

Original Research Paper

# KPIs and Sustainability of Inspection Services SMEs in Foreign Trade

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**Abstract:** This research seeks to determine whether Key Performance Indicators (KPIs) that incorporate sustainability in small and medium-sized companies (SMEs) of inspection services improve their competitiveness and sustainability in the market with the mix of Triple Bottom Line (TBL) strategies. For this, the best sustainable KPIs can be collected, empowering companies to follow unique steps since the application models of these indicators do not present uniformity for all organizations. The methodology used is a descriptive and exploratory study with a corresponding literary review, using data collection instruments such as a survey that projected the internal perspective of SMEs and their importance of applying sustainability at the micro and macro level and of the instruments for the formation of a manageable set of KPIs that fit the size of the company, in addition to presenting data on the best way to determine sustainable KPIs. The results show that there is no standard model to apply these indicators in a certain company.

**Keywords:** Triple Bottom Line, SMEs, Sustainable KPIs, Sustainability

## Introduction

The definition of KPIs at the business level is essential for the sustainability of SMEs, this is because an expected effect is the achievement of competitiveness within the market, so much so that it allows the evaluation of the fulfillment of organizational objectives (both in economic resources and time). However, SMEs have drawbacks regarding the management of KPIs, among which we can mention: (a) The definition of these without relating them to the strategic objectives of the company; (b) the creation and maintenance of a very large set, but little focused on the Critical Success Factors (CSF) of the company and; (c) resistance to change due to the traditional organizational culture implemented in SMEs, that is, since KPIs are a type of metric from which an evaluative result is obtained.

Therefore, it is proposed to answer the following question: To increase the competitiveness of inspection SMEs in the area of foreign trade, is it necessary to determine sustainable KPIs? This question will be answered through the collection of quantitative data, in addition to the literary review on the tools and applied designs that can lead to determining the KPIs in a manner consistent with the size of the companies. SMEs that participate in foreign trade, such as inspection services,

must seek to achieve greater competition because there are gigantic organizations that operate in more than one country and therefore achieve a larger market share. Both the reputation of the entity and its commitment to caring for the environment are immersed in an approach to the TBL.

This study stated that SMEs of inspection services should create sustainable strategies and objectives based on the previous concept and that this is the basis for the determination of KPIs. The incorporation of this system of three perspectives to achieve the measurement of sustainable KPIs in this type of company will provide an increase in their competitiveness that will be reflected in the improvement of the supply chain, mainly at the point of arrival (imports), since that these companies contribute to the control of the nationalization of products or goods in the qualities required for consumption following the requirements outlined in the regulations of the National Standardization Institute (INEN) and the Ecuadorian Accreditation Service (SAE) (Edgeman *et al.*, 2015).

This article has the following structure: It begins with a bibliographic review of KPIs, sustainability, competitiveness, categorization of companies according to their size, and other concepts to improve understanding of the subject. Later, the methodology to be used for data collection is described. Then the results obtained are

reviewed through a Chi-square analysis and at the end, the conclusion and future research are written.

### *Literary Review*

As part of the bibliographic review, literature on SMEs in the Ecuadorian context is introduced, in the first instance, then the importance of KPIs within business management and other data about this class of indicators is detailed; also on the approach of the TBL, that is, on sustainability and its perspectives and finally, the importance of the competitiveness variable is described. For this literary review, papers from high-impact journals were used that will help the development of a bibliometric study and that will form part of the conceptual framework.

## **Materials and Methods**

### *The Importance of SMEs in the Economy: Ecuadorian Context*

Since in Latin America there is no economic block as such, the categorization of companies depends on the country from which it is mentioned, Ecuador adopted its methodology to classify or categorize companies according to article 3 of Decision 702 of the Andean Community of Nations (CAN), as shown in Table 1.

Taking the CAN classification as a reference, the Superintendency of Companies, Securities and Insurance (SCVS) dictates that Ecuadorian companies can be categorized according to two variables: (1) The gross value of annual sales and (2) the number of employees' assets, in this sense, stratum II describes small companies.

Encompassing small companies within what is known as SMEs; These, together, form the largest economic force in Ecuador; They are the engine of the economy, and thanks to them there is a greater number of jobs, thus, they contribute to the socio-economic growth of the country. SMEs are affected by internal and external factors that cause market exits, mentioning the main internal factor is that in their minority they have suitable or qualified people to manage them, for this job specialized knowledge is needed to carry out the correct business management (Yance *et al.*, 2017; Panno, 2020).

As of the first quarter of 2018, according to data from the SCVS, 33.75% of the total number of companies (68,536) in the country are small companies. A subdivision Furthermore, it is established whether the capital is family-owned or not, 85.29% (19,729 companies) are constituted by shareholders who are part of the family nucleus and the remaining 14.71% (3,402 companies) are constituted with capital from different sources (Camino and Bermúdez, 2018). More details of the number of companies for each category are in Table 2.

### *Characterization of Services with Emphasis on its Supply Chain*

Services have different and relatively unique characteristics compared to the manufacturing sector, due

to the fact, that their processes are tangible, on the other hand, services are 'acts' for such they are considered intangible and in addition to this, they have other additional characteristics that are mentioned in Table 3 (Huong-Tran and Kummer, 2015; He *et al.*, 2016).

When talking about the supply chain many concepts reach the same end, that of solving problems in the duplication of efforts in companies and thus improving their response capacity, in such a way that this, when managed effectively, produces a reduction of costs, increase of income, improvement in customer satisfaction, reduction of waiting time in deliveries; In other words, globally, the quality of the service is improved (Mendoza *et al.*, 2014).

A service supply chain, in a standard way, is linearly represented in a two-way (bidirectional) way in which three main subjects intervene, these are (1) the Focal provider, (2) the supplier, and (3) the consumer (Fig. 1).

Express that the interest in studying the service supply chain is since there is no flow of goods per se, but rather focuses on intangibility: The client must have excellent service or suppliers must formally fulfill its obligations both in time and quality. According to Jääskeläinen and Laihonen (2014) to develop performance measures such as the KPIs applied in the services, those that contribute to:

- Minimize consumer waiting time
- Minimize downtime (of employees and resources)
- Maximize resource performance
- Maximize the consumer experience
- Increase the value of the service

Measuring performance consists of integrating measures for the entire organization, however, it must be carried out through a process with structured steps, the measurement of partial performance does not come close to defining the reality of the organization, thus, the measurement must at least (a) connect to business strategies, (b) integrate financial and non-financial measures, (c) promote global optimization, (d) distinguish the strategic, tactical and operational levels. In this sense, performance measurement must be developed through a series of steps: it generally begins with a definition of the strategic framework (mission, vision, and stakeholder requirements Later, the process framework is defined (objectives, strategies, FCE, and indicators, and finally the metrics are monitored using deployment diagrams. The performance measures do not have a standardized model that can be used. They depend on the (a) size of the company, (b) business activity, (c) commercial branch, etc., the size indicates the level of sophistication since, the larger the size, the more resources (for research, innovation, planning, expertise, and implementation) will be used and there will be a greater flow of information (Mohd, 2014).

**Table 1:** Categorization of companies according to the CAN

Variables	Stratum I	Stratum II	Stratum III	Stratum IV
Employed personnel	1-9	10-49	50-99	100-199
Gross value of annual sales (USD \$)	≤ 100,000	100 001 to 1 000 000	1 000 001 to 2,000,000	2 000 001 to 5,000,000

Note: Built according to Decision 702 of the CAN in its article 3, elaborated by authors.

**Table 2:** Participation of companies due to their size

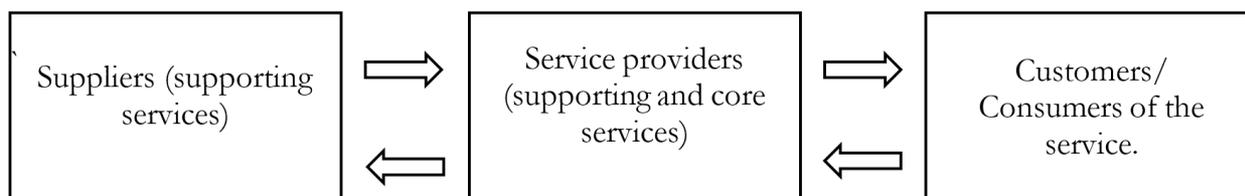
Size	Number of Companies	Frequency in%
Big	3 820	5.57
Median	9 334	13.62
Small	23 131	33.75
Micro-enterprise	32 251	47.06
Total	68 536	100.00

Note: Constructed and based on data from the SCVS of 2 018, elaborated by authors.

**Table 3:** Characteristics of the services

Characteristic	Definition
Intangibility	The services cannot be touched, seen, tasted, or sniffed.
Simultaneity	The customer must be present when the service is provided. That is, the production and consumption of the service occur at the same time; they cannot be separated.
Heterogeneity	The services are not standardized, most are personalized; each client has their own experience and perception about it.
Perishable	If the service is not consumed when it is available, then there is no opportunity to save it for the future, the unused capacity is lost forever.
No storage	Because the service is perishable, it is impossible to store it in a warehouse, and the storage function is inapplicable.
Work intensity	Service operations involve human resources; the role that this resource has is the basic function of the services.

Note: Built according to the characteristics of Huong and Kummer (2015), elaborated by authors.



**Fig. 1:** Basic structure of the service supply chain; Note: Built according to the characteristics of Huong and Kummer (2015), elaborated by authors

### *Notion and Importance of KPIs in Business Management*

The KPIs are intended to measure the performance of an activity or the performance of the organization, which helps the company to be aware of the degree of development that it is having in time *t*; also, according to is ideal for detecting unexpected deviations and evolutions in the organization's behavior to objectives. KPIs are a control tool that allows taking corrective measures at an opportune moment, for decision-making focused on the benefit of the company (Kerzner, 2015).

Some basic factors that these indicators should have been (a) limitation and (b) manageability; The first refers to the number of KPIs that should be defined. Experts

recommend that a company should have a maximum set of twenty KPIs, although there are authors who only advise ten when they are just being applied. while the second emphasizes the ability to obtain the data to generate the result, as well as the degree of difficulty for its calculations. These can be used in different branches of the industry ranging from supply to sales, through the area of marketing, quality, risk management, etc., in the supply chain or value chain it is applicable in the same way (Parmenter, 2015). The selection of KPIs brings with it the following advantages (Fig. 2).

It is common to find companies that do not apply KPIs in their management, what they express when investigating them is that they do not have practical guides and trained personnel to have a clear idea of how to do it

(Neeraj and Neha, 2015). Authors recommend using the SMART rule, so KPIs should be (Fig. 3).

Among other more specific characteristics that KPIs must present, the following are mentioned:

- Not expressed in monetary terms: ¥, \$, €, etc.
- Be measured according to business needs: Daily, weekly, biweekly, monthly, bi-monthly, quarterly, etc.
- Coordinate from the strategic level of the company: Chief Executive Officer (CEO), president, senior managers
- Incorporate having a significant impact; this implies affecting the FCE and the basic perspectives of the Balanced Score Card (BSC) (Fig. 4)
- Prepare to be shown in real-time
- Align with corporate objectives and strategies
- Facilitate their understanding for any individual interested in them
- Focus on FCEs or high-value tasks
- Be constantly reviewed, evaluated, and updated

KPIs can be of the following types: Operational and strategic, the former is used to measure the degree of operation of the processes, and the latter is used to measure the degree of compliance with the strategic objectives (Corral, 2017). Another classification refers to KPIs laggings or KPIs leadings; laggings are those that measure past performance, and leadings are controllers to measure future performance (Kursini *et al.*, 2015).

For performance measurement, the identification of KPIs should be the first option, since it contributes to obtaining better performance by enhancing the organizational mission through the holistic way in which KPIs are evaluated, this leads to the development of strategies to optimize decision-making in cases of failures in internal processes because they place a problem in time so that there are no potential implications (Azam, 2015; Lavy *et al.*, 2014).

A recommended methodology is the following: (1) Focus and analysis of the mission and vision, objectives and strategies, (2) definition of indicators that are key to the sustainability of the business and that arise from the strategic objectives taking into account the FCE, (3) delimitation of the number of KPIs to be used according to the characteristics mentioned above or using analytical tools, (4) collect in a database or software the selected KPIs or make a selection through a team of experts, who with the use of a survey choose them, (5) evaluation of KPIs through comparison techniques such as benchmarking, (6) report to stakeholders using (as a recommendation) the frameworks of the Global Reporting Initiative (GRI) or through the deployment graphs and (7) modification of KPIs due to changes in objectives, goals,

vision change or extension in the line of products offered (Oshika and Saka, 2017)

### *Competitiveness and its Relationship with KPIs*

Achieving competitiveness implies, in the first instance, having a diagnosis of the real situation (at a certain date) of the company, the KPIs for their part evaluate the performance of processes and activities through quantifiable measures, thus, the KPIs can become a tool to achieve that competitive advantage that companies long for in the market, since these allow decisions to be made more objectively based on numerical data, however, the selection of KPIs is a critical stage in which special attention must be paid because those metrics chosen will affect (positively or negatively) directly the growth of the company (Bai and Sarkis, 2014).

### *Relevance of Integrating Sustainability in Companies*

Since the industrial revolution, environmental damage has increased exponentially, which is why companies are currently opting to develop strategies that help mitigate these impacts through the incorporation of clean technologies and there are also international organizations who are supporting these activities in pursuit of the cause (Belvedere and Grando, 2017).

Sustainability, unlike previous years, includes the social and environmental factors within corporate strategies, extending the economic dimension within its strategic plans; if each company (value chain) that is part of the supply chain adds it, it is possible to obtain greater profitability and customer satisfaction (Panigrahi *et al.*, 2018). For the integration of sustainability, the company must include an approach to TBL which consists of incorporating three pillars, these are: Economic, social and environmental giving the same weight to each; the economic part refers to the activities that promote financial prospects in the medium and long term, to the environment it refers to guaranteeing environmental protection by measuring the impact of the business on the environment, in terms of social refers to the promotion of social equity, cohesion, prosperity and fundamental rights (Al-Samman and Al-Nashmi, 2016; Braccini and Margherita, 2019). The integration of sustainability must be gradual and the associated advantages go beyond obtaining greater profitability; the company builds a strong image (good reputation), thanks to the commitment to its employees, there is a better recognition of the brand by the masses and therefore greater loyalty, these are the advantages of incorporating social issues; In environmental matters, resources are optimized by minimizing the volume of waste, saving money that could later be used to innovate in the company (Tseng *et al.*, 2015; Nagariya *et al.*, 2021).

It is necessary to re-conceptualize the value that the company provides to its customers, thus, the business model must be redesigned where ecological efficiency prevails to create competitive advantages that will contribute to the sustainable development of the company and society. (Bocken *et al.*, 2014). Among the possible actions to incorporate are those shown in Table 4: KPIs Selection and Evaluation Tools with the review of scientific articles, it has been possible to construct Table 5 that shows, according to parameters, different applicable tools to select or evaluate KPIs.

### *Methodology and Analysis of Results*

The research has a quantitative approach, deductive logic, and the search for both qualitative and quantitative variables through the realization of the instrument that has been validated by an expert and the references of previous research, therefore, this study has a bibliographic method using a review of scientific articles in high-impact journals and is considered a non-experimental cross-sectional study due to the sampling in a single instance. The surveys were addressed to stakeholders of an inspection SME in the city of Guayaquil, in which data were collected from 30 members and was based on a three-way address (1) academic with knowledge in Management Information Systems, (2) academic with knowledge in Organization and Business Methods and (3) technical in the area of Foreign Trade; With these three points of view, a data without bias was obtained that allowed answering the survey prepared and presented in the instrument. The research is descriptive and exploratory since it will analyze the feasibility of applying sustainable KPIs because it is a relatively new topic that does not have applications to service SMEs and even more so to companies engaged in foreign trade in Ecuador.

To collect this type of data, a structured questionnaire of ten questions was elaborated, with a Likert measurement scale, the coding used is detailed below: 1 = very negative approach, 2 = negative approach, 3 = neutral approach, 4 = positive approach and 5 = very positive approach. Table 6 shows how the questionnaire was structured.

The first category is about a survey introduction, we elaborated on two questions to identify the knowledge level. The second category is focused on the need for the philosophical elements for establishing a set of efficient KPIs (Lavy *et al.*, 2014). Later, the third category is based on the core of this research, which is asking the question of sustainability within an enterprise (Oshika and Saka, 2017). Finally, the fourth category is about performance measurement, not only KPIs but a full measurement system for improving business management (Jääskeläinen and Laihonon, 2014).

For this, the instrument's reliability guarantee was verified using Cronbach's Alpha, obtaining a value of 0.873, which is sufficient to accept its validity.

The test of the hypothesis is to demonstrate that KPIs affect the sustainability of the inspection services companies, for this, the Chi-Square is used by having a sample of 30, with a significance of 0.05 and confidence of 0, 95%, therefore, the KPIs and sustainability variables are based on the relationship that are independent variables, where the relationship of the two variables is observed in the results, thus, the  $H_0$  will be equal to  $u$  and  $H_1$  will be different from  $u$ , with the use of SPSS 23 the data presented were the following:

In Table 7, it is observed that the Chi-square is 0.019 is less than the value  $p = 0.05$ , so the  $H_0$  is rejected, then the alternative hypothesis is accepted where there is 95% that the KPIs have a close relationship with the sustainability in foreign trade service companies.

In the descriptive data of the interest group of the SME, it was determined that approximately 70% have not heard very often about the application of KPIs, and about 54% expressed that the application of KPIs is "important" or "very important". 70% think that the design of performance measures is feasible, around 67% believe that the SME has a "good" or "excellent" definition of its philosophical elements, 63% consider the definition of the strategic objectives of the SMEs as "efficient" or "very efficient", almost three-quarters of the interest group indicated that the SME develops sustainable activities and that they could call themselves "sustainable suppliers", approximately 74% consider it "important" or "extremely important" to develop strategic objectives sustainable in SMEs, 77% of the interest group said that frequent monitoring of the KPIs (after its definition) is "essential" or "very essential" to promote the sustainability of the SME, a percentage higher than 70% said that the application of KPIs It could improve business management and change the current organizational culture and around 90% expressed that they would "definitely" or "probably" use KPIs because of the benefits they can bring to the company and around 90% expressed that they would "definitely" or "probably" use KPIs because of the benefits they can bring to the company and around 90% expressed that they would "definitely" or "probably" use KPIs because of the benefits they can bring to the company.

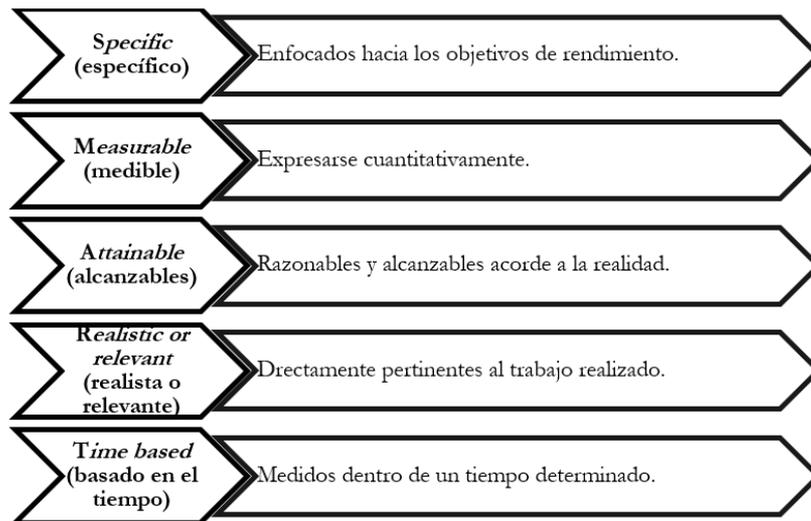
In general, the results of the survey show that people associated with a foreign trade SME, to a large extent, do not know about the application of KPIs, because they have heard nothing or little about them, which could be correlated to the fact that close to the half consider them of little importance or are not interested in the subject. On the other hand, referring to the feasibility of the application, taking into account: The philosophical part, the size of the company, and the resources available to an SME; knowing that the sophistication of measuring performance depends on the three factors mentioned; The interest group points out that KPIs can be incorporated, such that they are aware that these can improve some aspects such as their management and organizational

culture. More internally, the people integrated with an SME know the philosophical part, they are related to the strategic level and they realize what are the strengths (or CSF) that they possess; They consider that they manage activities that promote environmental care and CSR, thus, they see the importance of developing sustainable

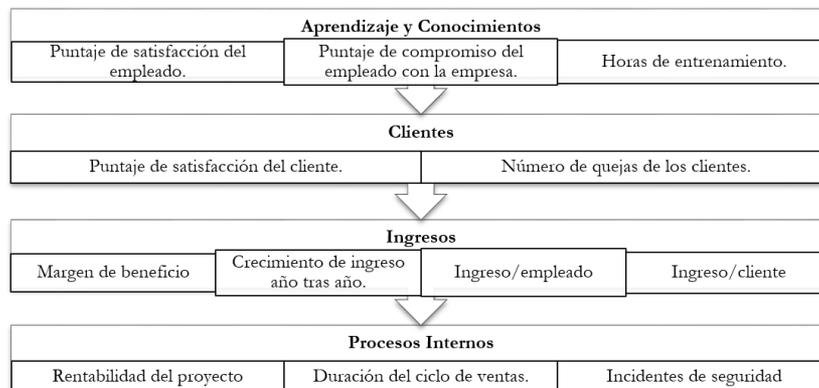
strategic objectives as responsible for generating greater competitiveness. Finally, in the hypothetical case of applying them, they believe a later stage is necessary which consists of monitoring and evaluation and in this phase, constant feedback is allowed to focus on business sustainability.

La evaluación de los KPIs permite tener mayor conocimiento del progreso que va teniendo cada uno de los indicadores seleccionados.
Ayuda a la empresa a tomar decisiones con base en los resultados obtenidos.
Mayor crecimiento de la parte financiera. (\$)
Alto nivel de competitividad empresarial frente a empresas del mismo servicio: mejora del rendimiento
Generan mayor eficacia, eficiencia y rapidez en los procesos: Identifican rápidamente las áreas problemáticas.
Permite a los directivos de la empresa tener la información adecuada sobre cada uno de los procesos.
Mayor coordinación entre el equipo de trabajo, mejora la relación entre los stakeholders.

**Fig. 2:** Advantages of KPIs; Note: Taken according to Marr, elaboration of authors.



**Fig. 3:** SMART Rules for KPIs



**Fig. 4:** Example of application of KPIs in service companies with BSC

**Table 4:** Activities for the sustainable development of a company

Corporate social responsibility	Environmental management
Outsourcing	Energy consumption
Fair wages	Greenhouse Gas Emissions (GHG)
Stable working conditions	Pollution footprint from outsourcing services consumption
Social security	
Occupational health	
Community participation	

Note: Table constructed according to Bocken *et al.* (2014), author elaboration

**Table 5:** KPIs selection and evaluation tools

Authors	Year	ID	Evaluation	Sector	Sustainability
Chunguang Bai and Joseph Sarkis	2014	Neighborhood Rough set theory	Data Envelopment analysis	Undefined	Yes
and Vembri Noor Helia Toor and Ongulana	2010	Frazelle Model and Analytical hierarchy process Critical success factors theory	SNORM based in Benchmarking the unique Benchmarking technique	Services	Undefined
García-Arca <i>et al.</i>	2018	Action research on overall Equipment effectiveness	Benchmarking on overall Equipment effectiveness	Services	Yes
Lavy <i>et al.</i>	2014	Critical success factors theory and categorization mechanisms	Balanced score card Approach, benchmarking, post Occupancy evaluation, developing performance metrics	Services	Yes

Note: Table constructed through a theoretical review, and elaboration of authors.

**Table 6:** Questionnaire structure

Categories and items

- C1: Knowledge about KPIs in foreign Trade SMEs
- I1: Prior knowledge about the application of KPIs in SMEs in foreign trade
- I2: Importance of the application of KPIs in SMEs in foreign trade
- C2: Philosophical elements in SMEs-Lavy, García and Dixit (2014)
- I3: Feasibility of designing performance measures in SMEs
- I4: Goodness of the definition of the SMEs' philosophical elements
- I5: Efficiency of the SME's strategic objectives
- C3: Sustainability in SMEs-Oshika and Saka (2017)
- I6: Sustainability of the activities carried out by the SME
- I7: Importance of the development of sustainable strategic objectives within the SME
- C4: Performance Measurement-Jääskeläinen and Laihonon (2014)
- I8: Importance of monitoring KPIs for the sustainability of the SME
- I9: Applicability of KPIs for improving business management
- I10: Interest in measuring business performance through KPIs

**Table 7:** Chi-square test

	Chi-square tests Value	GI	Asymptotic significance (bilateral)
Pearson's Chi-square	150,869a	117	0.019
Likelihood ratio	80,504	117	0.996
Linear by linear association	15,026	1	0,000.000
N of valid cases	30		

To. 140 cells (100.0%) have expected a count less than 5. The minimum expected count is .03

## Results

Among the data obtained in the survey based on the aforementioned dimensions, in the analysis concerning whether KPIs can increase the competitiveness and sustainability of SMEs and the best way to apply them. Among the dimensions are (1) generating competitive

advantages due to the change of organizational culture, (2) sustainability of SMEs in the national market, and (3) benefits that they can bring if they are applied (massification) to the Balance of Services, (4) incorporating sustainable activities in SMEs and (5) conducting selection, evaluation, and monitoring of performance measurement (KPIs). Managers, in most

cases, have to manage the company traditionally, or many times due to their interests and others due to the old leadership mentality they want or intend to evade the level of complexity that new Technological Tools (ICTs) can bring in terms of information management, which requires trained personnel with technical knowledge to afford to invest in these kinds of technologies. The change of the organizational culture in a company that has been within a company for many years is somewhat more difficult compared to those that have only a few years since it requires more time to readjust to new visions, new ways of managing certain areas, how decisions are made, among others; Of course, costs are also incurred for staff training; referring to this, Commonly the resources necessary to implement "new ways of ..." is a sensitive issue in those who lead a company, for this reason, they shy away from changes. At the national level, companies do not know how to measure competitiveness, this element is essential if you want to obtain sustainability, by not knowing how to measure it, companies are less productive causing money and strength to be lost in the market.

## Discussion

Sustainability requires that care for the environment be considered within its values and policies as a change in organizational culture that employees must embrace in such a way that this ideal serves them to create long-term sustainable strategies. A company is sustainable when it can capture market share, and maintain a proactive state for this reason they shy away from changes. At the national level, companies do not know how to measure competitiveness, this element is essential if you want to obtain sustainability, by not knowing how to measure it, companies are less productive causing money and strength to be lost in the market. Sustainability requires that care for the environment be considered within its values and policies as a change in organizational culture that employees must embrace in such a way that this ideal serves them to create long-term sustainable strategies. A company is sustainable when, it is able, to capture market share, and maintain a proactive state for this reason they shy away from changes. At the national level, companies do not know how to measure competitiveness, this element is essential if you want to obtain sustainability, by not knowing how to measure it, companies are less productive causing money and strength to be lost in the market. Sustainability requires that care for the environment be considered within its values and policies as a change in organizational culture that employees must embrace in such a way that this ideal serves them to create long-term sustainable strategies. A company is sustainable when it can capture market share, and maintain a proactive state Companies are less productive

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## Conclusion

In conclusion, sustainability is a synergy between organizational culture, leadership, innovation, economic growth, and knowledge management. It should be noted that at least most SMEs should apply the KPIs so that there is some degree of impact on the Balance of Services, in that case, among the advantages obtained are greater incorporation of money into the flow and economic cycle, Hence, a greater contribution of capital to this balance, because greater profitability is generated in service SMEs. To incorporate sustainable activities, initially, organizational culture has to be developed in which SMEs consider sustainability as something to maintain, generally, companies only think about being profitable (productive), but they do not consider sustainable activities, the good thing is that SMEs are more creative, flexible and can redirect themselves faster than large companies. The sustainable activities that they can develop when they just start are: (a) Reuse the paper occupying several pages and (b) use an express service for all staff, then the activities that generate the greatest impact on the environment should be evaluated to the construction of KPIs that include environmental factors. Sustainable strategies allow more than efficient use of resources, and enhance the image of companies, sustainability refers to the TBL that is currently an innovative way for competitive development. flexible and can be redirected faster than large companies. The sustainable activities that they can develop when they just start are: (a) Reuse the paper occupying several pages and (b) use an express service for all staff, then the activities that generate the greatest impact on the environment should be evaluated to the construction of KPIs that include environmental factors. Sustainable strategies allow more than efficient use of resources, and enhance the image of companies, sustainability refers to the TBL that is currently an innovative way for competitive

development. flexible and can be redirected faster than large companies. The sustainable activities that they can develop when they just start are: (a) Reuse the paper occupying several pages and (b) use an express service for all staff, then the activities that generate the greatest impact on the environment should be evaluated to the construction of KPIs that include environmental factors. Sustainable strategies allow more than efficient use of resources, and enhance the image of companies, sustainability refers to the TBL that is currently an innovative way for competitive development. then the activities that generate the greatest impact on the environment should be evaluated for the construction of KPIs that include environmental factors. Sustainable strategies allow more than efficient use of resources, and enhance the image of companies, sustainability refers to the TBL that is currently an innovative way for competitive development. then the activities that generate the greatest impact on the environment should be evaluated for the construction of KPIs that include environmental factors. Sustainable strategies allow more than efficient use of resources, and enhance the image of companies, sustainability refers to the TBL that is currently an innovative way for competitive development.

### *Future Implications*

In the definition of KPIs, where it is recommended to carry it out based on sustainable objectives/strategies, it can also be done using the Delphi method; In the selection, multivariate statistical techniques such as principal component analysis and analysis of variance could be used to form a set of indicators that a small company can use; In the evaluation and monitoring stage, the use of the BSC is a useful tool, on the other hand, there is the KPIs Dashboard, traffic lights and speedometer, a mathematically complex tool such as Data Envelopment Analysis (DEA) can also be mentioned, if you want to go further (Chiu *et al.*, 2007). All these stages are aimed at improving decision-making, aiming at achieving competitiveness in the market. Considering the importance of companies that participate in foreign trade in the country's economy, it is intended to incorporate sustainable KPIs in an inspection company, because these are a vital part of the (international) supply chain that enables trade between countries. allowing the movement of goods in a certain place following the provisions, thus the certifications must denote neatness, in this the professional ethics of the inspector is considered intrinsic, making this activity a key point for internal trade.

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### **Author's Contributions**

**Rafael Apolinario:** Methodology, investigation, and formal analysis.

**Martha Rodriguez:** Editing, supervision, data analysis.

**Julissa Bedor:** Conceptualization, writing-review, resources.

### **Ethics**

The authors declare that ethics has been kept in redacting as well as on production and the article is original and contains unpublished information; it does not violate ethical standards.

### **References**

- Al-Samman, E., & Al-Nashmi, M. (2016). Effect of corporate social responsibility on nonfinancial organizational performance: Evidence from Yemeni for-profit public and private enterprises. *Social Responsibility Journal*, 12 (2), 247-262. doi.org/10.1108/SRJ-04-2015-0049
- Azam, MS (2015). Diffusion of ICT and SME Performance. In M. Quaddus, & A. Woodside, *Sustaining Competitive Advantage via Business Intelligence, Knowledge Management and System Dynamics* (Vol. 23A, pp. 7-290). Bingley: Emerald Publishing. doi.org/10.1108/S1069-096420150000023005
- Bai, C., & Sarkis, J. (2014). Determining and applying sustainable supplier key performance indicators. *Supply Chain Management: An International Journal*, 19 (3), 275-291. doi.org/10.1108/SCM-12-2013-0441
- Belvedere, V., & Grando, A. (2017). *Sustainable operations and supply chain management*. John Wiley & Sons.
- Bocken, N., Rana, S., & Evans, S. (2014). A literature and practice review to develop a sustainable business model. *Journal of Cleaner Production*, 65, 42-56. doi.org/10.1016/j.jclepro.2013.11.039
- Braccini, A., & Margherita, E. (2019). Exploring Organizational Sustainability of Industry 4.0 under the Triple Bottom Line: The Case of a Manufacturing Company. *Sustainability*, 11 (1), 36, 3 - 17. doi.org/10.3390/su11010036.
- Camino, S., & Bermúdez, N. (2018). Family businesses in Ecuador: Definition and methodological application. *X-Economic Slopes*, 2 (3), 46-72.
- Chiu, C. C., Tsai, C. H., & Chung, Y. C. (2007). Balanced Scorecard to Explore Learning Performance of Enterprise Organization. *The Asian Journal on Quality*, 8 (1), 40-75. doi.org/10.1108/15982688200700004
- Corral, R. (2017). *Useful KPIs: Design operational indicators that serve to improve*. Barcelona: Leexonline.

- Edgeman, R., Eskildsen, J., & Neely, A. (2015). Translating triple top-line strategy into triple bottom-line performance. *Measuring Business Excellence*, 19 (1). doi.org/10.1108/MBE-12-2014-0054
- García-Arca, J., Prado-Prado, JC, & Fernández-González, AJ (2018). Integrating KPIs for improving efficiency in road transport. *International Journal of Physical Distribution & Logistics*, 1-22.
- He, Q., Ghobadian, A., Gallear, D., Beh, L.-S., & O'Regan, N. (2016). Towards conceptualizing reverse service supply chains. *Supply Chain Management: An International Journal*, 21 (2), 166-179. doi.org/10.1108/SCM-01-2015-0035
- Huong-Tran, T., & Kummer, S. (2015). Service Supply Chain Risk Management: Distinctions from manufacturing. *Innovations and Strategies for Logistics and Supply Chains*, 503-532.
- Jääskeläinen, A., & Laihonon, H. (2014). Distinctive features of service performance measurement. *International Journal of Operations & Production Management*, 34 (12), 1466-1486.
- Kerzner, H. (2015). *Project Management Metrics, KPIs and Dashboards: A Guide to Measuring and Monitoring Project Performance*. New Jersey: John Wiley and Sons, Inc.
- Kursini, E., Novendri, F., & Helia, V. (2015). Determining key performance indicators for warehouse performance measurement: A case study in construction materials warehouse. *MATEC Web of Conferences*, 1-4.
- Lavy, S., García, J., & Dixit, M. (2014). KPIs for facility's performance assessment, Part I: Identification and categorization of core indicators. *Facilities*, 28 (9), 440-464.
- Mendoza, A., Fontalvo, T., & Visbal, D. (2014). Multi-objective optimization in a supply chain. *Journal of Strategic Sciences*, 22 (32), 440-464.
- Mohd, A. (2014). Performance measurement system design in service operations: Does size matter? *Management Research Review*, 37 (8), 728-749.
- Nagariya, R., Kumar, D., & Kumar, I. (2021). Sustainable service supply chain management: From a systematic literature review to a conceptual framework for performance evaluation of service-only supply chain. *Benchmarking: An International Journal*. doi.org/10.1108/BIJ-01-2021-0040
- Neeraj, A., & Neha, G. (2015). Measuring retail supply chain performance: Theoretical model using key performance indicators KPIs. *Benchmarking: An International Journal*, 22 (1), 135-166.
- Oshika, T., & Saka, C. (2017). Sustainability KPIs for integrated reporting. *Social Responsibility*, 13 (3), 1-40.
- Panigrahi, S., Bahinipati, B., & Jain, V. (2018). Sustainable supply chain management: A review of literature and implications for future research. *Management of Environmental Quality: An International Journal*, 30 (5), 1001-1049. doi.org/10.1108/MEQ-01-2018-0003
- Panno, A. (2020). Performance measurement and management in small companies of the service sector; evidence from a sample of Italian hotels. *Measuring Business Excellence*, 24 (2), 133-160. doi.org/10.1108/MBE-01-2018-0004
- Parmenter, D. (2015). *Key Performance Indicators: Developing, Implementing, and Using Winning KPIs*. United Kingdom: John Wiley and Sons, Inc.
- Toor, S. U. R., & Ongulana, S. O. (2010). Beyond the 'iron triangle': Stakeholder perception of Key Performance Indicators (KPIs) for large-scale public sector development projects. *International Journal of Project Management*, 8 (1), 228-236.
- Tseng, M., Lim, M., & Wong, W. (2015). Sustainable supply chain management: A closed-loop network hierarchical approach. *Industrial Management and Data Systems*, 115 (3), 1-25.
- Yance, C., Solís, L., Burgos, I., & Hermida, L. (2017). The importance of SMEs in Ecuador. *Observatory of the Latin American Economy*, online: <http://www.eumed.net/cursecon/ecolat/ec/2017/pymes-ecuador.html>