TECHNOLOGY AND COMMUNICATION IN SALES IN DETAIL COMMERCIAL STORES. CASE STUDY: MULTISA CAD

LA TECNOLOGÍA Y LA COMUNICACIÓN EN LAS VENTAS DE LAS TIENDAS COMERCIALES DETAIL. CASO DE ESTUDIO MULTISA CAD

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ABSTRACT

New technologies are essential in the process of positioning and survival of a company. The proper management of communication and distribution channels and the management of technological tools to speed up and make internal processes efficient, opens up opportunities for companies to create new advantages over their competitors. This study analyzes the influence of the technological aspects used by the retail company Multisa, S.A., in the creation of more efficient channels for its customers. Through a logistic regression model, it was possible to observe the positive influence of factors such as the use of social networks, technological means and other

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channels on the increase in sales of Multisa, S.A. With this, the need and importance of using these new tools to improve processes and grant advantages to companies such as Multisa, S.A. They are in the process of transition to Industry 4.0.

**Keywords:** Communication, influence, technology, sales, stores.

**RESUMEN**

Las nuevas tecnologías son imprescindibles en el proceso de posicionamiento y supervivencia de una empresa. La gestión adecuada de canales de comunicación, distribución y la gestión de herramientas tecnológicas para agilizar y hacer eficientes los procesos internos, abre las oportunidades para que las empresas puedan crear nuevas ventajas respecto a sus competidores. En el presente estudio se analiza la influencia de los aspectos tecnológicos usados por la empresa de retail Multisa, S.A., en la creación de canales más eficientes para sus clientes. A través de un modelo de regresión logística, se pudo observar la influencia positiva de factores como el uso de redes sociales, medios tecnológicos y otros canales sobre el incremento de las ventas de Multisa, S.A. Con ello, se demostró la necesidad y la importancia del uso de estas nuevas herramientas para mejorar los procesos y otorgar ventajas a empresas que, como Multisa, S.A. están en un proceso de transición a la Industria 4.0.

**Palabras clave:** comunicación, influencia, tecnología, ventas, tiendas.

**1. INTRODUCTION**

The contribution of new technologies has generated a revolutionary process in commercial activities in recent years (Arteaga et al., 2018). The use of these new technological tools has become an opportunity for companies to position themselves better in the markets (Bernal and Rodríguez, 2019). Thus, in order to remain current and maintain opportunities for market expansion, organizations have substantially increased their investments in innovation and development (Penagos, 2019).
It is necessary to recognize that these processes have not only affected a specific area of companies. Innovation and the development of technological tools have created multiple opportunities for different areas of companies to become more efficient and agile in their processes (Mon and Giorgio, 2019). Therefore, regardless of the industry in which a company operates, its learning curve can experience growth and avoid typical obstacles associated with errors (Tapia, 2014; Tota et al., 2020).

Likewise, regardless of the industry in which the company operates, the possibilities for increasing its production or product turnover are substantial. As indicated by Sánchez et al. (2018), the use of mobile applications for product marketing has become a new trend that surpasses physical and generational barriers in conducting business. Thus, the adaptation of companies to new technological tools gives them an advantage in the process of brand positioning and sales level in the markets.

In the present study, the case of Multisa, S.A., a company in the commercial sector located in the canton of Latacunga, Cotopaxi province, Ecuador, has been taken. This company is dedicated to the mass marketing of consumer products to various retailers in the area. Over the past few weeks, the company has set out to develop a more efficient communication channel for the marketing of its products.

The analysis carried out by the researchers included the development of a survey to assess the perception of the impact of using a technological tool as part of the distribution channel. For this purpose, a sample of 46 companies served by Multisa, S.A. was used, selected through simple random sampling and at the discretion of the researchers. After gathering this data, a logistic regression model was performed, as explained later, to examine how distribution and impact have been distributed in each of the cases.

This text will be organized into four distinct sections. The first section will develop the conceptual framework and present the literature review supporting the study. The second section will present the methodology that was employed. The third section contains the study's results. Finally, the last section includes a discussion of the results and the conclusions drawn from the obtained outcomes.

2. **Theoretical Framework**

The processes of knowledge creation and development are fundamental for institutional growth. Technological advancements have driven the emergence of new opportunities across different sectors of the economy. Thanks to these advancements, new breakthroughs have been made, and various growth opportunities have been developed for companies (Burau et al., 2016; Arteaga et al., 2018).

For smaller-sized companies, the need to invest in technology development has become a crucial means to maintain their presence in the markets (Bernal and Rodríguez, 2019). This is because the development of new technological tools, as well as the use of existing ones, provides a competitive advantage in various aspects of the organization. Consequently, investing in such opportunities enables companies to develop competitive advantages and capture a greater demand based on factors such as quality, pricing, distribution, etc. (Becerra and Sánchez, 2011).
The technological tools available to companies are characterized, according to Romero's proposal (2018), by aspects such as immateriality, immediacy, digitization, and interactivity. The development and application of these features become vital in the processes of different areas of companies, regardless of their size, aiming to make processes more efficient and companies increasingly competitive (Cano, 2018; Plaza, 2018).

The impact generated by companies that invest in the development and application of such tools is usually positive (Sánchez, 2017). This is often due to the fact that efficiency reduces various costs and maximizes the benefits that can be obtained through automation and greater reach in their activities.

Additionally, the benefits are reflected in the users and the opportunities generated for them (Sánchez, 2017; Plaza, 2018). This is achieved through the creation of new communication channels that easily connect users to the different products offered by the company. Consequently, the growth in demand for the company's products and services tends to show an increasing trend.

The use and application of tools associated with social media for creating effective and direct communication channels favor a higher turnover in company inventories (Ron, 2019). If the use of social media is combined with the development and enhancement of new digital tools, the company gains a significant advantage over its main competitors (Polo, 2016; Moreno-Ramos, 2017).

In the development of optimal communication channels between the company and its consumers, among the most widely used tools are Customer Relationship Management (CRM) and Enterprise Resource Planning. According to Polo (2016) and Benavidez (2017), the information feeding the databases of these tools facilitates the handling of sensitive company information and ensures the development of new opportunities for understanding their customers and the status of their key processes.

The main characteristic of these tools lies in the scope they can achieve and the results they can yield to improve business performance. Traditionally, physical channels have been used in the processes of dissemination and distribution of various products. However, this has only limited the possibilities for businesses that have not chosen to innovate in their processes (Acosta, 2017).

As the evolution of communication channels for the dissemination and distribution of products or services of an institution has taken place, the results have been favorable for companies (Cruelles, 2016). The transition from physical information channels, such as newspapers and flyers, to digital channels, such as social media, has positively impacted companies that have adapted to the digital medium (Acosta, 2017).

Given the presented literature background, this study has focused its attention on evaluating new communication channels for Multisa, S.A. With this, the aim is to determine the probability of improving sales for the company's customers.
3. METHODOLOGY

The study began with the evaluation of 46 micro-distributors who are part of the population to which Multisa, S.A. delivers its products. The owners of these businesses were subjected to a brief survey in which they were asked to answer questions about the implementation of new communication channels between Multisa, S.A., and them. This allowed the study to gather primary data to work with.

The methodology of the study was divided into two parts. First, a descriptive analysis of the obtained data was conducted. Afterward, a multinomial logistic regression model was used to determine the influence of the characteristics associated with the change in communication channels on the sales levels registered by Multisa, S.A.

Logistic regression models are constructed to explain a variable based on certain characteristics. The model aims to find the probability values that associate the variables (predictor and response) according to the likelihood that the function can achieve. The calculation of the resulting function in this case as the following equation:

\[
P(x) = \frac{1}{1 + e^{-(\beta_0 + \sum_{i=1}^{n} \beta_i x_i)}}
\]

In this function, the aim is to determine the probability of occurrence of the variable "Y" based on the sum-product of its predictor variables and the obtained parameters. Prior to calculating the parameter values, the validity of the instrument was determined. For this purpose, the "Cronbach's Alpha" coefficient was used.

It is necessary to note that the survey that was developed consists of 20 questions associated with distribution capacity, the use of technological means in marketing, payment methods, and the use of digital channels in the distribution process of Multisa, S.A.'s products.

4. RESULTS

As previously mentioned, the first step carried out was the calculation of the coefficient known as "Cronbach's Alpha". The pretest involved administering the survey to 10 companies from Multisa, S.A.'s client portfolio. The obtained results were processed using the statistical package SPSS, and the "Cronbach's Alpha" coefficient was calculated. With this coefficient, the validity of an instrument applied for different techniques can be examined. The survey that was conducted yielded the following results:

<table>
<thead>
<tr>
<th>Table 1. Cronbach's Alpha.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach's Alpha.</td>
</tr>
<tr>
<td>0, 972</td>
</tr>
</tbody>
</table>

Note: Reliability result. = 0, 972

Source: Author's own work.

The obtained coefficient result shows the consistency of the questionnaire. In this way, the survey was applied to the selected sample. However, for the purpose of developing
the present study, only six questions were considered:

- What criteria do you consider when acquiring merchandise from MULTISA?
- How often do you place orders with MULTISA to stock your store?
- Through which technological means would you prefer to make purchases or place orders with MULTISA?
- Through which technological means would you like to be informed about promotions or offers made by MULTISA?
- Do you have a smartphone that allows you to connect to the internet?
- According to your records, did the digital supply channel prove more favorable in improving your sales level?

The descriptive results obtained from the mentioned questions are presented below:

Table 2. Descriptive statistics.

<table>
<thead>
<tr>
<th>What criteria do you consider when acquiring merchandise from MULTISA?</th>
<th>How often do you place orders with MULTISA to stock your store?</th>
<th>Through which technological means would you prefer to make purchases or place orders with MULTISA?</th>
<th>Through which technological means would you like to be informed about promotions or offers made by MULTISA?</th>
<th>Do you have a smartphone that allows you to connect to the internet?</th>
<th>According to your records, did the digital supply channel prove more favorable in improving your sales level?</th>
</tr>
</thead>
<tbody>
<tr>
<td>N Valid</td>
<td>46</td>
<td>46</td>
<td>46</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>N Lost</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Median</td>
<td>1.00</td>
<td>2.00</td>
<td>3.00</td>
<td>3.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.382</td>
<td>.662</td>
<td>1.769</td>
<td>1.549</td>
<td>.504</td>
</tr>
<tr>
<td>Variance</td>
<td>1.909</td>
<td>.439</td>
<td>3.130</td>
<td>2.398</td>
<td>.254</td>
</tr>
<tr>
<td>Skewness</td>
<td>1.138</td>
<td>1.014</td>
<td>.265</td>
<td>-.038</td>
<td>.181</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-.121</td>
<td>1.170</td>
<td>-1.697</td>
<td>-1.304</td>
<td>-2.059</td>
</tr>
<tr>
<td>Standard Error of Kurtosis</td>
<td>.688</td>
<td>.688</td>
<td>.688</td>
<td>.688</td>
<td>.688</td>
</tr>
<tr>
<td>Minimum</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Maximum</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Author's own work.

Each of the questions contained different categories, on which the analysis was performed. In the case of the question related to the criteria for value, price was the most accepted characteristic, with 61% of the responses. Regarding the frequency of orders for restocking, the weekly frequency was predominant, accounting for 67% of the responses. Concerning the communication channel for information, WhatsApp was
the most frequently chosen option, gathering 41% of the responses. Finally, smartphone availability is common in the studied sample, with 54% of affirmative responses.

These preliminary results show how establishments have shown a willingness to use new technological resources that replace traditional ones in the process of differentiating communication channels. This is closely related to the innovation process implemented by Multisa, S.A., to maintain a close relationship with its customers and gain an advantage over its main competitors (Ron, 2019).

This was the first step to develop the subsequent logistic regression model, which allowed for a more in-depth study of the results.

**Table 3. Results of the logistic regression model.**

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Ratio</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>const</td>
<td>0.635154</td>
<td>6.476</td>
<td>2.57e-05***</td>
</tr>
<tr>
<td>Preg_1</td>
<td>0.0396764</td>
<td>2.4543</td>
<td>0.0449 **</td>
</tr>
<tr>
<td>Preg_2</td>
<td>0.0824417</td>
<td>6.057</td>
<td>0.0070 ***</td>
</tr>
<tr>
<td>Preg_12</td>
<td>0.0730230</td>
<td>5.7195</td>
<td>0.0060 ***</td>
</tr>
<tr>
<td>Preg_13</td>
<td>0.0356779</td>
<td>3.584</td>
<td>0.0211 **</td>
</tr>
<tr>
<td>Preg_17</td>
<td>0.259847</td>
<td>2.0021</td>
<td>0.0505 **</td>
</tr>
</tbody>
</table>

Statistics based on the transformed data:

- Sum squared resid: 5.051774
- S.E. of regression: 0.355379
- R-squared: 0.119211
- Adjusted R-squared: -0.001013
- F(5, 40): 0.99893
- P-value(f): 0.435489
- Log-likelihood: -14.46643
- Akaike criterion: 40.93286
- Schwarz criterion: 51.90471

**Source:** Author's own work.

The data was processed using the econometric package GRTEL. Given the significance of the parameters after processing, the consistency of the model is observed. In this way, it can be affirmed that the use and acceptance of digital channels helped improve the sales level of the company Multisa, S.A. concerning its customers.

**5. DISCUSSION AND CONCLUSIONS**

The results obtained in the study demonstrate the necessary agreement to validate the importance of using technological means in the development of new channels to enhance company sales. The insights mentioned by Ron (2018) regarding the use of social media were extensively integrated into the present research. Despite a large number of consumers of Multisa, S.A.’s products still placing orders through a more traditional channel (phone calls), the use of technological channels provided new expansion possibilities and benefited the company in offering its customers new
promotions and products.

Likewise, the consumption effect on Multisa, S.A.'s products by its customers showed a favorable outcome as new channels were established. The use of technological devices for the company and the willingness of its consumers became a factor that led to greater brand positioning and reach. This aligns perfectly with the results presented in studies such as those conducted by Polo (2016) and Moreno-Ramos (2017).

In order to determine the internal characteristics that complement this effect, it is necessary to conduct a review based on financial portfolio management and customer portfolio indicators. This complementary analysis would serve as a significant reinforcement in the process of understanding the advantages that Multisa, S.A. possesses over other competing companies. By doing so, any internal processes with defects can be corrected, ensuring greater efficiency.

In recent years, technology and communication, combined with sales in companies, have been extensively studied, affirming that the variables under study are essential for both public and private enterprises. When engaging in sales and staying competitive in the market, it is crucial to consider the application of technology as a strategy for continuous improvement, as stated by Román (2016):

Mobile technologies, mobile internet, form the basis of IoT (Internet of Things). Object tagging and M2M communication enable a connected production environment where systems and products communicate with each other. This allows for data capture, coordination of Cyber-Physical Production Systems (CPPS), and deployment of remote services. All of this happens in real-time and ubiquitously. (p. 2)

Interconnection and technological advancement align with effective communication, facilitating the message to be conveyed as established by Román (2016):

Social platforms have transformed our daily lives through instant, global, and one-to-many communication. Communication in industrial environments will be greatly improved with more dynamic interaction of enriched content that promotes collaboration and innovation. On the other hand, "classic" social networks will facilitate on-demand manufacturing and provide a wealth of information about customers. (p. 8)

In the analysis of the independent and dependent variables, it was observed that there is a strong relationship between technology and sales behavior, resulting in a correlation when implementing strategies for stores that are supplied through Multisa S.A. supermarkets. Additional activities are required to equalize and positively impact sales behavior through communication and interaction with Industry 4.0 technology. Through innovation development, it is possible to conceive information that allows for making decisions to strengthen sales channels by systematizing the factors that positively or negatively influence the environment of the retail company. According to Chaves (2006):

It is about generating brand awareness; secondly, getting the consumer to
perceive its values and benefits; thirdly, generating purchase intent and stimulating trial purchase; and finally, aiming to encourage repeat purchases and brand loyalty from the consumer. (p. 68)

"Technology allows both automation and miniaturization, reducing product costs and enabling companies to serve new markets. Disruptive innovations in all business sectors have brought about affordable products" (Kotler and Kartajaya, 2018, p. 18). According to Suárez (2018), "We are exposed to a rapid evolution of technologies (5G, Artificial Intelligence, Internet of Things...) and the market, making it inevitable to be vigilant about possible changes that may occur and predict where they are heading" (p. 223).

Focusing on new technologies according to the current situations faced by companies suggests and supports the interventions in such companies, fostering greater connection with the work teams and ensuring well-being through relationships, sales, and satisfaction by implementing communication, participation, and openness strategies to generate new ideas aimed at positively impacting performance at various organizational levels, with a priority on technology due to its continuous improvement contribution in the face of rapid change.

6. REFERENCES


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