

Influence of soft skills, and employee productivity, on organizational performance, a developing field: current state and relationship

Fernando Andrés Muñoz-Peña & Jason Steve Pulido-Reina

Facultad Ingeniería, Universidad Militar Nueva Granada, Bogotá, Colombia. Fernando.munoz@unimilitar.edu.co, Jason.pulido@unimilitar.edu.co

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Abstract

Soft skills and employee productivity are key factors in sustainability and corporate performance in competitive and dynamic environments. The purpose of this article is to identify current findings related to soft skills, employee productivity and their relationship with organizational performance, and to propose a structural model that allows establishing this relationship. The results of some research conducted individually reveal positive and significant relationships in the proposed fields. Some skills found in the literature are communication, problem solving and decision making. To carry out this research, multiple research papers were collected between 2005 and 2024. A structural equation model was used as a way to propose a relationship between the aforementioned factors. This research theoretically demonstrated that soft skills and employee productivity contribute positively and significantly to organizational performance. Limitations may arise depending on the particularities of the industrial sector and the economic context. Since there is little research in the analyzed fields, this study contributes significantly to the identification of key variables.

Keywords: interpersonal skills; employee productivity; hard skills; organizational performance; project management; soft skills.

Influencia de las habilidades blandas y la productividad de los empleados en el desempeño organizacional, un campo en desarrollo: estado actual y relación

Resumen

Las habilidades blandas y la productividad de los empleados son factores clave en la sostenibilidad y en el desempeño corporativo en entornos competitivos y dinámicos. El propósito de este artículo es identificar los hallazgos actuales relacionados con las habilidades blandas, la productividad de los empleados y su relación con el desempeño organizacional, y proponer un modelo estructural que permita establecer esta relación. Los resultados de algunas investigaciones realizadas de forma individual revelan relaciones positivas y significativas en los campos propuestos. Algunas habilidades encontradas en la literatura son la comunicación, la resolución de problemas y la toma de decisiones. Para llevar a cabo esta investigación se recopiló múltiples trabajos de investigación entre 2005 y 2024. Se utilizó un modelo de ecuaciones estructurales como forma de proponer una relación entre los factores antes mencionados. Esta investigación demostró teóricamente que las habilidades blandas y la productividad de los empleados contribuyen de forma positiva y significativa al desempeño organizacional. Pueden surgir limitaciones dependiendo de las particularidades del sector industrial y del contexto económico. Dado que existe poca investigación en los campos analizados, este estudio contribuye significativamente a la identificación de variables clave.

Palabras clave: habilidades interpersonales; productividad de los empleados; habilidades duras; desempeño organizacional; gestión de proyectos; habilidades blandas.

1 Introduction

Any organization, regardless of its size, economic sector and nature, is made up of people and its sustainability and competitiveness will depend mainly on the capabilities that

this human talent possesses. Organizations generally hire new employees, particularly recent graduates, considering mainly their soft skills (SK) over their hard skills (HS) [1]. HBs are not only necessary for people who are studying, but are essential for employees in any type of work they perform

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[2,3]. Recent research has concluded that SK contribute significantly to success in the workplace [4-8], but not only as a means to improve performance as a collaborator but as Manullang states [9], SK are crucial for future leaders, and are desired by most employers in a competitive business environment [10]. In this way, the development and application of HB are configured as a requirement to remain in a competitive and dynamic business world [11]. However, soft and hard skills are not mutually exclusive concepts, since according to several investigations [12,13,1], soft skills facilitate the application of hard skills, thus changing the traditional business vision, now considering workers as an integral key element, not only for their ability to carry out a certain activity, but in particular for their competencies [1]. Consequently, HB and HD development are complementary, and some employers even prefer soft skills development over technical skills development when it comes to performing globally [13].

Soft skills (SK) can be defined as a set of qualities, habits, personality traits, attitudes and social qualities that are necessary both in everyday life and for job performance [14] [15]. A more recent definition given by Cimatti [1] states that soft skills are those competencies not connected to a specific task but dominant in all positions since they focus on how individuals involved in an organization relate to each other, therefore, they can be considered as a group of personality traits, accepted by society [16]. The necessity of soft skills creates a demand for employees who possess an appropriate set of skills, thereby constituting a noteworthy challenge for individuals and organizations operating in novel and evolving circumstances [17]. The existence and need for any social interaction in society and organizations, even in conditions with intense use of advanced technologies and human machine interactions, calls for soft skills [18]. In summary, soft skills are a set of socio-emotional capabilities and abilities that people use in interactions and are crucial to achieving personal and work success [19].

Employee Productivity can be defined as time spent actively by employees on tasks that require execution and production [20]. Similarly, Coker (2011) [21] defined employee productivity "as the level of employees' performance in relation to attendance, work quality, the capacity of performance and personal factors". According to [22] employee productivity indicates the extent to which the adoption of technology minimises the time and effort required to complete a specific work. Employee productivity is a key factor for organizations and employees and one of the most important objectives for several firms has been to improve employee productivity [20]. High levels of employee productivity generate greater profitability and competitive advantages because production costs are reduced and, on the other hand, product quality is improved [23,24]. Therefore, organizations face an increasing need to focus on value creating practices to foster trust to improve employee productivity [25]. Business development is necessary to be able to achieve a sustainable advantage over time. Therefore, organizations must encourage the increase in the productivity of their employees in a gradual manner. Previous studies have discussed the factors that affect employee productivity from the individual aspects, leadership style and management

system in the company [26].

Despite the scenarios described, according to Suan [10], there is a problem that arises because managers and executives from various companies and industries still do not fully recognize the importance of training in social skills for employee performance; some managers even have misconceptions about the very concept of soft or interpersonal skills. In Latin America and the Caribbean, a significant proportion of companies' report having difficulty finding suitably qualified workers with the necessary skills for the job [19].

In Latin America and the Caribbean, a significant proportion of companies' report having difficulty finding suitably qualified workers with the skills necessary for the job [19]. In this regard, various organizations mobilize significant resources in the implementation of training in hard skills, that is, technical skills, leaving aside the development of HB, which are as necessary and important as hard skills for adequate organizational performance. Consequently, excessive reliance on technical and management skills at the expense of human or interpersonal skills that are considered essential for the success of a company's management, can jeopardize the company's mission in the long term [19]. In research conducted by Maniscalco [14] it was determined that several people recognize the importance of SK's, but are not able to identify particular SK's. Gaps between the skills employers require and what employees possess at the time of being selected for a job can entail both direct costs for companies, such as higher costs of recruitment processes and the need to train employees, and indirect costs due to higher staff turnover and lower levels of innovation [27].

The concept of organizational performance, which refers to strategic planning, operations, finance, legal and organizational developments. Several researchers relate organizational performance to financial performance, which involves budgets, assets, operations, products, services and markets [28]. However, organizational performance is a multidimensional construct that cannot be assessed only from a financial perspective but also from a non-financial perspective [29,30]. Organizational performance refers to the result obtained by an organization after carrying out its strategic activities [31], and the effectiveness with which an organization achieves its goals and objectives [32]. Three critical characteristics of organizational performance can be identified: efficiency, quality, and operations. Efficiency is the ability of an organization to achieve its objectives using the least number of resources possible. In other words, how effectively an organization uses its resources (time, money, and labor) to achieve its objectives. Quality refers to delivering the goods or services required by external or internal customers in the requested conditions. Through increased efficiency, organizations can generate cost savings, increased productivity, and profitability [33]. This research is unique in the literature on organizational performance as it involves the analysis of human factors analyzed at the same time in a structural model. Although there are various

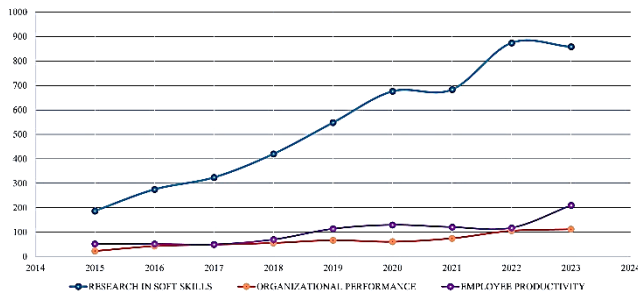


Figure 1. Data obtained from Scopus and adapted for this research.
Source: authors

investigations that analyze organizational performance, there is no evidence of research that integrates soft skills and employee productivity as latent variables, breaking down their key indicator variables.

Evidence extracted from the Scopus database indicates a growing research interest in the fields of knowledge related to this research. The research trend in these fields is illustrated in the Fig. 1:

From Fig. 1 it can be established that scientific research carried out in the fields analyzed between the years 2015 and 2023 has shown an increasing trend, which suggests a constant interest in these fields of knowledge; however, within the fields analyzed, research on soft skills presents the greatest amount of research.

This research, in its first phase, aims to propose a structural model that determines the influence of soft skills and employee productivity on organizational performance, through a literature review in order to generate a framework that clarifies the gaps identified in the problem raised. Therefore, the research addresses the following hypotheses:

H1: There is a positive and significant influence between soft skills and organizational performance

H2: There is a positive and significant influence between employee productivity and organizational performance.

2 Literature review

2.1 Soft Skills

Soft skills are socio-emotional capabilities and abilities that people use in their interactions and are crucial to achieving personal and professional success, and necessary to exercise leadership in teams, and are considered fundamental for professional development [34]. These skills are non-technical and do not depend on abstract reasoning, involving interpersonal and intrapersonal skills to facilitate successful performance in specific social contexts, and they are skills that increase competitiveness [35,18].

According to [36], soft skills refer to positive attributes, competencies, abilities, personality traits, and behaviors other than technical knowledge. They are also known as transferable skills that complement hard, academic, or technical skills. They are considered critical to career success, especially in the business field, and are more important than technical skills in terms of job success. Soft skills are commonly recognized as essential components of

the skill set required for future employment [17].

According to a study conducted by [3], it was determined that variables associated with soft skills such as: communication, teamwork, learning capacity, and attitude, have a significant and positive effect on the employability of professionals. Another study conducted by Sudarso, 2022 showed that leadership also has a positive and significant effect on performance.

2.2 Employee productivity

Employee productivity refers to a measure of how much an employee produces in a specific period [37]. This type of productivity establishes the ability to accomplish certain tasks according to predetermined or specified standards of accuracy, completeness, cost, and speed [38]. And it has frequently been used to evaluate the efficiency of the worker taking into account the resources and costs associated with the fulfillment of tasks [39]; Thus, understanding factors that influence employee productivity is vital in enhancing firms' efficiency. Another definition determined by [40], states that employee productivity refers to the efficiency with which workers generate value for the company. It is defined as the relationship between profit before taxes and interest and the total number of employees in the company. It is not surprising that extant literature considers employee productivity a critical

component of a firm's success and performance [37]. According to [41], one of the most important objectives for many companies has been to improve employee productivity. This is because greater productivity offers different advantages to companies and workers, such as economic expansion, increased profits, and this, in conclusion, translates into organizational performance. The research analyzed in this study shows employee productivity as a dependent variable (Y), in this research, a value proposition consists of taking employee productivity as an independent variable (X).

2.3 Organizational performance

Performance describes the achievement of program implementation or activity policies in realizing the goals, objectives, vision, and mission outlined in an organization's strategic planning [42]. From a global perspective, and according to [43,44], organizational performance refers to a concept that measures a company's position in the market and its ability to meet the needs of its stakeholders. From a more operational point of view, this type of performance can be understood as the degree to which the operation meets performance objectives, and satisfies customer needs [45].

Traditionally, organizational performance is usually measured under a basically financial interpretation, that is, financial ratios such as profitability, return on assets (ROA), return on investments (ROI), and return on equity (ROE); however, it is a construct that cannot be assessed only from a financial perspective but also from a nonfinancial perspective [29,30]

Organizational performance reflects the ability of an organization to fulfill its shareholders' desires and survive in

the market [43]. According to [46], organizational performance is the result of the actions or activities that members of organizations carry out to measure how well an organization has achieved its objectives, therefore, organizational performance is the ability of the organization to achieve its objectives. Organizational performance refers to the efficient acquisition and use of various corporate resources to successfully implement strategies to achieve organizational goals and objectives [47,48]. Similarly, this type of performance is generally considered as the degree to which an organization achieves its desired goals and objectives, such as increasing revenue, profit, market share, return on investment, customer satisfaction, and employee productivity [49].

3 Methodology

This study explores the relationship between soft skills, employee productivity, and organizational performance, starting from a literature review and subsequently determining a structural relational model (SEM). This type of research is descriptive, using data and evidence from research articles extracted from databases such as: EBSCOHOST, EMERALD, SCIEDIRECT and SCOPUS. The articles included in this research were taken in the interval between the years 2005 to 2023. A population of 238 research articles was collected, which show evidence of soft skills, employee productivity, and organizational performance in different countries and economic sectors was analyzed.

To determine the structural model to be proposed, the indicator variables of the proposed latent variables were identified. To arrive at these definitions, the following procedure was followed:

The methodological design used is illustrated below:

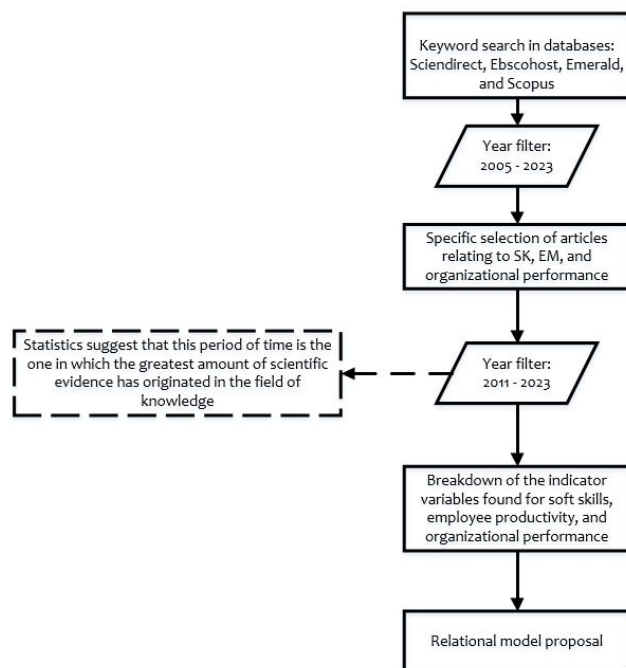


Figure 2. Proposed methodology.
Source: Made by the authors

(Deming, 2017)
(Manullang, 2017)
(Suan Chin, 2021)
(Abdur, 2023)
(Adi Jaya & Maryanto, 2023)
(Namora, Zunaida, & Widayawati, 2023)
(Sudarso, Prakoso, & Widakdo, 2022)
(Poláková et al., 2023)

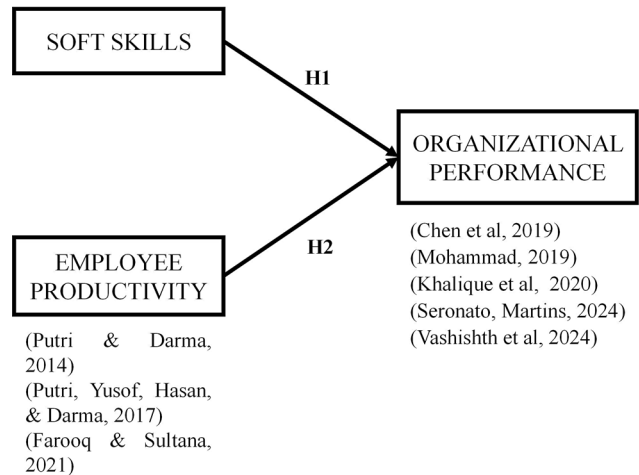


Figure 3. Theoretical framework.
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4 Theoretical framework

The theoretical model to be proposed in order to establish the relationship between the established variables is the following:

Fig. 3, which presents the theoretical model, illustrates the dependent latent variable (Organizational performance), and two independent latent variables (soft skills and employee productivity), and to determine each of the observable variables, the authors that accompany each variable were followed.

5 Results

Although there are numerous studies carried out in the field of soft skills, at the level of scientific research, there are few studies carried out on the influence of soft skills on organizational performance. Some research such as that carried out by [50] has determined a relationship between soft and hard skills in employee performance. The available evidence from research carried out reveals that employee performance has been worked on as an endogenous latent variable, however, in this research, it has been included as an exogenous latent variable, in order to determine the possible observable variables that affect organizational performance.

Research carried out by [51] determined that soft skills are a critical success factor for the employability of workers, and these skills remain irreplaceable by robots, and are necessary to thrive in a future characterized by technological

advancements [17]. According to [52], there is a positive and significant effect of soft skills such as workability, discipline, and communication on leadership resilience and organizational performance. In a study conducted by [53], in the Kenyan Department of Horticulture, it was concluded that employee communication significantly determines organizational performance.

Based on the different scientific evidence collected in the research articles, a theoretical model is proposed as illustrated in Fig. 2. In this model, the hypothesis to be worked on later is proposed. This hypothesis states that soft skills and employee productivity positively and significantly affect organizational performance in operating companies in a regional context.

To determine the indicator variables, the following procedure was followed:

Soft skills: A literature review was conducted, and based on the evidence in the research results, a frequency matrix was created. Due to the large number of variables found in the literature review, those with a cumulative percentage of up to 70% were selected (principle 70 - 30). Fig. 4 reflects the result of frequencies obtained from the conclusions of research carried out on soft skills, similarly, Table 1 shows the research carried out by author, and the economic sector in which they were carried out.

Employee performance: Due to the scarce documentation and evidence in this field of knowledge, recent articles were taken that analyzed these variables through structural equations in order to determine the indicator variables.

Organizational performance: A literature review was conducted, filtering those documents with the highest number of citations in order to determine the indicator variables. Additionally, Table 1 provides a summary by economic sector of the research analyzed in the literature review carried out. In it, it can be seen that the largest amount of research has focused on a general environment, that is, not applied to a specific sector, followed by research focused on the educational sector.

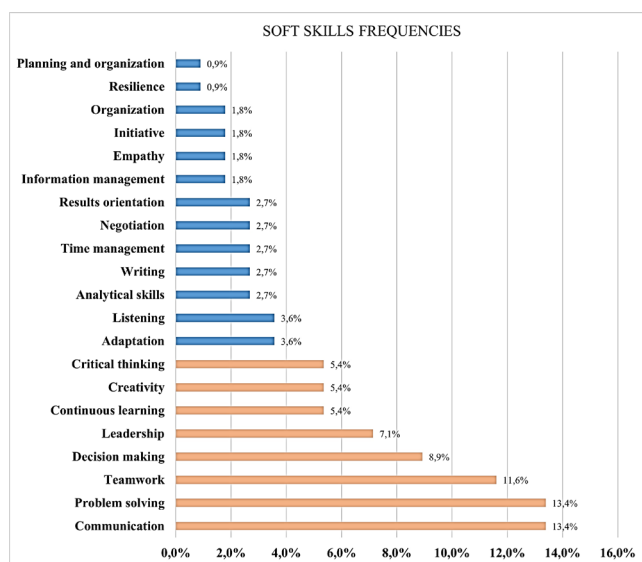


Figure 4. Soft skill frequencies. Made by the authors with the bibliographical references on which this research is based.

Source: [1,17,19,30,34-36,54-66]

Table 1.

Literature review by economic sectors.

Author / Economic sector of the research	Education	Engineering	Financial	General	Health	Information technology	Industry	Real state	Service
(Ismail, Yussof, & Sieng, 2011)									1
(Garwood, 2012)				1					
(Lavy & Yadin , 2013)						1			
(Abdol & Bahroom, 2014)	1								
(Sermasuk, Triwichitkhun, & Wongwanich, 2014)	1								
(Cimatti, 2016)				1					
(Mahfud, Kusuma, & Mulyani, 2017)					1				
(Olarinre & Taiwo, 2017)								1	
(Zepeda, Cardoso, & Rey, 2019)	1								
(Chaibate, Hadek, Ajana, Bakkali, & Faraj, 2020)		1							
(Rodge & Gupta, 2020)								1	
(Singh, Paul, & Tewari, 2021)				1					
(Suleman, y otros, 2021)	1								
(Khanom, 2021)				1					
(Rodríguez Martínez, Sierra Sánchez, Falcón Linares, & Latorre, 2021)				1					
(Constantino & Rodnizka, 2022)			1						
(Gruber, Barni de Campos, Pereira, & Borges, 2022)				1					
(Infante, Araiza, & López, 2023)	1								
(World Economic Forum, 2023)				1					
(Poláková, y otros, 2023)				1					
	5	1	1	8	1	1	1	1	1

Source: Made by the authors

Various investigations have shown the positive and significant relationship between soft skills and organizational performance [18, 52,67].

Based on the fundamental Pareto principle (70% - 30%), a selection is made of those variables that represent a total of 80% of the findings in the research carried out. The following are the variables that meet this requirement: Communication (SK₁); Problem solving (SK₂); Teamwork (SK₃); Decision making (SK₄); Leadership (SK₅); Continuous learning (SK₆);

Creativity (SK₇); Critical thinking (SK₈). In order to generate greater clarity regarding the eight filtered soft skills, and considered as observable variables for this research, these skills were defined in Table 2 to generate a greater degree of understanding due to their qualitative nature.

According to the authors consulted about employee productivity, the following measurement variables were identified: Willingness to Work (EP₁), Employees ability to work (EP₂), Employees work environment (EP₃), Employees work relationship (EP₄).

And finally, the observable variables of organizational performance were determined based on the available scientific literature: Experiencing an increase in return on investment (ROI) (OP₁), experiencing an increase in return on assets (ROA) (OP₂), experiencing an increase in profit (OP₃), improving the ability to retain old customers (OP₄), gaining new customers (OP₅), satisfying customers regarding acts or services during the last three years (OP₆), Producing competitive goods or services (OP₇), Responsive to the needs of national and international markets (OP₈), and improving global competitiveness(OP₉).

Based on the previously refined variables, the following relational model is proposed:

The structural model proposed in Fig. 5 shows a total of three latent variables, two independent variables, and one independent variable, and a total of 21 observable variables. The variable called SOFT SKILLS has 8 variables, EMPLOYEE PRODUCTIVITY has 4 variables, and ORGANIZATIONAL PERFORMANCE has 9 variables, the latter comprising financial and non-financial variables.

The mathematical composition of the structural model is formulated in Table 3.

Table 2.
Definitions of selected soft skills

Soft Skill	Description
Communication	Ability to convey, transfer and receive information, ideas and feelings.
Problem solving	Ability to identify and analyze the possible causes that originated the problem, as well as determine the consequences and finally propose different solutions taking into account the advantages and disadvantages of each.
Teamwork	Ability to effectively and cooperatively work in small groups toward a common goal.
Decision making	Ability to choose the best option to proceed to solve a problem, aware of the possible consequences or negative effects.
Leadership	Ability to influence and have an impact on others in the organization and display energy and leadership.
Continuous learning	Process of acquiring new knowledge, skills, and competencies throughout an individual's life or career.
Creativity	Ability to think about a task or a problem in a new or different way, and to use the imagination to generate new ideas.
Critical thinking	Ability to analyze information and use logic to address the issues, identify the strengths and weaknesses of alternative solutions or approaches to problems, and assess performance to make improvements or take corrective action.

Source: Made by the authors

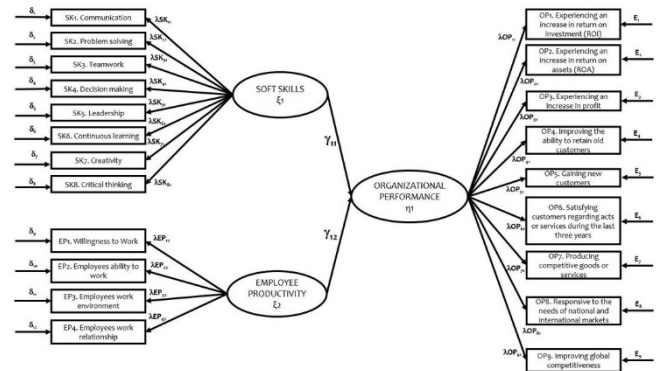


Figure 5. Proposed structural model.

Source: Made by the authors

Table 3.
Structural model equations

Latent Variable	Observable Variable
Soft Skills (SK)	SK ₁
	$\lambda SK_{11} \xi_1 + \delta_1$
	SK ₂
	$\lambda SK_{21} \xi_1 + \delta_2$
	SK ₃
	$\lambda SK_{31} \xi_1 + \delta_3$
	SK ₄
	$\lambda SK_{41} \xi_1 + \delta_4$
Employee Productivity (EP)	SK ₅
	$\lambda SK_{51} \xi_1 + \delta_5$
	SK ₆
	$\lambda SK_{61} \xi_1 + \delta_6$
Organizational Performance (OP)	SK ₇
	$\lambda SK_{71} \xi_1 + \delta_7$
	SK ₈
	$\lambda SK_{81} \xi_1 + \delta_8$
	EP ₁
	$\lambda EP_{12} \xi_2 + \delta_9$
	EP ₂
	$\lambda EP_{22} \xi_2 + \delta_{10}$
	EP ₃
	$\lambda EP_{32} \xi_2 + \delta_{11}$
	EP ₄
	$\lambda EP_{42} \xi_2 + \delta_{12}$
Organizational Performance (OP)	OP ₁
	$\lambda OP_{11} \eta_1 + E1$
	OP ₂
	$\lambda OP_{21} \eta_1 + E2$
	OP ₃
	$\lambda OP_{31} \eta_1 + E3$
	OP ₄
	$\lambda OP_{41} \eta_1 + E4$
	OP ₅
	$\lambda OP_{51} \eta_1 + E5$
	OP ₆
	$\lambda OP_{61} \eta_1 + E6$
	OP ₇
	$\lambda OP_{71} \eta_1 + E7$
	OP ₈
	$\lambda OP_{81} \eta_1 + E8$
	OP ₉
	$\lambda OP_{91} \eta_1 + E9$

Source: Made by the authors

6 Discussion and Conclusions

Using a broad literature review, this research integrates scientific evidence from studies published between 2005 and 2024.

There is little evidence available about the influence of soft or interpersonal skills and employee productivity on organizational performance, however, the available evidence suggests a positive and significant influence, therefore, affecting the development of organizations in the short, medium and long term. Soft skills are as important as hard or technical skills, but so far they have not been equally valued. Soft skills are required by employers from their employees, which, like technical skills, impact business sustainability and, therefore, directly and indirectly affect job creation and other socioeconomic aspects. Despite the large list of soft skills identified in the literature, only some are the most frequent and significant, which at first could suggest their relative importance at the level of organizational development. Employee productivity is a widely researched field of study. There is scientific evidence of the variables through which it could be explained, both qualitatively and quantitatively. However, there is little scientific evidence of its influence on organizational performance. Through the review of different research carried out, it was demonstrated how soft skills and employee productivity are a factor that significantly and positively affects organizational performance, not only from a financial point of view, but also from a non-financial one.

Based on a review of the literature and the available evidence, a model was formulated to measure the impact of soft skills and employee productivity on organizational performance. Based on the identification of the exogenous observable variables identified, organizations will be able to carry out improvement and training plans with an optimization of investment costs, and focusing on those variables with the greatest impact for each organization. Likewise, with the use of this type of tool, not only would it be possible to promote business sustainability, but, additionally, the level of employee productivity would be increased, for the benefit of themselves and the organization.

According to the results identified from previous research, it is possible to determine how the soft skills proposed in this proposal can have a positive and significant effect on organizational performance, based on the identification of the identified variables, companies can generate training, and even career plans oriented to the development and appropriation of these categories of soft skills, since according to the evidence of the analyzed research, this type of skills positively and significantly affect financial organizational variables such as ROI, ROA, profits, and impact variables associated with customers, and therefore organizational competitiveness. These types of skills can be integrated into specific studies on hard skills, since these types of skills are not exclusive, therefore, the organization can generate training in specific hard skills, and include the appropriation of the soft skills identified in this research.

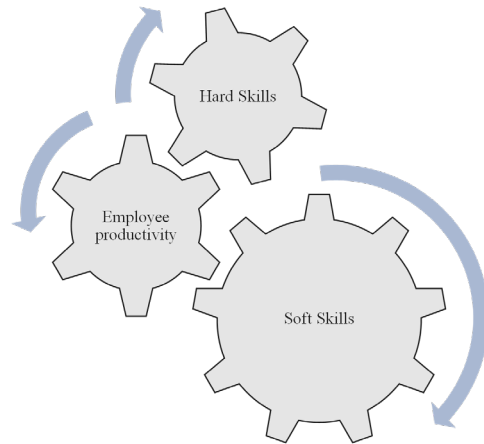


Figure 6. Integrated model for organizations.
Source: Made by the authors

Future research in this field is very promising, since it will be necessary to determine, by industrial sector, by type of organization and its size, the soft skills required to maximize its efficiency and financial and operational results. In this same sense, the future research required in this field is involved with the relationship of HBs in productivity, and individually in financial performance and operational performance; additionally, it should be an input at the level of higher education institutions for the identification and development routes within their academic programs of the soft skills that their students need, in order to maximize their professional performance.

One of the main added values derived from this research is the generation of a tool that gives organizations the ability to design, together with universities, specific training plans for their employees with an optimized investment on specific criteria, based on three fundamental principles shown in the Fig. 6:

The general structure presented in Fig. 6 has three pillars on which the training strategy should be formulated. The first pillar refers to hard skills, that is, to the specific knowledge required by the organization. The second pillar analyzes employee productivity, that is, the required knowledge. A special focus is made on ensuring that employees can apply said knowledge in practice in such a way that value is generated for the company and employees. Finally, the third pillar on which the training structure is based is the appropriation and development of soft skills related to the knowledge required by the organization in pillar 1.

Phase II of this research is based precisely on determining those soft skills that are required for their collaborators by various companies in the industrial sector of Bogotá and, in this way, identifying and implementing acquisition and development routes for these identified and prioritized skills within the Industrial Engineering program of the Universidad Militar Nueva Granada.

References

- [1] Cimatti, B., Definition, development, assessment of soft skills and their role for the quality of organizations and enterprises, *International Journal for quality research*, 10(1), pp. 97-130, 2016.

- [2] Saman, A., and Wirawan, H., Predicting students' soft skills: the role of psychological capital, psychological well-being and grade levels, *Education + Training*, 66(1), pp. 17-34, 2023. DOI: <https://doi.org/10.1108/ET-10-2022-0405>
- [3] Fadhil, S., Ismail, R., and Alnoor, A., The influence of soft skills on employability: a case study on technology industry sector in Malaysia, *Interdisciplinary Journal of Information, Knowledge, and Management*, 16, pp. 255-283, 2021. DOI: <https://doi.org/10.28945/4807>
- [4] Dabke, D., Soft skills as a predictor of perceived internship effectiveness and permanent placement opportunity, *The IUP Journal of Soft Skills*, IX(4), pp. 26-42, 2016.
- [5] Deming, D., The growing importance of social skills in the labor market Quarterly, *Journal of Economics*, 132(4), pp. 1593-1640, 2017. DOI: <https://doi.org/10.1093/qje/qjx022>
- [6] Robles, M., Executive perceptions of the top 10 soft skills needed in today's workplace, *Business Communication Quarterly*, 75(4), pp. 453-465, 2012. DOI: <https://doi.org/10.1177/1080569912460400>
- [7] Taylor, E., Investigating the perception of stakeholders on soft skills development of students: evidence from South Africa, *Interdisciplinary Journal of E-Skills and Lifelong Learning*, 12(1), pp. 1-18, 2016. DOI: <https://doi.org/10.28945/3412>
- [8] Manullang, M., The effect of soft skills, competence, and human relations skills on principal leadership, *International Journal of academic research in economics and management sciences*, 6(4), pp. 14-27, 2017.
- [9] Marques, J., Understanding the strength of gentleness: soft-skilled leadership on the rise, *Journal of Business Ethics*, 116(1), pp. 163-171, 2013. DOI: <https://doi.org/10.1007/s10551-012-1471-7>
- [10] Suan-Chin, S., Soft skills as part of the competitive advantage framework, *Journal of Management Information and Decision Sciences*, 24(1), pp. 1-5, 2021.
- [11] Ibrahim, R., Boerhannoeddin, A., and Kayode, K., The effect of soft skills and training methodology on employee performance European, *Journal of Training and Development*, 41(4), pp. 388-406, 2017. DOI: <https://doi.org/10.1108/EJTD-08-2016-0066>
- [12] Crosbie, R., Learning the soft skills of leadership, *Industrial and Commercial Training*, 37(1), pp. 45-51, 2005.
- [13] Kantrowitz, T., Development and construct validation of a measure of soft skills performance, Georgia Institute of Technology, Atlanta, Georgia, USA, 2005.
- [14] Maniscalco, R., La competenza interlinguistica e interculturale per la cittadinanza globale, *Label Lingue Europeo: Dialogare Premio*, 5, pp. 9-13, 2010.
- [15] Matteson, M., Anderson, L., and Boyden, C., Soft skills: a phrase in search of meaning, *Portal: Libraries and the Academy*, 16(1), pp. 71-88, 2016.
- [16] Jaya, A., and Maryanto, T., Effect of hardskill and softskill on employee performance, *e-journal.naureendigiton*, 1(1), pp. 36-46, 2023.
- [17] Polaková, M., Horváthová, J., Madžik, P., Copus, L., Molnárová, I., and Polednová, J., Soft skills and their importance in the labour market under the conditions of Industry 5.0, *Heliyon*, 9(1), pp. 1-20, 2023. DOI: <https://doi.org/10.1016/j.heliyon.2023.e18670>
- [18] Polaková, M., Horváthová, J., Madžik, P., Copus, L., Molnárová, I., and Polednová, J., Soft skills and their importance in the labour market under the conditions of Industry 5.0, *Heliyon*, pp. 1-20, 2023. DOI: <https://doi.org/10.1016/j.heliyon.2023.e18670>
- [19] Rodríguez-Martínez, A., Sierra-Sánchez, V., Falcón, C., and Latorre, C., Key soft skills in the orientation process and level of employability, *Sustainability*, pp. 1-12, 2021. DOI: <https://doi.org/10.3390/su13063554>
- [20] Singh, S., Solkhe, A., and Gautam, P., What do we know about Employee Productivity?: Insights from Bibliometric Analysis, *Journal of Scientometric*, 11(2), pp. 183-198, 2022. DOI: <https://doi.org/10.5530/jscires.11.2.20>
- [21] Coker, B., Freedom to surf: the positive effects of workplace Internet leisure browsing New Technology, *Work and Employ*, 26(3), pp. 238-247, 2011. DOI: <https://doi.org/10.1111/j.1468-005X.2011.00272.x>
- [22] Naaem, M., and Ozuem, W., Exploring the use of social media sites for health professionals' engagement and productivity in public sector hospitals, *Empl Relat*, 43(5), pp. 1029-1051, 2021. DOI: <https://doi.org/10.1108/ER-08-2020-0391>
- [23] McKinsey Company, increasing global competition and labor productivity: lessons from the US automotive industry, McKinsey Company, San Francisco, 2005.
- [24] Hill, C., Jones, G., and Schilling, M., *Strategic management: theory: an integrated approach*, Cengage Learning, 2014.
- [25] Iqbal, N., Ahmad, M., and Allen, M.M.C., Unveiling the relationship between e-HRM, impersonal trust and employee productivity, *Management Research Review*, 42(7), pp. 879-899, 2019. DOI: <https://doi.org/10.1108/MRR-02-2018-0094>
- [26] Kumar, V., and Sharma, R., Leadership styles and their relationship with TQM focus for Indian firms: an empirical investigation *International Journal of Productivity and Performance Management*, 67(6), pp. 1063-1088, 2018.
- [27] Gontero, S., and Novella, R., El futuro del trabajo y los desajustes de habilidades en América Latina CEPAL, Santiago, Chile, 2021.
- [28] Subramaniam, C., Shamsudin, F., and Ibrahim, H., Linking human resource practices and organisational performance: evidence from small and medium organizations in Malaysia, *Journal Perguruan*, pp. 27-37, 2011.
- [29] Huang, C., and Huang, S., External and internal capabilities and organizational performance: does intellectual capital matter?, *Asia Pacific Management Review*, 25(2), pp. 111-120, 2020. DOI: <https://doi.org/10.1016/j.apmr.2019.12.001>
- [30] Singh, K., and Misra, M., Linking Corporate Social Responsibility (CSR) and organizational performance: the moderating effect of corporate reputation, *European Research on Management and Business Economics*, 27, pp. 1-10, 2021. DOI: <https://doi.org/10.1016/j.iedeen.2020.100139>
- [31] Oyemomi, O., Liu, S., Neaga, I., Chen, H., and Nakpodia, F., How cultural impact on knowledge sharing contributes to organizational performance: using the fsQCA approach, *Journal of Business Research*, 94, pp. 313-319, 2019. DOI: <https://doi.org/10.1016/j.jbusres.2018.02.027>
- [32] Islam, A., and Naseem, A., Role of industry 4.0 tools in organizational performance of the IT sector Kybernetes, pp. 1-28, 2023.
- [33] Tortorella, G., Fogliatto, F., Kumar, M., González, V., and Pepper, M., Effect of Industry 4.0 on the relationship between socio-technical practices and workers' performance, *Journal of Manufacturing Technology Management*, 34(1), pp. 44-66, 2023. DOI: <https://doi.org/10.1108/JMTM-04-2022-0173>
- [34] Gruber, L., Barni, D., De Campos, D. and Borges, F., Training to develop soft skills for engineering students, *Scientific Research and Essays*, 17(4), pp. 57-72, 2022. DOI: <https://doi.org/10.5897/SRE2022.6753>
- [35] Constantino, L., and Rodzinka, J., The role of soft skills in employability in the financial industry, *Financial Internet Quarterly*, 18(1), pp. 44-55, 2022. DOI: <https://doi.org/10.2478/fiqf-2022-0004>
- [36] Khanom, S., Exploring the role of soft skills in advancing the employability of business graduates in Bangladesh, *Journal of International Business and Management*, 4(1), pp. 1-18, 2021. DOI: <https://doi.org/10.37227/JIBM-2021-01-122>
- [37] Nwankpa, J., Remote work, employee productivity and innovation: the moderating roles of knowledge sharing and digital business intensity, *Journal of Knowledge Management*, 28(6), pp. 1793-1818, 2023. DOI: <https://doi.org/10.1108/JKM-12-2022-0967>
- [38] Sultana, A., Irum, S., Ahmed, K., and Mehmood, N., Impact of training on employee performance: a study of telecommunication sector in Pakistan, *Interdisciplinary Journal of Contemporary Research in Business*, 4(6), pp. 646-661, 2012.
- [39] Kianto, A., Shujahat, M., Hussain, S., Nawaz, S., and Ali, M., The impact of knowledge management on knowledge worker productivity *Baltic Journal of Management*, 14(2), pp. 178-197, 2018.
- [40] Linh, D., The effects of political connections on entrepreneurial venture operations, employee productivity and enterprise development, *Journal of Small Business and Enterprise Development*, 30(4), pp. 786-803, 2023. DOI: <https://doi.org/10.1108/JSBED-04-2022-0195>
- [41] Abdelhamid, N., and Al Daghan, M., Developing employee productivity and performance through work engagement and

- Organizational Factors in an Educational Society Societies, 13(65), pp. 2-19, 2023. DOI: <https://doi.org/10.3390/soc13030065>
- [42] Li, Y., Chiu, Y., and Lin, T., Coal production efficiency and land destruction in China's coal mining industry, *Resources Policy*, Elsevier, 63(1), pp. 1-11, 2019. DOI: <https://doi.org/10.1016/j.resourpol.2019.101449>.
- [43] Griffin, K., Economic globalization and institutions of global governance *Development and Change*, 34(5), pp. 789-807, 2003.
- [44] Lo, M., Mohamad, A., Ramaya, T., and Wang, Y., *Seronato Inzinerine Ekonomika- Engineering Economics*, 26(4), pp. 409-421, 2015.
- [45] Slack, N., Chamber, S., and Johnston, R., *Operations management*, Prentice Hall, 2010.
- [46] Ho, L., What affects organizational performance? The linking of learning and knowledge management, *Industrial Management and Data Systems*, 108(9), pp. 1234-1254, 2008.
- [47] George, B., Walker, R., and Monster, J., Does strategic planning improve organizational performance? A meta-analysis, *Public Administration Review*, 79(6), pp. 810-819, 2019. DOI: <https://doi.org/10.1111/puar.13104>.
- [48] Alamir, T., Ayoubi, R., Massoud, H., and Hallak, L., Transformational leadership, organizational justice and organizational outcomes: a study from the higher education sector in Syria, *Leadership and Organization Development Journal*, 40(7), pp. 749-763, 2019. DOI: <https://doi.org/10.1108/LODJ-10-2018-0372>.
- [49] Turulja, L., Kožo, A., Kurtić, E., and Pejić, M., HRM Practices and organizational performance: mediation effect of innovation, *South East European Journal of Economics and Business*, 18(1), pp. 85-99, 2023. DOI: <https://doi.org/10.2478/jeb-2023-0007>.
- [50] Namora, M., Zunaida, D., and Widayawati, E., The influence of soft skills and hard skills on the performance *International Journal of Entrepreneur and Business Administration*, 1(2), pp. 89-99, 2023.
- [51] Islam, A., Industry 4.0: Skill set for employability, *Social Sciences and Humanities Open*, 6, pp. 1-9, 2022. DOI: <https://doi.org/10.1016/j.ssaho.2022.100280>.
- [52] Sudarso, D., Prakoso, W., and Widakdo, J., The effect of soft skills on organizational performance: the mediating role of resilient leadership, *Global Business and Finance Review*, 27(4), pp. 17-26, 2022. DOI: <https://doi.org/10.17549/gbfr.2022.27.4.17>.
- [53] Otieno, B., Waiganjo, E., and Njeru, A., Effect of employee communication on organisation performance in Kenya's Horticultural sector, *International Journal of Business Administration*, 6(2), pp. 138-145, 2015. DOI: <https://doi.org/10.5430/ijba.v6n2p138>.
- [54] Ismail, R., Yussof, I., and Sieng, L., Employers' perceptions on graduates in Malaysian service sector, *International Business Management*, 5(3), pp. 184-193, 2011.
- [55] Garwood, R., Supporting the underperforming manager: teaching the soft skills that can make all the difference, *Human Resource Management International Digest*, 20(1), pp. 39-42, 2012.
- [56] Lavy, I. and Yadin, A., Soft Skills – An Important key for employability in the "Shift to a service driven economy" era, *International Journal of e-Education, e-Business, e-Management and e-Learning*, 3(5), pp. 416-420, 2013. DOI: <https://doi.org/10.7763/IJEEEE.2013.V3.270>.
- [57] Abdol, L., and Bahroom, R., Employability skills: closing the gap between employers' expectations and satisfaction, in: *Seminar Kebangsaan Pembelajaran*, 2014, pp. 51-62.
- [58] Sermasuk, S., Triwichitkhun, D., and Wongwanich, S., Employment conditions and essential employability skills required by employers for secondary school graduate, in: *5th World Conference on Educational Sciences*, 2014, pp. 1848-1854.
- [59] Mahfud, T., Kusuma, B., and Mulyani, Y., Soft skill competency map for the apprenticeshipprogramme in Indonesian balikpapan hospitality industry, *Journal of Technical Education and Training*, 9(2), pp. 16-34, 2017.
- [60] Olarinre, S., and Taiwo, J., Adequacy of core knowledge and soft skills in the performance of professional employees of real estate firms in Nigeria, *Property Management*, 35(2), pp. 132-149, 2017. DOI: <https://doi.org/10.1108/PM-02-2016-0008>.
- [61] Zepeda, M., Cardoso, E., y Rey, C., El desarrollo de habilidades blandas en la formación de ingenieros, *Científica*, 23(1), pp. 61-67, 2019.
- [62] Chaibate, H., Hadek, A., Ajana, S., Bakkali, S., and Faraj, K., A comparative study of the engineering soft skills required by moroccan job market, *International Journal of Higher Education*, 9(1), pp. 142-152, 2020. DOI: <https://doi.org/10.5430/ijhe.v9n1p142>.
- [63] Rodge, V., and Gupta, R., A study on the employability skill gap of entry level professionals: an industry perspective, *Journal of Archaeology of Egypt*, pp. 552-566, 2020.
- [64] Suleman, Q., Ali-Syed, M., Zamir, S., Khattak, Z., Noreen, R., and Saif-Ullah, M., Association between Soft Skills and Job Performance: A Cross-Sectional Study among Secondary-SchoolHeads in Kohat Division, *Pakistan International Journal of Innovation, Creativity and Change*, 7(15), pp. 1-24, 2021.
- [65] Infante, L., Araiza, M., y López, J., Competencias blandas que influyen en la empleabilidad laboral de profesionistas egresados de ingeniería de una universidad del Norte de México, *Formación Universitaria*, 16(2), pp. 1-12, 2023. DOI: <https://doi.org/10.4067/S0718-50062023000200001>
- [66] World Economic Forum, *Future of Jobs Report 2023* World Economic Forum, Geneva, [online]. 2023. Available at: https://www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf.
- [67] Huang, A., The effect of human resource practices on firm performance in Chinese SMEs: an empirical study in service sector *Universite du Quebec, Quebec*, [online]. 2012. Available at: <https://www.proquest.com/docview/1462677371/>
- [68] Vashishth, A., Lameijer, B.A., Chakraborty, A., Antony, J., and Moormann, J., Implementing Lean Six Sigma in financial services: the effect of motivations, selected methods and challenges on LSS program- and organizational performance, *International Journal of Quality and Reliability Management*, 41(2), pp. 509-531, 2024. DOI: <https://doi.org/10.1108/IJQRM-05-2022-0154>.
- [69] Putri, N.T., Yusof, S.M., Hasan, A., and Darma, H.S., A structural equation model for evaluating the relationship between total quality management and employees' productivity, *International Journal of Quality and Reliability Management*, 34(8), pp. 1138-1151, 2017. DOI: <https://doi.org/10.1108/IJQRM-10-2014-0161>
- [70] Putri, N., and Darma, H., The effect of TQM implementation towards productivity of employees using structural equation modelling analysis method in PT XYZ, in: *Proceeding of the 7th IEEE International Conference on Management of Innovation and Technology*, 2014, pp. 23-25.

F.A. Muñoz-Peña, received the BSc. Eng. in Industrial Engineering, in 2002, the MBA in Project Management in 2012, and the DBA in 2020. His performance in companies has been in the field of project management. Currently, he is a full professor in the Industrial Engineering Department, Faculty of Engineering, Universidad Militar Nueva Granada. His research interests include: project management, business analytics, optimization in projects, human development in projects and Improving business management.
ORCID: 0000-0002-3670-8102

J.S. Pulido-Reina, is BSc. in Business Administrator from the Universidad Nacional de Colombia, Sp. in Logistic Management from the Universidad Militar Nueva Granada and MSc. in Project Management from the Universidad Viña del Mar, Chile. Currently, professor at the Universidad Militar Nueva Granada with 13 years of experience in several educational institutions and research work.
ORCID: 0000-0002-4111-0842