



**EVALUATION OF THE IMPACT OF STRATEGY, ORGANIZATIONAL
LEARNING, AND THE WORK IN CROSS-FUNCTIONAL TEAMS ON
OPERATIONAL EFFECTIVENESS IN VALLE DEL CAUCA.**

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1. Resumen:

La siguiente investigación tiene como objetivo analizar el impacto de diferentes variables como los equipos interdisciplinarios, la estrategia de la organización y el aprendizaje organizacional sobre la efectividad operativa.

De esta manera, se diseñó un cuestionario entregado a más de 200 empleados de grandes empresas del Valle del Cauca, Colombia. Que operan nacional internacionalmente, para comprobar estadísticamente si la hipotética relación entre las variables mencionadas resulta cierta.

Además, utilizando los resultados obtenidos por el cuestionario, se generó un modelo estructural a través del cual se contrastó el impacto de los equipos interdisciplinarios sobre la efectividad operativa, aprendizaje organizacional y su relación con las estrategias organizacionales.

Como resultado se encontró que los equipos interdisciplinarios y el aprendizaje organizacional, tienen un impacto directo en la efectividad operativa de las empresas del Valle del Cauca. Sin embargo, las estrategias organizacionales tienen un impacto indirecto en la efectividad operativa a través de los equipos interdisciplinarios. Lo anterior, sugiere que estas empresas adolecen de eficiencia en procesos e innovación, y del mismo modo, afecta su competitividad.

Palabras claves: Equipos interdisciplinarios, estrategias organizacionales, aprendizaje y efectividad operativa.

2. Summary:

The following research aims to analyze the impact of different variables such as cross-functional teams, organizational strategy, and organizational learning on operational effectiveness.

In this way, a questionnaire was designed for more than 200 employees of large companies in Valle del Cauca, Colombia. They operate both nationally and internationally, to statistically check if the hypothetical relationship between the variables mentioned is true.

Also, using the results obtained by the questionnaire applied, a structural model was generated through which the impact of cross-functional teams on operational effectiveness was verified, organizational learning and its relationship with organizational strategies

As a result, it was found that cross-functional teams and organizational learning have a direct impact on the operational effectiveness of Valle del Cauca companies. However, organizational strategies have an indirect impact on operational effectiveness through cross-functional teams. This suggests that these companies suffer from efficiency in processes and innovation, and in the same way, affect their competitiveness.

Keywords: Cross-functional teams, organizational strategies, organizational learning, and operational effectiveness.

3. Introduction

Cross-functional teams are formed from the recognition that the results of a company are more likely to be maximized when the people in that company act as a team rather than as a group of individuals (Rea, 1995). "Teamwork," if it weren't for him, society wouldn't be what it is today. Thanks to the union of different skills, perspectives, ideas, and knowledge, humanity advances. This is where the cross-functional teams come from, a team made up of professionals from different academic and professional backgrounds. For companies whose main objective is to improve their operational effectiveness, it has become vital to focus on these cross-functional teams through support, training, empowerment, and teamwork, as it has been shown that organizations involved in innovative processes are increasingly using cross-functional teams to improve their competitiveness (Pinto et al., 1993) and their responsiveness to market changes (Tidd et al., 2001).

The above results go hand in hand with greater operational efficiency. This involves developing effective operating processes, that is, having the ability to deliver products or services of exceptional value-added and quality, on time and at a competitive price. To achieve this, companies must develop the capacity to reconfigure and transform their processes according to changing market conditions, a virtue that can be achieved by implementing cross-functional teams.

This research uses a quantitative approach to investigate the issue raised and address the question:

What is the impact of cross-functional teams on operational effectiveness after the implementation of a defined organizational strategy and learning?

4. Background

First, it is important to highlight the study region, Valle del Cauca, is a department that is part of Colombia and has been considered as one of the regions that have a large number of leading companies from different sectors of the economy (Santa et al., 2019). There you can find some companies that were part of this research such as Davivienda, Bancolombia, Seguros Sura, Grupo Familia, Solla, among others.

On the other hand, this department is located to the southwest of Colombia and borders geographically with the Pacific Ocean, which allows a great mobilization of its economy through the municipality of Buenaventura. The Valle del Cauca is located in a strategic region that communicates too much of the country for its ease of access

The economy of the sector is mainly based on the provision of services, with the most important such as commercial services, transport, banking, and communications (Santa et al., 2019). Then there is the industry and, finally, farming. Besides, Valle del Cauca is recognized as a sugar region and contributes significantly to the national economy. However, in recent decades its competitiveness has fluctuated for different reasons, as its position in the contribution of the economy has varied.

In general, it is a very interesting region for its contribution to employment, education, economy, health, production, services, and more. Also, this department is very marked by innovation and competitiveness. All the above allows for diversity and dynamism in one place.

5. Literature review

5.1. Cross-functional Teams.

First, a cross-functional team is one that is composed of a group of professionals from different disciplines and requires the contribution of team members to achieve the common objectives (Pizarro, 1984). Currently, the implementation of these teams is booming and is seen as a great opportunity by companies, as they seek through them the execution of organizational strategies.

Forming cross-functional teams in a company brings ideas, knowledge, experience, and innovation, which results in the generation of ideas, flexibility to innovative solutions and solutions. Thus, in today's markets, where change is the only constant, leaders need to create a culture that encourages innovation, knowledge sharing, and collaboration to improve their processes and services (operational effectiveness).

However, it has been shown that this is not a simple task, it is of vital importance to have as a cause of success a project; the empowerment of the teams, the establishment of an adequate climate, the human resources of the teams, and the setting of goals. Without having clearly and properly defined these areas, as suggested by the literature, the failure of a project is almost guaranteed. As an example, without clear goals, team members do not have a common frame of reference to guide them along the same path and may lose their focus on common tasks and results, leading to project failure.

Another key factor in forming cross-functional teams is the expectations of stakeholders, It is not strange that in a team where different functional areas and cultural diversity are associated each individual has different intentions and objectives as to the point to be reached, which would generate misunderstandings within the group.

It is clear then that the connection between cross-functional teams and operational efficiency must first go through many topics to be addressed and defined, that without them, such a connection could not ensure the success of the project.

On the other hand, according to Dorken (2002), it has been verified that the implementation of improvements becomes a goal shared by all, the results are positive and quickly visible, both inside and outside the organization.

Despite the recognition of the importance of such factors, the extent to which these cross-functional project teams help organizations to increase the effectiveness of operations and to continuously improve after the implementation of technological innovations has received little attention from researchers (Koulikoff-Souviron et Harrison, 2007).

Some organizations are increasingly using human resources factors as cross-functional teams (Daily and Huang, 2001) because cross-functional teams are often understood as the cooperation or collaboration of individuals from various functional areas (Pinto et al., 1993).

5.2. Organizational Strategy.

In organizations, the concept of strategy is one of the themes that arouse a strong interest in people for administrative issues. In recent years, interest in managing projects and their use in the implementation of organizational strategies has increased (Solarte et al., 2014). However, the new study proposals are not very significant for the research of this concept (Hidalgo et al., 2014).

Today, we face a rapidly changing competitive world, innovation allows a competitive advantage, allowing organizations to dominate the market, thus creating value and profitability for stakeholders (Santa et al., 2019). A major limitation in the strategy is the understanding of a successful organization of its industry and the department in which it operates (Santa et al., 2019).

On the other hand, in the organizational strategy it is crucial to have clarity with the long-term goals, the methods and procedures of planning to achieve these goals, to emphasize securing financial, material, and human resources, necessary for proper interaction (Santa et al., 2019). However, the strategy does not always formulate a way to achieve the goal. For this reason, the strategy and the plan are different ideas. Therefore, it is important to apply strategies that benefit and contribute to the growth of the organization and the work teams, to guarantee successful management.

5.3. Operational Effectiveness

Having explained the meaning of cross-functional teams and their conditions, we will continue to specify which is the operational effectiveness. Operational effectiveness means performing similar activities better than the competition (Santa et al., 2019). It would then be the ability to establish processes based on the basic capabilities of organizations, which generate a stimulus and commitment to exceed the expectations of clients (Santa et al., 2019, p. 4) with what would generate loyalty in them and bring immense benefits to the company. However, being operationally effective and surpassing the competition is a difficult task, To win customers from competitors, companies must aim for a better adaptation of technologies and create advantageous cost positions to obtain better performance than the competition (Santa and Ferrer, 2012).

It should be important for companies not only to reduce their costs as they arise but to reduce them efficiently because to obtain competitiveness and differentiation with the competition it is not efficient to just lay off employees to save costs and thus offer better prices (On the contrary, sometimes being efficient can mean incurring larger investments that in the future will generate even greater returns). In companies, you will always find somewhere where you can reduce costs without affecting the proper functioning or quality of your products. This advantage can only be achieved when the company carries out activities more efficiently, which includes the reduction or disposal of waste, for example. (Santa et al., 2013). The important thing is to know exactly how many resources, manpower, and time each process requires within the company, and thus identify the atypical costs that generate inefficiencies to be more organized within all organizational processes, such as research, design, evaluation, and production (Tegethoff et al., 2019).

In addition to costs, customers base their decisions on the quality offered to them, that is to say, to the extent that the products or services satisfy the demands of the customers and comply with the manufacturing specifications of the product or service delivered (Santa et al., 2013). It is no secret that most companies are always looking for "higher quality at lower prices", which makes this factor extremely important because it impacts cost performance, service methods, response time, the after-sales service, the warranty time, delay time, the delivery time, in the consistency of the service, in the quality of the repair, in the responsible attitude, in the service facilities, etc. (Tegethoff et al., 2019).

Also, among the benefits of offering a quality product is the reliability that is generated in the customer, which is achieved when the products maintain their condition or services and comply with the conditions initially agreed. It is this reliability, which makes clients, suppliers, investors and other important actors for a company stay with it, above the competition, and be useful in its attempt to efficient.

Now, within a market as changeable as the present one, in attempting to be operationally effective, there is a vitally important term to take into account, flexibility, which is acquired when the organization can adjust what it does, how it does it, and when it does it, in response to customer demands. (Santa et al., 2013). This condition means that a company reconfigures and transforms its processes quickly and effectively. This reconfiguration and transformation are necessary for terms of the improvement of process performance and its respective measurement, which implies a better use of resources by eliminating waste, reducing costs, adapting the most appropriate technological innovation, and, therefore perform better than the competition (Porter, 1996).

Closely linked to flexibility is speed, which is important in terms of organizations being able to offer new products or services promptly and shortening the time between the request for a product or service and delivery, as often as necessary. (Santa et al., 2013). And is that to be effective and effective, it is not only enough to be able to adapt to the constant changes, but also to do it quickly, which will give the organization a competitive advantage, Although operational efficiency can be the key to the competitiveness of companies, this will only be possible if they operate better and faster than the competition (Bigelow, 2002).

Finally, to gain an advantage in each of the above factors, an organization must be able to innovate. Companies that invest in innovation have been shown to achieve higher returns than those that do not have innovation as a fundamental pillar of their strategies. And those companies that implement research and development have shown to be more competitive than their competitors. Faced with the competitive dynamics of the market, corresponding to improving efficiency and productivity, organizations must respond to market changes through the continuous improvement of their paradigms, products, practices, and processes, since the performance improvement is largely driven by innovation.

It is clear then that operational effectiveness is achieved through 5 dimensions 1) cost, 2) quality, 3) reliability, 4) flexibility, and 5) speed. And that each of them requires innovative processes to achieve efficiency.

5.4. Organizational Learning.

Learning and knowledge are going to be even more important in the future than they are now. Learning as competence and knowledge as a resource are key factors not only for economic competitiveness but also for access to participation in many dimensions of social, cultural, and political life. (Berthoin Antal, Dierkes, Child and Nonaka, 2001, p. 937)

As has become evident during this paper, it is of vital importance to recognize that today change is the only constant, which makes the volume and speed with which new products are developed, processes and procedures are the central factors within companies. This can only be achieved through one feature: creativity. However, the speed with which new products must be created is the same in which they cease to be relevant and it is necessary to abandon working methods and procedures, which ultimately causes the knowledge and skills of workers to become obsolete.

In these highly dynamic contexts, it is not surprising that organizations have made the acquisition, creation, or updating of knowledge the cornerstone of their strategy: learning is the essential provision, considered as a permanent activity and as a goal of the entire organization. (Alcover de la Hera, Carlos María, Gil Rodríguez, Francisco, 2001, p. 261).

As Nonaka (2000, p. 24) says, “In an economy whose only certainty is uncertainty, the best source for lasting competitive advantages is knowledge.” Thus, one of the main objectives for companies is to have more knowledge and to acquire in advance their rivals. This will develop your ability to respond to change efficiently and effectively, resulting in greater operational effectiveness.

Organizational learning facilitates organizations to undertake the necessary changes and transformations since it requires a structural and cultural configuration that encourages

innovation, flexibility, and improvement (Huysman, 2000), and by promoting the participation of people, giving them a greater role and involvement in different dimensions of life (Berthoin Antal, Dierkes, Child and Nonaka, 2001), eliminates the resistance associated with bureaucratic and hierarchical structures.

In this case, it can be shown how useful organizational learning is for any company and even more in the model proposed in this paper due to its causality with operational effectiveness. On the other hand, giving a specific definition to this concept is a more complex task considering that it is a concept that has not been used for a long time and from which ambiguous definitions have emerged. However, organizational learning has been related to aspects as varied as the following: coding and modifying routines, acquiring useful knowledge for the organization.

Dogsdon (1993) has come to be defined as how companies improve their knowledge and capacity by aligning knowledge with organizational culture and adapting it within the organization to increase the efficiency of the workforce. Organizational learning includes R&D, training, and formal education of employees. It also involves the media the organization uses to disseminate information to its employees and how this information is processed and stored.

Distinguished studies clarify that organizational learning is about the acquisition of technologies and knowledge, but others have clarified the cost, delay, and risky it is for a company to spend a considerable amount of its internal resources on developing these two factors. Thus, and as evidenced in the article "organizational learning as a precedent for technology transfer and development of new products: a study of manufacturing companies in Malaysia" Professor Ricardo Santa's strategic technology alliances have become the most

convenient method in search of combining resources and accessing up-to-date technologies, as there are benefits of these technological collaborations in marketing and sales, knowledge acquisition, profitability, financial and operational performance (Liu and Barar, 2009). Also, they facilitate the learning and acquisition of new knowledge either through the internal development of new products, services or the acquisition of external technology (Schoenmakers and Duysters, 2006; Cohen and Levinthal, 1989).

Industrial developing economies tend to adopt advanced country technologies, which encourage workers to develop technological learning, which often results in technological innovation, Operational and efficiency improvements, and an increase in reliability and corporate adaptability; leading to higher levels of organizational capacity and competitiveness (Gupta and Thomas, 2001; Santa et al., 2009).

By contrast, companies with low or stagnant organizational learning face challenges in adapting to environmental changes and ultimately their ability to reduce costs or change product lines (Kloot, 1996). This can be seen as a potential source of competitive advantage for companies through improved operational performance and market opportunities, partnership engagement, and the ability to respond quickly.

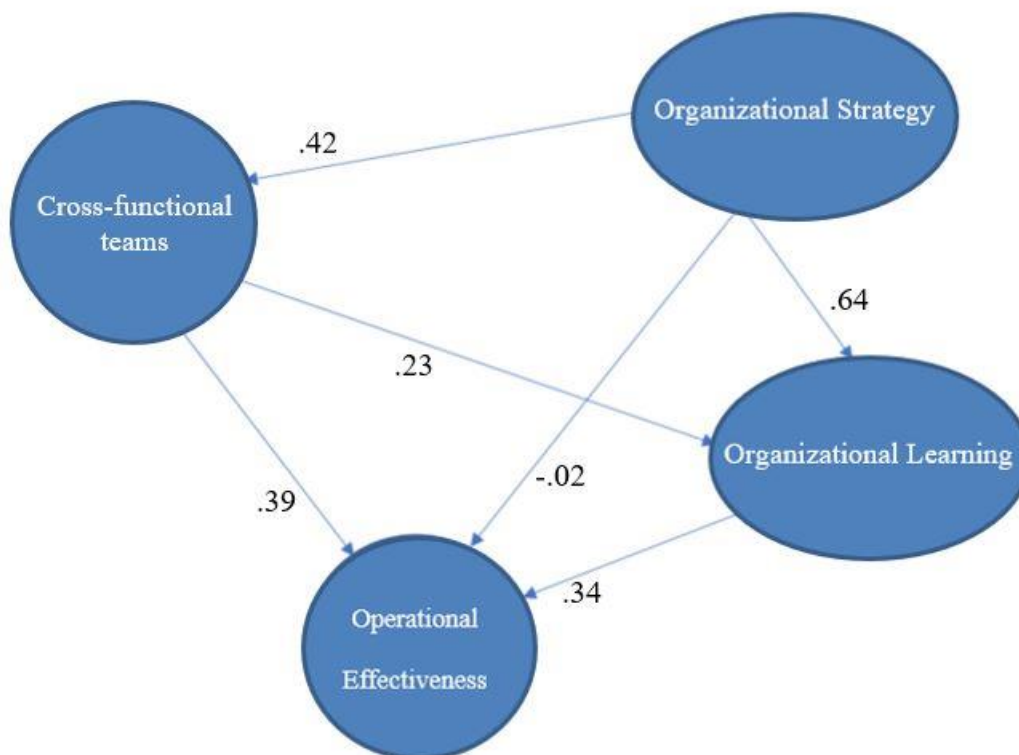
6. Model and hypothesis

The variables used in this study are cross-functional teams (CFT), organizational strategy (OS), and organizational learning (OL), which we affirm are aligned with each other, and finally with operational effectiveness (OE).

Within the studied literature it has been exposed that possibly some variables are aligned with others, and a more detailed analysis can be interpreted that there is not only a direct relationship between the variables, also indirect, as there are factors that are affected by one variable, and these, in turn, modify another. As would be the case with innovation, for example, which benefits a company by having cross-functional teams, and is in turn producing favorable results in the operational effectiveness of the same.

Therefore, the objective of this study, simplified in the model shown in Figure 1, lies in the demonstration of the following hypotheses:

Figure 1. represents the hypothetical model proposed for the study.



7. Research Methods

To test the hypotheses, the survey instrument, measurement constructs, and best fit model were developed according to guidelines established by Hair et al. (Hair, Black, Babin, & Anderson, 2010). A structured survey was conducted on 50 employees of large companies in Valle del Cauca, these questionnaires were applied in different areas such as production, purchasing, quality control, marketing, among others. The industries to which these companies belonged are finance, health, manufacturing, insurance, and food.

The statements' mean ratings were used to build the variables that made up the structural equation model (SEM). This methodology was chosen as it fits the requirements of this research and allows the analysis of latent variables and their relationships and the required sample is met by the collected data. (Nachtigall, Kroehne, Funke, & Steyer, 2003)

8. Data analysis

Confirmatory factor analysis (CFA) was used to study the relationships between observed and continuous latent variables, and to determine the measurement model's overall fit (Cooksey, 2007; Hair et al., 2010). Factor loadings were estimated, items loaded on only one construct (i.e., no cross-loading) and latent constructs were correlated (equivalent to oblique rotation in exploratory factor analysis).

The Chi-square equals CMIN/DF of 1.794 and a 0.000 probability level. Note that Wheaton et al. (1977) suggested a ratio of approximately five or less as a reasonable criterion, Marsh and Hocevar (1985) recommended using ratios as low as two or as high as five, and Carmines and McIver (1981) suggested ratios in the range of 2:1 or 3:1 as indicatives of an acceptable fit between the hypothetical model and the sample data. Besides,

the reliability of each of the constructs in the model was evaluated using several fit statistics, the root mean square error of 16 approximation (RMSEA) was acceptable as the model had a value of 0.067 and the maximum is considered to be 0.08 (Bentler, 1990)

The baseline comparisons fit indices suggest that the hypothesized model fits the observed variance-covariance matrix well relative to the null or independence model (see Table 1). The values of the baseline comparisons are above 0.7 and supported the model, with results above 0.8 (Bentler, 1990).

Table 1. Baseline comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.890	.872	.948	.939	.948
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

9. Results

The SEM findings are shown in the regression weights in Table 2 and the structural models in Figure 2. The first relationship (H1) between organizational strategy and cross-functional teams explains that there is a strong and significant relationship between OS and IT ($b=0.42$, $p<0.001$). This is because within the organization, by emphasizing goals and ensuring financial, material, and human resources, it will generate adequate interaction between teams (Santa et al., 2019). This indicates that the strategies are focused on working in teams, besides, they have a significant impact on organizational learning.

A strong and significant relationship was found between organizational strategy and organizational learning ($p=0.64$, $p<0.001$), which supports (H2). This shows that in these highly dynamic contexts it is not strange, therefore, that for organizations the acquisition, creation, or updating of knowledge has become the cornerstone of their strategy: learning is the essential provision, considered as a permanent activity and as a goal of the entire organization. (Alcover de la Hera, Carlos María, Gil Rodríguez, Francisco, 2001, p. 261).

Also, a strong and significant relationship was found between cross-functional teams and organizational learning ($p=0.23$, $p<0.05$). So (H3) is accepted, and it is evident that organizational learning facilitates organizations to undertake the necessary changes and transformations, since, requiring a structural and cultural configuration that encourages innovation, flexibility, and improvement (Huysman, 2000), and by promoting the participation of people, giving them a greater role and involvement in different dimensions of life (Berthoin Antal, Dierkes, Child and Nonaka, 2001), eliminates the resistance associated with bureaucratic and hierarchical structures.

On the other hand, it is shown that the relationship found between organizational strategy (OS) and operational effectiveness (OE) ($b= -0.02$, $p>0.05$) is very low and not significant. Therefore, (H4) was rejected by the proposed model. Demonstrating that the companies in the Valle del Cauca are not focusing their strategies on cost efficiency, quality, flexibility, and speed. This is a problem for the majority of Valle del Cauca companies since this reduces their competitiveness at the regional, national, and international levels. Focusing on organizational strategies should be a topic of study for organizations.

The relationship (H5) between cross-functional teams and operational effectiveness is very high ($p=0.39$, $p<0.001$). This supports that it has been proven that the implementation of

improvements becomes a goal shared by all members of a team, the results are more positive and quickly visible, both inside and outside the organization (Dorken, 2002). Similarly, cross-functional teams are a connection between organizational strategy and operational effectiveness, as they allow strategies to have an effective outcome in the organization through the teams.

A partially confirmed relationship between organizational learning and operational effectiveness ($p=0.34$, $p<0.05$) was found in favor of (H6). It is believed to have been partially confirmed by the indirect relationship between these variables that are given from innovation, adaptation to change, and other variables that are encouraged with learning. As discussed in the following sentence, companies with low or stagnant organizational learning face challenges in adapting to environmental changes and ultimately their ability to reduce costs or change product lines (Kloot, 1996). It is demonstrated then that Valle del Cauca companies must bet even more on improving learning within their organizations if they want to generate competitiveness and effectiveness

The previously constructed alignment between the variables affirms that operational effectiveness is enhanced through investment in human capital and strategic alliances with educational organizations and strong providers (Marotta et al., 2007). In addition to the importance of building trust between collaborators and organizations, and of having good management of different working cultures and different priorities in collaborative work, through the good performance of cross-functional teams, to promote competitiveness and achieve the operational effectiveness of Valle del Cauca companies.

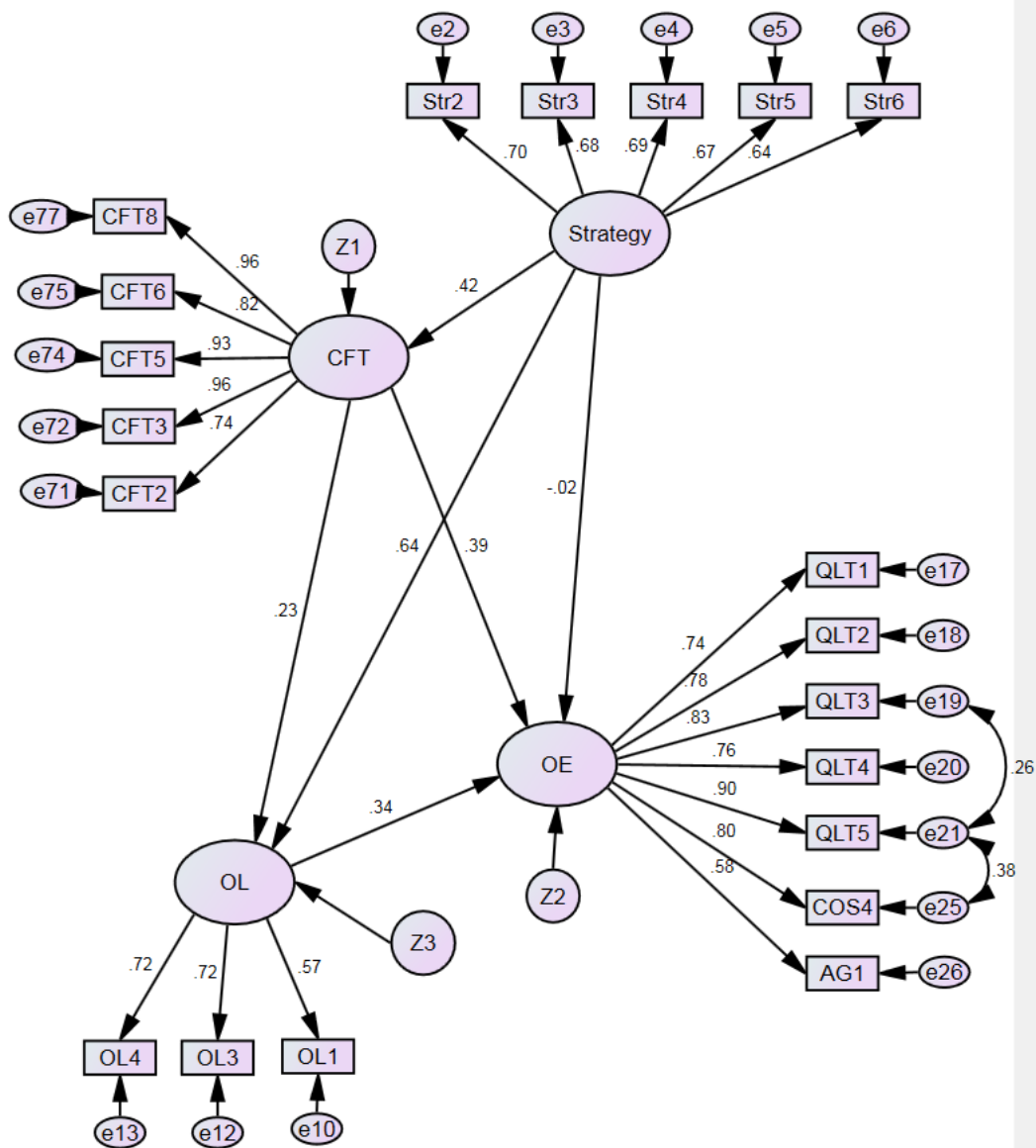
This research has shown a direct impact of cross-functional teams on the operational effectiveness of Valle del Cauca companies, and through these, an indirect impact of

organizational learning and organizational strategy. Therefore, for companies to continue to improve their opportunities to be more profitable, faster, flexible, reliable, and persistent in the market, they must direct their work teams to collaboration between areas.

Table 2. Regression Weights: (Group number 1 - Default model)

Variable 2	Variable 1	Estimate	S.E.	C.R.	P	Label
CFT	<--- Strategy	.330	.070	4.694	***	H1- Supported
OL	<--- Strategy	.517	.102	5.087	***	H2- Supported
OL	<--- CFT	.236	.090	2.630	.009	H3- Supported
OE	<--- Strategy	-.017	.096	-.175	.861	H4- Not supported
OE	<--- CFT	.350	.080	4.398	***	H5- Supported
OE	<--- OL	.300	.139	2.151	.031	H6 – Moderately Supported

Figure 2. Structural Model



10. Conclusion

On the one hand, this study has demonstrated the importance of having cross-functional teams within an organization, without neglecting that it is not for some defined organizational elements such as strategy and learning, Human capital as individuals would not perform well and therefore bringing them together would be a failure. This importance lies in

how effectively the company implements these factors so that human talent can reduce costs, increase quality, provide reliability and achieve flexibility, emphasizing a cross-functional working style to achieve high learning and usable results.

Thus, if Valle del Cauca companies are trying to increase their participation in the national product, there is still a long way to go. Companies must be willing to learn to be competitive (Chatterjee, 2009; Vazquez Ordás et al., 2005) and understand the importance of fostering learning in their individuals to encourage innovation within their facilities. Government, industry, and academia must also work together to carry out actions that must be carried out to increase market success

Also, the findings present the importance of cross-functional teams in the companies of Valle del Cauca since they promote the effectiveness of strategies in the operations of the organization. This is due to the empowerment of the teams, adequate work climate, and clear goal-setting. Also, having common interests and the same culture within a group, favors work, increasing effectiveness.

However, Valle del Cauca companies are not focusing all their organizational strategies to be effective. These do not focus on quality, leaving out cost efficiency, reliability, and agility. Without having this clear aspect, the staff will not have a successful performance within the company. All of the above is summed up in a loss of entrepreneurial excellence and competitiveness. For this reason, the companies of the Valle del Cauca are diminishing their potential at the level of the region, the country, and internationally.

As a final recommendation, the companies of Valle del Cauca should thoroughly inspect the results they are obtaining and evaluate whether they are being as effective as possible. Also, it is essential that they understand the role of cross-functional teams within the

organization, as they contribute to improving processes, generating efficiency, and different innovations.

It should be noted, the importance of continuing to investigate and evaluate how organizations in Colombia manage processes within the different dimensions of strategy, organizational learning, and whether these factors have an impact on operational effectiveness (Jabar, Soosay and Santa, 2010; R Santa, McDonald and Ferrer, 2019).

Finally, these strong relationships between the variables give evidence that the efforts to form cross-functional teams and improve their performance from the promotion of organizational learning driven by a good strategy, serve as input for companies to have effective results in operational performance.

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