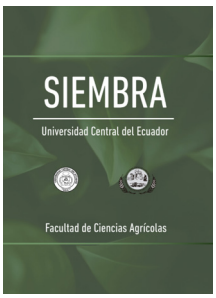
Analysis of the economic impact on the tourism sector by COVID-19 at the Turi viewpoint in Cuenca-Ecuador in the period from January 1 to December 31, 2020

Análisis de afectación económica en el sector turístico por la COVID-19 en el mirador de Turi en Cuenca-Ecuador, en el período 01 de enero al 31 de diciembre del año 2020



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Abstract

COVID-19 pandemic has generated global challenges such as health emergencies and economic crises, which have had direct effects on all economic sectors, including tourism and travel, which are the main contributors to the service industry worldwide; this industry experienced the impacts of the pandemic more severely due to the mobility restrictions established by the different levels of government, as a contingency measure in the face of growing infections. At national level, the losses in tourism were close to USD 1,810 million, and a shortfall of approximately 70,000 full employment positions. In this context, the objective of this study is to examine the way in which the owners and administrators of commercial premises in the Turi parish of the Cuenca canton, coped with the pandemic and its effects, using quantitative analysis methods and tools. The information that supports the analysis was obtained through a survey process in the territory using structured questionnaires, which allowed collecting the perceptions of the main actors related to tourism in Turi with respect to the variables where the effects of the pandemic are manifested. The main results suggest that in the parish there is little presence of public policies aimed at reactivating tourism, so the sustainability of small businesses is vulnerable. The main conclusion of this research is focused on the importance of activating rural community tourism, positioning it as an economic activity for the population of Turi.

Keywords: income, COVID-19, tourism, economic impact.

Resumen

La pandemia del COVID-19 ha generado desafíos globales, como emergencias sanitarias y crisis económicas, que han provocado efectos directos en todos los sectores económicos, incluido el turismo y los viajes, que son los principales contribuyentes a la industria de servicios en todo el mundo. Esta industria experimentó los impactos de la pandemia con más severidad debido a las restricciones de movilidad establecidas por los diferentes niveles de gobierno, como medida de contingencia ante los crecientes contagios. A nivel nacional, las pérdidas en el turismo se

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aproximaron a los USD 1.810 millones, así como de aproximadamente 70.000 plazas de empleo pleno; en este contexto, el objetivo de este estudio se centró en examinar la forma en que los propietarios y administradores de los locales comerciales en la parroquia Turi del cantón Cuenca, sobrellevaron la pandemia y sus efectos, utilizando métodos y herramientas de análisis cuantitativo. La información que sustenta el análisis se obtuvo mediante el levantamiento de información en territorio utilizando cuestionarios estructurados, los cuales permitieron recoger las percepciones de los principales actores relacionados con la actividad turística en Turi con respecto a las variables donde se manifiestan los efectos de la pandemia. Los principales resultados sugieren que en la parroquia existe poca presencia de políticas públicas destinadas a la reactivación turística, por lo que la sostenibilidad de los pequeños negocios se presenta vulnerable. La principal conclusión de esta investigación señala la importancia de activar el turismo comunitario rural, colocándolo como primordial actividad económica para la población objeto del estudio.

Palabras clave: ingresos, COVID-19, turismo, afectación económica.

1. Introduction

Travel and tourism are curiously related to the coronavirus pandemic, having acted as a vector for the spread of COVID-19 (Guerra Luzuriaga, 2020), but also being among the most affected economic activities. In 2020, the World Tourism Organization [UNWTO] estimated 900 millions fewer arrivals to international destinations and a loss of $935 in export revenues, ten times the magnitude of the 2009 global economic crisis (UNWTO, 2020). This vulnerability has been further amplified by the magnitude of travel and tourism's contribution to global economic activity, and the proliferation of micro, small and medium-sized enterprises within the sector. In Latin America, prior to the pandemic, 98 % of businesses in the "tourism industries" were small businesses and 87 % were microenterprises with fewer than nine employees (Comisión Económica para América Latina y el Caribe [CEPAL], 2020).

While these figures articulate the nature and effects of the health crisis, the pandemic has also been contemplated as "a moment to reinvent the sector" (Cabanilla et al., 2021). The pandemic was and still is an "opportunity" for tourism businesses to "grow back better". This implied and implies "preparing for tomorrow", while "managing the crisis and mitigating the impact" (World Travel & Tourism Council [WTTC], 2020). Specific business innovations were required to counter the spread of COVID-19, but the restrictions have also allowed projects, blocked by the imperatives of day-to-day operations within the "old normal", to move forward. More optimistically, the pandemic provided an opportunity to move toward a "new normal" that avoids the negative aspects of the unsustainable practices of the past (WTTC, 2020).

In this regard, a considerable number of studies exploring the effects of the pandemic and the interventions to support tourism and hospitality businesses emerged (Mora, 2020); however, to date very little work examined the lived experiences of businesses in the sector, especially smaller businesses (Oviedo Costales et al., 2020). Gössling et al. (2020) consider that the effect of pandemic confinements on the tourism industry reflected in aspects such as: people's emotions, tourism management and cultural sites, the positioning of the hospitality industry, the safety and local reaction, tourism conflicts and solutions, corporate self-improvement initiatives, government assistance, and the post-crisis tourism product; all these factors determined, as a whole, the effects of the pandemic on the tourism and hospitality industry.

The central objective of this article is to examine, using quantitative analysis methods and tools, how owners and managers of affected commercial venues in the Turi parish of the Cuenca canton, coped with the pandemic and its effects. This study also aims to contribute to the empirical knowledge of tourism in a coronavirus pandemic scenario, focusing on two connected research questions: first, how do the owners and managers of commercial establishments consider the situation of their businesses before and during the pandemic, in terms of customer and tourist flows? Second, how does this relate to the findings found in the literature on the COVID-19 pandemic and economic activity in the tourism sector? Unlike many studies on business, tourism and hospitality during the pandemic, which are based on macroeconomic statistics and aggregates, this paper is supported by fieldwork, where primary information was collected, through dialogue with tourism and business-related micro-enterprises which started their activities before, and continued during the pandemic. This allowed to expose and place in much broader personal and organizational contexts the pandemic, its potential, and the rhetoric around its possible effects on business (i.e. transformation).

1.1. Theoretical review

Within the contextualization of the pandemic, it brought some percentage variations, one of them, cited by the UNWTO (2020), the global outbreak of COVID-19 has brought the world to a standstill, bringing as a consequence a drop in the contribution of this sector to the global GDP, decreasing from 10.4% in 2019 to 5.5% in 2020. On the other hand, the United Nations stated that tourism came to a standstill from mid-March 2020 (United Nations, 2020). At that date, international tourist arrivals decreased by 56 % and by May they had fallen by 98 %, compared to 2019. That translated into 300 million fewer tourists and the loss of approximately $320 billion in international tourism revenue (UNWTO, 2020), more than three times what was lost during the entire 2009 global economic crisis. Strielkowski (2020) believes that the impact of the coronavirus on the tourism industry was devastating, much more profound than in the SARS epidemic of 2002-2003. This author estimated losses to airlines of US$113 billion in sales during 2020.

According to CEPAL (2020), the projected scenario suggests that the impact of the pandemic on tourism contraction led to a decline in Latin America's GDP growth. Reports of analysis and monitoring of the health crisis indicated that international tourist arrivals in the region fell by 50 % in March and by close to 100 % as of April 2020, compared to the same months in 2019.

According to the International Air Transport Association (IATA, 2020), 1.8 billion passengers flew in 2020, a decrease of 60.2 % with respect to the 4.5 billion that did so in 2019, with total airline industry revenues falling by 69 % to $189 billion dollars in 2020, generating net losses of 126.4 billion dollars; for this reason, Felix Mendoza and Garcia Reinoso (2020) consider it opportune to promote within the territory strategies in conjunction with the chambers of tourism, restaurants' associations, accommodations, transport guilds, airlines, etc., in order to guarantee the flow of national and foreign tourists, and thus the permanence in the tourist market of all the small businesses that are more vulnerable.

Pinargote Montenegro and Loor Chávez (2021) analyzed how COVID-19 affected some operational decisions of hotel establishments in the short, medium and long term: 59 % of hotel establishments carried out, or considered redefining the profile of target customers. In this sense, the UNWTO pointed out that the restructuring of accommodation services caused millions of jobs to be at risk, so that protecting the most vulnerable segments, such as SMEs, self-employed workers, women and young people, was a priority that should have been considered by governments, in addition to creating survival mechanisms for companies (Revista Gestión, 2020). Appealing to national tourism, adapting and reinventing itself, seeking differentiators and alliances with other destinations, are some of the keys that the Ecuadorian tourism sector proposed for its reactivation after the collapse caused by the pandemic (Agencia EFE, 2020).

In the case of Ecuador, the government, together with international organizations, including the UNWTO, gradually developed the necessary actions so that national or foreign people with disabilities could enjoy the country's tourist destinations, in the context of the post-pandemic reactivation (Ministerio de Producción, Comercio Exterior, Inversiones y Pesca [MIPRO], 2020). From the academic sector, the Universidad Laica Eloy Alfaro de Manabí (ULEAM, 2020), through the School of Hospitality and Tourism, suggested proposals tailored to the needs of society, under the current scenario of COVID-19, from the three substantive axes: teaching-research- social outreach to the community and the tourism sector, in a conference called "The academy with you: tourism reactivation post COVID-19". In this sense, Santamaría and Bayas Vásconez (2018), highlight the importance of tourism, since it represents an important sector that dynamizes the country's economic activity; however, in the case of developing countries, households use their income to meet basic needs, leaving no extra income available for travel or leisure activities.

According to different economic analyses, in Ecuador the impact of the COVID-19 pandemic meant a drop in the country's income of USD 16,382 million, between March and December 2020. According to the Central Bank of Ecuador, Banco Central del Ecuador in Spanish (BCE, 2021) "the total losses represented 16.6 % of the gross domestic product (GDP) in 2020, in current values"; 78.1 % of the losses, equivalent to USD 12,791 million, corresponded to the private sector, while the remaining 21.9 %, equivalent to USD 3,591 million, came from the public tourism sector (BCE, 2020b).

In the private sector, the most affected activities were those of trade, with a reduction of USD 5,515 million compared to 2019; followed by tourism, with a drop of USD 1,810 million, and manufacturing with a drop of USD 1,717 millions (Secretaria Técnica Planifica Ecuador, 2020). In the Cuenca canton, the overall economic performance experienced a drop of 11 % between 2019 and 2020; according to figures of gross value added (GVA) the sectors that contracted the most in this period were accommodation and food services (-28

%), and other services (-24 %), where intermediation activities such as promotion, guide and tourist assistance agencies are included (BCE, 2020a). Additionally, losses of up to US$6 million per month were recorded in the sectors related to tourism activities, which caused a decrease in the income of economic resources for the sustainability of the 3,500 businesses dedicated to tourism, such as hotels, restaurants, bars, and tourism agencies, ninety percent of which are small, medium, and family businesses.

1.2. Impact of tourism on the economy

Tourists spend their money on a large variety of goods and services provided by a wide range of businesses. For example, tourists invest in accommodation, food and beverages, transportation, communications, entertainment services, retail goods, and tourist travel services. This money can be seen as an injection of demand into the host economy, i.e. demand created by people from outside the local economy area (Cicowiez & Ordóñez, 2021). However, the total value of tourist spending represents only a partial, and sometimes misleading, picture of economic impact. The full assessment of economic impact must consider other aspects such as: expenditure leakage out of the local economy, indirect and induced effects, and opportunity and displacement costs (Croes & Rivera, 2017).

When tourists generate spending within an economy, the amount of money that remains within that economy depends on the magnitude of leakage that occurs. For example, if a tourist buys a carved wooden souvenir in a gift store, the extent of leakage will depend on whether the carving was imported or locally made (Stynes, 1999). If the carving was imported, the tourist is really only buying the value added that was created within the local economy, i.e., the value of local transportation, importation, wholesale and retail margins, government taxes and tariffs, etc. The extent of leakage may be due to demand-side factors, such as the fact that different types of tourists and different types of tourism activity tend to be associated with differences in propensities to purchase imported goods (Croes & Rivera, 2017). Leakage may also be associated with supply-side factors, particularly in developing economies, where local capacity to meet tourists' needs may be small and, consequently, a high proportion of demand is met by imported goods and services. Wherever money leaves circulation, whether spent on goods and services abroad or simply withdrawn through savings, this constitutes leakage (Croes & Rivera, 2017). Measuring the economic impact of tourism is much more complex than simply determining the levels of spending expended by tourists. In fact, estimates of the economic impact of tourism based on tourist expenditures or revenues can be not only inaccurate, but also highly misleading; therefore, in analyses of the economic impact of tourism, it is necessary to consider the different aspects of the economy that are affected by tourism spending (Fayissa et al., 2011). In this sense, a distinction can be made between the economic impact associated with tourism spending and that associated with tourism development; the former refers to the ongoing effects and changes in tourism spending, while the latter refers to the one-time impact of the construction and financing of tourism-related infrastructure (Stynes, 1999). The difference between these two aspects of impact is important because they require different methodological approaches. Calculating the economic impact of tourism spending is achieved using multiplier analysis, and estimating the economic impact of tourism development projects is often achieved using project evaluation techniques such as cost-benefit analysis.

The measurement of the economic impact of tourism spending, to be meaningful, must encompass the various effects of tourism spending and its impact on the entire economy. Tourism spending has a "cascading" effect on the entire host economy. It starts with tourists spending money in "front-line" tourism establishments, such as hotels, restaurants and cabs, and then spreads to the rest of the economy. It can be examined by assessing the impact at three different levels: direct, indirect and induced.

The level of direct impact is the value of tourist spending minus the value of imports needed to supply those "first line" goods and services. Therefore, the direct impact is likely to be less than the value of tourist spending, except in the rare case where a local economy can meet all of the tourist's needs from its own productive sectors (Cicowiez & Ordóñez, 2021). As to the indirect effects side, it is observed that establishments that directly receive tourist spending also need to purchase goods and services from other sectors within the local economy. For example, hotels purchase services from builders, accountants, banks, food and beverage, electricity and water suppliers, etc.; in addition, suppliers to these 'front-line' establishments will also need to purchase goods and services from other establishments within the local economy, and so the process continues, the generation of economic activity caused by these subsequent rounds of spending is known as an indirect effect (Stynes, 1999). During direct and indirect rounds of spending, income will accrue to local residents in

the form of wages, salaries, distributed profits, rents and interest; this addition to local income, in part, will be spent back into the local economy on goods and services and this, in turn, will generate further rounds of economic activity, reaching an induced impact (Comerio & Strozzi, 2019).

1.3. Impact of COVID-19 on tourism

Literature shows that, regardless of developed or developing, global economies were greatly affected by the outbreak of COVID-19. Vărzaru et al. (2021) noted that COVID-19 created great uncertainty in stock markets, thereby significantly reducing investment in developed economies. Similarly, underdeveloped countries are about to fall into the debt trap as the pandemic increased the cost of public finances in these countries (Aburumman, 2020). As the number of deaths kept increasing, the stock market reacted adversely, especially in Britain, Russia, India and China, thus creating a situation of global collapse (Kharbanda & Jain, 2021).

The higher number of deaths due to the pandemic had a negative impact on the per capita income of country, thus causing many countries to have a negative economic growth. Macroeconomic indicators such as gross domestic product, foreign direct investments, employment, global health system were overshadowed due to the uncertainty resulting from forced confinements to protect against the effects of COVID-19 (Zorraquino, 2020). The pandemic put the entire global economy on hold, whose main sectors were adversely affected due to the lockdown, the concerns, the uncertainty and doubts generated.

Of all economic sectors, the tourism and hospitality industry faced the greatest burden due to the worldwide COVID-19 crisis. Longart et al. (2017) conducted a comprehensive literature review focusing on the challenges faced by the hospitality industry. Their findings revealed the negative impact on sales revenue, job losses, changes in customer preferences, and declining market demand. Owners had to pay fixed costs, among others: rent, electricity, salaries, and interest on purchased loans; this, coupled with the continued decline in revenues, made it difficult for owners to remain operational during the COVID-19 scenario (Oviedo Costales et al., 2020). Financial stress and solvency concerns made it difficult for owners to pay debts due to the pandemic, this resulted, in part, in many companies deciding to lay off employees, or in the suspension of their activities without pay (Lucas, 2020).

On the other hand, the psychological effect on the owners of tourism and related businesses deepened, as they carried out temporary or indefinite suspensions of employees due to lack of clarity in returning to normality, negatively impacting the relationships between workers and employers (Şengel et al., 2020).

Within this environment of uncertainty, owners faced the challenge of stabilizing their business, therefore, they requested the government to provide recovery packages to survive in the short term until overcoming the impact of the health crisis (Mora, 2020). Entrepreneurs had to close their businesses for three months, however, there was ambiguity about the survival of businesses with short-term rescue packages. Accordingly, a time span of more than five years will be required for tourism and hospitality to recover (Llugsha & Camacho, 2021). The abrupt halt of economic activities turned the future sustainability of the tourism and hospitality industry into a big question mark.

2. Materials and Methods

This study was carried out in the rural parish of Turi in the canton of Cuenca in the province of Azuay (Figure 1). This parish had, in 2020, a population of 11,095 inhabitants, according to the National Institute of Statistics and Census (INEC), of which 53.4 % were women and 46.6 % men. According to the Development and Land Use Plan of Turi (Jiménez Rivas et al., 2019) 94.5 % of the population is literate, of this percentage 55.3 % has only primary education and only 5.77 % attends higher education. The main economic activities of Turi's population are short-cycle agriculture and small animal livestock breeding. There are also economic units engaged in manufacturing, such as the production of clothing, handicrafts and pasta (Jiménez Rivas et al., 2019). Tourism activity in this parish is developed around ten attractions, among which are: a) Boquerón Municipal Forest, b) Ictocruz Park, c) Padre Julio Matovelle Belvedere, d) San Agustín Church, e) Tres Marías Church, f) El Cisne Church, g) El Carmen de Guzho Church, h) Santísima Virgen de la Merced Church, i) the Turi Swing, j) Turi Belvedere. In addition, there are cultural tourism flows, mainly for the local religious and parish

festivities (Jiménez Rivas et al., 2019).

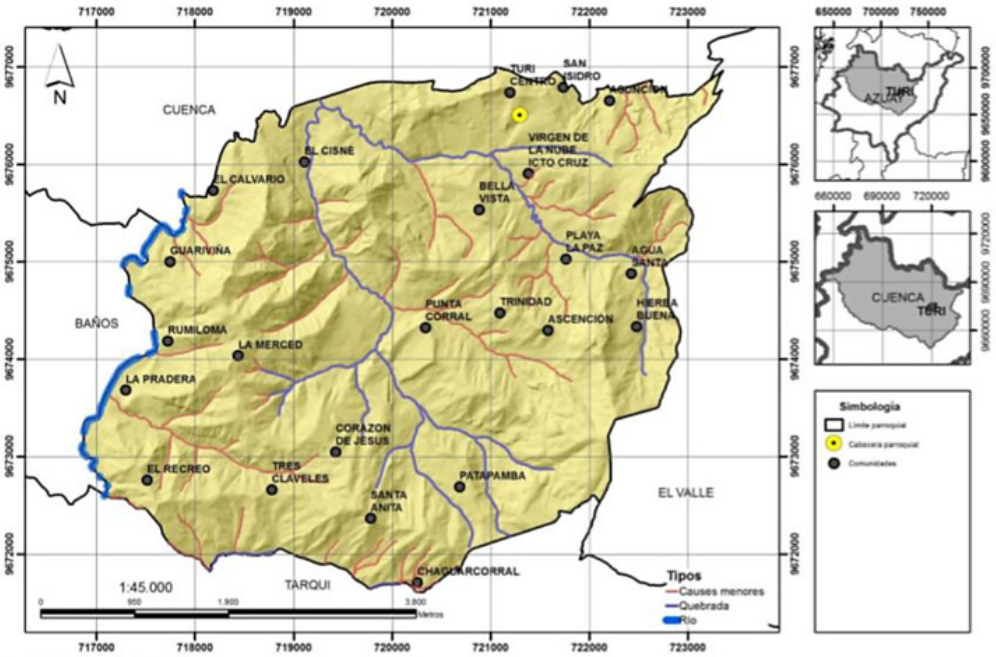

Figure 1. Map of the location of the parish of Turi (Jiménez Rivas et al., 2019).
Figura 1. *Mapa de la ubicación de la parroquia Turi (Jiménez Rivas et al., 2019).*

This research aims to analyze the economic impact experienced by the tourism and commercial sector in the Turi parish of the Cuenca canton, because of the mobility and capacity restriction measures brought about by the COVID-19 pandemic during the year 2020. For this purpose, the research contemplates a quantitative approach using numerical measurements of the study variables; the scope of the research is correlational, since it seeks to determine the positive or negative relationship between two or more concepts. The instrument used to collect primary information was a questionnaire, through the application of a survey to the owners and managers of the commercial establishments whose activities were related with, or complemented by tourism activities in the parish. The questionnaire used consisted of six questions measuring aspects of business characterization and impact of the pandemic; four of them are closed-response, that is, the respondent has multiple-choice options to answer according to his reality; the last two questions are open-ended, that is, the respondent is free to express data according to the reality of his business.

The variables of analysis measured in the questionnaire are: 1) average monthly income (Y1): this variable measures the average level of sales revenue received by the businesses; 2) the affectation rate (Y2): this variable measures the estimated negative variation rate in the sales volumes of commercial establishments, associated with the reduction of the flow of tourists toward the attractions of the Turi parish; 3) location[1] (X1): this variable measures the cardinal location of commercial premises in relation to the parish center; in addition, it geographically weights the concentration of tourist attractions on a scale of four ordinal categories associated with each cardinal location, i.e., commercial premises located north of the parish center have proximity to a tourist attraction, so it is expected that their sales have little influence of the flow of tourists; the stores located to the south of the parish center have proximity to three attractions, so their sales would be moderately influenced by the flow of tourists; the stores located to the east of the parish center have proximity to six attractions, so the flow of tourists would have a considerable impact on sales; Finally, the stores located to the west of the parish center have no proximity to any tourist attraction, so their sales would hardly be influenced by the flow of tourists; 4) distance to the parish center (X2): this variable measures the proximity of the commercial premises to the parish center, it is used to evaluate the dependence of geographic concentration on sales; 5) years of operation (X3): this variable measures the time of operation of the commercial premises, and with it the experience they have adapting to circumstances such as the pandemic; 6) economic decline (X4): (X4):

[1] Based on Plan de Desarrollo y Ordenamiento Parroquial (PDOT, 2015-2019)

this variable measures the perception of reduction in the profits generated by the commercial premises due to the pandemic; 7) unemployment (X5): this variable measures the number of employees and/or managers of the commercial premises that had to cease their activities as a consequence of the confinement measures and restrictions to mobility due to the pandemic; 8) advertising expenses (X6): this variable measures the monthly expenses that have been allocated to the commercial premises to reactivate their activities after the lifting of the containment measures by COVID-19; 9) type of business; (X7): this variable allows us to know the main product or service offered by each commercial establishment.

The information collected is analyzed using descriptive statistical indicators, such as the measures of central tendency and deviation for the variables distance to the parish center, years of operation, unemployment and advertising expenditures; for the other variables, the graphical representation of the results is used, where the proportions of response to each category are presented. In order to determine the economic impact of COVID-19 on the sales of commercial establishments in the Turi parish, a linear regression model is estimated where a relationship between the variables (Xi) and the variable (Y) is obtained. This model allows inferring the extent to which sales revenues are affected by factors such as location, distance to the parish center, years of operation, economic decline, unemployment, advertising expenditure and type of business. The functional relationship estimated is the one presented in equation [1]:

$$Incomes = \beta_0+\beta_1 Location+\beta_2 Distance+\beta_3 YearsOperation+\beta_4 EconomicDecline+ \beta_5 Unemployment+\beta_6 Advertising+\beta_7 TypeBussiness + \varepsilon \quad [1]$$

Where (Y) is the dependent variable which, in the case of this study, is sales revenue and (X) are the independent or explanatory variables. The parameters β_i indicate the magnitude of the effect that each independent variables has on the dependent variable.

The population of analysis in this research is composed, mainly, by the number of retail stores located in the Turi parish and its surrounding areas. This population has been considered because the literature review on the impact of the pandemic on the tourism sector suggests that this is where the greatest economic impact of restrictions on mobility and capacity has been highlighted. According to the Land Registry of Economic Establishments (2020) published by the Internal Revenue Service (SRI), there are 155 active establishments engaged in commerce in the Turi parish, so this figure is the size of the population.

Due to the health emergency, access to the entire population for the study was limited, mainly due to the unwillingness of the owners and managers of the commercial establishments to be surveyed. Given this restriction, it was decided to take a convenience sample. In this type of sampling, primary information is collected according to the ease of access, the availability of people to be part of the study, or any other practical specification (Malhotra, 2016). According to this sampling procedure, 35 surveys were completed by owners and managers of retail commercial premises in the Turi parish, which have activities that are distributed among restaurants, cafeterias, stores, tourist attractions, and handicraft stores, among others.

3. Results

This section presents the results obtained from the information gathered through the surveys conducted with the owners of commercial establishments located in Turi. The information is generated through tables and graphs, then the main indicators obtained in each study variable, and the correlation between the variables of location and impact of the pandemic on sales revenues is analyzed; for this, a multiple linear regression model is performed, where the impact of each independent variable on the revenue is obtained, through the estimated coefficients for each one.

According to the survey, with respect to the distance in meters existing between the central plaza of Turi and the surveyed stores, on average it corresponds to a distance of approximately 1,666 meters, with a mode of 50 meters, the standard deviation is 2,546.96 meters, which indicates a high dispersion of the stores. This is because, geographically, in the rural environment human settlements tend to be extensive, due to factors such as health, education, or recreation facilities access (Table 1). As to the years of operation of the businesses, the mean is approximately 5 years, with a median of 4 years and a mode of 4 years, indicating that most of the businesses have only a few years of operation and a standard deviation of 3.3 years, indicating that most of the businesses emerged in the short term. According to the data, there is an average of approximately 2 employees

laid off due to the pandemic, with similar median and mode. This reflects that most of the businesses laid off half of their collaborators or employees, the standard deviation is approximately 2. The advertising budget is, on average, USD 73.00 to launch their business, with a median and mode of USD 50, which indicates that most of the owners assign a very low value for advertising, with a standard deviation of USD 74.03, generating a high dispersion in the size of the businesses, and therefore in the budget assigned to this item.

Table 1. Descriptive statistics.
Tabla 1. *Estadística descriptiva.*

Variables	Average	Median	Mode	S.D.	Min	Max
Distance in meters	1,666	500	50	2,546.96	12	9,000
Years of operation	5	4	4	3.94	1	20
# of employees laid off	2	2	2	1.49	0	7
Advertising budget	73	50	50	74.03	0	250

3.1. Calculation of perceptual variables

As to the information obtained according to the level of income before the pandemic, 49 %, that is, 17 of the respondents, state that their income was less than $800; 31 %, representing 11 of the respondents, state that their income ranged between $800 to $1,600; 11 % (4 respondents) state that it was greater than $2,400; and, at the extreme end, 9 % (3 respondents), stating that their income before the pandemic was comprised between $1,601 and $2,400.

As shown in Figure 2, 26 % (corresponding to 9 respondents), the most representative group of respondents, state that their businesses have activities related to restaurants, then stores with 20 % (7 respondents); followed by coffee shops with 17 % (6 respondents). On the other hand, the businesses, or premises with little representation are those of lodging, since these represent 3 % (1 respondent), according to the data generated from the surveys conducted in the Turi sector.

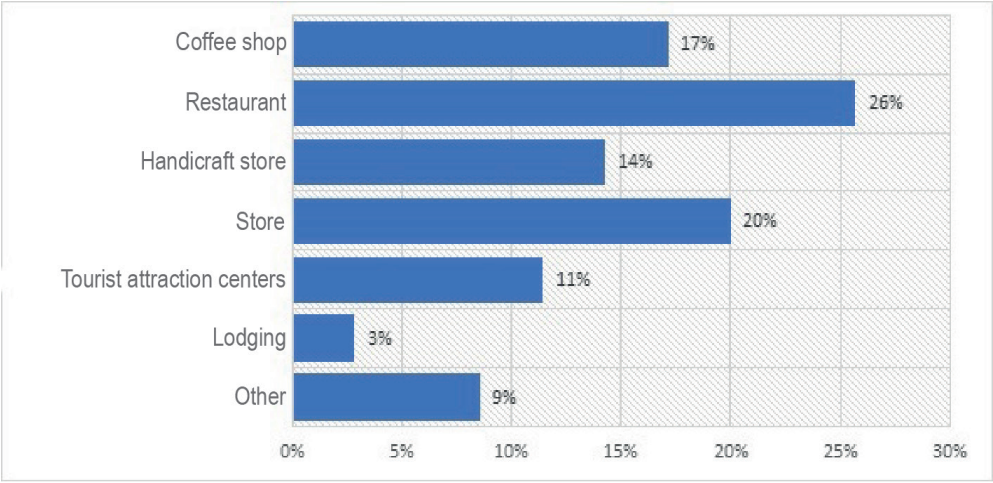

Figure 2. Bussiness type.
Figura 2. *Tipo de negocio.*

From the survey conducted in the Turi parish, 91 % (32 respondents) stated that they have not received any help from the parish government; only 9%, that is 3 of the remaining respondents, mentioned that they did receive some type of help.

Most of the businesses are located to the east, that is 43 % (15 respondents); and to the south 29 % (10 respondents). The location of the business is important because it drives customer attracting and retaining customers. While the other businesses represent 9 % (3 respondents) to the north, 20 % (7 respondents) to the west. In the latter two sites, there are few businesses, because the location is not suitable for operation, since they do not have tourist attractions in their surroundings; in addition to that, tourists choose the nearest location.
It is important to mention that from the survey conducted it emerges that 23 %, that is, 8 of the owners of bu-

sinesses such as restaurants, tourist attraction centers, cafes and lodging, have advertising in different social networks and media, within this item, a budget of approximately USD 73 is allocated. Through advertising, they publicize their product or service, and thus increase sales and profits to solve the pandemic situation; at the same time, 77 %, i.e. 27 of the businesses, obtain not-so-significant profits, as they are stores and depend on tourists visiting Turi.

In relation to the estimation of the linear regression model presented in Table 2, the revenue variable is analyzed as a function of multiple independent variables. With respect to years of operation, the business earns $0.15 more in revenue for each extra year of operation. As to the unemployment variable, for each laid-off employee the business increases its monthly revenue by $0.37. The advertising expenditures variable indicates that, for every dollar spent on advertising, monthly sales revenue increases by $0.007.

Since this is a linear regression model of different variables, the adjusted r^2 value should be considered, which presents a goodness of fit of 76%, reflecting that the model fits the information gathered.

Table 2. Multivariate Linear Regression.
Tabla 2. *Regresión lineal multivariable.*

Impact level	Coef.	S.D.	t	*p* > ItI	(95 % Conf. Interval)	
					Min	Max
Revenue	-0.0233179	0.0863729	-0.27	0.790	-2029402	0.1563044
X_1(L)	0.0438675	0.0489858	0.90	0.381	-58004	0.1457391
X2(D)	-0.0000523	0.0002162	-0.24	0.811	-5018	0.0003973
X3(AF)	-0.0772394	0.0304859	-2.53	0.019**	-1406382	-138406
X5(ED)	-0.0404952	0.0385565	-1.05	0.306	-1206778	0.0396875
X6(GP)	8.72e-06	0.0007872	0.01	0.991	-16284	0.0016458
X7(TN)	-0.3326348	0.1738552	-1.91	0.069**	-6941864	0.0289168
X8(TN)	-0.1879702	0.1598163	-1.18	0.253	-5203264	0.1443861
X9(TN)	-0.1840214	0.1911138	-0.96	0.347	-5814642	0.2134215
X10(TN)	-0.039722	0.1702872	-0.23	0.820	-3934039	0.3148566
X11(TN)	-0.1168271	0.1757024	-0.66	0.513	-4822203	0.248566
_cons	1.140.235	0.2210714	5.16	0.000	.6804922	1.599979

After analyzing the collected data, which regards the income of commercial establishments prior to the pandemic, we proceeded to apply the regression model of the variables X as a function of the variable Y2 (percentage of impact), constructed from the data resulting for the variable 'level of impact', in order to have an approximation of the losses that the businesses assumed, thus reflecting that, for the variable 'years of operation', it can be inferred that for each year of operation the business reduces its percentage of impact by 0.07 points. For the variable 'type of business', for each category, there is a difference of 0.33 points in the percentage of impact.

4. Discussion

The analysis of the economic impact caused by the confinement and mobility restriction measures spurring from the COVID-19 pandemic in the tourism sector of Turi. It shows economic losses for business owners caused by the reduction in tourist flows and sales associated with the daily activities of the local population. In this scenario, it is necessary to formulate strategies for the reactivation of all economic activities in this rural parish, since the productive linkages that arise from the primary sector, with activities such as agriculture and livestock, when associated with secondary sector activities, such as manufacturing and construction, lead to the revitalization of the commercial and tourism sectors. The formulation of reactivation strategies jointly involves public sector actors, such as the Autonomous Decentralized Governments (GAD) both at the parish, cantonal and provincial levels; as well as private sector actors, such as social organizations and productive

associations present within the parish, as well as all economic units, by means of alliances for cooperation and development.

The planning of tourism reactivation at the territorial level is a responsibility of the Ministry of Tourism; however, local governments also have powers that allow them to intervene in the matter, which represents an important source of income for the rural population. According to the results obtained, 91% of the surveyed business owners stated that they have not received any type of help, or incentive from the parish government. This reveals the lack of policies and planning focused on tourism reactivation on behalf of public sector actors in the Turi parish, which caused them to miss an important opportunity to economically reactivate those rural communities, that could benefit from the presence of tourists in their attraction venues, such as the Boqueron Municipal Forest, the Ictocruz Park or the Turi Belvedere, since -with the proper biosecurity measures-, tourism in these places had (and has) a low level of risk for COVID-19 infection.

With respect to job losses during the pandemic, in the commercial sector of Turi approximately two employees have been laid off in each store; according to the Business Directory (INEC, 2020), in the canton of Cuenca, an economic establishment dedicated to commercial activities has an average of four employees, this indicates that in the parish half of the jobs have been lost in the commerce sector; this situation puts at risk the economic sustainability of many families, and deepens the levels of unemployment and underemployment.

According to this research, 26% of commercial establishments are restaurants and 20% are retail stores. This indicates that commercial activity in the parish was sustained mainly in the supply of services complementing the tourism sector, since about 71% of the establishments are concentrated between the south and the east of the parish center, where nine of the ten parish tourist attractions inventoried are located, so that their sales revenues are sensitive to the flow of tourists, making it necessary to reactivate and enhance the attractions in these places.

When evaluating the impact of factors such as location, distance to the parish center, years of operation, economic decline, unemployment, advertising spending, and type of business, on the sales revenues of commercial establishments in the Turi parish, it emerged that only the location and type of business have a negative effect on the revenues of commercial establishments, this is because during the pandemic the establishments that experienced the greatest decline were restaurants and coffee shops which were close to tourist attractions. With The linear regression allowed to corroborate that, in the communities of the Turi parish, the flow of tourists has an important impact on its commercial dynamics, therefore it is important that governmental entities with competencies in the tourism sector, attend the parish with tourism reactivation programs focused on the natural attractions it possesses.

5. Conclusions and Recommendations

This research presents an analysis of the economic impact experienced by the commercial and tourism sectors in the Turi parish because of COVID-19. This is since the government implemented confinement measures, mobility restrictions and gauging to mitigate contagion within the population; therefore, tourism was directly paralyzed and the economic activities related to tourism suffered a drop. Among the activities that contracted, the most affected were those related to retail trade and the provision of complementary services such as food and lodging. This research was developed through a quantitative approach, using measurement techniques in the main variables, through surveys directed to the owners or managers of commercial premises throughout the parish. The main conclusions obtained are:

- Most of the businesses are microenterprises arisen mainly due to the need of the local rural population lacking employment sources that guarantee the economic support of their families within this sector. Therefore, they are businesses that have only been operating for a few years, mainly dedicated to offering food services, which makes them vulnerable in the face of temporary situations such as the pandemic.
- Among the main actions that the owners of the stores took to face the impacts of the pandemic, was the dismissal/lay off of employees, caused by the decrease of customers, the reduction of operating hours, as well as the restriction of mobility. This influenced the decline of cash circulation within the rural population that depended on this source of income.
- It is important to create communication channels between the different actors related to tourism in the parish, since -although there exist few reactivation initiatives-, however, they are not properly socialized

among the people involved. For this reason, many programs and projects that were developed (minimally) from the central, provincial and cantonal governments did not benefit the population of Turi.

From the research carried out, the following suggestions can be proposed:

- To implement coordinated actions to promote the Turi parish as a tourist destination, in order to improve the daily dynamics of the parish' business activities.
- To encourage the generation of better conditions for the development of commercial activities, as well as to promote alternatives in order to generate employment and boost the local economy.
- To propose training strategies involving those actors related to tourism activities, where they can strengthen their knowledge and increase their skills and abilities, with a vision of development, and by promoting good customer service practices, through the implementation of the proper basic biosecurity standards in order to, protect the health and well-being of tourists.
- To regulate the prices charged to tourists for visiting certain attractions in the Turi parish according to norms and ordinances, so that tourists visiting these sites can plan their activities and expenses, in consideration of the fact that tourism can become an important source of employment for the rural population.

Contributor roles

- Gladys Esperanza Largo Morocho: conceptualization, investigation, methodology, formal analysis, resources.
- Marco Antonio Posligua San Martín: visualization, writing - original draft, writing - review & editing, formal analysis.

Ethical Issues

Ethics approval Not applicable.

Conflict of interest

The authors declare that they have no affiliation with any organization with a direct or indirect financial interest that could have appeared to influence the work reported.

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