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Management process and its impact on the productive capacity and profitability of micro and small companies metal in Trujillo, Peru

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ABSTRACT
This study was developed with the aim of determining the impact of the management process on the productive capacity and Mypes profitability of the mechanical metal industry of the Trujillo district, 2020. Mixed focus research, sequential explanatory design, cross-sectional, causal, correlational design and phenomenological design. The quantitative sample consists of 55 managers, managers and accountants; the qualitative sample consisted of 3 specialists in management processes. The survey technique was used with three Likert-scale questionnaires and the interviewer's technique with an interview guide. Descriptive statistics and correlation of Kendall and Spearman were used for quantitative analysis. The systematization matrix was used for qualitative analysis. It was determined that the management process significantly affects ($P<0.01$) the productive capacity and Mypes' profitability of the mechanical metal industry of the Trujillo district – 2020. It was shown that 25% of the variation in production capacity and profitability were explained by the management process.
Keywords: Management process, productive capacity, profitability.

1. INTRODUCTION

The commercial development in which we live today is impressive, companies are concerned with raising their profitability levels and for this they do research studies to raise the long-awaited levels of high profitability. From this we see many strategies, one of them is to have good planning, organization, control and direction as we see in Costa Rica that the mechanical metal sector moves 1.3% of Gross Domestic Product (GDP) in 2015 (Economic Commission for Latin America and the Caribbean - ECLAC, 2016). Today, Latin America's industrial Gross Domestic Product (GDP) has a 16% stake in the metalworking industry, allowing 4.1 million people to have a direct and indirect job, another 19.7 million. Also, within the total volume of exports made, it has a significant contribution. However, in recent decades, there have been significant challenges that Latin America had to go through: at one end, the opening of its markets and, on the other hand, the presence of Chinese industry as a global competition, generating in its wake a process of deindustrialization (Economic Commission for Latin America and the Caribbean - ECLAC, 2016). According to trade drafting (2019); the industrial sector that provides facilities, capital goods and equipment, is the metalworking sector. Which has had growth of 10.2% from January to October 2018. The increase was driven by both private and public investment improvements in domestic demand, as indicated by the Institute for Economic and Social Studies (IESS) of the National Society of Industries (NSI). The report notes that the production of transformers, generators, engines (132.8%), parts, accessories and parts for automobiles (15.3%), motorcycles (22.8%), automotive car bodies (8.5%), as well as some metal-produced elements (7.1%). The list includes engines and turbines, batteries, accumulators and batteries, electricity cables and other filaments, metalworking elements for structural use, cutlery, hand tools and hardware implements. However, negative results have been recorded in the production of metal vessels, tanks and tanks, faucets, pumps, valves and compressors, as well as machinery for domestic, mining and other general use.

The coronavirus pandemic (COVID 19) was a high-impact event for the national economic balance mainly because of the mandatory immobilization dictated by the State, being part of the majority market for several economic items, foreign demand. This is what is estimated that by 2020 Peru's Gross Domestic Product would fall by 3.7%, generating a strong recession not seen for more than two decades (-2.7%). There will be a contraction in private acquisition and private investment by a percentage of -14.5% by setting a drop in this decade for the fourth time. On the other hand, in the GDP sectorization, several close relations with mechanical metal are considered. There are studies on this; Cortez (2018), focused on analyzing the management process as it affects the increased productivity of a poultry company located in the municipality Zamora in Aragua state, and in turn notes that the company presents goals and purposes, the development of activities based on input production and good group work practices is adequately foreseed. The input of this study focused on the management process purpose which is a valuable tool for systematically, continuously, timely and effectively managing the resources used in production. It should be clarified that the administrative functions covered by this process are important to significantly improve the productivity of organizations undergoing the application of their principles.

Likewise, Mendoza and Díaz (2019), in an analysis of total factor productivity in the high-tech industry in Mexico, 2003-2013, show that technological advance production manifests an accelerated development, mainly due to the industry's advancement effects, its expansion in the country's commercial territory, always considering work as the main axis. The main findings of the study show that the labor factor turns out to be a major focus on high-tech industrial manufacturing in Mexico. For his part, Chungata (2017), executed an investigation into the inconvenience of FABITEX's administrative management in Ecuador and how it alters the profitability of its activities; the problem found in the company showed a problem about administrative management and a cloudy information to staff about the organization's business policies and goals that led to the growth and company's decline. Among the results of this research is that, in analyzing the inadequate administrative control of the company to determine critical areas, the synthesis summarizes in the organization FABITEX does not adequately implement its policies of focus on meeting goals or purposes, this generates an uncontrollability over the management of production areas, limiting monitoring of common processes and poor production quality.

The objective of this research was to determine the impact of the management process on productive capacity and profitability, all with the intention of improving the Mypes' management processes of the mechanical metal industry of the Trujillo district and thus meet the objectives and plans of the organization, therefore, the following problem was formulated: To what extent and how does the management process affect the productive capacity and Mypes' profitability of the mechanical metal industry of the Trujillo district, 2020?.

2. METHODOLOGY

A non-experimental, correlational, applied type, cross-sectional study with a quantitative approach was carried out. Since it was a mixed research study, there is a sequential design since quantitative data will be collected first and qualitative data will be collected later.

To assess the relationship of the variables, Kendall's Tau-b statistic, commonly known as Kendall's coefficient, was used to measure the ordinal association between two measured quantities. A test is a non-parametric hypothesis test for statistical dependence based on the coefficient. It is a measure of range correlation: the similarity in the sorting of the data when sorted into ranges by each of the quantities. Its name refers to Maurice Kendall, who developed it in 1938, although Gustav Fechner had proposed a similar measure in the context of time series in 1897.

3. RESULTS AND DISCUSSION

Table 1 shows that predominat level in management process of the surveyed sample is the good level at 72.7%, followed by regular level with 27.3%. Also in production capacity variable, the level that prevails slightly is good one with 52.7%, followed by regular level with 47.3%. In contrast to yield variable, level that prevails slightly is regular with 50.9%, followed by the good level with 49.1%. These results are supported by Cortez's research (2018), in his thesis: "Management process as a key factor in increasing the productivity of a poultry company located in the municipality Zamora in Aragua state, Universidad de Carabobo, Venezuela", which notes that the analyzed company presents goals and purposes, development of activities is adequately foremened based on the inputs' production and good practices of group work. However, there is lag in planning specific procedures to produce, train workers, communicate, negotiate appropriately and conceptualize safety at work. Similarly, there are notable weaknesses with regard to job motivation that develop improvements in product quality and benefit the employee's chores performance. Thus, managing early quality planning in production and management development as an approach to those responsible, form the main axes of the problem that limits production. Likewise these results are compared to the study carried out by Vizueta (2015), in the article: Strategic planning and its impact on the profitability of the company Publineon de Ambato, Technical

University of Ambato, Ecuador; that the following conclusions are reached: Publineon does not have a structural organization chart, resulting in deficiencies in the production organization and other activities of the company because it does not have the defined functions and the proper use of resources. Publineon company does not detect difficulties or weaknesses at the right time, because it does not perform the internal analysis of management processes and their correct application. Company was harmed both in the economic and financial aspect because at the time of delivery of its products, it does not have a schedule of activities. Production processes are poor because staff were not trained because there are no organizational plans in which these activities are described. In the company there are weaknesses in communication, which is why there has been no climate of trust among the employees. In general, it can be mentioned that Publineon does not have strategic planning, so it brings negative consequences in all areas of work and profitability, therefore affecting the non-compliance with the economic and financial perspectives. In production capacity variable, slightly predominant level is good at 52.7%, followed by the regular level with 47.3%, these values indicate that there is weak control in material and technological resources; corrective, preventive or predictive maintenance plans for machinery and equipment facilities are formulated and implemented; human and financial resources dimensions of productive capacity are at good level, but there are difficulties in terms of manufacturing costs and are constantly evaluated. There is good management in some aspects of human resources and little innovation of technological resources, as most Mypes companies are in plans for future implementation. Financial resources are managed through development and implementation of a strategic plan to raise funds and their investment; avoid situations where funding shortages can compromise short-term operations. Results obtained are strengthened with Mendoza and Diaz contribution (2019), in the analysis of total factor productivity in the high-tech industry in Mexico, 2003 -2013. The research findings indicate technological advance production manifests itself an accelerated development, mainly due to the effects of the industry's advancement, its expansion in commercial territory of country, always considering work as main axis.

Table 1. Differentiation of percentages found from the management process, productive capacity and Mypes' profitability of mechanical metal industry in Trujillo, 2020.

Levels	**Management process**		**Productive capacity**		**Profitability**	
	F	%	F	%	F	%
Deficient	0	0	0	0	0	0
Regular	15	27,3	26	47,3	28	50,9
Good	40	72,7	29	52,7	27	49,1
TOTAL	55	100	55	100	55	100

Table 2 shows 38.2% of participating sample receives a good level in both management process and productive capacity, as well as 34.5% of participants perceive a good level in management process and a regular level in productive capacity. Tau-b value of Kendall (0.332) is significant ($p<0.01$), Rho coefficient of Spearman=0.456 (moderate positive); suggesting management process has a significant impact on productive capacity of Mypes of mechanical metal industry in Trujillo district, 2020.

Table 2. Contingency table of management process in Mypes' productive capacity of mechanical metal industry n Trujillo, 2020.

Management process		**Productive capacity**			
		Deficient	Regular	Good	Total
Deficient	N°	0	0	0	0
	%	0%	0%	0%	0%
Regular	N°	0	11	4	15
	%	0%	20,0%	7,3%	27,3%
Good	N°	0	19	21	40
	%	0%	34,5%	38,2%	72,7%

Total	N°	0	30	25	55
	%	0%	54,5%	45,5%	100,0%
Correlation between management process and productive capacity					
Kendall's Tau-b (T)		P value		Spearman's Rho	
0,332		0,000		0,456	

Table 3 shows 45.5% of participating sample expresses a good level in both management process and profitability, compared to 27.3% of participants representing a good level in management process and a regular level in profitability. Kendall's Tau-b value (0.354) is significant (P<0.01), Spearman's Rho coefficient is 0.477 (moderate positive); suggesting management process has a significant impact on the Mypes' profitability of mechanical metal industry in Trujillo, 2020. In addition, it is also observed a determination coefficient of the model (R2= 0.24) that indicates that, the regression model is not suitable, since 24% variation of profitability are explained by management process. These results are compared with research results carried out by Huamán (2020), in the internal control of warehouse and its impact on company's profitability Corporación Panaservice S.A..C, which shows internal control of warehouse has a positive impact on economic and financial results of company; the revenue and storage processes showed significant improvement in 2017, positively influencing increase in profitability.

Table 3. Contingency table of management process in Mypes' profitability of mechanical metal industry in Trujillo, 2020.

Management process		**Profitability**			
		Deficient	Regular	Good	Total
Deficient	N°	0	0	0	0
	%	0%	0%	0%	0%
Regular	N°	0	13	2	15
	%	0%	23,6%	3,6%	27,3%
Good	N°	0	15	25	40
	%	0%	27,3%	45,5%	72,7%
Total	N°	0	28	27	55
	%	0%	50,9%	49,1%	100,0%
Correlation between management process and productive capacity					
Kendall's Tau-b (T)		P value		Spearman's Rho	
0,354		0,000		0,477	

4. CONCLUSIONS

It was determined management process has a significant impact on productive capacity and Mypes' profitability of mechanical metal industry in Trujillo, 2020. Level that dominated management was good with 72.7%, followed by regular level with 27.3% in Mypes of mechanical metal industry. Likewise, of the 4 dimensions of this variable prevails the good level in descending order: direction with 87.3%; organization with 76.4%; planning with 67.2% and the control dimension with 63.6%. Level that predominated slightly in production capacity was good with 52.7%, followed by regular level with 47.3% in Mypes of mechanical metal industry. Likewise, in two dimensions of this variable regular level described prevails: technological resources with 67.3% and material resources with 58.2%. In contrast to other two dimensions of same variable at the good level described: human resources with 61.8% and financial resources with 63.6%. Level that prevailed in profitability, was the regular with 50.9%, followed by the good level with 49.1% in Mypes of mechanical metal industry in Trujillo, 2020. Thus, in two dimensions of this variable prevails the good level described: financial profitability with 72.7% and social profitability with 52.7%, and in contrast with economic profitability dimension with 58.2%.

REFERENCES

Becerra, O. (2010). Metas de inflación y la transmisión de tasas de interés. Obtenido de file:///C:/Users/USUARIO/Pictures/6799-24291-2-PB.pdf

Bernal, C. (2010). *Metodología de la investigación.* 3.a Edición. Bogotá, Colombia:
Editorial Pearson.

Bonson E., Cortijo V., y Flores F. (2009). *Análisis de Estados Financieros. Fundamentación Teórica y Casos Prácticos*. Pearson.

Bracho, A., Colmenárez, M. y Hernández, S. (2016, abril). Cumplimiento de funciones gerenciales del microempresario. Caso de estudio. *Gestión y Gerencia,10 (01)*, 64-84. Recuperado de https://dialnet.unirioja.es/ servlet/articulo?codigo=5635338

Bravo, E. (2020). *Gestión por procesos y su influencia en la gestión administrativa de Salud Dent Familiar de Trujillo, 2020* [tesis de maestría, Universidad César Vallejo]. Repositorio Digital Institucional Universidad César Vallejo. https://hdl.handle.net/20.500.12692/48241

Briz, J. y Felipe, I. (2011). *La cadena de valor agroalimentaria*. Análisis internacional de casos reales. Madrid, España., Agrícola Española S.A.

Caballero, K. (2019). *La gestión de recursos humanos y su influencia en la productividad de la clínica del riñón Santa Lucía SAC – Trujill*o [tesis de maestría, Universidad Nacional de Trujillo]. Repositorio Institucional UNITRU. http://dspace.unitru.edu.pe/handle/UNITRU/15560

Carrillo, M. (2016). Gerencia y Sociedad del Conocimiento para Optimizar el Desempeño Académico del Docente. *Revista Scientific, 1(1)*, 134-149, e-ISSN: 2542-2987. Recuperado de: https://doi.org/10.29394/scientific.issn.2542-2987.2016.1.1.8.134-149

Cedeño, R. (2010). *Investigación Científica y Diseño de Tesis*. Manta: Mar Abierto.

Comisión Económica para América Latina y El Caribe (2016), información obtenida de la página web: http://www.cepal.org/es.

Comisión Económica para América Latina y El Caribe (2020), información obtenida de la página web: https://repositorio.cepal.org/bitstream/handle/11362/45602/S2000313_es.pdf?sequence=1&isAllowed=y

Conalep (2016). *Cálculo de la capacidad de producción*.

Congreso de la República (03 de julio de 2003). Ley de promoción y formalización de la Micro y Pequeña Empresa. [Ley 115 de 2003]. *Diario oficial El Peruano:* 247378. Recuperado de http://www.leyes.congreso.gob.pe/Documentos/Leyes/28015.pdf

Cortez, C. (2018). *Proceso Gerencial como factor clave en el incremento de la productividad de una empresa del sector avícola ubicada en el municipio Zamora en el estado Aragua. Universidad de Carabobo, Venezuela.* Recuperado de http://mriuc.bc.uc.edu.ve/bitstream/handle/123456789/5316/ccortez.pdf?sequence=1

Chiavenato, I. (2014). Introducción a la teoría general de la administración. (8ª ed.). México: Mc Graw – Hill Interamericana Editores.

Chungata, B (2017). *El control administrativo y la rentabilidad en la empresa FABITEX en el año 2015*. Universidad Técnica de Ambato. Ecuador, recuperado de https://repositorio.uta.edu.ec/bitstream/123456789/25056/1/T3947i.pdf.

Daza, J. (2016). Crecimiento y rentabilidad empresarial en el sector industrial brasileño. *Revista ScienceDirect*, 61(2), 266-282. Recuperado de: https://doi.org/10.1016/j.cya.2015.12.001

Definición. (2010). *Definición de Rentabilidad*. Recuperado el 16 de enero de 2015, de http://www.definicionabc.com/economia/rentabilidad.php.

Denzin, N., y Lincoln, Y. (2012). *Manual de investigación cualitativa*. Paradigmas y perspectivas en disputa (Vol. II). Barcelona: Gedisa.

Díaz, M. (2012). *Análisis contable con un enfoque empresarial*. Universidad Pablo de Olavide. Extraído de: http://www.eumed.net/libros-gratis/2012b/1229/

Fernández, J. (2014). *Expansión.* Obtenido de http://www.expansion.com/diccionario-economico/rentabilidad.html.

Garrido, P., y Iñiguez, R. (2012). *Análisis de estados contables elaboración e interpretación de la información financiera*. Madrid, España: Pirámide.

Gitman, L., & Zutter, C. (2012). *Principio de Administración Financiera*. México: Pearson.

Gorbanev, L. (2014). *Administración general en ejercicios, problemas, experimentos y juego de roles.* México: ISBN.

Hernández, A. (2020). Formación Gerencial Dirigida a Docentes para el Mejoramiento del Proceso Educativo en las Aulas Multigrados. *Revista Scientific, 5(15)*, 24-43, e-ISSN: 2542-2987. Recuperado de: https://doi.org/10.29394/Scientific.issn.2542-2987.2020.5.15.1.24-43

Huamán, C. (2019). El control interno de almacén y su incidencia en la rentabilidad de la empresa Corporación Panaservice S.A.C. Trujillo, 2017 [tesis de maestría, Universidad Nacional de Trujillo]. Repositorio Institucional UNITRU. http://dspace.unitru.edu.pe/handle/UNITRU/12884

Ibarra, M., González, A., & Demuner, M. (2017). Competitividad empresarial de las pequeñas y medianas empresas manufactureras de Baja California. *Estudios Fronterizos,18. (35)*,107-130. Recuperado de: http://www.scielo.org.mx/scielo.php?pid=S0187-69612017000100107&script=sci_arttext.

Martínez Godínez, V. L. (2013). *Paradigmas de investigación*. 1-11.

Mendoza, M. y Díaz, E. (2019). Análisis de la productividad total de factores en la industria de alta tecnología en México, 2003-2013. *Análisis Económico, XXXIV (86)*,65-89. Recuperado de: https://www.redalyc.org/articulo.oa?id=413/41360954004.

Ministerio de Economía y Finanzas (30 de setiembre de 2008). Artículo 4 y 5 [Título I]. Texto único ordenado de la ley de promoción de la competitividad, formalización y desarrollo de la micro y pequeña empresa y del acceso al empleo decente, Ley Mype [Decreto supremo 007, 2008]. *Diario oficial El Peruano:* 38603.

Ministerio de Economía y Finanzas (30 de setiembre de 2008). Artículo 30 [Título IV]. Texto único ordenado de la ley de promoción de la competitividad, formalización y desarrollo de la micro y pequeña empresa y del acceso al empleo decente, Ley Mype [Decreto supremo 007, 2008]. *Diario oficial El Peruano:* 38603.

Ministerio de producción (2017*). Oficina General De Evaluación de Impacto y de Estudios Económicos.* Recuperado de www.produce.gob.pe.

Molina, H., Ramírez, J., Bautista, R., y de Vicente, M. (2015). *Análisis de estados financieros para la toma de decisiones*. Madrid, España: Delta publicaciones

Montealegre, J., Delgado, A. y Cubillos, C. (2017). Relaciones entre modelos gerenciales y pensamiento estratégico empresarial en las empresas agroindustriales del departamento del Tolima. *Pensamiento & Gestión, (42)*, 26-47. Recuperado de https://www.redalyc.org/articulo.oa?id=646/64652584003.

Morales, E. y Cruzado, M. (2018). Aplicabilidad del módulo consulta amigable y su influencia en el control ciudadano, provincia de Sánchez Carrión – 2018, Gobierno y Gestión Pública. *Revista Journal, Universidad San Martín de Porres,6(2)*.189–206. Recuperado de http://www.revistagobiernoydegestionpublica.com/index.php/RGGP/article/view/132/0

Mosquera, D., López, M., Jaimes, C., Rodríguez, M., Lanuza, V., & Mendoza, L. (2016). Validación de un sistema de medición diseñado para evaluar la fuerza de apertura de secadoras. *Revista Técnica de la Facultad de Ingeniería. Universidad del Zulia, 38. (2)*.130-138. Recuperado de: http://www.produccioncientifica.luz.edu.ve/index.php/tecnica/article/view/20831

Vizueta, A. (2015). *La planificación estratégica y su incidencia en la rentabilidad de la empresa Publineon de Ambato.* Universidad Técnica de Ambato. Ecuador, recuperado de https://repositorio.uta.edu.ec/bitstream/123456789/17535/1/T3270ig.pdf