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Sustainability and Continuous Improvement of Organization: Review of Process-Oriented Performance Indicators

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Abstract: Nowadays, organizations are trying to have, not only a competitive advantage in the market, but also in sustainable development. The purpose of this paper is to investigate the process of measuring organizations' sustainability using process-oriented indicators. The research seeks to address the following research question: How are process-oriented indicators linked to an organization's strategy in the context of sustainable development? This research is based on reviewing the literature on organizational performance analysis in the context of sustainable development. The literature review highlights the main elements of organizational performance analysis and linkages to the overall business strategy. There are many ways of how to conduct an in depth assessment of an organization's performance regarding sustainability. The research shows the elements that are integrated in the process and the organization's performance analysis. These elements are—objectives, metrics, data measures, indicators and key performance indicators (KPIs). The research shows that growing organizations with a strategic focus on sustainability integrate these elements in the process analysis.

Keywords: sustainable development; process-orientation; key performance indicators; continuous improvement; article

1. Introduction

More organizations are pressured by their stakeholders to report on their performance in a much wider perspective, such as triple bottom line (TBL) reporting [1–3]. This is not only an internal decision made by the organization's management. In order to be competitive, organizations should consider changing their business models continuously [4]. There is a wide range of ways how organizations could measure their performance regarding sustainability. Many studies address the organizations' sustainable performance and openness to innovation as important requirements for continuous development [5,6]. It also depends on what level of performance the organization is looking at—organizational, process or performer level [7]. The size of the organization, the complicity of the organization's structure and the different processes could be some of the main issues that complicate measuring organizational performance [8]. To solve this problem, several organizations' performance dimensions, such as financial performance, customer satisfaction, employee satisfaction, social performance and environmental performance, have been identified [9]. Each of these dimensions consists of a set of performance indicators that could be measured and analysed in terms of organizational and process levels. From a different perspective, some organizations use economic indicators, such as productivity regarding the use of resources and creating value for the customer to measure the performance [6]. Often organizations use predefined models to measure the overall performance from different perspectives, including corporate social responsibility and

sustainability. It is not obligatory but many organizations use several sustainability frameworks for reporting on their performance. As it has become more important to measure an organization's sustainability and report on it, it is necessary to understand the purpose of these activities. The reason for this is that some organizations use this practice as corporate greenwashing to seem more sustainable and socially responsible to the stakeholders [10].

The accuracy of the stated aim, the applied methods and the stakeholder analysis are the basis of the performance measurement framework [11]. Some studies have already analysed the difference between sustainability frameworks and standards, such as GRI and AECA, and how they are complementary [1]. Each of these frameworks consists of a different set of performance-based indicators that may vary depending on the main reporting goals of the framework or standard. In this case, it means that different kinds of organizations use the same predefined set of indicators introduced by the sustainability framework to measure a different range of activities. Therefore, the organization's management needs to have a good understanding of what is relevant and important to the organization [12]. It is necessary to choose the most appropriate framework or define an adaptive version with a set of indicators that best describe the suitability of the organization's performance.

Although it is important to integrate and externally report on activities related to sustainability in the organization, there is still a weak link of systematic sustainability integration in the organization's strategy as some studies consider this as an issue [13]. For this reason, some organizations use a different set of tools that complement the set of internally defined sustainability indicators. For example, organizations use process mapping, not only for process development, but also for identifying environmental improvement initiatives [2]. Organizations with a performance measurement system that measures sustainable performance are more likely to be able to manage sustainability in their organization [13]. For this reason, the purpose of this paper is to investigate the process of measuring an organizations' sustainability using process-oriented indicators. The research seeks to address the following research question: How are process-oriented indicators linked to an organization's strategy in the context of sustainable development? To answer the research question, this research paper is divided into three steps. First, the authors discuss the concept of sustainable development to understand how sustainability can be integrated in an organization's process-oriented performance analysis. The second step is to investigate the trends of using different process-oriented methods and approaches for measuring an organization's sustainable development. The third step is to investigate the main elements that link process-oriented measurements with the organization's strategy in the context of sustainability.

2. Methodology

This research is based on a literature review. Thirty publications were shortlisted and included to investigate the main elements of linking organizational processes with an organization's strategy. These articles were selected by analysing their relevance to the contribution of the organizations' performance analysis and process-orientation in the context of sustainability and continuous improvement. The search results showed 74 publications with open access from two databases—Scopus and Web of Science. The authors chose publications by using five sets of relevant keywords and query strings. The keywords and limitations used for the search of publications in Scopus were:

1) Key Performance Indicator AND sustainable development AND identification AND review. In total, 4 relevant publications were retrieved.
2) Performance indicator AND measurement AND metrics AND objectives AND quality AN D review. In total, 9 relevant publications were retrieved.

The keywords and limitations used for the search of publications in Web of Science were:

1) Key performance Indicator AND business. In total, 10 relevant publications were retrieved.
2) Performance indicator AND measurement AND metrics AND review. In total 7 relevant publications were retrieved.

3) Sustainability AND Benchmarking AND Key Performance Indicators LIMIT TO (open access). In total 5 relevant publications were retrieved.

The acquired results were used to conduct a qualitative literature review to investigate how to integrate sustainability elements into the organisation's strategy and performance measurements. Furthermore, the authors discuss how continuous development affects the creation of an innovation environment within an organization. Open dynamic innovation is viewed as a link between the measurements, strategy and the development of the organization.

By analysing the literature in the context of the research question, there emerged five elements linking processes with the organization's strategy. From the literature, the most mentioned elements were—objectives, metrics, data measures, indicators and KPIs. While reviewing the research literature about the organization's performance measurement, the authors indicated the main methods and approaches that were used to measure organizational performance and sustainable development.

3. The Concept of Sustainable Development

Since Our Common Future or the Brundtland report of the World Commission on Environment and Development was published by the UN in 1987, the concept of sustainable development has become an important element in the strategic planning for countries all over the world [14]. Sustainable development is not just what the organization could invest into society, economics and environment. It is also an important goal for management. In addition, sustainability is not a short-term approach for the development of the organization. Some studies stress that time is the central element of sustainability [15]. Being sustainable means managing processes and resources effectively from a long-term perspective [16]. Organizational social connectedness may be equally important for longer-term organizational sustainability [17]. Therefore, sustainability is a broad concept that organizations adapt in different ways. Many organizations are integrating sustainability concerns into their strategic decision-making processes. Some studies point out that understanding the need for sustainability strategies and initiatives can be perceived as legitimate by the managers, which is a fundamental step toward facilitating sustainable development [18]. An in-depth analysis of the organization's environment and stakeholders helps to develop a long-term strategy and an action plan [19]. Some studies stress that there is value in identifying and understanding the organization's main stakeholders and their needs in a normative and legitimate manner to become more sustainable, meaning that stakeholders should be the basis of the organization's strategy [20,21]. Sustainability initiatives should be planned as both short-term and long-term activities to ensure that all stakeholder groups are satisfied [22]. The key elements of sustainability should be defined in the organization's strategy to deliver a clear and direct message to all stakeholders. Many studies address the organization's sustainable performance and openness to innovation as important requirements for continuous development [23–26]. In addition, some studies agree that organizations which are open to innovation and change continuously are more likely to be competitive [4]. It is important to understand the objectives and common stakeholder positions regarding sustainable development before making any changes in the organization. Comparing different definitions of sustainable development helps to understand the sustainability concept more comprehensively. Furthermore, by understanding the main elements of sustainability, it is possible to integrate them in the process-oriented performance analysis of the organization. The comparison given in Table 1 includes both widely recognized concepts of sustainable development and different researchers' ideas regarding sustainability.

Table 1. The comparison of the concepts of sustainable development.

Time	Sustainable Development	Sustainability Focus
1987	Seeks **to meet the needs and aspirations of the present** without compromising the ability **to meet those of the future** [14].	Future thinking
2005	As a principle and a practice **brings added value to the content and process**. Sustainable development can only be progressed—or indeed achieved—through a critical understanding of its complementary parts—**environmental, socio-political and economic factors** [27].	Triple bottom line
2008	At the general level is a **continuous process that is essentially sustainable, influenced by three factors: environment, economy and society** [28].	Continuous process; Triple bottom line
2009 and 2015	Achieving a **balance between the environment, society and the economy (triple bottom line (TBL))** is considered essential to meet the needs of the present without compromising the ability of future generations to meet their needs [29].	Triple bottom line
2012	Based on **continuous change, systemic thinking, integrated and dynamic processes**, as well as a **change in the organization's internal culture and strategy** [30].	Continuous change; Systemic management; Integrated and dynamic process management
2014	Ensures the **need for more accurate measurement and regular analysis of existing resources** (environmental, human, physical) in order to ensure **fact-based decision making** [31].	Accurate measurements; Regular analysis; Fact-based decision making
2014	Sustainability and responsibility must be one of the values of the organization in order to be able to define sustainable development. **Future generations must be one of the considered stakeholders** [32].	Future thinking; Stakeholder management
2016	Based on **clear understanding of the organization's key sustainability factors—economic, environmental and social.** Sustainability **is based on innovative ideas, focus on stakeholders and benchmarking** [33].	Triple bottom line; Innovative ideas; Benchmarking

The authors have identified the main sustainability focus areas in the compared definitions of sustainable development. As the table shows, sustainable development essentially consists of the balance between three key elements of sustainability—environment, society and economy. Many definitions put emphasis on future-oriented thinking [14,29,32], whereas others describe the importance of the development of processes [28,30]. In addition, it is emphasized that stakeholders have an important role in the organization's development [32,33]. While the UN World Commission on Environment and Development report (1987) offers a holistic definition of sustainable development, it does not explain the necessary actions an organization should take to be sustainable [14]. The ISO Standard 9001:2015 (2015) promotes sustainable growth and the balance between the triple bottom line (TBL) defining the minimum of requirements for the processes [29], but sustainable development is not reached by only fulfilling the Standard requirements.

As sustainability and sustainable development have become more important for organizations, the need for analysing and measuring sustainability is growing. For this purpose, organizations need to define indicators which should be precise and reflect the performance of the organization. These indicators should be in line with the organization's strategy and objectives related to sustainable development.

4. Measuring the Organization's Sustainable Development

The in-depth research of sustainable development performance indicators is a must to understand the creation of efficient and reliable key performance indicators (KPIs). Many organizations already have integrated models or approaches for determining some of the

sustainability elements for their organization. To answer the research question, it is necessary to understand if the solutions mentioned in the literature are transferrable to any kinds of organizations or are specific for one organization. The main themes discovered in the literature review are shown in Table 2.

Table 2. The themes related to organizational performance and sustainable development.

Year	Themes of Measuring the Organization's Sustainable Development	Authors
2011	Viewed through Corporate Social Responsibility (CSR) indicators that measure internal and external stakeholder expectations.	[34]
2014	Using multidimensional indicators to measure sustainable development.	[35]
2014	Using Balanced Scorecard (BSC) method for Corporate Social Responsibility indicators. Introducing the environmental dimension in the BSC.	[36]
2014	Benchmarking other organizations' sustainable development.	[2]
2015	Triple bottom line (TBL) (social, environmental and economic) reporting. Comparing and using GRIs and AECA.	[1]
2015	Coloration of sustainability, innovation, and competitiveness at organizational and business level.	[24]
2017	Sustainable competitiveness includes several interrelated aspects of the concept of sustainable development.	[37]
2017	Sustainability concept of the "Triple P" (planet, people and profit) used in the Systematic Sustainability Assessment (SSA) tool for improving business performance	[38]
2018	The Enterprise Resource Planning (ERP) system for sustainable development of the organization.	[39]
2018	Defining sustainable Key Performance Indicators with the aim to control sustainability-related issues. Using the best sustainable practices in the business field.	[13,40]
2018	The Life Cycle Sustainability Assessment framework used for measuring the economic dimension of sustainable development.	[41]

In 1996, Kaplan and Norton [42] emphasized the importance of transferring and linking the organizational vision with real action to ensure sustainable business performance results. Nowadays, one of the models used in organizations is the corporate social responsibility (CSR) model that is employed as the basis of sustainable development in the organization. It includes top-down and bottom-up (stakeholder) integration in process development [34]. The CSR framework is incomplete unless it also involves the element of continuous improvement [34,41]. The trends show that nowadays, there is a need for context-specific indicators, internally-focused indicators and society-related indicators that describe sustainability [1,34,35]. Some studies agree that using predefined frameworks of indicators, such as GRI, AECA, SSA, is a good start for the organization in the sustainable development field [1,34,38]. Some studies highlight the balanced scorecard (BSC) approach as an opportunity that could present the advantage of using indicators from all initiatives without compromising their initial purpose [36]. The BSC approach introduced by Kaplan and Norton in 1992 [43] is still used to reach a variety of business objectives. This performance-based assessment is used, not only in managing organizations, but also in managing process performance and sustainable development. The BSC is a comprehensive tool to analyse the characteristics of the organization, including the financial and non-financial measures, internal and external factors influencing the organization. The four BSC perspectives are customers, financial, internal business processes, learning and growth [44]. However, there has been a discussion that BSC does not include the social and environmental dimension, which is crucial for organizational sustainability [45].

In the newest literature, such terms as sustainable competitiveness, life cycle sustainability assessment and resource planning that are highly linked to the environmental dimension of sustainability [37,39,41] have been used, as one of the important trends nowadays is to benchmark not only the business processes and success, but also benchmark other organizations' sustainable development [2]. The implementation of CSR activities in the organization not only consists of the fulfilment of the triple bottom line (TBL) elements, but also contributes to identifying the main sustainable development indicators for the organization.

The main trends that emerged from the literature analysis were that process-oriented indicators in the context of the organization's sustainable development are context-specific, internally-focused, multidimensional and stakeholder-oriented. For implementing a strategy in the context of sustainable development, the main findings show that organizations use predefined frameworks for sustainability, adapted or modified methods for data analysis and benchmark sustainable solutions.

5. Analysing the Performance of the Organization

Nowadays, organizations have developed frameworks and scorecards that include their main business performance elements. Studies mention at least five different elements that help to describe and analyse the organization's performance. They are: objectives [23,46–51], metrics [23,47,48,52,53], data measures [23–26,46–49], indicators [23,46–48,54,55] and key performance indicators (KPI) [23,39,45–47,49,52,55–59]. Each of these elements is important to monitor the organization's activities. Each of these elements has a different meaning regarding the organization's performance analysis. Many organizations do not have a clear understanding of the need for in-depth performance measurements [45], which results in working with wrong measurements that do not show the organization's performance accurately.

This research is focused on determining what elements are linking processes to the organization's strategy in the context of sustainable development. By determining the main elements, it is possible to discover how they are linked. A more detailed summary is shown in the following tables, starting with analysing the term, data measures, used in relation to organizational performance (see Table 3).

Table 3. The term, data measures, used in relation to organizational performance.

Element	Description	Authors
Data Measures	Data measures are based on organizational performance and consist of data sets and numbers that are analysed together with performance indicators. These measures have to be quantifiable and reliable.	[49]
	KPIs are based on data measures of physical characteristics of a system or process, it could be challenging, for example when measuring the key aspects of the innovation process in the organization.	[23–26]
	Data performance measures need to be as dynamic as the rapidly changing business environment. This indicates real time measures as an important factor.	[48]
	Good performance measures are quantitative, objective and not subjective. They are simple, understandable, practical, and consistent with appropriate scales and clear, timely objectives.	[46]
	Measurements are the magnitude or values of actual data gathered from the process based upon a standard or unit of measurement.	[47]

The data measures are statistical data sets and are more commonly used in addition to indicators. They are the basis of the organization's performance in figures, such as units sold or services provided. Some studies discuss the necessity of data measures being a complex data set, which makes it more difficult to analyse organizational performance. Some studies argue that data measures consist of data sets and numbers, they are simple, practical and time-bound [46,49]. Contrary to those views, some studies in their publications mention that data measures can be complex to understand and quantitative [23–26,47]. The disagreement can be linked to the complexity of the organization, system or process which is being analysed.

Indicators are a commonly used term regarding performance measurement. However, it is important to understand that only sets of defined indicators can provide comprehensive and detailed information on the performance. In addition, carefully tailored indicators can show more precise information of the process or system performance (see Table 4).

Table 4. The term, indicators, used in relation to organizational performance.

Element	Description	Authors
Indicators	Indicators in the process perspective are analysed as lagging (outcome) and leading indicators. Most benchmarking approaches use lagging indicators to measure the performance outcomes.	[49,60]
	Measuring indicators are used to measure and improve the organization's performance. These indicators need to be aligned with the organization's strategy.	[45]
	There is a wide range of indicators that describe the system or process, but not all of them are related to performance.	[23]
	The relationship between business performance and performance measures often leads to a large number of indicators. For process management it is important to incorporate financial and non-financial indicators in balanced proportions.	[48]
	The Performance Measurement System (PMS) should be balanced and include indicators that are necessary and sufficient. PMS allows to identify critical performance areas and helps to define KPIs.	[13,46,54]
	An indicator is a parameter, which points to, provides information about, or describes the state of a phenomenon with significance and relevance to performance objectives.	[47]
	Companies usually use inappropriate or poorly classified indicators or compare own results with previous periods, where there were different conditions for organizations' achievements.	[55]

As this research is focused on performance-oriented indicators, it is important to separate the term, indicator, from the term, KPIs, because the organization can have many different indicators at all levels of the organization, but not all of them describe the performance of the organization. These indicators can be compiled in a performance management system (PMS) and help to define the strategic KPIs [13,46,54]. In the literature, some studies mention two main types of indicators—lagging (outcome) and leading indicators [49,60]. At the same time, organizations can divide indicators into financial and non-financial [48]. However, the organization should understand the main difference between indicators and KPIs. Not all indicators can be considered as KPIs. The main differences of these two terms are described in Table 5.

Table 5. The term, key performance indicators, used in relation to organizational performance.

Element	Description	Authors
Key Performance Indicators	Key Performance Indicators is a set of carefully selected indicators that describe the organization's main business objectives.	[49]
	It is important to develop the relationship between the inherent Key Performance Indicators and the particular process. KPIs are crucial for measuring and improving processes.	[23]
	Key Performance Indicators (KPIs) represent a set of measures focusing on those kinds of organizational performance that are most relevant to the effectiveness of current and future design of the organization or key success factors.	[46,56]
	KPI is one that is critical to the current and future success of the organization. Indicators should, among other things, be numerically and precisely quantifiable.	[47]
	The correct choice of performance indicators is an important part of the corporate strategic process and quality management, because well-defined and weighted KPIs can help realise strategic plans.	[39,55,57,59]
	KPIs are directly linked to business success, but defining an effective KPI that shows business benefits is not always easy. To develop a set of indicators, it is necessary to include the name, owner, formula, justification and description of KPIs.	[52,58]

The literature review shows that key performance indicators are a set of carefully selected indicators that describe the organization's objectives and performance [46,49,56]. Also KPIs are

directly linked to current and future organizational and business success [47]. Nowadays, studies are analysing and developing groups of indicators that have a specific strategic purpose for a company [61]. For example, some studies analyse the company's product selection by proposing such indicators as technology readiness, market attractiveness and customer needs readiness [62]. As it is important to choose the right indicators, it is also necessary to describe these indicators in a proper way by using the name, owner, formula, justification and description of KPIs [52,58].

Parmenter [45] has introduced four performance measure categories—key performance indicators (KPI), result indicators (RI), performance indicators (PI) and key result indicators (KRI). These categories are used as a 10/80/10 model for organizations, where there are 10 KPIs, 10 KRIs and 80 RIs and PIs.

Some studies have used the SMART method for weighting KPIs [47–49]. The SMART performance measurement framework stands for five criteria for any performance-related indicators or objectives. These five criteria are: Specific, measurable, attainable or achievable, relevant and time-bound [47]. The SMART framework uses both external and internal performance measures [47,48]. By using this SMART performance pyramid, the organization can build a framework for developing overall KPIs [48]. Although this method is used in the process of developing KPIs, it does not always help in choosing the most applicable indicators for the organization. As previously shown in Table 5, defining correct and effective KPIs is difficult [52,58].

Most organizations have defined their short-term and long-term goals that are stated as the organizational objectives. These objectives are directly linked to the organization's long-term strategy. The organization's objectives serve as a reflection of all the above-described elements (see Table 6).

Table 6. The term, objectives, used in relation to organizational performance.

Element	Description	Authors
Objectives	Objectives are set for a system, process or action. They are linked to the business strategy and they have to be relevant and achievable in a specific time period.	[49,50]
	The key aspect is to develop balanced process improvement objectives that are described by the set of KPIs.	[23,51]
	Performance targets and objectives in the organization are introduced with the top to bottom approach. Performance objectives need to be realistic and measurable.	[48]
	There are two types of expressions of process or system performance: identifying the degrees reached in different objectives and synthesis of performance in terms of overall objectives.	[46]
	Organizations pursue KPIs that are defined by today's performance objectives. Performance measurement is followed by performance analysis so that critical factors governing performance are identified and decisions are made for improvement.	[47,63]
	Many organizations are defining not only process objectives but also overall objectives and metrics for the organization's sustainability and benchmarking.	[2,52,60,64]

As the publications show, an objective is stated as an important element in the organization's strategic management. Some studies link objectives to business strategy and success [46,49,50]. The objectives can be divided into three levels—process, system and overall levels. The studies suggest developing a balanced set of objectives in the whole organization as one of the key aspects [23,51]. Afterwards, the objectives can help not only in analysing the current strategic view, but also be a part of benchmarking [2,52,60]. The organization's objectives need to have a link to the strategy and key performance indicators, they need to be realistic and measurable [23,48,51].

All of the previously described elements can be integrated as a system that links the organization's processes and measurements with the overall strategy of the organization. In addition, these elements could be characterized as the basis of continuous improvement activities and process-

orientation in the organization. A well-organized environment is the key to the development of innovation within the organization. Some studies also add to this statement that innovation capability is a critical requirement of innovation performance [65] Furthermore, some authors mention open innovation and knowledge-based decisions as benefits to help increase the efficiency of the organization [66–68].

6. The Linkage between the Organization's Strategy, KPIs and Processes

Sustainability is a broad concept that organizations adapt in different ways. Organizations that integrate sustainability concerns and initiatives into their strategy need to ensure also the practical implementation of the plans [18]. Some authors emphasized the importance of linking the organization's strategy with the organization's performance and the results [42]. As the organization's KPIs should be directly linked to business success, there should be an effort invested to link them with sustainability [52,58]. Many organizations do not have a clear understanding of the need for in-depth performance measurements [45], which results in showing the organization's performance inaccurately. The correct choice of performance indicators is an important part of the strategic process, but it is also important to link the organization's strategy with the processes [39,55]. To link the organization's strategy with the real performance, it is necessary to develop objectives and define an applicable set of KPIs that describe the organizations process performance.

The next figure is based on the literature review of the previously described elements—objectives, metrics, data measures, indicators and KPIs. Furthermore, this figure shows where the previously analysed sustainability focus areas could be integrated and how information (data measures) about the organizational processes is linked to the organization's strategy and overall organizational performance. To emphasize the importance of sustainability elements in this process, the previously identified sustainability focus areas are integrated in this figure (see Figure 1).

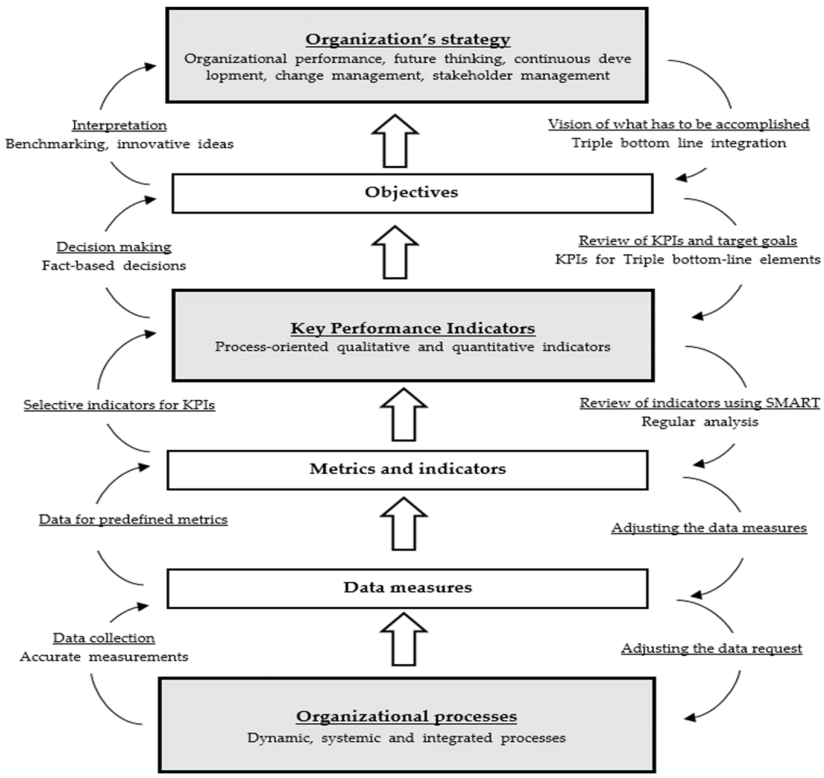

Figure 1. The linkage between the organization's strategy, key performance indicators (KPIs) and processes (created by the authors).

A defined set of key performance indicators is not an independent element in the process of analysing the organization's performance. The data collection and interpretation are divided at least into five operational steps. It is important to understand that the data analysis is a continuous process. After collecting sufficient data, measures and indicators for the analysis of the objectives, top level management needs to link the results to the overall performance. If several of the objectives have been reached or changed, the organization's management needs to ensure that each step of the data collection process has been justified to the changes. Only when the dynamic and real time changes are introduced in the organization, the reliably of the performance results and the effectiveness of KPIs are ensured.

If the organization is focusing on integrating sustainability measurements, it is necessary to review the organization's strategy and objectives. Sustainability objectives often focus on future and sustainable development of the organization. After setting sustainability (triple bottom line elements) as one of the priorities, the organization can develop a set of KPIs and indicators that reflect sustainability. In order to ensure continuous improvement, the organization should review and analyse its sustainability goals regularly. Internal and external reporting to the stakeholders on the fulfilment of the objectives is a strategic way to ensure a systematic analysis of improvements.

7. Conclusions, Discussions and Further Studies

The need for analysing and measuring sustainability is growing. Many studies already have defined and analysed approaches that help organizations to include sustainable development analysis in already developed measurement systems. The purpose of this paper was to investigate the process of measuring an organizations' sustainability using process-oriented indicators. Sustainable development consists of a balance between three key elements of sustainability—environment, society and economy—but there is a strong emphasis on future-oriented thinking, process management, long-term commitment and continuous improvement that should be highlighted as well. For implementing the strategy in the context of sustainable development, the main findings show that organizations use predefined frameworks for sustainability, adapted or modified methods for data analysis and benchmark sustainable solutions. Organizations that adapt a comprehensive approach for measuring the organization's sustainability could benefit more than other organizations. The main trends that emerged from articles about performance analysis were that process-oriented indicators in the context of an organization's sustainable development are context-specific, internally-focused, multidimensional and stakeholder-oriented.

From the literature, the most mentioned elements were objectives, metrics, data measures, indicators and KPIs. The previously discussed linkage (see Figure 1) illustrates how these elements and sustainability are integrated into the organisation's strategy and performance measurements to develop the environment of open dynamic innovations in the organization.

Many studies address the organizations' sustainable performance and openness to innovation as important requirements for continuous development [5,6,68]. Some authors focus on implementation of standards or total quality management practices as the foundation for building an organizational environment appropriate for implementing innovations [65]. By developing performance measurement, the analysis and feedback system of the organization can become more efficient [63,67]. In addition, some authors add to this statement that a well-organized environment supports the development of innovation [66]. In an organized and comprehensible organizational environment, innovation comes more naturally. The culture of the organization has evolved to such an extent that employees feel confident and valued thus fostering creativity and innovation naturally.

Continuous improvement is directly related to open dynamic innovation and leads to natural organization development and innovation processes. Organizations cannot rely solely on internal measurements as dynamic indicators require an understanding of how the organization's performance is related to the external environment. This means that continuous improvement is possible in an open dynamic and innovative environment.

There should be further research on how to measure and analyse the organization's sustainable development in real time using performance-based approaches. In addition, an analysis of factors contributing to sustainable development is needed.

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