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Artículos Científicos

Relación de los sistemas de producción con la logística en mipymes de Aguascalientes

Relationship of Production Systems with Logistics in MSMEs in Aguascalientes

Relação dos sistemas de produção com a logística em MPMEs em Aguascalientes

Salomón Montejano García
Universidad Autónoma de Aguascalientes, México
smontej@correo.uaa.mx
https://orcid.org/0000-0002-4315-0768

Gabriela Citlalli López Torres
Universidad Autónoma de Aguascalientes, México
gabriela.lopez@edu.uaa.mx
https://orcid.org/0000-0003-2483-7780

Marcelo de Jesús Pérez Ramos
Universidad Autónoma de Aguascalientes, México
marcelo.perez@edu.uaa.mx
https://orcid.org/0000-0003-4486-3687

Rocío Montserrat Campos García
Universidad Autónoma de Aguascalientes, México
montserrat.campos@edu.uaa.mx
https://orcid.org/0000-0003-3279-6640

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Resumen

La presente investigación busca encontrar el estado en que operan los sistemas de producción y la logística de la empresa en las micro, pequeñas y medianas empresas (mipymes) de Aguascalientes, México, así como determinar el impacto que ejercen los sistemas de producción sobre la logística de las empresas. Se trata de una investigación transversal, no experimental y cuantitativa. Para cumplir con el objetivo trazado se diseñó una encuesta que giró en torno a ambos constructos, sistemas de producción y logística empresarial, y se aplicó a 148 empresas en Aguascalientes. Para evaluar las encuestas se utilizó una escala Likert de cinco puntos. Los resultados indican que existe una correlación positiva y significativa entre ambos constructos e igualmente ponen de manifiesto que por el momento tanto los sistemas de producción como la logística de la empresa carecen de orden y de actualización en las organizaciones participantes.

Palabras clave: logística de la empresa, mipymes, sistemas de producción.

Abstract

This research seeks to find the state in which the company's production and logistics systems operate in micro, small and medium-sized enterprises (MSMEs) in Aguascalientes, Mexico. Also, it aims to determine the impact that production systems have on the logistics of companies. It is a cross-sectional, non-experimental, and quantitative investigation. To meet the objective set, a survey was designed that revolved around both constructs, production systems and business logistics, and was applied to 148 companies in Aguascalientes. A five-point Likert scale was used to evaluate the surveys. The results indicate that there is a positive and significant correlation between both constructs and also show that at the moment both the production systems and the logistics of the company lack order and updating in the participating organizations.

Keywords: logistics, MSMEs, production systems.

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Resumo

Esta pesquisa busca conhecer o estado em que operam os sistemas produtivos e logísticos da empresa nas micro, pequenas e médias empresas (MPMEs) de Aguascalientes, México, bem como determinar o impacto que os sistemas produtivos têm na logística das empresas. É uma investigação transversal, não experimental e quantitativa. Para cumprir o objetivo traçado, foi elaborada uma pesquisa que girou em torno de construções, sistemas de produção e logística empresarial, e foi aplicada a 148 empresas em Aguascalientes. Uma escala Likert de cinco pontos foi usada para avaliar as pesquisas. Os resultados indicam que existe uma correlação positiva e significativa entre os dois construtos e também mostram que no momento tanto os sistemas de produção quanto a logística da empresa carecem de ordem e atualização nas organizações participantes.

Palavras-chave: logística empresarial, MPMEs, sistemas de produção.

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Introduction

It is natural that all the countries of the world want to have a strong and powerful industry to be able to place themselves at the forefront when it comes to the manufacture and commercialization of products and services worldwide, however, reality shows us that industrialized countries with the ability to dominate the market are actually very few.

In 1976 the G7 was born, an informal association made up of seven of the richest countries in the world: Canada, France, Germany, Italy, Japan, the United Kingdom and the United States. It is a space that is still active (the last meeting was held in June 2021, after it was canceled in 2020 (Bay, 2021) to discuss strategies and find solutions to global problems, always putting the interest of nations first. One of the results of the vision shared by this group is reflected in the installation of production plants or service offices in the so-called emerging countries (Milberg, 2004), which, due to the need for employment or technological dependence, This situation is convenient for transnational companies, derived from the low production costs, coupled with the high quality of work, as well as the willingness of workers to work during long working hours (Hymer, 1976). The above, it is very important to bear in mind that every company, no matter how large, including of course the transnationals, at a certain moment, were also micro, small and medium-sized enterprises (MSMEs), and that it

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was thanks to the development of organized work and to endure over time that they became the powerful entities that they are today. Likewise, it is worth noting that it is not the size of the companies that reflects their power, but the impact of their presence first in their own countries, and later in the globalized world in which we are.

In Mexico, MSMEs make up practically all the companies (99.8%) and generate 85.6% of the jobs; However, with regard to salaries and income, the figures are not as impressive as the previous ones: 69.3% and 59.3%, respectively (National Institute of Statistics and Geography (INEGI, 2009). This is due to the fact that the contribution of the smallest mypimes does not agree with the large number of these that exist in Mexico, so the gap between the smallest and the largest companies is increasing, which can be verified just by observing the income of these the latter, which, despite being considerably less, register about half of the income in this country (40.7%) (INEGI, 2009).

Of course, more than size, it is the way businesses are run that matters most. In fact, from the end of the 19th century, the management of the company began to evolve and acquire importance to the point of becoming, at this time, indispensable due to the globalization of trade at the world level, which is why the internationalization of business is vital in all aspects, including its development and updating.

At this point, it should be noted that the situations that revolve around the development of MSMEs do not respond to one but to multiple variants. Practically, any situation that arises around the company, or within it, can have a considerable impact (Ruzzier, Hisrich and Antoncic, 2006). And while taking the above into account, here the situations that we intend to consider as a priority are the production systems and the logistics of the company.

Production systems

Due to the commitment inherent in business practice, by the very nature of meeting the needs of the population, which are increasing each time, production systems must be constantly renewed. The need to manufacture products to make human life as pleasant as possible has always existed. However, this sentiment was possibly exacerbated during the technological development of the 19th century, when industrial development was catapulted. Previously, the needs expressed by the population were different in quantity, variety and quality of products, since the number of people in the world was approximately one eighth

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of what we are today. Now, by increasing needs, it was necessary to change the way of producing and it was from the human capacity to handle the energy transported by steam that production systems could be mechanized to meet the existing needs in society. at that time (Noori and Radford, 1997). Of course, the production systems were incipient and the main concern of the administrators was to produce as much as possible, so, without knowing it, they sacrificed quality, variety, personnel, environment, among other things, which due to lack of control did not they understood that they were factors that made them less competitive.

As time passed, managers realized that it was possible to produce even more than was currently being done by initially improving work methods, and transformation in this direction began (Peters, 1987). These changes were directed specifically towards the ways in which it occurred, without paying attention to other aspects such as human, social and others that at that time were considered non-essential. Be that as it may, these work schemes yielded positive results, and were the basis for what are now considered modern forms of work.

A huge advance was made in series production. Once, based on the principle of the specialty of the work, as well as the division of this, the company was enabled to produce large volumes of production, the machinery, the facilities and the skills of the personnel had to be updated to create stations of work connected to each other, on the condition that the process is not interrupted (Gershwin and Schor, 2000). The companies little by little joined this way of working and, thanks to it, they grew. However, time also caught up with this form of production. Although the amount of production requested could be met, there was a limitation of delivery in time to a demand originated by emergencies, or by the need in the market for a wide variety of products, since the model changes to cover this type of demands were very late, all of which required having a very high amount of finished inventory to meet these contingencies and not lose customers, since production runs could not be interrupted until the scheduled batch was finished.

Derived from the above, flexible production systems were established. This methodology allowed to produce small production batches of a wide range of products (Lee, 1998). Of course, for this, it was essential to develop equipment and machinery that was not only capable of performing various operations in a simple way, but also allowed to change from one operation to another quickly. It is about computerized machinery and equipment that, organized linearly, forms what is known as computer manufacturing, which begins in

applications for injection molding, metal forming, as well as parts manufacturing and assembly (Ranta and Tchijov, 1990) . However, making the change from one way of producing to another required large investments and a high degree of knowledge about computerized systems (Smith and Stecke, 1996), which became a barrier for many companies.

Naturally, the evolution of production systems tended towards automation. The need for greater control and safety in processes was increasingly evident and the answer was found in the creation of intelligent mechanisms, whose operation was possible even without an operator (Ahmad, Tahir, Ul and Shah, 2019). Once these levels of automation were achieved, greater precision and higher production speed were achieved. The result of this has allowed the profound and necessary changes in industrial processes that are required today to be managed with determination, as well as the optimization of these (Hu, Starr and Leung, 1999)

On the other hand, from 1924 on, the impact that quality care has on production systems begins to be relevant (Lovitt, 1997). Due to the pressure of the client on the company's offer, the quality systems took preponderance within the work systems with the purpose of ordering and improving the final results of the production processes. As a natural consequence of the pressure that was exerted in the 1970s and 1980s on European and American companies, entrepreneurs were forced to take product quality seriously. At the same time, motivated by this trend, new work methodologies were designed, for example, six sigma and lean manufacturing (Dahlgaard, 2011), methodologies that, in themselves, have the main characteristic of substantially improving the results of the organization, which makes investment in these fields advised (Boulter, Bendell y Dahlgaard, 2013).

Company logistics

The way of doing business has evolved to such a degree that it has forced organizations to have contact with the rest of the world and to suffer or take advantage of any imbalance. Undoubtedly, the above has promoted the integral development of companies. For example, an immediate effect of this situation is the disincorporation of production processes in different administrative areas, according to the common functions that are carried out during the organization's operations. Likewise, it has forced organizations to prepare parts in different countries (Milberg, 2004). Consequently, the control of the process has been complicated, so it is necessary to have the specialization of the functions to achieve

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maximum results. In such a way that the management of logistics has become one of the business priorities, essential today to increase the ability to do business, since these must be carried out even abroad. Therefore, rather than acting in accordance with technological advances and the momentum generated by what has been done in international companies, it is necessary to take seriously the effectiveness of costs, the efficiency of new ways of working and the speed with the one that serves the client (Gola and Konczal, 2013).

However, for many the terms value chain management and supply chain management can be interchangeable, however, they are conceived differently here. Even more: due to the evolution of production systems, there is a need to disintegrate them functionally to directly support the value chain.

The value chain is defined as the sequence of activities involved in the realization of a good or a service (Noori and Radford, 1997), activities always related to the client: from the detection of their needs to the evaluation of customer satisfaction.

One of the areas that have been organized since the 1960s to function independently is precisely that which has to do with the logistics of the company (Gustaffson, 2006). This concept integrates matters related to customer service, traffic and means of transport, storage, selection of facilities, inventory control, order control, making purchases, movement of materials, as well such as the incorporation of components, among others, with the purpose of delivering the required products to the customer under quality, time and quantity standards (Jellouli and Adbelkadhi, 2013; Pascual and Ribas, 2015).

The logistics of the company has several definitions. However, in a general way, we could define it as the strategic management of the acquisition, transfer and storage of materials and finished products and related information, through the design and control of distribution channels, with the essential objective of optimizing the results of the company operations both in the present and in the future (Bowersox, Closs, Cooper and Bowersox, 2013)

Although the logistics functions of the company have become specialized and disintegrated from the operation of the plant, it is essential to always bear in mind that its primary objective is to serve the production processes directly: to make any material available to those who require it. those that were defined when the list of production materials was made, provide the manufacturing area with these at the scheduled time and control the free flow of production in process, taking into consideration the care and quality necessary to meet the requirements of the client (Samaranayake and Toncich, 2007). Likewise, the logistics of the

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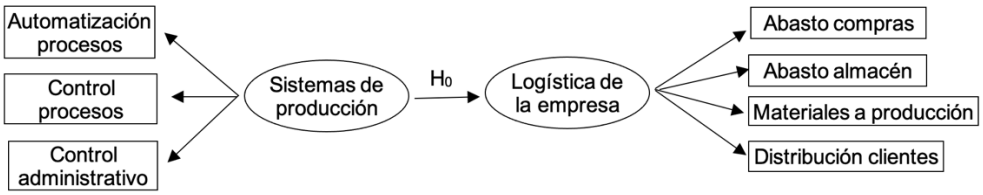
company is closely related to the flow of information provided by the systems available in the area of operation. In the same way, it is linked to the state, care and capacity of operation of the equipment and machinery available to produce. Something that also greatly influences the state of the facilities and the distribution of the equipment, among other tasks that correspond directly to the area of operation (Sandberg, 2013), and without which the performance of the equipment is affected. logistics area of the company.

Taking into account all of the above, Figure 1 presents the model that guided this research, which indicates the variables that were considered to evaluate the state of control that MSMEs in Aguascalientes, Mexico have over production systems. and the logistics of the company.

Figura 1. Modelo de investigación que relaciona los sistemas de producción con la logística de la empresa



Fuente: Elaboración propia

And from this, the following hypothesis emerges: H_0: the production systems significantly influence the logistics of the company.

Methodology

This research was carried out to determine the state of the production systems and the logistics management of the company, as well as the impact of the production systems on the logistics of the company in the MSMEs of Aguascalientes, Mexico. This research is cross-sectional, quantitative, not experimental. For this, a survey was structured to analyze the Production Systems (SP) construct, which is made up of three dimensions that analyze the general state of these processes in the company: 1) automation of the processes (with seven questions), 2) reliability of the processes (with three questions) and 3) administrative control of the processes (five questions). On the other hand, the Business Logistics construct (LE) has four dimensions: 1) purchasing supply (with six questions), 2) warehouse supply (with

nine questions), 3) production materials (with seven questions) and 4) customer distribution (11 questions). The survey was applied to 148 companies in Aguascalientes to determine how the businessman in this state views both constructs in his company. It should be noted that, of the 148 companies, 81.1% were micro, 15.5% were small and 3.4% were medium.

Tabla 1. Operacionalización de variables

Constructo	Calificación de las variables
Sistemas de Producción	1 = No se cuenta con sistemas de producción formales. 2 = Son empleados empíricamente algunos sistemas de producción. 3 = Los sistemas de producción son básicos y de uso general. 4 = La mayoría de los sistemas de producción son actuales. 5 = Los sistemas de producción son actuales y superiores a la competencia.
Logística de la Empresa	1 = No se utilizan técnicas de control logístico en ninguna de las áreas de la empresa. 2 = Ocasionalmente se utiliza alguna técnica de control logístico. 3 = Se utilizan técnicas de control logístico en la empresa, pero no constante ni formalmente. 4 = Se utilizan algunas de las técnicas logísticas en la empresa y se cuenta con cierto control de los materiales. 5 = El control logístico de la empresa es excelente, se utilizan todas las técnicas relacionadas a esto.

Fuente: Elaboración propia

A five-point Likert scale was used to relate the employer's response to the status of the SP and LE constructs, the meaning of which is described in Table 1.

Finally, the study concluded that businessmen in Aguascalientes agree that the state of the production systems has a direct and significant relationship with the logistics of the company and that if the former are improved, the latter will consequently be improved. Similarly, it was recognized that these two very important areas in the company, at least at this time, lack the attention required by the employer (the causes will be addressed in subsequent investigations). As support in the present study, the SPSS statistical package was used.

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To confirm the congruence in the responses of the respondents, a reliability analysis was carried out, via Cronbach's alpha, the results of which are presented in Table 2. According to Nunnally and Bernstein (1994), the minimum value for the application to be considered as pertinent it is 0.7; in our case, the dimensions all have a value greater than 0.7, but the constructs have a slightly lower value. Despite this, even under these conditions, it is considered that there is the necessary relevance to interpret the survey responses as indicators of what is happening in the companies analyzed.

Tabla 2. Valores del alfa de Cronbach y media de respuesta para los constructos analizados y sus dimensiones

	Alfa de Cronbach	Valor medio
Abasto compras	0.669	3.2556
Abasto almacén	0.805	3.0509
Materiales a producción	0.883	2.8137
Distribución clientes	0.871	2.8624
Control logístico	0.694	2.9957
Automatización de procesos	0.874	1.5743
Control del proceso	0.861	3.4505
Control administrativo	0.777	2.6463
Sistemas de producción	0.659	2.5770

Fuente: Elaboración propia

Results

The original result of the study indicates the degree of attention that the employer brings to the operation of its processes. Ideally we would have wanted the results to be excellent in all aspects, that is, with level five; However, although there are low levels of care, it is observed that the use of logistics techniques is somewhat homogeneous, therefore, the improvement applied must be made to all aspects that have to do with business logistics.

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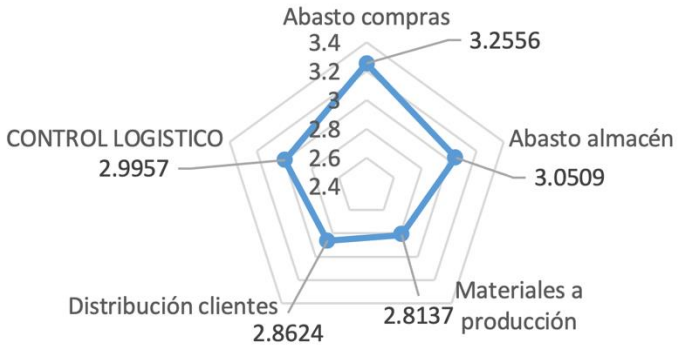
Figura 2. Respuesta media para el constructo LE y sus dimensiones



Fuente: Elaboración propia

Figure number 2 shows that for the LE construct the mean value is 2.9957, which indicates that in Aguascalientes only some of the company's logistics control techniques are used. It also indicates that it is not done in a formal and constant manner. In this sense, the information presented in table 3 shows that 74.3% of the entrepreneurs acknowledge that they use on a few occasions and only some known techniques of business logistics, while only 25.7% mention that they constantly use this type of techniques.

Tabla 3. Resumen de porcentajes sencillos y acumulados de la frecuencia de respuesta para el constructo LE y sus dimensiones

Variables para calificar el constructo calidad	Respuesta principal	No se utilizan técnicas de control logístico en ninguna de las áreas de la empresa.	Ocasionalmente se utiliza alguna técnica de control logístico.	Se utilizan técnicas de control logístico en la empresa, pero no constante ni formalmente.	Se utilizan algunas de las técnicas logísticas en la empresa y se cuenta con cierto control de los materiales.	El control logístico de la empresa es excelente, se utilizan todas las técnicas relacionadas a esto.
Abasto a compras	Frecuencia	4	25	59	43	17
	Porcentaje	2.7	16.9	39.9	29.0	11.5
	Acumulado	2.7	19.6	59.5	88.5	100
Abasto almacén	Frecuencia	9	32	59	31	17
	Porcentaje	6.1	21.6	39.9	20.9	11.5
	Acumulado	6.1	27.7	67.6	88.5	100
Materiales a producción	Frecuencia	29	28	38	40	13
	Porcentaje	19.6	18.9	25.7	27	8.8
	Acumulado	19.6	38.5	64.2	91.2	100
Distribución clientes	Frecuencia	19	25	65	34	5
	Porcentaje	12.8	16.9	43.9	23.0	3.4
	Acumulado	12.8	29.7	73.6	96.6	100
Logística empresarial	Frecuencia	4	37	69	31	7
	Porcentaje	2.7	25.0	46.6	21.0	4.7
	Acumulado	2.7	27.7	74.3	95.3	100

Fuente: Elaboración propia

According to figure 2, for "Supply to purchases" the mean response value is 3.2556, which, although it places it as the dimension best evaluated by entrepreneurs, shows that the use of techniques focused on controlling the supply of purchases It is very limited and that it

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is carried out in a practical way, so the opportunities for improvement are many. As a complement to this information, Table 3 shows that 59.5% of the entrepreneurs mention that, indeed, the application of logistics techniques aimed at supplying purchases is very limited, while only 40.5% express that they constantly use the most of the control techniques for the supply to warehouses.

Now, for the dimension "Warehouse supply" in figure 2 it is shown that the mean response value is 3.0509, which expresses that in relation to this dimension the application of control techniques is very limited, in other words, that their application is very limited, since they are used, but without an adequate order and constancy. In addition, table 3 shows that 67.6% of those surveyed affirm that they use control techniques on a few occasions and superficially for the warehouse supply; only 32.4% of companies use these techniques regularly and in an updated variety.

Regarding what are the materials for production, in figure 2 it is possible to observe that the mean response value is 2.8137. It is the dimension with the lowest rating: very few logistics techniques are used and applied; it is only done rarely or with some processes, but most are out of control. Table 3, for its part, shows that 64.2% of the companies apply very little techniques related to the control and supply of materials to production, as well as the return of the product to the warehouse, so this becomes at a point of chaos during the production stage. Similarly, it can be seen that only 35.8% of the companies use the techniques of control of the materials in production regularly and constantly during their operations.

Finally, for the dimension "Customer distribution", Figure 2 shows that the average response value of businessmen in Aguascalientes is 2.8624, which indicates that the use of techniques related to customer distribution is very low and only occasionally is attention paid to this part of the supply chain. Likewise, in table 3 it is observed that 74.3% of the entrepreneurs respond that they do not use customer distribution control techniques and those who do so are sporadically and with few applied techniques; 25.7% express that they regularly use these techniques.

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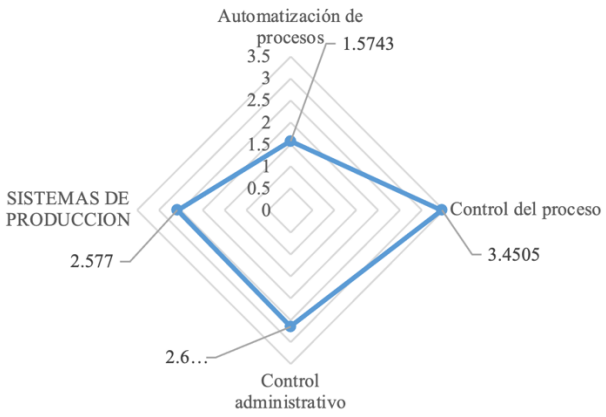
Figura 3. Respuesta media para SP y sus dimensiones



Fuente: Elaboración propia

To support the analysis of the SP construct and its dimensions, the results were graphed as shown in Figure 3. In this we can see that, in addition to being reduced control over the construct in question, the results in the dimensions are very heterogeneous.

Regarding control over production systems, figure 3 reveals an average response of 2,577, which indicates that only some of the control techniques in production systems, the best known, are used empirically by entrepreneurs, Therefore, there is a lack of technical updating of these companies in Aguascalientes. Likewise, in table 4 it is observed that 87.2% of the entrepreneurs express that they use few control techniques and that they do so without formality and sporadically, and only 12.8% recognize that they have adequate control of their production systems and that they are constantly they make efforts to keep up to date in this area.

The dimension "Automation of processes" has an average response of 1.5743, the lowest score recorded, and therefore, the most neglected of the SP construct. This result means that MSMEs in Aguascalientes do not have automated processes to any degree, a situation that is confirmed in what is stated in table 4, which states that 96.6% of entrepreneurs express that control techniques in production systems are practically empirical and that occasionally they work with an automatic system (only 3.4% expressed the application of control techniques in production systems).

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Figure 3 also shows that the "Process control" dimension has a mean response value of 3.4505, which indicates that the MSMEs in Aguascalientes have basic and general-use process control systems. These are applied regularly. On the other hand, in table 4 it is mentioned that 41.2% of the companies use only traditional production control techniques, while 58.8% frequently use most of the updated techniques that are related to process control.

Tabla 4. Resumen de porcentajes sencillos y acumulados de la frecuencia de respuesta para el constructo SP y sus dimensiones

Variables para calificar el constructo calidad	Respuesta principal	No se cuenta con sistemas de producción formales	Son empleados empíricamente algunos sistemas de producción	Los sistemas de producción son básicos y de uso general	La mayoría de los sistemas de producción son actuales	Los sistemas de producción son actuales y superiores a la competencia
Automatización procesos	Frecuencia	105	30	8	3	2
	Porcentaje	70.9	20.3	5.4	2	1.4
	Acumulado	70.9	91.2	96.6	98.6	100
Control del proceso	Frecuencia	28	11	24	33	54
	Porcentaje	17.6	7.4	16.2	22.3	36.5
	Acumulado	17.6	25.0	41.2	63.5	100
Control administrativo	Frecuencia	42	29	48	17	12
	Porcentaje	28.4	19.6	32.4	11.5	9.1
	Acumulado	28.4	48.0	80.4	91.9	100
Sistemas de producción	Frecuencia	31	34	64	17	2
	Porcentaje	20.9	23.0	43.3	9.4	1.4
	Acumulado	20.9	43.9	87.2	98.6	100

Fuente: Elaboración propia

Finally, for the dimension "Administrative control", Figure 3 shows a sample an average response of 2.6, which indicates that for this dimension there are empirical control systems and that they are not used regularly. Coincidentally, table 4 shows that 80.4% of the

companies sporadically use administrative control systems and that, on the other hand, only 19.6% are concerned about having updated administrative control systems, as well as their frequent and constant use.

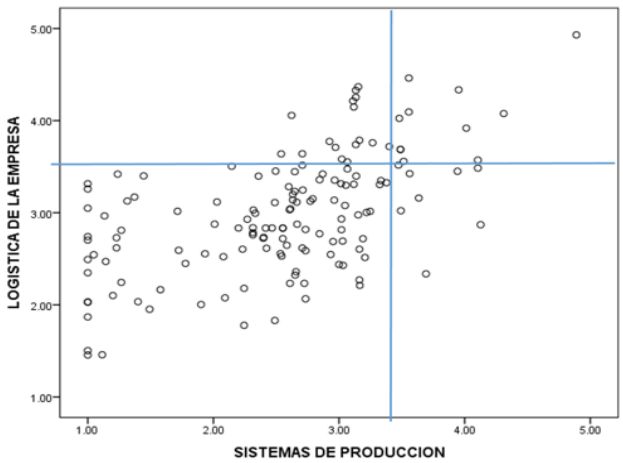
To determine the relationship between the SP and LE constructs, a correlation analysis was performed with the mean responses per company for each of them. The result is shown in table 5. There it stands out that the value of this index is 0.574 to 99% reliability, which shows that the correlation is positive and significant, so that by improving the SP construct, the LE construct will be improved. On the other hand, when calculating the value of the R squared in this correlation, there is a value of 0.3294, which indicates that in 32.94% of the cases the state in which the LE construct is found in companies is precisely due to the state in which the SP construct is maintained.

Tabla 5. Índice de correlación de los sistemas de producción y logística empresarial

Correlación de Pearson	0.574**
Sig. (bilateral)	0.000
**La correlación es significativa en el nivel 0.01 (bilateral).	

Fuente: Elaboración propia

Figura 4. Diagrama de correlación SP contra LE



Fuente: Elaboración propia

Figure 4 shows that 77.71% of entrepreneurs mention that business logistics in their workplaces are in a basic state because their production systems are also in a basic state. Likewise, 6.08% of entrepreneurs mention that logistics in their organizations is in a state of

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superior control, although their production processes are in a basic state of control. Furthermore, 10.13% of the entrepreneurs mention that in their organizations the state of the LE construct is at high levels of control because the levels of the SP construct are also kept high. Finally, it can also be seen that 6.08% express that in their organizations business logistics is at higher levels of control despite the fact that the production systems are at low levels.

Tabla 6. Resultado de la regresión simple de SP con LE

	Coeficientes no estandarizados		Coeficientes estandarizados	t	Sig.
	B	Error estándar	Beta		
(Constante)	1.877	0.139		13.495	0.000
SISPRO	0.438	0.052	0.574	8.473	0.000

Fuente: Elaboración propia

To complement the analysis even more, a linear regression was carried out in which the SP construct was considered as an independent variable and the LE construct as a dependent. The result is shown in table 6. From this information, the following equation is derived that explains the relationship between SP and LE:

$$LE = 1.877 + 0.438\ SP$$

Comment to the margin: of the dimensions that were used to determine the SP values, that of "Administrative control" is the only one that directly influences the behavior of the LE; the other two dimensions do not strongly affect the way of managing business logistics in MSMEs.

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Discussion

The key to joining the international production chain is the administration of the company's logistics. The logistics of the company has the purpose of satisfying the demands of the client at the requested moment and with the most competitive quality and costs in the market. So far we have seen that the role of production systems is fundamental and that it is essential that they be technically modernized to support the logistics of the company in the same way. In this regard, it is necessary that the professional newly integrated into the production chain has sufficient credentials to verify that he has the knowledge for this task and that he will be able to technically contribute to the reliable management of the value chain of any type of company.

In contrast, higher-level schools are betting on companies supplementing staff training in the field of work. This situation costs the company up to two years of training, despite the fact that the new professional should already have the ability to immediately integrate into the labor market. Possibly this lack of harmony between school and company is caused by the massification of education, it seems that qualified labor was being prepared for international companies and not to support and develop the local company.

One of the main problems in the production systems of local companies is the lack of automation of the processes, which, in turn, is motivated by the technological backwardness of our country and the lack of accessible financing to motivate the company. to improve in this aspect. The company, to alleviate this deficiency, must apply with greater force tools for analysis and improvement of operations, for the development of job aids, as well as to consider carrying out strategies for modernization of equipment and machinery applying financial support such as It is the depreciation of assets, which, if carried out properly, would provide the opportunity to have up-to-date equipment and machinery.

The work for MSMEs to develop is very arduous, it implies a commitment from the owner or main administrator. We must always bear in mind that large companies, on some occasion, were also MSMEs and that it was thanks to the support of public policies and their own effort that they achieved the development that can be observed today.

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Conclusions

The study reveals that MSMEs show a substantial delay in the application of tools aimed at optimizing the administration of the processes that are part of the work carried out in them. The technical gap between these and international companies is growing, so that the dominance in the market is clear. Both the public policies and the administration of this type of organizations have given guidelines for this gap to be increasing, and as a consequence, it is available to what is done in international companies, therefore, the domain of country to country is manifested in the same way.

It should be clear that the results of this research show that the production systems have a considerable delay compared to the companies that arrive in our country from abroad, and that in many cases they have primitive equipment and machines, so it is not possible to compete with them, and so any treaty that is made with world powers will always be unfavorable for local companies. Concern for progress should be directed primarily to strengthening local industry in order to establish agreements with developed countries under equal circumstances.

Future Research Lines

It is proposed that future lines of research consider expanding the sample to large-sized companies, in addition to the fact that this study can be replicated in different geographical areas of the country in order to compare the results.

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Rol de Contribución	Autor (es)
Conceptualización	Salomón Montejano García
Metodología	Salomón Montejano García
Software	No aplica
Validación	Gabriela Citlalli López Torres
Análisis Formal	Marcelo de Jesús Pérez Ramos
Investigación	Marcelo de Jesús Pérez Ramos
Recursos	Rocío Montserrat Campos García
Curación de datos	Marcelo de Jesús Pérez Ramos
Escritura - Preparación del borrador original	Salomón Montejano García
Escritura - Revisión y edición	Rocío Montserrat Campos García
Visualización	Gabriela Citlalli López Torres
Supervisión	Salomón Montejano García
Administración de Proyectos	Salomón Montejano García
Adquisición de fondos	Rocío Montserrat Campos García