INNOVATION OPPORTUNITIES IN MARKET PLACES

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RESUMEN

The research analyzed the opportunities for innovation in marketplaces. For this, ethnographic observation, SWOT analysis, literature review, and semantic network construction were used. These methods revealed that market-places have innovation opportunities that do not depend exclusively on institutions but also on the community due to their high sociocultural value. They are important spaces for the development of informality, have significant environmental impacts, and are economic hubs contributing to sustainability in Bogotá D.C. and Acapulco. Additionally, they are crucial for the food supply of these cities. Finally, it is essential to integrate factors that contribute to innovation strategies and institutional action mechanisms, along with citizen participation, to promote sustainability processes and harness their potential for social innovation.

Keywords: social innovation, management in market places, public space, environmental impact, commercial activity, informality.

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OPORTUNIDADES DE INNOVACIÓN EN LOS MERCADOS

ABSTRACT

El propósito de la investigación fue analizar las oportunidades de innovación en los mercados. Para ello se utilizó la observación etnográfica, el análisis FODA, la revisión de la literatura y la construcción de redes semánticas. Estos métodos revelaron que los mercados tienen oportunidades de innovación que no dependen exclusivamente de las instituciones, sino también de los ciudadanos debido a su alto valor sociocultural. Son espacios importantes para el desarrollo de la informalidad, tienen importantes impactos ambientales y son polos económicos que contribuyen a la sostenibilidad en Bogotá D.C. y Acapulco. Además, son cruciales para el suministro de alimentos de estas ciudades. Finalmente, es fundamental integrar factores que contribuyan a las estrategias de innovación y mecanismos de acción institucional, junto con la participación ciudadana, para promover procesos de sostenibilidad y aprovechar su potencial de innovación social.

Keywords: innovación social, gestión en plazas de mercado, espacio público, impacto ambiental, actividad comercial, informalidad.

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1. INTRODUCTION

The objective of this research is to analyze the opportunities for innovation in marketplaces. Currently, Latin American cities have marketplaces for the distribution, commercialization, and food supply of the cities; the development of commercial activities is an engine of the economy where the rural and urban sectors are integrated.

However, marketplaces do not have high levels of innovation, technification or a circular economy that minimizes the by-products generated by the logistics of raw materials, this lack of innovation in some contexts does not facilitate competitiveness. Thus, marketplaces have an opportunity for innovation, because cities are currently demanding raw materials for sustenance, which is determined by market supply and demand. It should be noted that marketplaces are a bridge between rural and urban areas, but they are also very important meeting points where all kinds of activities take place: gastronomic, social, commercial, political, religious, customs, etc., as well as other types of activities [1]. It is here where the importance of market places for society lies, in the meeting points that take place around them. With the above, this study carefully reviewed, through field observation, informal and consensual dialogue with vendors and multiple visits to market places in Colombia and Mexico, the opportunities for innovation that these market niches can offer to the cities where they are located. The approach to these places infers an imperative need and an improvement of environmental aspects, food safety, social aspects such as family and begging, informality, and environmental social responsibility. Regarding environmental aspects, one of the problems is the generation of organic solid waste, which is not used most of the time and there is no evidence of management of this impact, and another important factor is the emission of environmental noise. In terms of food safety, there is inadequate handling and products outdoors due to the lack of a control and monitoring process for these places.

For the research, a qualitative methodology was used through multi-case data collection through direct observation and photographic record in the marketplaces. Subsequently, a SWOT analysis was carried out. In the analysis of the information, the Atlas ti program was used to analyze the codes in semantic categories. Thus, generating a list of environmental impacts observed inside and outside the marketplaces.

1.1 Theoretical basis. Innovation as a strategy: marketplaces are spaces that demand innovation and attention through governmental, social and citizen strategies, given their sociocultural value. This research is based on the contributions of the following authors [2];[3] y [4] which promote innovation as a strategic model to find concrete solutions from three aspects: first, the relationship between public space and informal commerce; second, commercial activity as an economic engine for the development of territories; and third, the environmental factor as a key element to promote innovation in marketplaces. According to [5] innovation is a decision-making process that involves organizations, companies, the public sector, institutions of power and citizens. Trade and economic activities that seek sustainability are in constant dynamization because they have on the environment.

Therefore, it is necessary to continuously evaluate actions and strategies to maintain social innovation and sustainability through timely actions and a public space capable of addressing them. This is achieved through the interaction and dynamics provided by marketplaces at the local and global level, allowing people to appropriate them for their benefit [6]. Under the criteria, the innovation processes and opportunities offered by marketplaces and other organizations are fundamental to support social integration, sustainability, and the productive chain. This is elemental within an economic development that allows proposing models and solutions for problems such as unemployment, marginalization, and informality. In addition, it allows to prospectively address the appropriation of space, the transformation of the city and recreation, as well as to build bridges between urban and rural areas [7].

The results of [8] y [9] manage to identify the actors that carry out the commercial activity of the marketplaces and the supply process from the productive systems. In this context, supply chains are linked to rural areas, which nourishes the agrifood commercial chain in urban areas and contributes to improving the food system in cities through the supply of staple products. On the other hand, marketplaces present the opportunity to innovate from the concept of "social innovation".

This implies the management of marketplaces focused on the commercialization model based on a spontaneous market relationship, strengthened through relationships of exchange, coexistence, and diverse cultural forms. One characteristic of these markets is that traders offer fresh, recently harvested agri-food products. [10]. For, [11] y lies an opportunity for social innovation if trade in the marketplaces is attended mainly related to products of the primary sector, which contribute to the production chain and the supply system through the sale of fresh products, fundamental for a peasant economy that moves to the city.

The study [12] of evidence informality is an ever-present element; in this sense, informality is defined as those labor and commercial processes that operate on the fiscal margin and that do not adhere to regulations, legislation or law. However, it is legitimate because such activities are approved by the social base.

Studies such as those of [13] y [14], suggest that through a scenario analysis, organizational and intersectoral challenges become evident, responding to a sustainability model that requires the construction of innovative strategies to valorize waste, improve space and reduce noise pollution caused by commercial activity. In addition, vehicular flow must be improved through an organized vision of the supply chain, one of the major problems to be addressed.

2. METHODOLOGY

The research is in the qualitative paradigm of multi-case type in the cities of Bogota - Colombia and Acapulco - Mexico. The cities were chosen because of the relevance of each researcher, given that he/she had greater access to these marketplaces. The research focuses its efforts on the integrated analysis of categories that emerged from field observation and literature review and dialogue with vendors and managers.

2.1 Multi-case Bogotá Colombia and Acapulco México

Case studies allow an in-depth and detailed analysis of the problem and phenomenon, providing a description of the events, facts or occurrences of one or more specific situations that serve to expand or reduce a thematic interest [15] y [16].

The two cases presented in this research, was born from an interdisciplinary theoretical discussion on innovation and corporate social responsibility; the integration of social, environmental, business and food aspects were needed, to address these variables possible scenarios were discussed and the idea of marketplaces arose rather than to seek dissimilarities, meeting points were sought between both areas of study, on innovation opportunities. In this way, this topic, but in the key of innovation and later through the bibliographic search, a theoretical gap was found in the approach to innovation in these areas of study and each researcher took the case according to the place of domicile, for this reason the research started from a literature review that is further developed in the results.

- **2.3 Bogotá Colombia case:** it was studied due to its importance within the economic development of Colombia, previously there was an academic niche within the programs of Environmental and Natural Resources Management and Business Administration that set the basis for the work on informality in Colombia. Market places in the city. In addition, the choice of this study area was based on the researchers' previous experiences in research processes that analyzed the city's food production and supply system.
- **2.4 Acapulco Mexico case:** this case was purely exploratory, the lack of previous studies contributed to the choice of the Central Market Square and an observation experience of one of the researchers on the behavior of citizens in that place, allowed to advance in the delimitation of the study area and the need to look at the events that took place in the treated space.
- **2.5 Data Collection:** The collection of information was based on direct observation in the field, field visits and a photographic record with the verbal permission of the vendors and the administration of the marketplaces. Therefore, it was important to develop the research in three stages and in two different contexts. The first stage was the review of databases and the analysis of deductive categories. Second, the field exploration where the SWOT matrix and the photographic record were obtained and, finally, the integrated analysis of the information obtained from the primary data.
- **2.6 Analysis of the information**: for the analysis of the photographic material, the Atlas, IT software was used to perform a deductive coding based on emerging categories. The authors made inferences to interpret the codes grouped in semantic categories, which facilitated the understanding of the specific situation of the market place in Bogota. Subsequently, the categorical analysis was represented by means of a network map, which served to visualize the interconnection between the categories analyzed. The information obtained from the

informal dialogues with the vendors was integrated into the network maps. The SWOT information was constructed with direct observation in the field and 10 visits to the market place in the city of Acapulco, then it was analyzed descriptively with inferences of the researchers about the experience, the information previously obtained in the field and derived in a list of environmental impacts observed inside and outside the market place. The following categories are explained (**Figure 1**):



Figure 1. Category of analysis of the literature review.

2.7 Literature review: the literature analysis served to narrow down the problem and make it more complex. The concept "Marketplaces", the literature review was conducted during the period 2010-2020, excluding books, conferences and documents that were not articles in indexed journals. The categories obtained in the review were analyzed deductively. On the other hand, in the literature review, different instruments were approached such as: Bibliographic manager base such as Mendeley, and through the CRAI (Resource Center for Learning and Research) of the University Santo Tomas. Where there is access to: Research tools (Scopus, Web of Science, Pivot), specialized resources (VirtualPro, World Politics Review), multidisciplinary resources (Sage Journals and Institutional Repository), in addition, electronic libraries and network of open repositories such as SciElo, Google Scholar, Redalyc, the Reference, Dialnet were used.

3. RESULTS

- **3.1 Commercial Activity:** marketplaces play a key role in linking rural and urban contexts, as they allow the population in both areas to have access to necessities, important foods in the population's diet and cultural aspects. They are nurtured by peasant producers who offer a wide variety of products that go beyond traditional commercial schemes. The commercial activity of the marketplaces not only helps to strengthen the productive system. It also helps rural development in the countryside and nourishes the productive chain in the urban area, but also contributes to improving the local food system through the supply of staple products. This creates a bridge between the two worlds, helping to bring sustainability and economic prosperity to both rural and urban areas.
- **3.2 Innovation in Market Places:** marketplaces present the opportunity to promote social innovation and theoretical sources (Table 1 y 2). This is the result of the phenomena that occur in these areas, which range from large to small. According to the Economic Commission for Latin America and the Caribbean ECLAC, social innovation is the process carried out to address new challenges and/or improve traditional processes with the participation of different people from the community and beneficiaries. In this sense, social innovation implies applying and innovating technology and using the participation and management of human talent. Productive linkages in marketplaces have been established in response to the need to optimize collective efficiency. However, their expansion and evolution require relevant macroeconomic policies, the identification and exploitation of opportunities, as well as the creation of a stable and reliable environment that ensures long-term sustainability [17] y [18].

A broader review on social innovation, learning is part of the development of different actors in society, which seeks to solve a social need through social practices that contribute to produce changes in relationships, systems and structures that result in a socio-technical change [19]. [19]. Likewise, the linkage of human capital takes relevance for this social business environment, given the importance given to the construction of social

networks and the actions that occur through cooperation. Social networks are understood as those collective structures of communities, based on relationships of trust, reciprocity and cooperation [20]. This relationship of networks becomes relevant for the interaction of individuals, which is based on trust, as well as from the accumulated experience that responds as a result to economic benefit This is why social capital and contribute to improving human conditions, relationships and community development, improving both individual and collective capacities in communities [21] y [22].

3.3 Marketplace Management: the management of marketplaces focuses on the marketing model is based on a spontaneous market relationship, strengthened through relationships of exchange, coexistence, and various cultural forms. A characteristic of the agri-food products that are marketed is that in many cases they are fresh, recently harvested. In general, the population working in marketplaces are older people, they work long hours that can range from 12 to 14 hours a day, most of them do not have pension contributions, the health system is linked to the Sisbén (System of Identification of Potential Beneficiaries of Social Programs of Colombia) and their remuneration is not in line with the value of the minimum wage in force [23] y [13]. These aspects are informality, lack of entry barriers and new marketing models for fresh products. To dimension the scenario, it is necessary to delve into three aspects that directly affect the value chain of marketplaces and that, therefore, become an opportunity to improve and create value for management.

It was evident that the analysis of these centers should contribute to rethink their business model, where the offer and the value generated by each work unit participate in the creation of a sustainable business. In addition, the market has begun to revolve around health over price, so it is important for the management of these centers to have financial, marketing, and social welfare decision-making skills.

The implementation of quality management systems is also important to improve the brand image of these marketplaces and to be able to offer high quality products that meet the needs of the markets, while respecting environmental care and working conditions. Solid waste management is also a key factor in ensuring the healthiness of these places. Finally, the orientation to the health of the fresh produce customer and the cultural trace around the healthiness of the marketplaces marked their management and the existing results.

3.4 Public Space and Informal Commerce in Market Places: informality is defined as those processes that operate outside the law; according to the International Labor Organization (ILO), the term encompasses all forms of paid employment (e.g., both self-employment and salaried employment) that are not registered, regulated, or protected by existing legal or regulatory frameworks, as well as unpaid work performed in incomegenerating enterprises. Workers in informality lack formal labor contracts, employment benefits, social security coverage, or union representation mechanisms [24]. Other informal activities that are included are those in which the products, for example grains, have no label, no origin and are repackaged, as well as for example home delivery services, all of which do not generate tax payments, since there is no accounting record and therefore the follow-up of the sale is not feasible. Aspects such as the invasion of external spaces, which is considered an invasion of public space for not paying the rent for the spaces assigned inside the plaza, generate chaos in the mobility of pedestrians and vehicles and therefore an environmental impact that is not favorable to economic activity [25].

On the other hand, opportunities were identified in commercial activities that could be taken advantage of by customer segments seeking more competitive prices, direct communication, and personalized service. In addition, there is a preference for products from rural areas that offer quality advantages for buyers. Although the exemption of tenure fees for the use of space in the market place allows informal vendors to offer products at reduced prices, this advantage is not necessarily reflected in the quality of service or in hygiene and organic waste management. These negative aspects may adversely affect the attraction of new potential customers.

Innovation in informality represents both an opportunity and a challenge. It seeks to generate a more organized and controlled environment to provide an improved experience to users. To this end, the IPES (Institute for Solidarity Economy by its Spanish acronym), advanced a project to improve the capacity of traders in different marketplaces in Bogota, which aimed to improve conditions and formalize market stalls to ensure the safety, health and working conditions of the vendors. [26]. At the same time, the point of view of informal vendors had to be considered, as many may feel more comfortable working in the public space rather than in the marketplace. This poses the challenge of striking a balance between the benefits achieved by a formal job and the concern for vendors to improve the marketplace as a safe, pleasant space that performs its functions efficiently. To this end, appropriate formalization programs are needed to support informal vendors and promote a marketplace that generates a positive experience for all involved. Such a formalization process would include the

creation of zones that are licensed to operate, the design of fair and stable lease contracts, and the implementation of environmental control measures to ensure safety and order.

To improve and innovate, it is required that the individuals involved improve their capacities for learning and the application of knowledge, to internalize and take them to the application with an interdisciplinary approach. This need arises from the complexity of social phenomena, both in their understanding and in the development of effective solutions to the problems that arise within the marketplaces. In addition, the participation of a wide variety of actors, including commercial agents, traders, housewives, social activists, business leaders and other relevant actors, demands a perspective that transcends conventional disciplines[27].

In order to foster and sustain innovation processes, it is essential to have what [28] called "social capacity". This capacity is composed of: 1) technical competence, which is determined by the level of education attained and the degree of skills acquired; 2) experience in the organization and management of large-scale enterprises or projects; 3) access to financial institutions and the ability to mobilize large-scale capital; 4) honesty and trust among the various actors involved; and 5) government stability and effectiveness in the formulation of regulations that support economic development, as well as efficiency in governance. All these elements are fundamental to promote social innovation in the current context of social development [29] y [30]. Finally, the impact of these formalization initiatives to improve informality in marketplaces needs to be continuously evaluated (Table 1). This involves collecting data about the formalization process, as well as surveying informal vendors to get their feedback and better understand how they will benefit from this process.

Table 1. The following table shows a comparison of different theorists of social innovation.

Referrals	Concepts	Reality of the Market Square
[31]; [32] y [33]	He described innovation as "creative destruction" and made a preliminary distinction between Invention and Innovation. Invention is an idea made real, while innovation is an idea made real and subsequently successfully implemented.	proving the conditions of the marketplaces, but the merchants feel mistrust towards the local government, which prevents their implementation. In addition, the owners are distrustful of outsiders who want to approach
[34] y [35]	Innovation in its most basic form is re- lated to new processes (forms of organ- ization and relationships) and results that correspond to the social demands of the most vulnerable groups not served by public institutions or the mar- ket.	however, they hinder the creation of continuous improvement. These marketplaces have people with scarce resources and little training, making them a focus for the develop-
[36]) y [37]	Innovation is developed through alli- ances and networks that allow the mo- bilization of economic resources and knowledge to facilitate the linkage of public policy projects.	In the local case, a unilateral process is developed to deter- mine the parameters of permanence of mer- chants and oversight of commercial activity:

Source: own elaboration

Comparison between theoretical references of social innovation and the reality of marketplaces.

3.5 Environmental Impact: the findings revealed that the environmental setting in the marketplaces is unfavorable. Several problems were identified, such as the generation of solid urban waste, the presence of noxious fauna, odor emissions and a deficiency in environmental culture. The high intensity of the flow of goods and their high volume causes an environmental impact that, if not properly managed, could seriously compromise the sustainable future of the area.

To mitigate these problems, it is imperative to implement strategies aimed at their eradication. These should include separation of waste at the source, effective solid waste management and the conditioning of cities with strategies and strengthen initiatives aimed at promoting an environmental culture among both residents of the area, visitors to the marketplace.

These awareness-raising initiatives, the formulation of a code of conduct to regulate environmental impact, and the training of community members to monitor and report environmental problems These measures will help improve the environmental situation in the marketplaces, ensuring sustainable development, the commercial environment that is generated and an improvement in waste management contributes to a healthy environment and well-being.

The implementation of strategies to raise community awareness, establish a code of conduct for environmental regulation, and train members to monitor and report environmental problems is essential. The environmental impacts identified are as follows:

- Solid Waste: Improper management and increased generation of municipal solid waste has adverse effects on soil and water quality.
- Environmental Noise: Increased noise levels can induce stress and cause health problems in the community.
- Atmospheric Emissions: The burning of fossil fuels contributes significantly to air pollution and climate change.
- Odor Emissions: Unpleasant odor emissions deteriorate air quality and affect the well-being of residents.
- Water Consumption: High water use can lead to depletion of water resources and deterioration of water quality.
- Energy Consumption: Increased energy consumption can increase greenhouse gas emissions.
- Wastewater: The presence of untreated wastewater can contaminate water bodies and affect aquatic ecosystems.
- Thermal Stress: Intensive commercial activities can increase local temperatures, affecting both human health and ecosystems.
- Harmful Fauna: The accumulation of waste can attract harmful fauna, posing risks to public health.
- Carbon Footprint: Waste generation and resource consumption contribute to the increase of the carbon footprint.

These measures will help improve the environmental situation in the marketplaces, ensuring sustainable development, the commercial environment that is generated and an improvement in waste management contributes to a healthy environment and well-being.

Based on the above, it is crucial that innovation has an impact on the environmental context to optimize the use of environmentally friendly packaging, through post-harvest practices that contribute to the presentation of products in a way that makes them attractive to consumers. In addition, it is necessary to implement non-formal environmental education actions to raise awareness among both buyers and sellers about the importance of waste separation. In parallel, strategies should be provided for adaptation to climate change, such as the reduction of organic waste pollution. It is also imperative to improve infrastructure and cleanliness conditions in marketplaces, guarantee decent working conditions with the corresponding social benefits for workers, and establish collection centers and ecological points for the temporary disposal of waste.

These measures would therefore make it possible to reduce food waste in Colombia, especially in Bogotá, thus contributing to the achievement of the Sustainable Development Goal of eradicating hunger by 2030. Then, it is important to encourage consumers to purchase products from the region, make purchases according to a previously established list, store food strategically, serve food portions according to consumer requirements, and recover products that do not meet commercial quality parameters to be delivered to food banks and charitable programs in the city [38].

3.6 Field Immersion and Approach: after reviewing the relevant literature, a field phase was carried out to dialogue with market vendors and plaza managers to learn their perspective regarding innovation and opportunities for improvement, as well as to establish the SWOT matrix (**Table 2**). This generated a comparison between the information in the literature and the real situation, which revealed environmental problems and problems of appropriation of public space and the lack of organizational structure for decision making. These characteristics make marketplaces a scenario of opportunities to improve commercial and business processes, supply chains and the management of the environmental impacts associated with these processes.

Table 2. SWOT Matrix.

	POSITIVES	NEGATIVES
INTER-	Strengths	Weaknesses
NAL FAC- TORS	1. Central location	Saturation of merchants
	2. Ease of access	2. Invasion of public space
	3. Fresh and diverse products	3. High environmental contamination
	4. Support to the economy of small producers	4. Informal trade practices
	5. Low prices	5. Inadequate food handling practices
	6. Gastronomic center by tradition	6. Lack of business organization
EXTER-	Opportunities	Threats
NAL FAC- TOR	Plans and programs for solid waste management.	Power groups and crime
	2. Implementation of the SSOP (Sanitation Standard Operating Procedures).	2. Infrastructure without maintenance
	3. Management of public space, through IPES.	3. Access to public services

Source: own elaboration

Internal factors refer to the characteristics or conditions of the market place, such as its organizational structure, which includes merchants, administration, and concessionaire. On the other hand, external factors include elements or situations that affect current customers, direct and indirect competitors, suppliers, the local mayor's office, and the mayor's office of Bogotá, as well as the Public Services Executive Unit (UESP).

The results of the SWOT (Strengths, Weaknesses, Opportunities, Opportunities, and Threats) analysis have revealed several challenges. Consequently, it is imperative to develop plans and programs aimed at minimizing environmental and health risks in the environment. Standardized Operational Sanitation Programs (POES) are essential to ensure waste management and final disposal, pest management, drinking water management, and hygienic sanitation for food handlers. Infrastructure needs to be upgraded and maintained, given the need to offer gastronomic services and the need for adequate public services that offer wellbeing to visitors.

This has a direct impact on the health of workers and traders, as well as on the safety and food quality of the products offered there. Consequently, there is no consumer confidence, and therefore, there is a loss of income and food. In addition, it is necessary to improve the social conditions of the homeless population, who are sometimes responsible for collecting or discarding waste in search of food, which impacts on waste management and is also part of the insecurity of the environment. In addition, government institutions are required to implement effective solutions to address insecurity in the area, creating safety nets that benefit the population without formal employment. These measures, combined with adequate organizational strengthening, will facilitate the economic, social, and environmental development of the areas analyzed.

- **3.7 Within the strategies:** this SWOT matrix allows to identify where the competitive advantages and disadvantages of the market place are and provides the possibility to generate strategies and tactics focused on four main actions:
 - ✓ Offer products at a lower price than the competition.

- ✓ Include added value in the product.
- ✓ Generate environmental strategies that minimize the negative impact on the environment, involve merchants, managers and concessionaires and have support groups such as the Special Administrative Unit of Public Services (UAESP) and the Institute for Social Economy (IPES).
- ✓ Focus commercial activity on the green market, taking advantage of the commercialization of fresh and varied products and the use of ecological packaging.
- ✓ Define a strategy from the gastronomy network, as a commercial and tourist dynamic.
- **3.8 Semantic networks:** through the inductive categories, a network map was established between the categories of analysis. Likewise, the establishment of these categories was used to identify the factors associated with the marketplaces and their relevance for innovation. These factors are susceptible to continuous improvements that can lead to both social and business innovation processes within these marketplaces. Marketplaces have a wide variety of activities despite the informality and other factors associated with such scenarios. Among them, the following stand out: the sale of vegetables, fruits, aromatic herbs, and meats (chicken, beef, pork); good lighting with wide spaces for the transit of buyers, vendors, and suppliers; and an adequate organization and distribution of the physical spaces that can be seen both internally (**Figure 2**). Regarding the distribution of the spaces in the market place analyzed, an excellent distribution by sections for the sale of meats, handicraft products, aromatic herbs, fruits, and vegetables was evident (**Figure 3**).



Figure 2. Map of innovation networks in marketplaces.



Figure 3. Map of the distribution of the market place.

In the same sense, as shown in the following analysis, the distribution of spaces is directly related to the sale of meat, trade, and sale of products, presenting an appropriate distribution and order of products, as well as excellent lighting (Figure 4). The distribution, as can be seen in the relationship generated through Atlas. Ti is given in all the topics analyzed, from the sale of meats, sale of handicraft products, sale of aromatic herbs, sale of fruits, sale of vegetables, and all these factors oriented to commerce. On the other hand, there is also a direct relationship between the distribution of spaces and the transit of people (buyers, sellers, suppliers). At the same time, there is excellent illumination of the spaces (Figure 5).

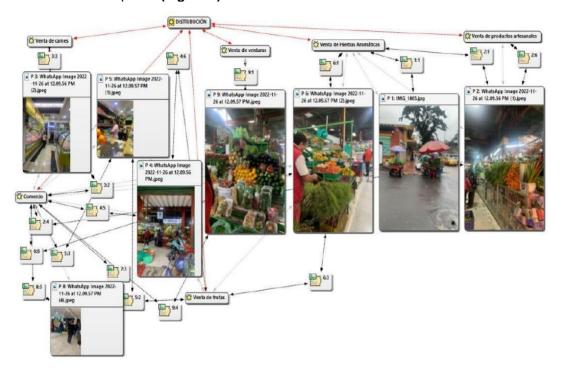


Figure 4. Distribution and its relationship with sales and trade.

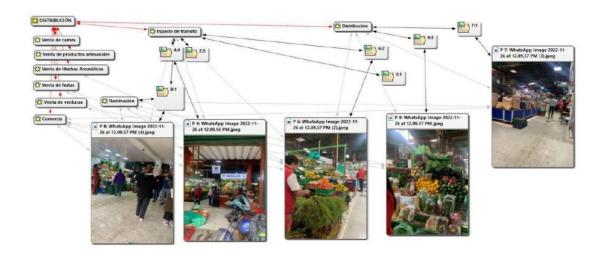


Figure 5. The Distribution and its Relation to Transit Spaces.

4. THEORETICAL DISCUSSION

After analyzing the problem, using the information gathered with theoretical references, it was possible to identify and discuss key concepts related to social innovation, marketplace management, the importance of public space,

environmental impact and the commercial activity developed in these spaces. The analysis of the relevant literature made it possible to delimit and deepen the problems studied. The literature review, covering the period from 2010 to 2020, facilitated the identification of relevant categories, which were analyzed inductively. The concept of "Market Places" was examined in detail, revealing that trade in these places is predominantly based on primary sector products. These products are crucial in the production chain and supply system, offering a wide range of fresh produce, the core of a peasant economy integrated into the urban environment.

As highlighted in the literature review, commercial activity in marketplaces plays a crucial role in food security by serving as a bridge of interaction between urban and rural contexts. According to [40], this function facilitates the integration of the agricultural productive system into the urban economy, contributing significantly to food sustainability. In this way, marketplaces are consolidated as essential actors in the economic and social structure of any society.

However, the growing health orientation and cultural perceptions about the healthiness of marketplaces have had a considerable influence on their management and, therefore, on the results obtained. They point out [41]that, despite the growing interest in fresh and healthy produce, there is a widespread perception that marketplaces are unhygienic environments. This problem is attributed, in part, to inadequate solid waste management, highlighting the need to implement functional and operational practices for the proper handling of this waste, from its generation to its final disposal.

During the research, it became evident that informality is a persistent element in the marketplaces. This phenomenon is defined as those labor and commercial processes that operate outside of fiscal norms, legislation, or official regulation. Although these informal activities are recognized and socially accepted, they represent a significant challenge for effective market management. For [42] corroborate this observation, noting that not all commercial processes within marketplaces are formal. Informality manifests itself both inside and outside these spaces and constitutes a relevant problem that requires attention to improve the efficiency and regulation of trade in these environments.

Based on the present investigation and within the SWOT analysis, according to [43], [44] the opportunities are promising for marketplaces; the construction of plans, programs and organizational strengthening would be innovation processes quite congruent with the problems found. In the context of marketplaces, where diverse actors and commercial activities converge, the implementation of social innovation strategies becomes fundamental to address multidimensional challenges. A crucial strategy is the introduction of advanced food safety management systems, such as Good Manufacturing Practices. This systematic approach makes it possible to identify, assess and control the risks associated with food production and marketing. In marketplaces, the training of traders in proper food handling and storage practices, together with the installation of temperature and quality monitoring equipment, ensures product safety. In addition, certification of vendors under international standards strengthens consumer confidence and ensures a high standard of food safety [45].

According to the study by [[46] and the present one, in this same sense, the strengths of the market places resulted in central spaces with multiple accesses and high conglomeration capacity; In addition, people arrive easily because there is access to transportation that connects this place with the city and facilitates vehicular traffic and marketing for the purchase of fresh produce, as well as the benefit to small producers, which may include the implementation of social support programs, the creation of projects that promote social inclusion, such as the integration of vulnerable groups in the labor force of the square or the development of support programs for local entrepreneurs. The company can collaborate with non-governmental organizations to provide training and opportunities for these groups. To counteract insecurity in the environment inside and outside marketplaces, it is necessary to implement surveillance systems, strengthen lighting, and improve the design and maintenance of the facilities, all of which contribute to a safer environment. Likewise, the inclusion of pest control measures and the establishment of security protocols for emergencies ensure safe and efficient operation [47]. Collaboration between local authorities and market managers to ensure constant vigilance and rapid intervention in risk situations is essential to maintain a safe and healthy environment.

At the environmental level, the implementation of ecological practices that reduce impact, the adoption of biodegradable ecological packaging, together with the promotion of waste separation at the source, are effective measures to minimize waste generation. The installation of recycling centers and ecological points for the temporary disposal of waste, as well as the promotion of an environmental culture among retailers and customers, contribute significantly to the reduction of the ecological footprint, as stated by [[48]48], trade in marketplaces makes it easier for consumers to find products in one place.

For [49] the plazas are configured as centers of exchange and trade, prioritizing the exchange of agricultural products and a strong heritage gastronomic heritage. In this study, marketplaces, despite the informality and other factors associated with such scenarios, require training programs aimed at traders and employees, to improve practices within the square, and empower participants with knowledge applied at the individual and community level.

The merchants must pay a lease for their premises or spaces, without this being a competitive advantage over the street vendors who are in the surrounding areas and can offer the same products at a lower price. Faced with this situation, he responds [50] the costs of logistics and the profitability obtained do not compensate for the possible improvements that should be reflected in their premises. However, it is essential to ensure a safe and healthy environment for workers and traders within the market place. This includes the implementation of adequate safety measures, such as training in emergency procedures, the provision of personal protective equipment, and the creation of occupational health and safety protocols. In addition, the company should promote fair labor practices and provide decent working conditions and social benefits to employees.

Finally, [51] propose improving infrastructure conditions to ensure the correct disposal of waste, classifying it according to its characteristics. For this research, in addition, the incorporation of innovative technologies can transform the management of the marketplace. For example, the use of digital platforms for waste management, environmental monitoring systems and safety improvement applications can increase operational efficiency and reduce environmental impact. In addition, food traceability technologies ensure the safety and quality of marketed products.

5. CONCLUSIONES

According to the objective of the research, it is achieved in a timely manner and the research problem is answered. A thorough analysis of commercial activity in marketplaces reveals that these centers play a fundamental role in the integration of rural and urban contexts. They facilitate access to basic needs and foodstuffs essential to the local diet and preserve significant cultural aspects. In addition, marketplaces present a valuable opportunity for the promotion of social innovation, as evidenced by phenomena such as product diversification.

To maximize the potential of these spaces, marketplace management must incorporate advanced financial decision-making skills. The integration of marketing and social welfare strategies is crucial for organizational strengthening and sustained success. Thus, successful marketplace management requires an innovative and adaptive approach to maximize opportunities for social innovation, implement quality management systems, make informed decisions, and meticulously organize data and results.

In relation to economic sustainability, it is imperative that marketplaces orient their practices towards consumer health and adopt effective solid waste management policies. These measures not only contribute to lasting sustainability, but also strengthen the marketplaces' ability to operate efficiently. Initiatives to address environmental impacts should include waste separation at source, effective waste management, and urban preparedness with appropriate environmental strategies and equipment. It is also essential to reinforce the environmental culture among the local population and visitors through awareness campaigns, the creation of an environmental code of conduct, and education on monitoring and reporting problems.

Informality, a characteristic feature of the economic model in marketplaces, highlights the need to implement a formalization program. This program should guarantee safety, health, and adequate working conditions for vendors. The creation of spaces for dialogue between the company, traders, customers, and other relevant actors will facilitate collaboration and joint problem solving, promoting new initiatives, and strengthening the sense of community and commitment.

In conclusion, the integration of social innovation strategies in the context of marketplaces provides a comprehensive solution to challenges related to food security, environmental impact, and environmental safety. It is essential to balance social innovation with attention to informal vendors to improve the experience of all involved. This comprehensive approach will enable sustainable development and ensure a brighter future for these centers of economic development.

6. REFERENCIAS BIBLIOGRÁFICAS

- [1]. Durán E, Rosado R, Ballesteros O, Lerma D. Commercialization of fish in the main market places of montería, colombia. Temas Agrarios. 2014;19(1):48-62.
- [2]. Cacua Barreto LF, Carvajal Villamizar HP, Hernández Flórez NE. Working conditions and their impact on the health of workers at the Nueva Sexta marketplace, Cúcuta. Psicoespacios: Virtual journal of the Institución Universitaria de Envigado. 2017;11(19):99-119.
- [3]. Arias JAZ. Mathematical practices in a market place. Revista Latinoamericana de Etnomatemática Perspectivas Socioculturales de la Educación Matemática. November 12, 2012;5(1):35-61.
- [4]. Vásquez Botero D, Garzón Duque MO. Labor conditions in workers of a market place; Ciudad Bolivar (Colombia). Journal of the Spanish Association of Specialists in Occupational Medicine. 2019;28(4):268-77.
- [5]. Parada Camargo JE, Ganga Contreras F, Rivera Jiménez YY. State of the art of social innovation: a look at the European and Latin American perspective. Option: Journal of Human and Social Sciences. 2017;(82):563-87.
- [6]. Avila Jaramillo LN, Lancheros Rojas LX, Trujillo Moreno SX, Ortiz González YC. Design of Strategies for Process Innovation in the Supply Chain of the Facatativá Market Place. Ciencia Latina: Multidisciplinary Journal. 2024;8(1):7405-31.
- [7]. Hernández GAR, Quemba RDA, Arias LKV, Donoso CG. etl technique to inform traders about agricultural products marketed in market places in the city of Bogota. Research and Innovation in Engineering. July 18, 2017;5(1):60-71.
- [8]. Guzmán VM, Moncada LAM, Villa MÁT, Durán JIC. The Gastronomic Languages from the popular graphics in market places in Bogota. Case Studies: "La Perseverancia", "Las Cruces" and "La Concordia". Punto de vista. 2021;12(19):88-111.
- [9]. Molina Rodriguez MA, Vallejo Restrepo JS. Financial inclusion of traders in the Girardot marketplace through the implementation of financial innovation instruments [Internet] [Thesis]. 2023 [cited 2024 Aug 2, 2024]. Available from: http://repository.unipiloto.edu.co/handle/20.500.12277/12681
- [10]. Londoño Escobar ME, Ballén Briceño JD, Serna Ospina S. Business innovation proposal to guarantee the sustainability of a rural women's association: the case of ASOMMUC. Tendencias. 2024;25(2):143-68.
- [11]. Armijo FGN, Zambrano IAB. Economic effect of innovation in SMEs in Ecuador. Journal of Economic and Social Science Research. March 31, 2021;1(1):61-73.
- [12]. Bello D, Peña J, Fuentes G. INFORMAL WORK: A THEORETICAL APPROACH IN THE "VILLA DE SAN DIEGO" MARKET PLACE IN THE MUNICIPALITY OF UBATÉ. Revista Ingeniería, Matemáticas y Ciencias de la Información. January 31, 2021;8(15):87-94.
- [13]. Fajardo Zapata ÁL, Hernández Niño JF, González Valencia YU, Torres Pérez ML, Fajardo Zapata ÁL, Hernández Niño JF, et al. Characterization and Perception of Risk in Informal Vendors of the Market Places of the City of Bogotá, D.C. Science & D.C. Science &
- [14]. García-Parra, de la Barrera F, Plazas-Leguizamón N, Colmenares-Cruz A, Cancimance A, Soler-Fonseca D, et al. The Sustainable Development Goals in the Americas: Overview. LA GRANJA Journal of Life Sciences. February 2022;36(2):45-59.
- [15]. Morgan MS. Exemplification and the use-values of cases and case studies. Studies in History and Philosophy of Science Part A. December 1, 2019;78:5-13.
- [16]. Quinteiro P, S. R, Vicente B, Marta-Almeida M, Arroja L, Dias A. Mapping green water scarcity under climate change: A case study of Portugal. Science of The Total Environment. Aug 1, 2019;696:134024.

- [17]. Mazo AZ, Correa FJL. Logistic strategies for the supply of SMEs in the garment sector in the municipality of Itagüí. Revista Politécnica. December 20, 2010;6(11):46-56.
- [18]. Pineda-Melgarejo RJ, Rojas-Baracaldo ÁJ, Toro-Perea EF, Patiño SM. Characterization of operations in the Sogamoso public wastewater collection network. Revista Politécnica. March 22, 2024;20(39):119-27.
- [19]. Edwards-Schachter M, Wallace ML. 'Shaken, but not stirred': Sixty years of defining social innovation. Technological Forecasting and Social Change. June 1, 2017;119:64-79.
- [20]. Veloza García YA. Elements for the transformation of a social project to a social innovation project. 2020 [cited August 2, 2024]; Available from: http://hdl.handle.net/10784/17512
- [21]. Bustamante DLB, Álvarez LMC. Standardization, connection and innovation proposal for outsourced processes. Revista Politécnica. September 30, 2022;18(36):126-39.
- [22]. Guerrero-Aboytes AK, Vasco-Leal JF, Vivanco-Vargas M, Díaz-Calzada ME, Rayas FS. Technological innovations with sustainable practices for SMEs in the agroindustrial sector in Mexico. Contexto [Internet]. 2022 [cited 2024 June 24];11(1). Available from: https://sophia.ugca.edu.co/index.php/contexto/article/view/1367
- [23]. Solís Lozano JA, Cuellar Núñez L, Vivanco Vargas M, Méndez Gallegos S de J, Vasco Leal JF. Strategic and competitive advantages of the agricultural sector in Querétaro, Mexico. Agro Productividad [Internet]. February 28, 2022 [cited August 2, 2024]; Available from: https://revista-agroproductividad.org/index.php/agroproductividad/article/view/2099.
- [24]. ILO IO of T. Employment Projection Model for Colombia [Internet]. 2024 [cited 2024 Aug. 2, 2024]. Available from: https://www.oitcinterfor.org/taxonomy/term/3366
- [25]. Torres-Acevedo PE, Muñoz-Sánchez AI, Torres-Acevedo PE, Muñoz-Sánchez AI. Health promotion program in an informal workplace in Corabastos, Bogotá: a participatory perspective. Revista Facultad Nacional de Salud Pública. August 2019;37(2):22-35.
- [26]. Ardila Diaz KV, Guzman Babativa YL, Guerra Puentes PA. IPES Project No. 7548. 2022 [cited August 2, 2024]; Available from: https://hdl.handle.net/20.500.12494/43921
- [27]. González Rubio Acosta I, Rolón Garrido JC, López Leyva S. Identification of talent for the promotion of social innovation: a proposal with a systemic vision. Revista de ciencias sociales. 2022;28(Extra 6):380-94.
- [28]. Castro-Perdomo NA, Florez-Barzola WJ. From circular economy to open innovation in the Ecuadorian business sector. Proposal of a model for its concretion. Revista Politécnica. March 22, 2024;20(39):66-77.
- [29]. Cardona Castaño JC, Lima Vargas ÁE, Lamprea-Zona MC, Morales Ruano JV. Accompaniment for the management of the environmental component of the activities of an organization in Armenia (Quindío), Colombia [Studies]. 2024 [cited 2024 Aug 2, 2024]; Available from: http://repositorio.uasb.edu.ec/handle/10644/10017
- [30]. Lima Vargas AE, López González LE, Chan Tuyub FJ, Vega Cadena UJ, Lima Vargas S, Hernandez Vargas CJ. Generation Z tourist's perception of corporate social responsibility in the tourism sector. Scientific Bulletin of the Escuela Superior Atotonilco de Tula. July 5, 2024;11(22):14-21.
- [31]. Rodriguez L, Gerardo C. The role of the firm in economic growth, economic development and competitiveness. 2015 [cited 2015 Aug 1, 2024]; Available from: https://repository.usta.edu.co/handle/11634/10012
- [32]. López-Salazar A, López-Salazar GL, Sánchez RM. Multiplier elements of innovation: towards an innovation model in the Mexican micro and small business. Journal of Administrative Science. January 5, 2022;3(6):1-7.
- [33]. Testón Franco N, Onofre Sánchez JE, Ahumada López ER. Educational tourism: Journal of Administrative Science. July 5, 2022;4(7):26-31.
- [34]. Poveda Aguja FA, Gil Quintero HJ. Solidarity knowledge management model, the route to social innovation. AXIOMA. October 5, 2017;(16):49-59.

- [35]. Rodríguez CM, Márquez IG, Arias O. The culture of social innovation in organizations. Viewpoint [Internet]. February 27, 2018 [cited August 1, 2024];9(1 (13)). Available from: https://revistas.poligran.edu.co/index.php/puntodevista/article/view/1123
- [36]. Canizales Muñoz LD. Key elements of business innovation. A review from contemporary trends. INNOVA ITFIP MAGAZINE. June 30, 2020;6(1):50-69.
- [37]. Lira Aguilar JM, Pons Cabrera SR, Gaona Rivera E. Knowledge Economy Model for the State of Hidalgo. Journal of Administrative Science. January 5, 2022;3(6):8-18.
- [38]. Secretaría del Medio Ambiente. Secretaría del Medio Ambiente. 2024 [cited August 2, 2024]. Residuos Sólidos. Available from: https://sedema.cdmx.gob.mx/programas/programa/residuos-solidos
- [39]. Prieto Delgadillo MF, Chinchilla Mora MC. Consumer behavior in the marketplaces of Villavicencio, Meta. Revista CIFE: Lecturas de Economía Social. 2018;20(33):117-35.
- [40]. Escalante Bourne TM, Mackay Castro CR, Mackay Véliz RA, Ramírez Escalante T. Quality assurance in Ecuadorian SMEs. Publicando Journal. January 9, 2021;8(31):71-81.
- [41]. Sanclemente Reyes ÓE, Ararat Orozco MC, Balanta Tenorio E. Preliminary evaluation of solid waste in the Market Square of the municipality of Puerto Tejada (Cauca). RIAA. 2018;9(2):4.
- [42]. Delgado J, Ruesga S, Pérez L. Rural and urban informality in Ecuador. World Economic Review. January 4, 2021.
- [43]. Arrieta Loyo G. Marketplaces in Bogotá, generators of waste and development. In 2014.
- [44]. Barrera González KI, Cardona Castaño JC, Solís Lozano JA, Vasco Leal JF. Perception of entrepreneurship among students of a Business School in an IES in Querétaro, Mexico. Ad-Gnosis. July 4, 2024;13(13):e-745.
- [45]. Fonseca-Carreño JA, Cleves-Leguízamo JA, León-Sicard T. Evaluation of the sustainability of peasant family agroecosystems in the micro-watershed of the Cormechoque River (Boyacá). Ciencia y Agricultura. 2016;13(1):29-47.
- [46]. Rubio Huerta LM, Rodriguez Corredor MA, Cote Daza SP, Barón Chivara JA. Market squares as territorial spaces of gastronomic tourism, valuation of the typical gastronomy of Bogota. Cuadernos de Geografía: Revista Colombiana de Geografía. June 2022;31(1):128-45.
- [47]. Moctezuma Mendoza V. Vulnerability and violence in popular commerce, Mexico City. Revista mexicana de sociología. March 2023;85(1):167-97.
- [48]. Muñoz-Pinzón DS, Valencia-Rivero KT, Caviativa-Castro YP, Castillo-Bustos JS. Current status of Industry 4.0 adoption in Colombian SMEs: challenges and opportunities. Revista Politécnica. March 22, 2024;20(39):99-118.
- [49]. Delgado TC, Ocampo Serna ANO. Culinary heritage as a generator of creative and cultural industries: the case of the marketplace of Riosucio, Caldas, Colombia. Kepes. January 1, 2021;18(23):147-77.
- [50]. Pantoja-Agreda FU, Cardona-Alvarez LM, Hurtado-Castaño CA. From interdiscipline to transdiscipline through an industrial challenge. Revista Politécnica. May 22, 2021;17(33):110-25.
- [51]. Pérez-Vidal A, Delgado-Cabrera LG, Torres-Lozada P. Evolution and perspectives of the supply system of the city of Santiago de Cali facing drinking water quality assurance. Engineering and Competitiveness. 2012;14(2):69-81.