Information System and Marketing Channels as a Support for Small Textile Companies: Masaru S.A.

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Abstract

The objective of this scientific article is to implement an information system that will help small and micro enterprises to improve their processes through online service platforms, which, when related to marketing channels, will offer the construction of sustainable competitive advantages, in consistent organizations as a contribution to the global systematization of small and micro enterprises. The methodology used is applied, causal correlational, non-experimental, carried out in the field, using the survey technique and a questionnaire as an instrument. Shapiro-Wilk was applied because $n < 50$ ($n = 28$). P - Value is less than 0.05 (p=0.001 for both variables), where it does not present normal distribution. Developing the hypothesis test, the significance level is less than 0.05 (0.020), we accept the research hypothesis. It is concluded that there is a relationship in the application of an information system related to the commercialization channels as a competitive support that will improve the processes in the company Masaru S.A.

Keywords: Marketing channels; competitiveness; online service platforms; information system.

1. Introduction

One of the main drivers of transformations in the competitive landscape is the continuous evolution of technology, which, due to its widespread diffusion, has significantly affected all human activities and has increased the degree of uncertainty and unpredictability of the future [1]. Among the new technologies, Information Systematization (IS) stands out, which has become an important competitive component for organizations. The particularity of the main drivers of altering the competitive perspective is the continuous development of the technological factor, necessary to its wide expansion, has significantly modified all human actions, has increased the level of questions and unpredictability of tomorrow [2]. Of which in the new technologies, stands out systematizing Information (IS), which has become a significant competitive mechanism for organizations.

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In order to remain competitive in environments characterized by permanent change, organizations need to keep up with the actions and important trends occurring in the external environment [21]. Consequently, the current market has shown an increase of participation in the area of services in the world economy.

Through the electronic advance where it directs the increase of the service established by means of the Internet and increase in the production costs and the technological innovations [3], it makes that the organizations find new alternatives and use modern technologies to realize and extend services without possessing own contact.

Information systems have irreversibly transformed the worldwide business-related world, of which the buyers in the organization in the virtual environment have basic requirements to change into a regular consumer, showing the decrease of costs in the exploration of information and the increase of benefits related to the services given virtually. That is why problems arise in using optional channels that highlight exclusive customer benefits related to virtual shopping business activities among themselves, economize stages in companies and decrease the danger of utilizing this benefit to the consumer.

The composition and faculty of the organizations present relevant criteria applying the use of e-service in a more agile way, mainly when there is great understanding and practice in technology and with the use of the virtual environment in any time and place, the companies are adaptable to the electronic service in a fast way.

In today's Peruvian companies, micro and small enterprises are categorized as organizations that lack information and uncertainty in relation to decision making. They work in an environment dominated by informality and indecision in the search for solutions. It shows instability and doubts exist in relation to the understandings based on the choice of electronic marketplaces that use the Internet to conduct commercial business [23]. Due to the current market, Silva, J. J. P. (2001) verified that many small and micro companies interact in markets with a large number of companies of the same size and the small incompatibility of their products and services. Together, they have distribution, productive and financial magnitude that shows similarity. They act in a normal way in niches insufficiently developed by companies of great composure in a market considered unpredictable.

Convenient that show greater agility and flexibility of large companies, respond quickly to the demands based on external changes.

The theoretical development in Peru, analyzing this approach, determines gaps in their information, research and evidence, to be consistent this possibility and help these companies that have knowledge of the important barriers [11], inaccuracies, evidence and certainty of micro and small entrepreneurs, when the eventuality of using the Internet conduit for the purpose of acquiring electronic services from other organizations is seen, connecting this systems entity in a company to deal in joint mode became a big challenge, according to Laudon & Laudon (2014) [14], an alternative is to implement trade applications in systems that are oriented to elaborate the company's business processes and involve all stages of action.

These systems help the company to be more flexible and productive through process integration.

As a result, marketing channels have also become more refined and specialized, satisfying different needs and providing a wide variety of services to a consumer eager for news and information [12]. These marketing channels have brought new values to the consumer, leading to a significant change in the way products, services and information are produced, aggregated and especially as they are marketed.

Applying the Information Systems and marketing channels, they will support giving support to the small company Masaru S.A, which will serve as a model to apply to micro and small companies in the sector to stay in the competitive market by applying various strategies that will lead to improvement in the national and international market [10]. Regarding this, the company does not produce great benefits because it continues to use traditional sales strategies, understanding that due to the little interest of our small and micro companies do not know that using an e - service platform could improve their sales as well as lead in their target market as in other markets.

In order for the information to be analyzed and a need to be formed, it must be carried out in five important stages:

- Identifying the users, as well as the use of the information.
- Delimiting the target market and its environment.
- Identifying the needs of the target market.
- Evaluating the given needs, and
- Communicating, describing and implementing the solutions that would be taken as a decision.

Therefore, companies that are based on information are generally more demanding in a more specialized way than traditional companies in relation to management and control [5]. Taking into account these perspectives, it is determined that companies have as main characteristic, in a modern society, based on information, that is why these companies are very concerned and pay much attention to the flow of information, as well as knowledge. Through these concepts, the small textile company Masaru S.A., which carries out its business activities, proves to be a traditional company, which can be determined using the following table:

Table 1: Characteristics of a new company.

Traditional Organization	Organización que administra su información
Standardizes products and services	Massifies in a customized way
Standardizes salaries	Wages given in relation to knowledge
Bureaucracy	Consensus is reached
Authority	Participatory management - Dissolves authority
Centralized	Decentralized resources - application of synergy - teamwork.
Information	Information is shared throughout the organization
Centralized planning	Think Globally - Act Locally
Centralized control	Decentralized control

Source: Rezende & Abreu [22] (2003, p 104)

Due to the table shown, in order to carry out a good information management and to show effectiveness

(efficiency + efficacy) [13], the flow of information that adapts to the company must have great relevance, since the sequentially of a certain process is shown as the bridge that generates the information (issuing source) and the one that accepts or receives it, which is given by the receiver.

Companies in general are work spaces where knowledge circulates at all levels, from the strategic to the operative, either at the level of creation or sharing [6]. This and any environment must be inserted in a constant exchange and transfer of ideas produced internally or externally.

2. Method

The method applied in this research work is quantitative research, which attempts to generalize the results found in a group or segment (sample) to a larger collectivity (universe or population) [4], from which the application of platforms and services will determine the solution to the general and specific problems determined in this research work, demonstrating that the type is considered as applied research.

The scope of this research can also be determined, which is the causal correlational scope (Baena, 2014) why we will analyze the relationship what is between two variants according to the study will be information systems and marketing channels we will try to determine the reason for this relationship so it will also have a descriptive scope (Hernandez & Mendoza, 2018), whose design is non-experimental.

In addition, this work will be of Transversal type since the information of the study will be obtained only once at the given time, that is to say after having implemented the solution of the information systems and the marketing channels.

2.1. Description and determination of the population

Regarding the Population, as a microenterprise is being analyzed, it is determined that its population is 60 people, since the company's personnel is considered as an active population where all those involved are currently working in the organizational unit. And also, this study is related to the professionals of the company that will help the decision making of the company, since all of them are considered as stakeholders of the study that will use the information system and will improve their marketing channels.

To calculate the sample size, we will use the simple random calculation knowing the size of the population, with a confidence level of 95% and a margin of error of 5% as follows:

Formula to be used:

$$n = \frac{Z^2 PQN}{NE^2 + Z^2 PQ} \quad \text{(Equation N° 1)}$$

Replacing data:

$$n = \frac{(1.96)^2 (0,3)(0,7)(60)}{(60)(0,05)^2 + (1,96)^2 (0,3)(0,7)} = 51 \quad \text{(Equation N° 2)}$$

An adjustment is made since the population size is known:

$$n' = \frac{51}{1+\frac{(51-1)}{60}} = 28 \quad \text{(Equation N° 3)}$$

This data will determine that the study will be more accurate in terms of what is to be analyzed. The instrument used is the Questionnaire, because the Questionnaire is a research instrument that presents a higher scientific degree and is very objective, as well as, it is considered as a useful means to collect or gather information through a concise time, it consists of 23 questions related to the variables: Information System based on the dimensions of organization (questions 1 - 3), technology (questions 4 - 8), people (questions 9 - 13) and Marketing Channels based on the dimensions of direct distribution (questions 14 - 18), indirect distribution (questions 19 - 23). The survey is given to the 28 people who are professionals related to the study [17], who are part of the sample, since the processing is quantitative, our measurement instrument will be a questionnaire using the Likert scale. Accordingly, the results will be entered into the SPSS software for the respective analysis and the preparation of statistical tables of results. The reliability of the instruments will also be determined using Cronbach's alpha and factor analysis.

Table 2: Profiles.

Profile	Population: 60
Engineer	5
Manager / Accountant	7
Sales Coordinator	22
Chief of purchasing	14
Analyst	12

Source: Own elaboration

2.2 Instrument and data collection

To apply the reliability of the instrument, it is divided into two scales. The first scale analyzes the Information System variable, which is composed of 13 items, and the second variable is Marketing Channels, which is composed of 10 items, according to which the reliability and validity of each of them will be calculated.

Table 3

Reliability of Variables

Scale	Cronbach's alpha	N of element
Information System	0,882	13
Distribution channel	0,811	10

Source: Own elaboration

According to each data obtained we can determine that the alpha coefficients obtained show high values, which demonstrates that the test presents a strong internal consistency. The items are strongly co-varying with each other and, in general, they all help to measure what is required by the test. Therefore, it is concluded that the applied questionnaire is highly reliable.

2.3   Procedure for data analysis

Through this study, the selected sample is required to be approached by means of a goodness-of-fit procedure, according to the grouping of specific data that are related to a normal distribution. In conclusion, the data are complying with the explained requirement, of which there are several procedures that are followed, of which, the Kolmogorov-Smirnov (K-S) (n > 50) and the Shapiro-Wilk (S-W) (n < 50) can also be applied.

Thanks to these tests, the normality graphs obtained and the contrastation of hypotheses, which will determine whether its distribution is normal, will be carried out. Due to this, emphasizing that the sample obtained is less than 50, the second test explained above was chosen.

Regarding the non-parametric test selected, the null hypothesis (H0) has a distribution that presents homogeneity, it will be rejected if the p-value shows to be < .05. Because of this, in relation to the decision making where it is stated that the selected sample presents a normal distribution, its significance level tends to be ≥ .05.

Analyzing the dimensions of the Information System Variable and the Marketing Channels Variable, according to the questions posed:

Table 3: Test for Normality.

Normality tests						
Variables	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistician	gl	Sig.	Statistician	gl	Sig.
Information System	0,271	28	0,000	0,858	28	0,001
Distribution channel	0,300	28	0,000	0,840	28	0,001

a.   Lilliefors significance correction.

Source: Own elaboration

Observing this table, we see that the Shapiro-Wilk (S-W) must be applied because n < 50. We see that the P-value is less than 0.05, so hypothesis H1 is accepted; that is, the random variable does not have a normal distribution.

3. Results

Through this study, the analysis of the general hypothesis is performed, carrying out the respective hypothesis tests:

- Null hypothesis (H0): The application of an information system related to marketing channels as a competitive support will not improve the processes in Masaru S.A. company.
- Research Hypothesis (H1): The application of an information system related to the marketing channels as a competitive support will improve the processes in the company Masaru S.A.

Chi-Square test is applied to perform hypothesis testing (Hernández and his colleagues 2017).

Table 4: Chi-square table. General Hypothesis.

	Value	df	Asymptotic significance (bilateral)
Pearson's Chi-square	280,389[a]	234	0,020
Likelihood ratio	124,193	234	1,000
Linear by linear association	18,086	1	0,000
N of valid cases	28		
a. 266 boxes (100.0%) have expected a count of less than 5. The minimum expected count is .04.			

Source: Own elaboration

When interpreting the table, we see that the level of significance less than 0.05 (0.020 < 0.05) we reject the null hypothesis and accept the alternative hypothesis, then we can conclude that at a significance level of 0.05 determines that the application of an information system related to the marketing channels as a competitive support will improve the processes in the company Masaru S.A.

Through the following table:

Table 5: Contingency Coefficient Table. General Hypothesis.

Symmetrical measurements		Valor	Approximate significance
Nominal by Nominal	Contingency ratio	0,954	0,020
N of valid cases		28	

Source: Own elaboration

We can interpret that the contingency coefficient gives us security in the relationship of the two variables, therefore the contingency coefficient is less than 0.05 (0.020 < 0.05) we reject the null hypothesis and accept the alternative hypothesis, then we can conclude that at a significance level of 0.05, that is, there is a strong relationship in the implementation of an information system related to marketing channels as a competitive support will improve processes in the company Masaru SA.

Four specific hypotheses were taken into account which demonstrate that the data obtained are related to the general hypothesis.

- **Specific hypothesis 1**

Null Hypothesis (H0): Controlling the management of electronic services platform integrating technology, it

will not manage the marketing channels of small business Masaru S.A. effectively.

Investigative Hypothesis (H1): By controlling the management of electronic services platform integrating technology, it will manage the marketing channels of small business Masaru S.A. effectively.

Table 6: Chi-square table. Specific Hypothesis 1.

	Valor	df	Asymptotic significance (bilateral)
Pearson's Chi-square	199,422a	143	,001
Likelihood ratio	104,959	143	,993
Linear by linear association	15,476	1	,000
N of valid cases	28		
a. 168 boxes (100.0%) have expected a count of less than 5. The minimum expected count is .04.			

Source: Own elaboration

It is noted that the significance level less than 0.05 (0.001 < 0.05) we reject the null hypothesis and accept the alternative hypothesis, then it can be concluded that at a significance level of 0.05 determines that controlling the management of electronic services platform that integrate technology, will manage the marketing channels of the small company Masaru S.A. effectively.

- **Specific Hypothesis 2**

Null Hypothesis (H0): Planning an integral organization of the company MASARU S.A. will not increase the strategies of its direct distribution.

Investigative Hypothesis (H1): Planning an integral organization of the company MASARU S.A. will increase the strategies of its direct distribution.

Table 7: Chi-square table. Specific Hypothesis 2.

	Valor	df	Asymptotic significance (bilateral)
Pearson's Chi-square	159,444[a]	120	0,009
Likelihood ratio	96,271	120	0,945
Linear by linear association	10,856	1	0,001
N of valid cases	28		
a. 143 boxes (100.0%) have expected a count of less than 5. The minimum expected count is .04.			

Source: Own elaboration

We see that the level of significance less than 0.05 (0.009 < 0.05) we reject the null hypothesis and accept the alternative hypothesis, then it can be concluded that at a significance level of 0.05 determines that planning an integral organization of the company MASARU S.A. will increase the strategies of its direct distribution.

- **Specific Hypothesis 3**

Null Hypothesis (H0): Trained people will not improve the marketing channels of the company MASARU S.A. maintaining competitiveness.

Investigative Hypothesis (H1): Trained people will improve the commercialization channels of MASARU S.A. company maintaining competitiveness.

Table 8: Chi-square table. Specific Hypothesis 3.

	Valor	df	Asymptotic significance (bilateral)
Pearson's Chi-square	173,289[a]	130	0,007
Likelihood ratio	99,276	130	0,979
Linear by linear association	19,182	1	0,000
N of valid cases	28		
a. 154 boxes (100.0%) have expected a count of less than 5. The minimum expected count is .04.			

Source: Own elaboration

We see that the level of significance less than 0.05 (0.007 < 0.05) we reject the null hypothesis and accept the alternative hypothesis, then it can be concluded that at a significance level of 0.05 determines that the trained people will improve the marketing channels of the company MASARU S.A. maintaining competitiveness.

- **Specific Hypothesis 4**

Null Hypothesis (H0): Developing a comprehensive Information System will not influence the effective management of its direct distribution.

Investigative Hypothesis (H1): Developing an integral Information System will influence the effective management of its direct distribution.

Table 9: Chi-square table. Specific Hypothesis 4.

	Valor	df	Asymptotic significance (bilateral)
Pearson's Chi-square	263,667[a]	216	0,015
Likelihood ratio	115,679	216	1,000
Linear by linear association	17,094	1	0,000
N of valid cases	28		
a. 247 boxes (100.0%) have expected a count of less than 5. The minimum expected count is .04.			

Source: Own elaboration

We see that the level of significance less than 0.05 (0.015 < 0.05) we reject the null hypothesis and accept the alternative hypothesis, then it can be concluded that at a significance level of 0.05 shows that making a comprehensive Information System will influence the effective management of its direct distribution.

4. Discussion of results

The main objective of this work is to determine that by applying an information system and marketing channels oriented to the competitiveness of the small textile company: MASARU S.A., this study was based on a general hypothesis and four specific hypotheses that, through the development of an instrument, divided into dimensions, will support us to corroborate the affirmation of each specific hypothesis that were raised.

Based on what was explained above, the data collection was carried out, each one of them was analyzed with the answers of a group of people who are directly related to the activities of the company [8], to determine if the data present normality (Normality Test), when not complying with normality, non-parametric analysis was carried out, using the chi-square because it complied with the analysis of the data collected.

By performing the chi-square analysis on each of the specific hypotheses, it can be verified that each of these specific hypotheses presents high values and has a significance that is adequate to reject the null hypotheses and that determines the validity of each of the specific hypotheses. Validating the specific hypotheses determines that the general hypothesis is proven in relation to the study carried out.

Through this analysis it can be concluded that, by demonstrating these hypotheses, it can be determined that small businesses, in order to be competitive, all the analyzed dimensions could be applied, leading to favorable results that benefit the small business.

Through this research conducted, it can be contrasted with the national study of the author Manottupa, Rocio (2013) [16], whose work is: "Marketing Channels and development of an Information System for Decision Support in the Purchasing Planning Process in a Commercial Mype", whose research used information given by entrepreneurs, who are owners of Mypes, through surveys, to implement an information system and those marketing channels, demonstrating improvements in the Mypes [7]. In our study it can be verified that information has been taken from the people who directly integrate the small business in their activities, since they are the ones who encounter the direct problems that constantly happen, to demonstrate if the competitiveness would be achieved by working with service platforms on - line that will help to make a better management and integration in its Information System and marketing channels[15], taking important information that showed favorable results. Furthermore, contrasting with the author Cardona and Victoria (2011) [6], in the international study entitled: "Strategy of Commercialization Channels in the Provision of Technological Services for SMEs", which concludes that micro and small enterprises will achieve success if they have organizational structures that are very flexible, based on an intensive use of the resources provided by ICTs and a decisive attitude to change [9]. Given the flexibility that traditionally characterizes small and medium-sized companies, they will be more agile and dynamic in responding to new demands and to the diversified products and services requested by the market. Therefore, it is recognized that a commercialization channel presents flexibility to be used in the strategy of providing technological services to small and medium-sized companies [18].

Through this study, we contrast that the small company MASARU S.A, demonstrates that it can improve the

marketing channels if an information system is applied which would integrate all the areas that belong to the small company through a platform of online services, where it would demonstrate greater flexibility to change, applying strategies to make better decision making whose result would be very favorable to achieve the success of being competitive [19].

6. Conclusions and recommendations

Finally, small and micro enterprises need an information system related to distribution channels, including the following:

- An analysis of the small textile company Masaru S.A. in terms of its information showed deficiencies in information records in relation to its business processes, but by proposing an information system supported by online service platforms and marketing channels, it demonstrated competitiveness in the Peruvian market.
- The use of an information system and marketing channels in small and micro enterprises results in significant savings in terms of time and money for small and micro textile enterprises.
- Using an online service platform and the use of marketing channels showed flexibility in interacting with the market, as it leads to potential wealth and leads to competitiveness.
- By implementing an Information System [20], we were able to achieve a way of sustaining information that shows security and integrity in place of possible changes. Through this information system increased the reliability of information that demonstrates the soundness of their business activities of the small business.
- Finally, working with online service platforms showed the improvement of having adequate information, and showed the possibility of direct negotiations between buyers and sellers (direct distribution), where product quotation costs are reduced, communication costs are reduced and it leads to a good internal management of the company.

It is important to use an information system related to distribution channels that can show favorable results, considering that it is recommended:

- It is recommended that new studies be conducted on small and micro enterprises in all sectors to carry out the use of information systems and marketing channels to make them competitive in the Peruvian market.
- It is recommended to carry out new studies to help in the understanding of the relationships that are presented about the factors that influence organizational behavior, showing clarity in the situations that can make the companies that provide online services platform services, more profitable and prepared for the market that incorporates Internet technology in business relationships.
- It should be considered pertinent to investigate and identify factors that are relevant to the profitability and competitiveness of the companies, from the context of the Internet, investigating those companies that provide online service platform services, showing their capacity, resources and competencies of the companies to meet the demands of the online service platform commerce market.
- It is recommended to carry out a comparative study of a small company and a large company in the same industry oriented to information systems and marketing channels in order to analyze the differences in their information management processes and marketing channels in relation to decision making.

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