguren (2011) and López, (2010), warned about the accelerated and exponential growth of Internet consumption in Ecuador.

Said internet consumption grew of 25% of its population in 2009 to 80% in 2016. This inexplicable phenomenon took variables from the same study reflecting other countries in the area such as Colombia, Chile, Argentina and Mexico, Dyjament (2010); and the one who found an ideal technological ecosystem for the development of E-Commerce, as an environment conducive to the basic survival of residents in Ecuador, during the confinement of the pandemic of the Covid-19.

Until 2019, e-commerce in Ecuador was characterized by a timid exchange of goods and services that did not exceed 2% among 81% of the total inhabitants of the country Internet consumers. However, since the declaration of a State of Emergency on March 12, 2020 by the President of the Republic, and the social confinement ordered by the Emergency Committee of Ecuador COE, the phenomenon of e-commerce expanded, as the new transactional between producers and consumers.

This phenomenon was studied mainly by the World Internet Project- WIP, longitudinal research project led by the Center for Political Communication of the University of California -UCLA-, with the support of the UNT School of Communication Sciences in Singapore, and the Italian Internet Observatory at Bocconi University in Milan. Currently, the direction of this project is by the Digital Future Communication School "Annenberg" Center, at the University of Southern California -USC-, by its founder and current director Jeffrey Cole. In 2020, the project had the participation of 34 countries, including Ecuador, with the leadership of the Center for Advanced Internet Studies, of the Faculty of Communication and Information Technologies of the Hemispheric University.

In addition, the World Stats project has been developing studies on Internet consumption and dispersion in 246 countries, including Ecuador. A special study case, is "The Interactive Generation in Ecuador" (Bringué & Sádaba, 2011), from the public sector, the Ministry of Telecommunications -MINTEL- publishes the "Annual Report on Statistics of Information and Communications Technologies", and the National Institute of Statistics and Censuses, advance studies of information and communication technologies. Altogether, offer a realistic portrait of the state of e-commerce, which allows typifying it, allowing the marketing and digital advertising sector to have clarity about its advantages and its own dynamics.

Since 2004, the Worldometer portal has been publishing statistical data on Internet consumption, in real time, generating some degree of distrust among the scientific communities in the field of digital communication, economics and demography, among others. However, this site provides statistical trend data on the economy and technological production, used and compared with other sources that determine prospective trends.

Currently, academic research centers have received significant input from statistical departments in each country, and especially from metrics incorporated by digital communication technology platforms, based on the data produced by each of them through the registration of users. Metrics development originated from the use of new digital media, social media, business and political marketing, software usage, website visits, video games, betting, email, etc.

Also, search engines such as Google, and social networks: Facebook and Twitter, among others. Measuring systems such as, App Annie and Alexa, who dedicated part of their business model to measuring the consumption habits of netizens, which allowed them to identify behaviors and predict purchasing decisions, by identifying specific profiles, far from segmentation, and now oriented towards the fragmentation of audiences, interest groups, stakeholders or tribes.

Research centers dedicated to digital markets intelligence, such as Menntino in Ecuador, led by its principal researcher Juan Pablo Benalcazar. Who, through methods of cross-referencing sources and their respective data from specialized metrics, has been generating rigorous information on the development of e-commerce in the country, and that allow companies with Internet presence make better decisions in marketing and digital advertising.

Theoretical field, during the 20th century generated qualitative studies with a significant contribution on new universal categories that could understand the phenomena of communication in society. In this journey, contributions by science communication, and the assumptions of the American Functionalist School, with Laswell (1948); Lazarsfel and Stanton (1949); Shannon and Weaver (1949). Hovland et al. (1949), Defleur (1964), Lippman (1922), Sears et al. (1973), Petty and Priester (1981), of the Hermeneutic School or of Italian Symbolic Interactionism, with Echo (1986), Barthes (1972), of Latin American Cultural Studies, with Barbero, Rey (1999). The Frankfurt School of Cultural Industries, with Habermas (1989), Adorno and Horkeimer (1972), Mattelart (1997), Marcuse (2001), of the School of Mass Media, with Newman (1982), McQuail (1983), McCombs (1993) and Levy (1977), provided enough explanations of the communicative phenomena that had been developing since the advent of the Internet in the 1990s.

However, MacLuhan's thinking in the seventies of the last century foresaw much of the globalizing impacts that television would have on human society at one time, and that would later ratify the Internet, through the new digital communication. The approaches of the Canadian teacher gave rise to the Canadian School, known for its radical deterministic approach, in which, -technology determines culture-, in opposition to the heuristic and ecosystem approaches of each community, society, or country. This globalizing approach ignored the endogenous particularity of each location, despite its subsequent routing towards the ecosystem approach called the Media Ecology, led by his disciples, Altheide, (1994) and Krekchove, (2002), Cali (2012). Who for the first time, used the concept of Ecology of Communication, and that one of its main critics, Scolari (2008), would invite the search for new theoretical categories that would allow the understanding of local particularities, beyond identifying them and pointing to them as mere global digital communities.

This dynamic suggested the theoretical approach of the "Human Ecology of Communication" Lopez, (2016), by a heuristic, an ecosystem vision and a multidisciplinary social communication reality. This communicative reality of the communities comes at it from a different disciplinary perspective, such as anthropology, politics, economics, sociology, and social psychology, history, among others, interested, through their scientific interlocutors, in arguing that culture is what determines technology, and not the other way around, as Media

Ecology argues. The Human Ecology of Communication explains how each country, society or community has its own endogenous or exogenous natural and cultural communicative particularities, which constitute its own ecosystem, from public policies, information systems, access to technology, educational level, population structure among others, and that finally typify circumstantial differences between one community and another.

Human Ecology approach to Communication built by, Carpenter (1956), Mumford, (1967), Langer (1967), Ellul (1967), McLuhan (1970) (ed.1996), Havelock (1981), Eisenstein (1983), Cabrera (1988), Innis (1999), Postman (1988), (2000) and Schofield (2009). However, in its desire to understand the local communicative phenomena from a heuristic approach of the communicative social ecosystem, and thanks to the longitudinal studies of the World Internet, Project-chapter Ecuador, in which each year, different research groups associated with the project from each of the member countries, share data concerning the national Internet consumption.

Ecuador's study determined that it did not kept the same Internet consumption constants of its neighbors, Colombia, Peru, Venezuela and Bolivia and Chile, despite having historically, demographically and geographically the same particularities. The phenomenon analysis was published, by its main promoter Daniel López; together with his colleagues Javier Odriozola and Juan David Bernal (2016). and in advance, López, Callejo y Cajiao (2013), López, and Eguiguren (2011), and López, (2010).

This research reports warns the rapid exponential consumption of the Internet in Ecuador, which in just six years passed from a consumption of 25% of its population in 2009, to 80% in 2016, Inexplicable phenomenon from the same study variables in other countries of the area as mentioned above, Dyjament (2010).

## **2.1. Ecuador as an E-Commerce enabling Internet ecosystem**

Ecuador is a unique country due to its characteristics as pointed out by the studies of Human Ecology Communication (2016). It has an estimated population of 17,510,643 (INEC projections, 2020). Fifty percent of its territory is located in the Andean-Cost region, and the other 50% is located at the Amazon region. Ninety-five percent of the population is located in the highland-coastal region. Of its total population, 80.1% (14.25 million) has internet access by 2020, according to data from the Mentinno study (2020). which, like the WIP, considers the variable of multi-users per connection, unlike INEC, that only determines the number of users per Internet connection, in a ratio of 1:1, while multi-users are estimated at 1:2 or 1:1.5, which, for the Ecuadorian effect, is 1:1.5. Of this number of users, 14 million uses social networks (78.7%).

There are 14.88 million mobile cell phone lines (83.6%). Of the total number of social network users, the largest share is in Guayaquil with 15%, followed by Quito with 12%, Cuenca 4%, Ambato 3%, Santo Domingo 3%, Riobamba, Machala, Manta, Portoviejo and Loja, each with 2%. The remaining 53% distributes among other cities with less than 120 inhabitants (Facebook Audience Insights, 2021).

The dynamics shown by the country, in terms of internet access in recent years, comes from

government policies to modernize schools and provide them with technology and Internet. Also, the mobile Internet campaigns for most distant populations geographical speaking, as well as the provision of free Internet in parks in different cities, shopping centers, public buildings, transportation, etc. (López, Odriozola, Bernal, 2016).

Ecuador is a country with a particular ecosystem due to its characteristics as identified in the Human Ecology of Communication article (2016). Its current population is of 17,510,643 (INEC projections, 2020). More than 50% of its territory is located in the Sierra-Costa region, and the remaining territory in the Amazon region. In the Sierra-Costa, 95% of the population is settled. Of its total population, 80.1% (14.25 million) have access to the Internet by 2020, (Mentinno, 2020). This study, as well as the World Internet Project-WIP, agrees on the possibility of multiuser, in which for each connection, have several users, unlike the National Institute of Statistics- INEC, which considers that for each Internet connection, only one user is counted. In a ratio of 1:1, while the multiusers are estimated between 1:2, or 1:1,5, which for the Ecuadorian effect of our analysis is 1:1,5. Of the total number of users in the country, 14 million use social networks (78.7%). There are 14.88 million mobile telephone lines, that is, 83.6% could have one of them. The majority of social networks users are in Guayaquil with 15%, in Quito with 12%, Cuenca 4%, Ambato 3%, Santo Domingo 3%, Riobamba, Machala, Manta, Portoviejo and Loja, each of these cities with 2%, and the remaining 53% in other cities with less than 120,000 inhabitants (Facebook Audience Insights, 2021).

Endogenous factors that typify the dynamics of Internet consumption in the country, find their main causes in the aggressive policies of the governments during the last 10 years. Technological donation to public schools, mobile Internet projects for Amazonian and rural populations furthest from the national geography, the installation of free Internet Wi-Fi in public parks, shopping centers, public buildings, transport etc. (López, Odriozola, Bernal, 2016).

### 3. Methodology and Outcomes

The following study analyzes metrics from specialized sources, based on quantitative data measured in Ecuador, in relation to digital marketing and advertising, and its commercial associative relationship, better known as E-Commerce in the first year of Pandemic 2020. The metrics analyzed were Facebook, Google, Twitter, We are social, App Annie and Alexa, Statista, Wordstream, Groupm Nextyear Media Forecasts, and specialized data analysis centers Statcounter, Semrush.com, Similar Web, Kantar Ibope Media Ecuador, the Ecuadorian Chamber of E-Commerce, Adcuality and Superintendencia de Compañías Ecuador. Metrics were chosen from their reliability of quantitative methodologies, supported by proprietary databases and for the explicit usefulness of their big data processing researchers and specialized analysts.

The analysis was executed on data gathered in January 2021, after the statistical closure of 2020. The study used variables such as Internet users, behavior and levels of digitalization, ranking and profiles of users of social networks, main websites and mobile applications, E-commerce, investment in digital media, local media, streaming and universities, gamers and online games. However, this report analysis was based on the Inter behavior of marketing and digital advertising, in association with their behavior and levels of digitization.

### 3.1. Outcomes

The first step is to determine the purpose of electronic transactions, considering that before the Pandemic, these were not necessarily consider by consumer's mind. Table 1 shows that 60% of the people who bought online in 2020, did so, because they did not want to expose themselves to any risk of infection, another 44% due to mobility restrictions, 26% adapted to the change in the new environment, 9% was not aware of home delivery facilities, and 9% was not aware of delivery apps.

**Table 1. Electronic Transactions in Ecuador during COVID-19 2020**

Details	Percentage
Does not want to be expose to any infection risk	60%
Traffic restriction and curfew	44%
Adaptation to change	26%
More services available	13%
Unaware of home delivery	9%
Unaware of delivery apps	9%

Source: own elaboration based on published by El Telégrafo Newspaper

Regarding payment methods as shown in Table 2, 61% of the transactions used debit and credit cards, evidencing a shift from cash payment. However, it is important to appreciate that the majority of purchases (85%) during 2020 involve cash or electronic cash from debit cards, wire transfer and electronic wallet. This evidenced economic liquidity, was basic for the processes of economic activation.

**Table 2. Payment methods in 2020**

Sources	Percentage
Credit Card	29%
Debit Card	32%
Cash	29%
Wire Transfer	8%
Electronic Wallet	16%
Bitcoin	6%
Código QR	10%
Otros	2%

Source: own elaboration based on published by El Telégrafo Newspaper

In relation to purchases made by cyberconsumers in Ecuador during 2020, the largest volume of purchases was register in food and beverages, followed by medicines and rapid food. It is also significant and explicable that technology, hardware, software and Internet services were the next purchase category, in this new scenario remote work and homeschooling, and from the perspective of survival, in which vital products of basic need remarked their importance in people's lives.

**Table 3. Main purchasing categories in 2020**

Categories	Percentage
Food and beverages	67%
Medicine	50%
Fast food	42%
Technology, computers or appliances	19%
Education or training services	15%
Recreation, games, video games and streaming music	6%
Furniture and household goods	6%
Apparel, footwear or clothing accessories	6%
Beauty and cosmetics	5%
Alcoholic beverages and tobacco	3%
Sporting goods	3%
Other	5%

Source: own elaboration based on published by El Telégrafo Newspaper

It is remarkable that the 14 most visited E-Commerce portals in Ecuador 2021, were not precisely supermarkets or food stores to buy food, beverages, medicines or fast foods, but technology, computers, appliances, furniture and household items, as shown in Table 4. There is not a specific argument to explain this phenomenon, but this dynamic could be explained, because of the significant amount of unusual promotions that took place in this type of stores. Dropping prices caused by the decrease in sales suffered by this type of products because of the official confinement due to the Covid-19 pandemic.

**Table 4. E-Commerce portals and classifieds in Ecuador - January 2021**

Position	Source	Monthly Visit (in miles)	Visiting Time	Pages per View	Bounce Rate	Search	Social Media	Direct	Email	Referends	Display	Total
1	mercadolibre.com.ec	6.230.000	06:11	6.79	32.29%	60.04%	1.02%	35.96%	0.63%	2.34%	0.01%	100.00%
2	Olx.com.ec	2.170.000	07:20	7.14	32.61%	28.79%	0.66%	68.08%	0.05%	2.02%	0.40%	100.00%
3	deprati.com	536.220	06:09	7.06	33.47%	45.91%	5.02%	42.27%	0.95%	4.41%	1.44%	100.00%
4	creditoseconomicos.com	362.880	02:55	3.40	42.29%	46.21%	5.82%	34.78%	8.03%	0.30%	4.87%	100.01%
5	tventas.com	305.460	06:04	4.72	36.05%	73.28%	2.38%	21.97%	2.11%	0.26%	0%	100.00%
6	marcimex.com	275.040	02:13	3.02	35.13%	65.39%	18.25%	13.56%	2%	0.74%	0.54%	100.48%
7	computron.com.ec	189.070	01:40	2.79	45.19%	64.81%	0.87%	27.38%	0%	5.52%	1.41%	99.99%
8	novicomp.com	176.480	05:08	5.93	39.16%	70.20%	3.08%	26.68%	0%	0.04%	0%	100.00%
9	etafashion.com	167.730	06:55	5.19	33.01%	59.12%	3.70%	33.48%	0%	2.71%	0.98%	99.99%
10	pycca.com	165.990	05:07	5.24	39.90%	62.47%	5.38%	28.60%	2.48%	0.50%	0.57%	100.00%
11	comandato.com	105.320	01:55	3.52	39.99%	76.67%	1.57%	19.30%	0.19%	2.01%	0.25%	99.99%
12	artefacta.com	104.030	02:44	4.32	44.20%	69.70%	5.62%	14.49%	7.91%	1.05%	1.23%	100.00%
13	almaceneslaganga.com	80.480	06:29	3.15	37.37%	52.88%	3.78%	36.19%	4.53%	1.83%	0.79%	100.00%
14	sukasa.com	69.200	03:23	4.37	37.89%	75.86%	0.47%	22.88%	0%	0.60%	0.20%	100.01%

Source: own elaboration based on Mentino (January 2021)

The “top of mind” brands for mobile apps used to make transactions and purchases of food, beverages, medicines or groceries in Ecuador are the following (Table 5): Glovo, Uber Eats and KFC, which together summed for 6.91% of top of mind. Applications and portals such as Amazon, Facebook Marketplace, Mercado Libre and Wish, registered the greatest brand recall in their categories.

**Table 5. Internet Purchase Apps / Web Pages in 2020**

Position	App/Page	Percentage
1	Amazon	10,00%
2	Facebook Marketplace	7,25%
3	Mercado Libre	6,78%
4	Wish	5,29%
5	Glovo	3,39%
6	OLX	2,71%
7	Instagram	1,69%
8	Uber Eats	2,44%
9	KFC	1,08%
10	DePrati	1,02%

Source: own elaboration based on Focus Research Ecuador

The sources of traffic to search and finally reach the purchase site, used search engines 60,81%, direct purchase 30,40%, social networks 4.12%, mail 2.03%, referrals 1.74%, and display 0.91%. Direct purchase was significant in terms of digitalization on the Internet that involves the presence of establishments, through Web pages or WhatsApp, as noticed in Table 6.

**Table 6. Traffic Source 2020**

Source	Percentage
Search Engines	60,81%
Social Network	4,12%
Direct	30,40%
Email	2,03%
Referrals	1,74%
Display	0,91%

Source: own elaboration based on Mentinno

Preferred methods of payment to purchase in Internet, was mainly by cash, credit cards, debit cards and wire transfer, as shown in Table 7. This dynamic shows the presence of commercial trust environment, lacking since the beginning of e-commerce in Ecuador in the second decade of this century.

**Table 7. Preferred methods of payment to purchase by Internet / Ecuador 2020**

Methods of Payment	Percentage
Cash	38,7%
Credit Card	39,6%
Debit Card	35,6%
Wire Transfer	29,6%
Digital Wallet	1,3%
Check	0,4%
Paypal	0,2%

Sources: own elaboration based on Focus Research Ecuador

Media also adapted their technological structure for products advertising in the new Ecuadorian E-Commerce scenario. Consequently, social networks, instant messaging, web pages, email and SEM incorporated advertisements into the information traffic, as shown in Table 8.

Media	Percentage
Social Media	61%
SEM	15%
Web Page	29%
E-Mail	25%
Courier	36%
Traditional	23%

Sources: own elaboration based on Focus Research Ecuador

Regarding digital advertising investment. Table 9 shows how the education sector made the greatest monetary investment in new digital media, followed by the automobile sector, telecommunications, software, applications, traditional media, banks and credit cards, food, associations, organizations and tourism. It is remarkable that the education and automotive sectors were the two sectors with the highest advertising expenditure in the country during the first year of the pandemic. The reason why educational sector invested more is that university programs and careers wanted to attract new students by offering quality academic products, through online, hybrid synchronous and asynchronous modalities. Moreover, in the second case, the daily vehicle restriction measures ordered by the National Traffic Agency, in accordance with the last license plate number, encouraged the sale of used vehicles in the country.

**Table 9. Digital advertising investment in Ecuador 2020 / (U.S. dollars)**

Categories	Investment
Education	\$2.901.639
Automobile	\$2.739.488
TelCo	\$1.590.161
Software y Applications	\$1.515.304
Traditional Media	\$1.452.933
Banks / Credit Cards	\$1.215.387
Food	\$858.135
Associations / Organizations	\$838.609
Tourism	\$738.560
Government	

Source: own elaboration based on ADCUALITY

Table 10, describes the 20 companies in Ecuador with highest investment in Internet advertising during 2020. Including two universities (UDLA and Internacional), two from the automobile sector (Kia and Chevrolet), four media companies (DirecTV, Netflix, Claro and El Comercio), and two from the financial sector (PayPal and Banco del Pacífico), one from video games (Vimeo), and one from beverages (Coca Cola), among others.

**Table 10. Digital Investment in Ecuador**

Ranking	Advertiser	Investment
1	KIA Motors	\$1.223.575
2	MG Motors	\$780.806
3	Vimeo	\$767.573
4	UIDE - Universidad Internacional del Ecuador	\$668.453
5	Directv	\$425.593
6	PayPal	\$409.548
7	El Comercio Ecuador	\$384.269
8	Banco del Pacífico	\$303.704
9	UDLA Channel (Universidad)	\$293.083
10	Coca Cola	\$248.146
11	Samsung	\$242.557
12	CNT - Corporación Nacional de Telecomunicaciones	\$240.153
13	Gobierno de Ecuador	\$233.116
14	KAYAK	\$230.231
15	TIA	\$228.532
16	Netflix	\$220.390
17	OLX	\$220.095
18	Claro	\$211.805
19	Guayaquil es mi Destino	\$210.629
20	Nosotras	\$208.513

Source: own elaboration based on ADCUALITY ADCUALITY

Table 11. Shows the volume of “clicks” by Internet advertising in Ecuador, specifically in Facebook, the largest advertising social network, registered at the end of 2020 and beginning of 2021. In America, Ecuador ranked 6th with the highest cost per click on Facebook, after Peru, Chile, Mexico, Brazil and the United States, and with a higher cost than Panama, Colombia, Argentina, Bolivia, Uruguay, Paraguay and Venezuela.

**Table 11. Cost per Click on Advertisement / Facebook 2021**

Country	Cost
USA	\$0,029412
Brasil	\$0,020000
México	\$0,019608
Chile	\$0,018519
Perú	\$0,017857
Ecuador	\$0,017544
Panamá	\$0,016667
Colombia	\$0,016393
Argentina	\$0,016393
Bolivia	\$0,015152
Uruguay	\$0,013699
Paraguay	\$0,013333
Venezuela	\$0,010870

Source: own elaboration based on Facebook Ads 2021 (January, 2021)

Table 12. Facebook continues to be the social network with the highest Internet advertising revenue in Ecuador. Companies that advertise on this network main objective is to interact and reach more publications. In addition, the “clicks” at the links constitutes the formation of databases of interested people, which are address by the commercial teams in charge of sales according to each specific strategy.

**Table 12. Main objectives of Facebook Ads Campaigns in 2020**

Objective	Percentage
Interaction with publication	66%
Traffic (Clicks on link)	13%
Video views	8%
Page Likes	5%
Conversions	5%
Other	3%
<b>Total</b>	<b>100,00%</b>

Fuente: own elaboration based on METRICOOL

There is no direct relation between the objective of a publication and the investment made by advertisers. Table 13 explains how 19% of investments are made, despite the objective of 66% interaction with the desired publications. On the other hand, explains how the investment aimed a 19% more effective conversion of ads and the traffic generation with 25%.

**Table 13. Investment per campaign objective Facebook Ads 2020**

Objective	Percentage
Traffic (Clicks on link)	25%
Publication's Interaction	19%
Conversions	19%
Page Likes	11%
Video views	8%
Lead generation	7%
Reach	7%
Other	4%
Total	100%

Source: own elaboration based on METRICOOL

Table 14. Explains the purpose of traffic (Clips in link 25%), reflecting the rates of average impression clicks, and standing out 1.24% interest in clothing, 1.16% in beauty, 1.04% in technology, and 1.59% in retail products, related to food. However, there are two significant motivations associated with the pandemic, especially in Ecuador. The first reflects "fitness" interest, because of the confinement and which is apparently related to depression and problems associated with people's psyche.

The legal interest is also significant, and could be associated with the labor situation of layoffs and business readjustments that Ecuador experienced during the first year of the pandemic, in which the Ministry of Labor issued decisions allowing organizations to take contraction economic measures.

**Table 14. Click through Rate on global average impressions / Facebook Ads 2020**

Industry	Click-through Rate Average Impression (CTR)	Average Conversion Rate
Clothing	1,24%	4,11%
Automobile	0,80%	5,11%
B2B	0,78%	10,63%
Beauty	1,16%	7,10%
Consumer Services	0,62%	9,96%
Education	0,73%	13,58%
Employment and job training	0,47%	11,73%
Finance and insurance	0,56%	9,09%
Fitness	1,01%	14,29%
Home Improvement	0,70%	6,56%
Health Care	0,83%	11,00%
Industrial Services	0,71%	0,71%
Legal	1,61%	5,60%
Real Estate	0,99%	10,68%
Retail	1,59%	3,26%
Technology	1,04%	2,31%
Travel/Hospitality	0,90%	2,82%

Source: own elaboration based on METRICOOL WORDSTREAM Facebook Ad Benchmarks for YOUR industry

Advertising effort reflects the commercial closed cycle of E-Commerce, effective in the conversion rate achieved by advertisers (Facebook Ads). Table 14 shows how B2B, education, employment and job training, fitness, health care and real estate are the sectors that achieve the highest conversion.

On the other hand, Google ads, reflects a different behavior on its conversion rate than Facebook ads. The highest converting sectors are contacts and dating, autos, customer service, employment services, finance and insurance, and legal. This dynamic could be due to the nature of Google's core search engine, in which people generally search for product categories, and not necessarily the name of a specific company or product, as Facebook. (Table 15).

**Table 15. Global average conversion rate / Google Ads 2020**

Industry	Average conversion rate		Click-through rate on average impressions (CTR)	
	Search	Display	Search	Display
Advocacy	1,96%	1,00%	4,41%	0,59%
Autos	6,03%	1,19%	4,00%	0,60%
B2B	3,04%	0,80%	2,41%	0,46%
Consumer Services	6,64%	0,98%	2,41%	0,51%
Contacts and appointments	9,64%	3,34%	6,05%	0,72%
E-commerce	2,81%	0,59%	2,69%	0,51%
Education	3,39%	0,50%	3,78%	0,53%
Employment services	5,13%	1,57%	2,42%	0,59%
Finance & Insurance	5,10%	1,19%	2,91%	0,52%
Health and Medical	3,36%	0,82%	3,27%	0,59%
Household Goods	2,70%	0,43%	2,44%	0,49%
Industrial Services	3,37%	0,94%	2,61%	0,50%
Legal	6,98%	1,84%	2,93%	0,59%
Real Estate	2,47%	0,80%	3,71%	1,08%
Technology	2,92%	0,86%	2,09%	0,39%
Travel/Hospitality	3,55%	0,51%	4,68%	0,47%

Source: own elaboration based on WORDSTREAM GOOGLE ADS Benchmarks for YOUR industry

This table also shows that the possible cause of the conversion rate and the click-through rate is lower. Calls attention that the relationship is not constant and does not necessarily follow a guiding thread, or a general statistical factor.

Traditional media, written press and television in Ecuador, during the last's year transition to Internet, offer advertising potential that use to characterize them before the monetization generated with the arrival of new media by Internet: web pages, social networks, instant messaging, etc. Table 16 shows the monthly critical mass that they have been attracting, due to the pandemic; but which apparently could remain, once it is establish a culture of periodical search by the journalist audience.

**Table 16. Sources of media traffic in Ecuador 2020**

Traditional Media	Visits per Month (miles)	Search	Social Media	Direct	Email	Referred	Display	Total
elcomercio.com	15 630	57,40%	17,52%	24,46%	0,24%	0,35%	0,02%	100,01%
eluniverso.com	12 580	59,48%	7,60%	31,20%	1,19%	0,38%	0,16%	100,01%
metroecuador.com.ec	2 450	48,08%	39,22%	9,67%	2,64%	0,35%	0,04%	100,00%
ecuavisa.com	1 820	27,42%	32,41%	34,77%	2,84%	2,15%	0,41%	100,00%
lahora.com.ec	1 090	73,48%	5,78%	20,38%	0,00%	0,36%	0,00%	100,00%
eltelegrafo.com.ec	662	81,64%	1,72%	14,94%	0,01%	1,69%	0,00%	100,00%
expreso.ec	792	70,72%	7,88%	20,91%	0,00%	0,45%	0,03%	100,01%
telemazonas.com	687	28,28%	34,98%	36,54%	0,00%	0,20%	0,00%	100,00%
futbolecuador.com	408	11,23%	21,38%	67,30%	0,00%	0,08%	0,01%	100,00%
studiofutbol.com.ec	542	27,89%	17,56%	54,37%	0,00%	0,17%	0,00%	100,01%
tctelevision.com	483	43,11%	33,11%	23,52%	0,00%	0,12%	0,14%	100,00%
benditofutbol.com	512	63,69%	14,32%	21,44%	0,32%	0,15%	0,08%	100,00%
ecuagol.com	609	30,69%	30,23%	36,81%	0,80%	1,47%	0,00%	100,00%

Source: own elaboration based on SIMILAR WEB (January, 2021)

#### 4. Debate

It is evident that Ecuador become an ecosystem influenced by technology interaction. Internet access has allowed its population to trade through different instant messaging and social networking platforms.

Studies by the World Internet Project (2016) revealed in 2015 that only 2% of cybernauts purchase on Internet, this constant remained until 2019, but after the pandemic and the limitations to purchases in person, purchases increased in 2020 to a 10%. This same year, there was an increase of 43.25% of sales through this channel, compared to 2019, with an increase in the frequency of purchases by 21%, according to the metrics analyzed by Mentino in this report.

This dynamic can be explain due to digital transformation that traditional establishments carried out moving to E-Commerce, sensing as a possibility of survival and permanence in the market. Their presence in the digital environment reached in the last year, 2.2 billion dollars in sales, with a growth of 54% compared to 2019, and with preference of purchases by Whatsapp in 49%, Apps 44% and Websites 35%.

Despite its classification as a developing or third world country, Ecuador presents significantly high indicators of Internet consumption and especially presence in social networks. Because of the demographic distribution of its inhabitants, public policies of Internet coverage and access, during the past 10 years and with the last two Ecuadorian governments, framed an ecosystem of its own, with the presence of endogenous and exogenous, natural and cultural factors, in the same line of the Human Ecology of Communication approach (López, Odriozola, Bernal, 2016).

Likewise, it responds to the statements made by the Information Society, proposed by Castells (2021), (1999), (2001), and of the Knowledge Society by Bell (2000), in which announces to the Communication Scientific Community, the arrival of new technological structures

that will allow demolishing the borders of time and space. García-Canclini (2001) and will deploy the communicative possibilities through virtual streams and communicational networks.

Expansion of social networks is not new. Previous generations of different societies implemented networks by housing, geographical proximity, large family composition and especially by the communicative nature of the human being as a social being. Social relationships emerge especially at a young age, which would last throughout people's lives. However, these first social networks depend on vicinity, in comparison with new social networks, precisely expanded by globalism, as pointed out by McLuhan, on the evolution towards the media conformation of a Global Village (ed. 2020).

Islas and Gutiérrez (2003), interpreting McLuhan, warn about social reengineering that has been developing in human society. Due to telematics, possibilities presented by the new media, especially for its possibilities of space and time boundaries, in which homeschooling and remote work is possible to develop, Osicki (2012), proved during the first year of the COVID-19 Pandemic. Confronting great fears of universities, schools, companies, banks, among others, in adopting this type of methodologies of work and virtual education, Lopez (2006). Additionally, E-Commerce is also possible, thanks to the advantages and reliability demonstrated by the financial payment structures, and the effectiveness of purchases, once they are delivered to consumers, ceasing to be virtual, to become factual realities.

## 5. Conclusions

New digital media consuming habits in 2020 after the first year of COVID-19 Pandemic increased substantially the usage of social networks, websites and applications, in not only regular communication, information and entertainment as previous years, according to WIP studies, but mainly reflected in commercial transactions that have been developing.

This growth was possible due to decisions that companies made by their presence in these new digital media on the Internet, and indeed, by the trust that payment platforms offered to consumers, according to data from the metrics analyzed, and which was the main cause of non-purchase in the past according to WIP data.

Ecuador still has a digital gap, 80% of its population are Internet users, which means that 20% left could be considered "digitally illiterate", and not only because of connectivity, but also because of the availability of information, communication through social networks, entertainment and e-commerce that could be engendered among this part of the population.

Despite the fact that 10% of the Internet population already makes purchases over the Internet, and that its growth was 500% in the last year, a higher percentage is still pending considering that 59% of them are over 24 years old, an age considers to be as productive among the Ecuadorian population.

Nine Eight percent of the social network interaction is via mobile devices, of which 33% are concentrated in Quito and Guayaquil, the two largest cities in the country. This dynamic represents a potential for communication with other areas in the country, especially those

that are geographically isolated, and a potential market for commercial interaction between provinces.

In conclusion, COVID-19 Pandemic was a strong accelerator for the use of Internet in 2020, by companies that digitized their services and by consumers who found in applications, social networks, websites and payment systems, the necessary confidence to boost Ecuadorian e-commerce. Evidencing technological transformation to the new digital information media that the country experienced in this year, beyond the natural evolution processes of cultural appropriation that different society of humanity live.

Additionally, it is necessary to continue with the studies of the impacts of technology on society, the organization and the company, which allow not only to broaden the knowledge of the dynamics of electronic commerce, but also its effects on people's lives, and their consequences. consequences in the infrastructure of cities, specifically in store windows, shopping malls and public spaces in general.

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