



Article





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Abstract: Many works highlight the importance and added value of Corporate Social Responsibility (CSR) in companies, as well as the role of Knowledge Management (KM) for their revitalization, but even more important is to ensure that all efforts and resources are aligned with the organization's strategic objectives (Balanced Scorecard, BSC). The aim of this work is to integrate BSC, CSR and KM based on the results of two previous researches: one on BSC–CSR and the other on KM, both of a projective nature (description-action-contrast). The research carried out has made it possible to identify 45 KM indicators, 102 CSR indicators and their corresponding correlations with the strategic objectives and perspectives of the BSC. In addition, an Excel tool was designed and developed for SMEs that is customizable, intuitive and useful for decision-making, which allowed us to contrast the obtained results.

Keywords: Corporate Social Responsibility (CSR); Knowledge Management (KM); Balanced Scorecard (BSC)



Citation: Ferber Pineyrua, D.G.; Redondo, A.; Pascual, J.A.; Gento, Á.M. Knowledge Management and Sustainable Balanced Scorecard: Practical Application to a Service SME. *Sustainability* **2021**, *13*, 7118. <https://doi.org/10.3390/su13137118>

Academic Editor: Grigorios L. Kyriakopoulos

Received: 21 May 2021
Accepted: 22 June 2021
Published: 24 June 2021

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1. Introduction

The aim of this paper is to show the process of identifying and integrating CSR and CG indicators in the management of organizations through the BSC. We also developed an Excel application that supports it, and this has allowed us to validate it in a consulting services SME.

Having set out the objective of the work, we begin by justifying why we have focused on small and medium-sized enterprises (SMEs), and more specifically, those of the services sector. Below, we list their main problems (weak points), making it clear that “improvements in management, based on technology and focused on people” constitute one of the key success factors for this type of company.

There is no single definition of SMEs globally, but all of them take into account, although with different proportions, the number of workers, the turnover and the value of assets [1–3]. In the case of the European Union, the definition of SMEs is set out in Annex I to Commission Regulation (EU) No 651/2014 [4]: “The category of micro, small and medium-sized enterprises (‘SMEs’) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million”.

This type of enterprises, SMEs, according to an October 2019 study by the ILO, account for approximately 70% of all enterprises worldwide (this study excludes the North American Market, in which such enterprises account for 99.9%, although they employ only 47.5% of the population [5–7]). In Europe [8], “Micro, small and medium-sized enterprises (SMEs) constitute 99% of companies in the EU. They provide two-thirds of private sector jobs and contribute to more than half of the total added value created by businesses in the EU”. At the Spanish level, around which we will focus our work, according to the

latest report published by the General Secretariat of Industry and Small and Medium-sized Enterprises of the Spanish Ministry of Industry, Trade and Tourism, as of March 2021 [9], 98.94% of Spanish companies are SMEs, and for greater accuracy, 93.55% are micro-enterprises (less than 10 workers), and of them, 73.08% are companies linked to the services sector which employs more than 12 million people, i.e., almost 75% of all employees in Spain.

If in addition to the size of the companies, we take into account the employability by sector (Figure 1). Worldwide, according to ILOSTAT (ILOSTAT: International Labour Organization (ILO) Statistics <https://www.ilo.org/global/statistics-and-databases/language/index.htm>, accessed on 5 March 2021), 50% of workers are in the service sector. In Europe, according to EUROSTAT (EUROSTAT: Statistical Office of the European Union <https://ec.europa.eu/eurostat>, accessed on 5 March 2021), this value increases to 70%, and in the particular case of Spain, according to INE (INE: National Statistics Institute of Spain <https://www.ine.es/en/index.htm>, accessed on 5 March 2021), this number is 75%. The result, on average, is that 65% of the total employment is concentrated in SMEs of the services sector. For this reason, when selecting a company on which to apply/validate our tool, we decided that it had to be an SME in the service sector.

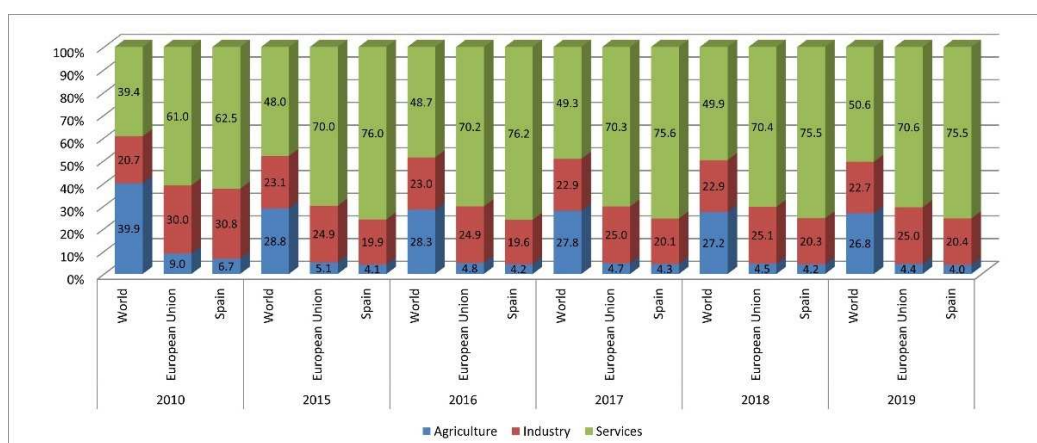


Figure 1. Percent of employees by sector: world, Europe and Spain. (Source: The World Bank Group, International Labour Organization, ILOSTAT database. <https://data.worldbank.org/>, accessed on 5 March 2021).

What are the main problems of SMEs? Are these equal all over the world? The answers to these questions, unlike what has been stated so far, are not homogeneous. In fact, the problems of such companies are very different depending on their geographical area, such as Latin America, Africa, Asia, etc. [10,11], which is why, and taking into account the area in which we develop our research, from now on, we will focus the scope of work on the OECD/European environment.

Within the European area, in addition to the data provided on the importance of the services sector in SMEs, the report “OECD SME and Entrepreneurship Outlook 2019” [12] states that “SME structure is broadly comparable and stable across OECD countries overall, and SMEs generally concentrate in specific services with lower resource requirements” (p. 19), and therefore their main problems, strengths, challenges, key success factors, etc. are practically the same: financing, internationalization, talent management, innovation and digital transformation. This is backed by a multitude of research papers and reports of public and private institutions [13–19].

The European framework for small and medium-sized enterprises policy, which is responsible for addressing the major problems of European SMEs, common to most of them, consists of two documents: the “Small Business Act” recommendations [20] and the European SME-Action Programme [21]. The documents on which they are based are:

1. Diagnosis of the SME ecosystem: Analysis of European and national policies and guidelines; Characterization of the situation and needs of SMEs.
2. The strategy of action was developed: Identifying 9 challenges and opportunities, which in the Spanish case were grouped into 7, as well as the definition of lines of action (52 for the Spanish case) and the definition of the governance model [22] (Table 1).

Table 1. Based on Strategic Framework in SME Policy 2030, Ministry of Industry, Trade and Tourism of Spain, 2019 [22].

Governance model:	
It is the cornerstone in the development of the Strategic Framework, and its main objective is to support the monitoring and subsequent achievement of the lines of action.	
Challenges and opportunities	Lines of action
Organisational structure	Its organisational and functional structure must be aligned with the strategic lines of action.
Monitoring model	Defining the right set of indicators, and Establish the necessary instruments to carry out a complete and comprehensive monitoring of indicators in accordance with the defined strategy.
Strategic lines	
Challenges and opportunities	Lines of action
Entrepreneurship	LA1. Boosting skills development and training for employment LA2. Prestigate and promote vocational training LA3. Strengthening the SME culture and fostering entrepreneurship LA4. Measures to stimulate the entrepreneurial ecosystem LA5. Continue to make progress in the simplification of setting up an SME, as well as in the improvement and development of support services. LA6. Encourage and simplify the transfer of businesses LA7. Measures to promote second chance
Business management and talent	LA8. Measures for attracting and retaining talent in SMEs. LA9. Improving business management training. LA10. Advancing the digital skills of employers and employees LA11. Encourage intra-entrepreneurship LA12. Promoting corporate social responsibility
Regulatory framework	LA13. Encourage the creation of larger companies through the merger of existing SMEs. LA14. Advise SMEs through personalised support that favours their growth. LA15. Simplify sectoral regulation LA16. Improve inter-administrative coordination in relation to SME activity. LA17. Encourage cooperation between large companies and SMEs: Encourage cooperation between large and small companies through procurement to enable the latter to improve their management and productivity. LA18. Encourage public procurement of SMEs by the Administration.
Funding	LA19. Promote alternatives to bank financing LA20. Expanding financial availability at different stages of the life cycle of SMEs LA21. Reorient taxation conditions to improve SME financing. LA22. Simplifying access to aid for SMEs LA23. Strengthening mechanisms to reduce late payments LA24. Development of a framework on Moveable Collateral LA25. Strengthen the Spanish guarantee system and promote its knowledge and use among SMEs. LA26. Promote information and training on public finance LA27. Promoting good governance and financial transparency of SMEs LA28. Encourage more flexible access requirements and promote the advantages of the Alternative Stock Market and the Alternative Fixed Income Market, as well as crowdfunding and crowdlending platforms. LA29. Other financing measures
Innovation and digitalisation	LA30. Incorporate digital tools in the relationship between SMEs and the Administration. LA31. Facilitating the digital transformation of SMEs as a key element in their life cycle. LA32. Fostering business collaboration and the development of business clusters LA33. Encourage innovation programmes among SMEs as well as the development of innovative ecosystems. LA34. One-stop shop for innovation LA35. Funding for digitisation LA36. Develop assistance programmes for SMEs in Industry 4.0. LA37. Supporting the uptake of enabling technologies—KETs LA38. Promote awareness among SMEs on how to protect their industrial property rights as well as intellectual property. LA39. Funding for innovation

Table 1. Cont.

Strategic lines	
Challenges and opportunities	Lines of action
Sustainability	LA40. Promoting environmental information, communication and dissemination
	LA41. Make progress in the simplification and implementation of environmental regulation.
	LA42. Facilitating the transformation to a circular economy LA43. Facilitating the transition to a low-carbon economy
Internationalization	LA44. Increase information on the resources and services available for internationalization assistance.
	LA45. Favour the integral accompaniment of the company in its internationalization process.
	LA46. Increase the base of companies that export regularly.
	LA47. Ensure financial support for internationalization operations. LA48. Encourage foreign investment in Spain
	LA49. Facilitating the digitalization of SMEs as a dynamizing element of their export activity. LA50. Expand and strengthen the presence of Economic and Commercial Offices in the external network

Yellow parts represent the aspects of the European and Spanish strategy that our work addresses.

1.1. Socio-Political Justification of the Proposed Work

In the “Strategic Framework in SME Policy 2030” [22] of the Directorate-General for Industry and Small and Medium-sized Enterprises of the Ministry of Industry, Trade and Tourism of the Government of Spain, it is made clear that the “governance model” is the fundamental piece for the development of the strategic framework of SMEs and that its main objective is to support the monitoring of lines of action. This aspect drives our work, and more specifically, the implementation of a “tracking model” through the BSC (Balanced Scorecard) tool, and integrating CSR and KM, thus providing coverage to lines of action 12 and 40 (LA12 and LA40, respectively).

1.2. Academic Justification of the Proposed Work

LA40: Many works highlight the importance of Knowledge Management (KM) in the dynamization of enterprises, not just SMEs [23,24]. Lee and Wong [25] say KM helps improve organizational performance by providing companies with the competitive edge they need. Like many other tools, KM requires a process that involves the whole organizational strategy, and is characterized by promoting learning and information sharing, as well as the application of specific methods and tools to address KM tasks [26].

LA12: Today, there is a greater and growing concern about social and environmental problems, which cause more and more companies to integrate Corporate Social Responsibility (CSR) initiatives into their strategic lines, as well as their measurement in the performance of the organization [27,28]. In line with what was stated by Öberseder et al. [29] “... it is important to develop unique and reliable measurement tools according to the business sector.” Despite statements such as those of Latif, Pérez, Alam and Saqib [30] that “the difficulty of measuring RSE indicators is that the proposed multidimensional measurement tools are generally designed to be used in any research environment”, works such as Redondo et al. [31] confirm that it is possible, even in SMEs in the services sector, to develop a tool that integrates CSR into the BSC.

Governance/Tracking Model: It is important to use tools such as KM, Lean, Corporate Social Responsibility (CSR), etc. This set of tools should help stakeholders to know, understand and orient actions towards the intended objectives, the most important thing being to manage to align all resources and actions towards the strategy marked by management [32]. Without a doubt, the Balanced Scorecard (BSC), since the early 1990s [33,34], has become the reference methodology for the comprehensive management of all types of indicators, financial and non-financial, taking into account intangible assets and aligning short-term objectives with long-term strategy [35].

1.3. Brief Description of the Company

The company we selected to contrast and validate the tool developed, for confidentiality reasons, is called Empr.A. It is an organization with more than 13 years of experience and with an average of seven employees dedicated to the advice and training of companies.

The company has a consolidated service portfolio, excelling in improving business management models (quality, environment, risk prevention, process management), as well as in CSR and innovation management through people. It is a leader in agri-food, health, education and the social-cooperative economy, and is one of the reference consultancies of the Club Excellence in Management, having won several awards.

Based on the above, the objective of this article is justified—to integrate CSR and KM indicators into the management of the organization through the BSC, in line with the work of Doorn et al. [36], Gangi, Mustille and Varrone [37], Ling [27] and Mehralian, Nazari and Ghasemzadeh [24]. For this we will use, as a starting point, the results of Pineyrúa's research [38] on KM with the original work of Muñoz [39] that integrated the BSC with the CSR in the same company (Empr.A), developing a customizable, intuitive and useful tool for decision making.

The work has been structured in three sections. We start by conducting a bibliographic review and presentation of the methodology followed in the work, describe the integration process and the results obtained and conclude with the presentation of the main conclusions and future lines of work.

2. Bibliography Review and Working Methodology

First, we discuss the “Sustainability Balanced Scorecard” (SBSC) as an integration of the BSC (reference tool in the piloting of strategic business management), and CRS as an element of sustainable development and its measurement and monitoring by means of indicators. We will continue with the valorization of the KM and the main challenges of its management, to conclude with the process of diagnosis and integration of the KM with the “Sustainability Balanced Scorecard”.

2.1. Sustainability Balanced Scorecard (SBSC): Integrating CSR in the BSC

Many studies have analyzed the origin and evolution of the term Corporate Social Responsibility (CSR) [40–44], which is not a static concept; on the contrary, it has varied, and varies, depending on the period in question, the degree of development of society, the nature of the company, etc. However, we have opted for a definition based on Font, López and Pérez [45]: CSR is a strategic challenge (a key factor for business success), voluntary, focused on promoting good practices that guarantee the economic, social and environmental sustainability of its actions, and involving all stakeholders of the company.

In line with the above, the research work carried out by Lizcano and Lombana [46] accredits the evolution and theoretical development of CSR through what is stated by: “Bowen (1953), Carroll (1979), Freeman (1984), Waddock (1997), Sankary Bhattachary (2001), Williams (2001), Porter and Kramer (2002) and Orlitzky (2013)”, summarized in Figure 2, in which we highlight the groupings “Strategy”, “Finance”, “Performance” and “Human Talent”.

How can we measure CSR? The study on proposals to measure SRSE carried out by Puentes y Lis-Gutiérrez (2018) [47] based on the works of “Nazari et al. (2017), Barrena-Martínez et al. (2017), United Nations Conference on Trade and Development (2008), Vitezic (2010), Spanish Association of Accounting and Business Administration (2010), Focacci (2011), Luna-Gonzalez & Rodríguez-Hurtado (2012), Rahman & Post (2012), Gallardo-Vázquez et al. (2013), Gangone & Ganescu (2014), Burlakova (2014), Janamrung & Issarawornrawanich (2015), Bonson & Bednárová (2015), Pinto-Ferreira et al. (2015), Carroll et al. (2016), Jiménez et al. (2016), Sánchez- Hernández & Mainardes (2016), Latif (2017), Wuttichindan (2017), United Nations (2018), Martínez et al. (2013), Jonikas (2014), Morioka et al. (2016)” concludes that these can be grouped into CSR reports and single and multiple indicators. This classification shows that there are a large number of proposals and batteries

of indicators; however, they highlight the proposals in which they analyze the CSR of human resources policies and the continuous effort to standardize indicators such as the GRI (Global Reporting Initiative) and ISO 26000 standards [48].

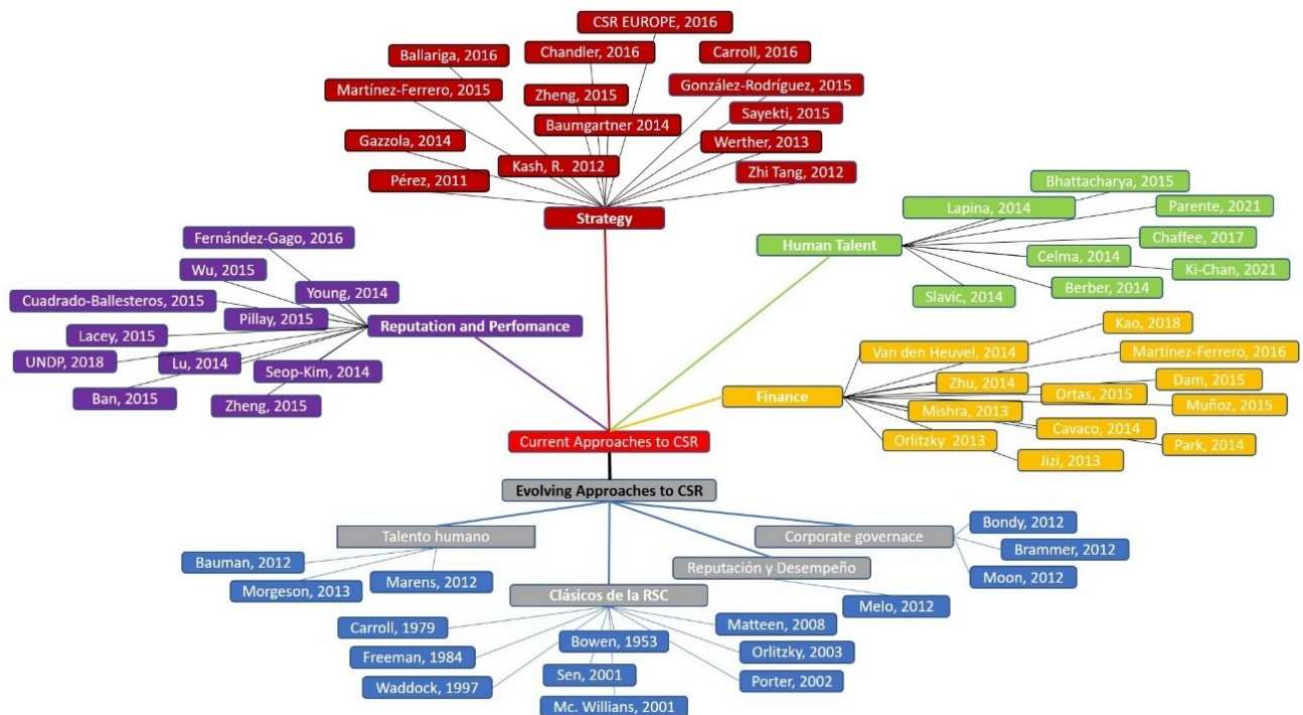


Figure 2. Evolution and theoretical development of CSR. Source: Based on Lizcano and Lombana [46].

How can we integrate CSR into the ordinary management of the company? Hansen and Schaltegger's [49] work assumes, like many other authors, both academics [50,51] as professionals [52], that the BSC is the best tool for integrating financial and non-financial indicators (aligning long-term and short-term objectives). Therefore, taking into account the increasing strategic importance of environmental, social and ethical issues, it was proposed to integrate them into the BSC, giving rise to the so-called Sustainability Balanced Scorecards (SBSCs), with an architecture such as that shown in Figure 3.

The use of inappropriate management tools, especially in the case of SMEs, can provide uncertain results, inducing errors in decision-making and in the implementation of improvement actions [54]. According to Nguyen et al. [55], it is important for SMEs to have a systematic management tool such as BSC to minimize risks related to decision-making, information control and financial instability.

According to Shafiee et al. [56], the strongest point of BSC is its ability to identify cause and effect relationships between strategies and processes through actions. To do this, it is necessary to properly implement BSC, correctly sequencing the following four stages: (1) translating the business vision into actions, (2) communicating and relating these actions to operational objectives, (3) integrating all plans for such actions with financial planning and (4) providing feedback on results obtained and adjustments needed [57–61].

Other advantages of BSC are:

- Its capacity to adapt, through some modifications and improvements, to different business sectors [62].
- It is considered an appropriate instrument to integrate and align sustainability indicators with the rest of the company's indicators, contributing to the improvement of its performance [63,64].
- Effectively deploy KM systems and evaluate their results [24,65]. Holistic studies such as Valmohammadi and Ahmadi [54] show a positive and significant effect of

knowledge management practices on the overall performance of the organization, especially on the “Growth and Learning” dimension of BSC.

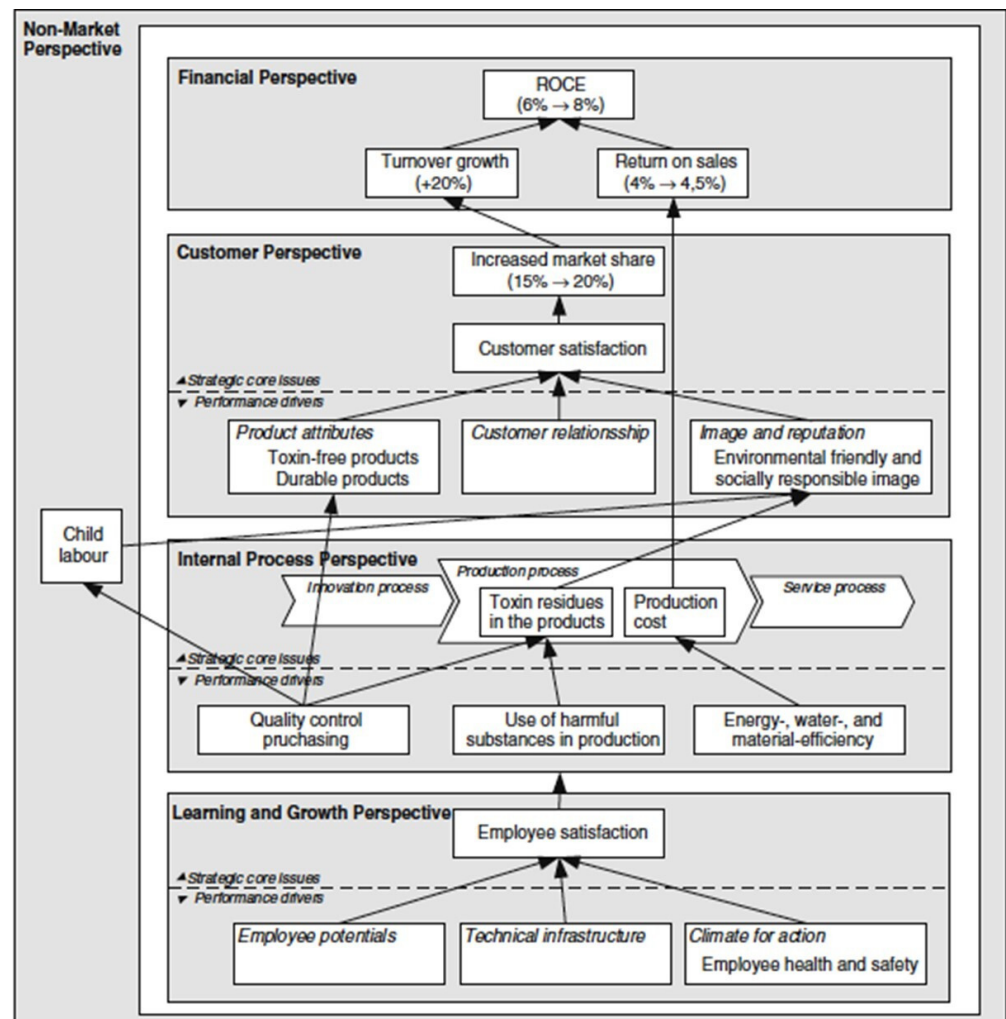


Figure 3. Strategy map of the SBSC in a sample company. Source: Figge et al. [53] p. 282.

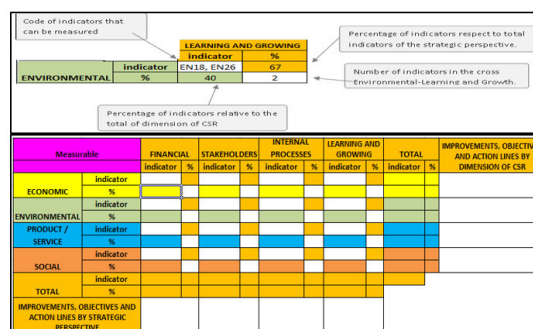
The first two aspects above—the adaptation of BSC to a sector such as “Consulting Services” and its integration with GRI-type CSR indicators—are the starting points of the work presented by Redondo et al. [31] and supported by studies such as Hristov, Chirico and Appolloni [63] and Nguyen et al. [55]. This work was based on those of Muñoz [39] and Muñumer [66], whose integration gave rise to a BSC for a services SME, in which 102 CSR indicators were identified and integrated under the GRI model, allowing “critical points” to be identified based on the prioritization of indicators carried out by the company, and to direct actions towards the strategy set (see Figure 4).

Despite the good results obtained with the designed SBSC, we consider that the model needs a dynamic and dynamizing element. For this reason and taking advantage of criticisms such as that of Nguyen et al. [55], who consider that the SBSC does not sufficiently integrate all stakeholders, and recommendations such as those of Lee and Wong [25], who propose having a model of performance indicators for Knowledge Management (KM) adapted to the characteristics and needs of SMEs, we proposed to integrate this part (element, aspect—KM) into the SBSC.

Phase I: Diagnostic, Classification and Analysis of CSR Indicators Aligned with the Strategic Perspectives

CSR INDICATOR			STRATEGIC PERSPECTIVES			
CODE	DIMENSION	DESCRIPTION	FINANCIAL	STAKEHOLDERS	INTERNAL PROCESSES	LEARNING AND GROWING
EC8	ECONOMIC	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial liabilities, programs, or in kind.	EC8			
EC9	ECONOMIC	Understanding and description of significant indirect economic impacts, including the extent of such impacts.	EC9			
EN1	PRODUCT / SERVICE	Materials used by weight or volume.			EN1	
EN2	ENVIRONMENTAL	Proportion of materials used which are valorized.			EN2	
EN3	PRODUCT / SERVICE	Direct energy consumption by primary source.			EN3	
EN4	PRODUCT / SERVICE	Indirect energy consumption by primary source.			EN4	

Phase II: Improvement Plan



Phase IV: Integration with the Operational Plan

LEVEL	CONTENT	ASPECTS OF OPERATIONAL PLANNING			TOTAL INDICATORS BY LEVEL	%
		INNOVATOR ASPECT	MANAGER ASPECT	PRODUCER ASPECT		
N74	R & D & I	Aspects that enable the organization to generate a capacity to adapt to opportunities or threats.	Implementation and monitoring of all planned in the innovative aspect.	Results obtained feedback to the innovative aspect. Indicates the process of continuous	4	4
N7	SOCIAL	Identification of opportunities, risks and threats. EN6, EN7, EN18, EN26 Social presence	Management of opportunities, risks and threats ES 2, 8, 9, 13, 15, 16, 19, 4, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	Developments in progress.	10	10
N6	CUSTOMERS, TRADE PROCESS	Commercial development	Management of the customer portfolio	Marketing	4	4
N5	RELATIONSHIPS, STAFF, HR	Planning for the needs of people	HR Management	People satisfaction	24	24
N4	DIRECTION, IMPROVEMENT GROUPS	Delivery	Internal management	Learning and improvement	11	11
N3	SYSTEM, QUALITY	System	Management of improvement	Customer satisfaction	24	24
N2	PRODUCTION AND SERVICES	Production Planning	Productive resources management	Production	9	9
N1	RESOURCES AND ASSETS	Investment plan	Investment plan	Investment plan	15	15
TOTAL INDICATORS BY ASPECT		7	53	41	101	100
%		7	53	41	101	100

Phase III: Implementation and Monitoring

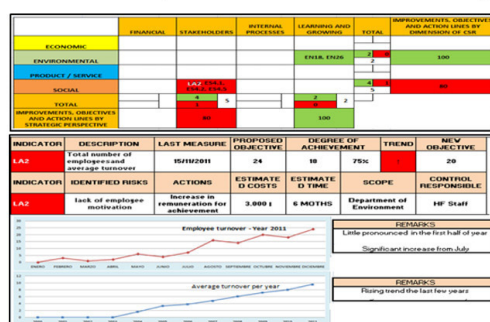


Figure 4. Integration of CSR and BSC in a services SME and its implementation [31].

2.2. Knowledge Management (KM) and the Main Challenges of Its Management

According to the RAE, (Real Academia Española, Royal Spanish Academy) knowledge is “the action of ascertaining, through the exercise of the intellectual faculties, the nature, qualities and relationships of things”; that is, it is the faculty of the human being to understand, through reason, the nature, qualities and relationships of things. The translation of this concept, to an organization, could be defined as the capacity of the company to adapt and behave in front of the changes that occur in the competitive environment in which it is located. Therefore, a high investment in knowledge can become a very valuable resource capable of orienting actions (measures of the organization’s performance) towards corporate strategy. Knowledge, especially tacit knowledge, cannot be easily codified and imitated by competition [67]—hence, the importance of its value, and therefore of its management, being necessary to have tools to know, understand and enhance the task of knowledge management.

The AEC (Asociación Española para la Calidad—*Spanish Association for Quality*), in line with Nonaka and Takeuchi [68], Hanif, Malik and Hamid [69] and Gupta and Chopra [65], defines Knowledge Management (KM) as “the effort an organization makes to acquire, increase, organize, distribute and share knowledge among all employees. It is therefore all those activities aimed at enhancing the knowledge of people in the organization and the organization itself”.

Knowledge is considered a strategic resource and a determining factor in achieving sustainable competitive advantage [70]. The main challenge of knowledge management, within an organization, is double-edged: on the one hand, trying to acquire and transfer the tacit knowledge of the worker (their intrinsic skills, ideas, perceptions, etc.), which is difficult to formalize, and, on the other hand, carrying out a correct codification of explicit knowledge (the one formalized in documents, graphs, databases, etc.) through a process of interactive transformation. According to Nonaka and Takeuchi [68], the creation of knowledge by companies occurs systematically, is transmitted throughout the organization

and has the capacity to incorporate it into new products and technologies, not as an explicit and specialized activity, but as a form of behavior, a means by which all workers participate in this practice.

KM provides models and tools that help companies create an environment that supports knowledge sharing. Mazorodze and Buckley [71] assert that Information and Telecommunication Technologies (ICTs) are now considered one of the enablers for the effective implementation of knowledge management, becoming an important perspective aimed at creating value for companies. According to Mills and Smith [72], when investing in knowledge management, the organization needs to create a “*knowledge infrastructure*”, which has as key elements information technology, culture and organizational structure, and also needs to create “*knowledge process capability*” that involves four dimensions: knowledge acquisition, knowledge creation, knowledge application and knowledge transfer.

Currently, research in this field is focused on trying to empirically evaluate the effect of KM practices on company results. Hanif, Malik and Hamid [69] investigated the effects of KM processes (acquisition, transfer and application) on the performance of banking companies. The results showed that each KM process has a positive effect on company performance.

In line with this, the work of Pineyrua [38] investigated the KM indicators used in the “*knowledge creation process*”. Once these KM indicators were identified, a knowledge creation process was modelled that identified improvements in company management. The fieldwork carried out showed in the companies analyzed (five in the pulp sector) the poor quality of knowledge organization. To help reconvert their knowledge, a new knowledge creation procedure was proposed based on four stages: adaptation, dissemination, combination and internalization (see Figure 5).

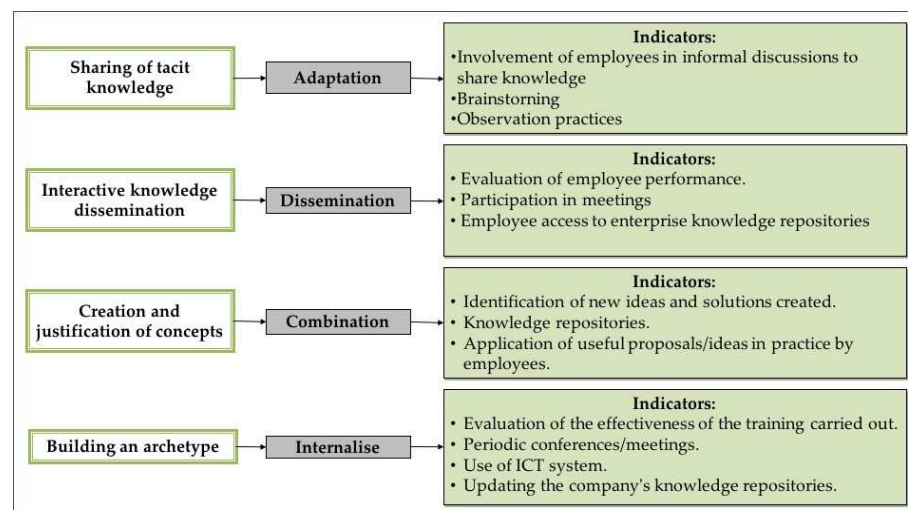


Figure 5. Proposed knowledge creation process [38].

3. Process of Diagnosis and Integration of KM with the Sustainable Balance Scorecard (SBSC)—Results

Based on the above, the objective to be achieved is summarized in Figure 6.

It is important to use management tools that measure and analyze, in an integral mode, the performance of the whole organization, including the greatest possible number of aspects (items), including CSR, KM, etc., identifying and considering the impact of each of them on the company's strategy. In order to fill this gap, studies have been carried out for some time now that relate the following aspects:

- KM performance indicators with BSC perspectives, in order to improve the measurement and evaluation of organizational performance dimensions [24,54,65,73–75].
- The integration and impact of sustainability measures on business management through their integration into the BSC [55,63]. The use of sustainability indicators can

contribute to the long-term survival and growth of the company by improving its performance [76].

- The moderating effect that KM has on Corporate Social Responsibility, on organizational performance [27,67,77] and on the relationship between human capital (HC), on CSR activities and organizational performance [28].

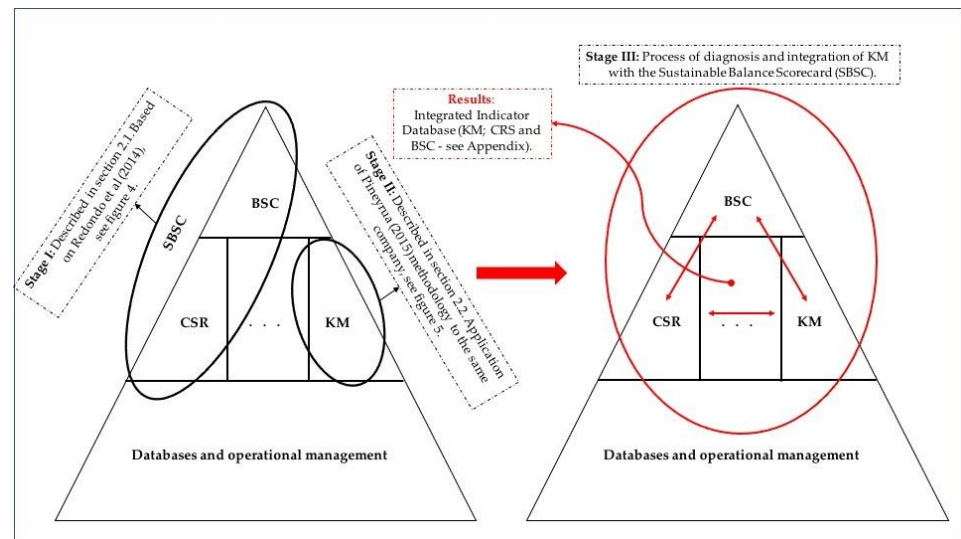


Figure 6. Integration scheme.

Focusing the study on SMEs, and in particular those in the service sector because of their impact on GDP, authors such as Dneprovskaya et al. [26] highlight the need to use KM indicators to improve their efficiency, enhance their growth and the development of worker skills. However, researchers such as Lee and Wong [25] show that the works carried out in the big companies are not transferable to the SMEs, and therefore it is necessary to undertake adaptations such as those carried out by Chen and Miao [78] that integrate resources, processes and factors of KM with the four perspectives of the BSC.

Recently, there has been a trend in research towards a focus on integrating BSC performance measures with KM indicators and BSC with CSR indicators. This research seeks to contribute to this new trend, integrating KM performance indicators with CSR indicators as a way to measure and evaluate the dimensions of organizational performance of the BSC, applied to a knowledge-intensive SME. In the case of knowledge-intensive SMEs, such as those providing legal advice, accounting, process consulting (engineering), management consulting, etc., greater attention should be paid to KM and its integration with the BSC [23,77].

The integration of both works, based on an extensive bibliographic search, was carried out in three stages:

1. The research of Mazorodze and Buckley [71], Mehralian, Nazari and Ghasemzadeh [24], Gupta and Chopra [65] and Lee and Wong [25], together with the work of Pineyrua [38], allowed us to identify 45 indicators of KM in companies, compared with 13 in the original work (Column A.1 of Block A of Appendix A).
2. Subsequently, based on the work of Lyu, Zhou and Zhang [75] and Kefe [79], together with Pineyrua's [38] "knowledge creation process", the mapping of these 45 indicators was realized with each of the perspectives of the BSC (Column A.2 of Block A of the table in Appendix A).
3. In the third stage, the KM indicators were integrated with the BSC perspectives and indicators defined in Muñoz's [39] work. The result is shown in Block C of the table in Appendix A. To achieve this result, the classification criteria shown in Table 2 have been considered.

Table 2. Criteria for the classification of CSR and KM indicators in strategic perspectives (BSC).

Perspective	Items Included
Financial	Economic profitability. Sales and income, expenses and costs. Sources of income: customers, products, markets. Improvement of tangible and intangible economic assets. Creation of value and turnover. Financial management and structure (including threats, opportunities and risks). Investments. Sanctions.
Stakeholders	Stakeholder management (shareholders, partners, staff, customers, suppliers, competition, society, public administrations, financial institutions, associations, universities, NGOs, media). Environmental management not related to the direct activity developed in the company. Information and communication systems (ICT). Commitment to the principles of social responsibility. Education, training, advice, prevention and control of occupational risks.
Internal Processes	Operational process management. Innovation management. Management of labor and environmental regulation processes directly related to the business activity.
Learning and Growth	Corporate governance and management. Training and development plans and courses. Initiatives, improvements, proposals, etc.

Source: Muñoz [39].

3.1. Identification of KM and CSR Indicators in an SME

Once the KM and CSR indicators had been identified and classified, and their relationship with the BSC's perspectives had been established, it was necessary to compile information from the company again, as it was not the time to collect everything related to KM; furthermore, we had to do it with the same methodology used by Pineyrua [38].

The company used for the validation of the model is an SME, founded in 2007, dedicated to providing consulting and training services in continuous improvement through the design and implementation of quality assurance systems (according to ISO 9000 standards) and with EFQM Model of excellence for the management of their organizations.

With the data from the interviews, conducted in person with the project manager, the director of strategy and excellence areas and a senior consultant, and according to the model questionnaire used in Pineyrua's [38] work, the company's KM indicators were identified and classified, as well as its degree of commitment and implementation of a Knowledge Management system.

These indicators of KM were integrated with the CSR indicators registered by Muñoz [39] in the same company, while identifying which were being measured, which were susceptible to being measured or evaluated and which are not applicable to this company. In Tables 3 and 4, all the identified indicators are synthesized.

Table 3. Diagnosis of KM indicators in SMEs.

Type	Indicators		Financial		Stakeholders		Internal Processes		Learning and Growth	
	No. of Indicators	%	No. of Indicators	%	No. of Indicators	%	No. of Indicators	%	No. of Indicators	%
Currently being measured	27	60.0	4	50.0	9	52.9	22	64.7	9	50.0
Susceptible to measurement	12	26.7	3	37.5	6	35.3	8	23.5	6	33.3
Not applicable	6	13.3	1	12.5	2	11.8	4	11.8	3	16.7
TOTAL	45	100	8	100	17	100	34	100	18	100

Source: Author's elaboration.

Table 4. Diagnosis of CSR indicators in SMEs.

Type	Indicators		Financial		Stakeholders		Internal Processes		Learning and Growth	
	No. of Indicators	%	No. of Indicators	%	No. of Indicators	%	No. of Indicators	%	No. of Indicators	%
Currently being measured	35	34.3	11	64.7	9	37.5	3	9.1	12	42.9
Susceptible to measurement	32	31.4	1	5.9	7	29.2	12	36.4	12	42.9
Not applicable	35	34.3	5	29.4	8	33.3	18	54.5	4	14.3
TOTAL	102	100	17	100	24	100	33	100	28	100

Source: Author's elaboration.

3.2. Integrated Management Model (BSC + CSR + KM) in a Consulting SME

This consulting SME is managed through its own innovative management system (it is registered). This system has been developed and implemented internally with the aim of using it as a key tool to achieve excellence in management. This system is called "7 + 1 Level Model". The levels, from bottom up, are:

- Level 1. Resources and Assets: These are the material and financial resources available to the organization and necessary to carry out its activity. The fundamental activities included in this level are knowledge and study of costs of each of the 7 + 1 Corporate Levels, as well as the income of the different productive units; control of margins by level; development of a budget, annual with systematic monthly monitoring; planning and control of investments; provision of the necessary financial guidelines; and management of purchases and suppliers.
- Level 2. Production and Services: Everything related to the productive activity of the company is included, with the products and services it offers. At this level, the organization's production is planned and managed and the performance and compliance with the planning in each project is measured. The activities included in this level are definition of the organization's service/product portfolio; production capacity and margins by product; analysis of products/services by profitability and useful life; and programming of multi-person and/or multi-task jobs and projects.
- Level 3. Quality System: Includes the management by processes of the organization and the systems implemented, whether quality, environmental management, prevention of occupational risks, energy management, etc. In addition, at this level, processes related to excellence and openness and monitoring of parts or actions aimed at continuous improvement are controlled, with all types of indicators.
- Level 4. Management—Improvement Groups: Managing the leadership of people, policies and strategy, other levels of the organization, meeting management, etc.
- Level 5. Staff: Includes management of the people who make up the organization. Personnel plans are managed for conciliation, training and the evaluation of people's satisfaction. The activities developed are evaluation, selection, training and promotion of people (PIDE process); job maps, personnel maps; remuneration and incentive plans; and satisfaction of the people in the organization.
- Level 6. Customers—Commercial Process: Performs all activities related to customer management. It includes activities to attract new customers, information gathering to discover customers' needs and requirements, offer processes, customer relations, customer portfolio management, satisfaction measurement, marketing, market research, etc.
- Level 7. Social: Includes everything that unites the company with society and the impact of its activity on it. It includes the legal requirements demanded by the administrations for the operation of the company, the corporate image, all the activities

related to Corporate Social Responsibility, the management of external relations with public or private bodies and the management of alliances.

- Level 7 + 1. R + D + I: This level establishes one more part to be developed within each of the other seven levels, innovation, which must reach all areas of the organization. It represents excellence at all levels, and how, based on innovation and learning, the continuous improvement of the organization is sought. At this level, R&D and the design of new and innovative services are managed, as well as all the processes related to the monitoring of the environment, which allow the organization to be up to date with external innovations that can give rise to opportunities for improvement.

Under this management model, the KM and CSR indicators, both those currently measured and those susceptible to measurement (Tables 3 and 4), were integrated into the company's operational plan (see Table 5).

Table 5. Aspects of operational planning.

Level	Content	Innovative Feature	Management Aspect	Creative Aspect	Total Indicators by Level
		Activities to Build Capacity to Adapt to Opportunities or Threats	Implementation and Planning of Innovation Activities	Results and Feedback of Innovation Actions	
7 + 1	R + D + i	Identification of Opportunities, Risks and Threats CR4, CR6, CR7, CR8, AQ3, AQ4, AQ5, AQ6, AQ7, AQ9, AQ12, AQ13, AQ14, TR2, TR6, TR10, TR11, AP2, AP4, AP6	Management of Opportunities, Risks and Threats	Developments in progress	KM—20
7	Social	Social presence	Partnership Management ES2.3, ES4.1, ES4.2, ES4.4, ES4.5, ES5.5	Corporate Social Responsibility AP7 HR9, ES5.4, ES6.1, EN13, SO7	KM—1 CSR—11
6	Customers	Sales Development	Customer portfolio management CR11 PR5	Marketing CR11 PR7, PR8, PR6	KM—2 CSR—4
5	Staff	Planning for people's needs	HR Management CR3, CR6, AP2, AP7 EC5, EC7, LA1, LA2, LA4, LA6, LA9, LA12, LA13, LA14, HR8, ES2.1, ES2.2, ES3.5	People's satisfaction CR3, CR5, AP1, AP2 EC3, LA3, LA7, HR3, HR4, SO3, ES3.7, LA10, LA11, LA8	KM—8 CSR—24
4	Management	Delivery CR7 ES3.3, EN18, EN26	Internal Management LA5, SO1, SO2, SO4, SO5, 4, 11, ES1.1, ES3.2, ES3.8	Learning and improvement CR6 ES3.1, ES3.4	KM—2 CSR—14
3	Quality System	System AP4, AP5 EC2, EN6, EN7	Improvement Management CR4, CR7, AP4, AP5 EN1, EN2, EN3, EN4, EN5, EN11, EN12, EN14, EN15, EN25, EN29	Customer Satisfaction EN8, EN9, EN10, EN16, EN17, EN19, EN20, EN21, EN22, EN23, EN24, EN27	KM—6 CSR—26
2	Production and Services	Production planning	Management of productive resources AQ12, TR12, AP6 EC6, PR1, PR3, HR2, HR5, HR6, HR7	Productivity TR12 PR2, PR4	KM—4 CSR—9
1	Resources and Assets	Investment Plan EC4	Economic and financial management CR2, AP7 ES 5.2, EC8, EC9, EN30, HR1	Economic Results CR9, AP1, AP2, AP6 EC1, EN28, SO6, SO8, PR9, 7.1, 7.2, 7.3	KM—6 CSR—14
Total indicators		KM—23 CSR—7	KM—14 CSR—53	KM—12 CSR—42	KM—49 CSR—102

Bold values are values identified as most relevant and/or critical for the service company analysed. Source: Author's elaboration.

4. Conclusions

The KM indicators identified in the consulting firm present a high correlation with the mapping work between KM and BSC performed by Lyu, Zhou and Zhang [75]. This correlation has facilitated the interconnection of KM indicators with the four perspectives of BSC, through the processes of creation, acquisition, transfer and application of knowledge.

- From a financial perspective, the KM indicators identified (see Table 5) correspond to the “knowledge application” stage, and their objective is to improve the efficiency of the company’s management and productivity levels, taking into account the knowledge of the workers, and expressed through measurable financial indicators.
- The perspective of the stakeholders is linked to the processes of creation and application of knowledge. Through the indicators collected there, it is shown how the company responds to external changes, which is demonstrated through the quality, performance and support of the company’s products and services, in addition to developing innovation in its technologies and services.
- The work carried out corroborates the importance that KM has on the perspective of improving the company’s internal processes, as already indicated in Gupta and Chopra [64]. Just like in the mapping carried out by Lyu, Zhou and Zhang [75], for the service SME analyzed, the internal process perspective is the one that presents the highest number of KM processes. This allows us to analyze and manage the company’s capacity to acquire, transfer and apply knowledge, thus contributing to the improvement of its internal processes.
- For the company not only to maintain but also to improve its performance (growth), employees must learn, grow and innovate continuously. All these aspects are linked to the process of creation and the application of knowledge, which has a very high correlation with the learning and growth perspective of the BSC.

Table 6 shows the list of identified indicators and their relationship to the KM process and the BSC perspective.

Table 6. Indicators’ relationship to the KM process and the BSC perspective.

KM Process	Indicators	BSC Perspectives
Application of Knowledge	AP1: Evaluation of employee performance AP2: Evaluation of the effectiveness of the training carried out AP4: Evaluation of the proposals/idea applied by the employees AP6: Number of new products/services launched	Financial Stakeholders Internal Processes Learning and Growth
Knowledge Creation	CR3: Career plan CR4: Research and development sector CR5: Fortnightly conferences CR7: Brainstorming sessions to create new knowledge CR11: Customer relationship management	Stakeholders Learning and Growth
Acquisition of Knowledge	AQ1: Consultation with customers and suppliers AQ2: Use of computer system AQ3: Internal training AQ5: Searching for external training AQ7: Fortnightly lectures AQ8: Hiring new employees AQ9: Use of benchmarking AQ11: Use of the Internet to acquire knowledge AQ12: Access by the employee to the company’s knowledge repositories to acquire knowledge	Internal Processes

Table 6. Cont.

KM Process	Indicators	BSC Perspectives
Transfer of Knowledge	TR1: Use of computer system or e-mail TR2: E-Learning training TR3: Participation in meetings TR4: Face-to-face training TR6: Participation of employees in informal discussions to share knowledge TR9: Internal informal discussions TR11: Participation in workshops TR12: Coding and storage of knowledge in the company's knowledge repositories TR13: Updating of company knowledge repositories	Internal Processes

Source: Author's elaboration.

The research carried out has allowed us not only to identify some KM indicators such as AP2 and AP4, CR5 and CR7, AQ1 and AQ12, TR4 and TR13, which shows that this company has a real process to manage knowledge, but also, and thanks to the use of the BSC by the company, it has a model for its comprehensive management, aligning objectives of all kinds: financial and non-financial. Coinciding with works such as those of Mehralian, Nazari and Ghasemzadeh [24], the KM indicators identified in the consulting SME are similar to the studies on performance measurement of KM indicators in SMEs conducted by Lee and Wong [25].

In this type of business, owners/managers are considered a main source of knowledge, which can be derived from indicators CR7, AQ7 and TR3.

- SMEs are highly dependent on external knowledge from customers and suppliers, as their sources of knowledge are limited, all of which are captured in indicators AQ1, CR11 and TR12.
- Indicators are also needed to assess how employees are acquiring knowledge, and indicators AP2, AP4, CR7, AQ5, AQ11, AQ12 and TR11 are often used for this purpose.
- Knowledge sharing in an SME occurs through informal activities, such as those listed in indicators TR6 and TR9, while the use of IT in SMEs is usually assessed using indicators AQ2, AQ11 and TR1.

For a knowledge-intensive company, such as the consulting firm studied, according to Mazorodze and Buckley [44], the most important KM process is knowledge transfer, followed by knowledge acquisition. The research results show a higher number of indicators related to the knowledge transfer process, a total of nine, and the knowledge acquisition process, also nine indicators and all within the perspective of the internal processes of the BSC.

The analysis of the CSR indicators carried out by Muñoz [39] on the same consulting SME showed that 66% of the indicators were measurable, although their integration and diagnosis by BSC perspective showed improvement ratios of 80% in the internal processes dimension, and around 45% in the learning and growth and stakeholders perspectives. All these aspects have been improved thanks to the incorporation of the KM indicated, and thanks to its integration in the company's BSC, thus having a single control system in line with the recommendations of authors such as Hristov, Chirico and Appolloni [63].

Table 7 details (explicitly) the list of identified CSR indicators and their relationship with both the CSR process dimensions and the BSC perspective.

Table 7. Relationship between indicators and CSR dimensions and BSC perspectives.

CSR Dimensions	Indicators	BSC Perspectives
Economic	EC1: Direct economic value generated and distributed, including revenues, employee compensation, retained earnings. EC3: Coverage of the organization's obligations due to social benefit programmes. EC4: Financial aid received from governments. EC5: Range of ratios of standard entry level wage to local minimum wage. EC7: Procedures for local hiring and proportion of senior management.	Financial Stakeholders
Environmental	EN28: Cost of significant fines and number of non-monetary sanctions for non-compliance with environmental laws and regulations. EN30: Breakdown of total environmental expenditures and investments by type. EN3: Direct energy consumption by primary source. EN7: Initiatives to reduce indirect energy consumption. EN8: Total water withdrawal by source.	Financial Internal Processes
Social	EN28: Cost of significant fines and number of non-monetary sanctions for non-compliance with environmental laws and regulations. EN30: Breakdown of total environmental expenditures and investments by type. PR9: Cost of significant fines for non-compliance with regulations concerning supply. ES5.2: Existence of actions linked to socially responsible investments. ES7.1: Percentage of liabilities corresponding to collective or irrevocable funds. ES7.2: Percentage distribution of surplus to collective or irrevocable funds. ES7.3: Percentage of surplus allocated to members of the organization or to the incorporation of persons. LA1: Breakdown of the collective of workers by type of employment. LA2: Total number of employees and average turnover. LA4: Percentage of employees covered by a collective bargaining agreement. LA14: Ratio of basic salary of men to women. PR5: Practices related to customer satisfaction and survey results. PR8: Total number of complaints regarding respect for privacy and leakage of customer data. ES4.1: Definition of a map of stakeholders focused on the organization. ES5.5: Number and type of cooperation activities carried out with other organizations. LA10: Average hours of training per year per employee. LA11: Programs for skills management and continuous training. LA12: Percentage of employees who receive regular performance and professional development evaluations. LA13: Composition of corporate governance bodies and diversity indicators staff. ES1.1: Description of a report that highlights the primacy of people and the corporate purpose over capital. ES2.1: Requirements for new members to join the organization ES2.2: Requirements and conditions for leaving the organization. ES2.3: Evolution of partners or members, describing the variation of registrations and cancellations. ES3.3: Working groups or spaces generated that favour the organization's decision-making. ES3.7: Average actual participation in the highest decision-making bodies. ES3.8: Description of the preparatory process for the maximum body of social representation. ES6.1: Description of a report detailing the requirements and limitations of the management sovereignty of the organization's maximum decision-making bodies.	Financial Stakeholders Learning and Growth

Source: Author's elaboration.

With the integration of the work of Pineyrua [38] and Muñoz [39], it has been possible to develop an operational plan, integrated into the management model used by the consulting SME, with the KM and CSR indicators (Figure A1 in Appendix A) and their link with the BSC perspectives. The use of this new set of indicators will provide better information on the performance of the activities carried out and, consequently, better decision-making in the future.

This study shows how KM and CSR complement the vision of BSC [27,67,76] by facilitating the identification of critical factors and knowledge dissemination, with the aim of supporting BSC in building competitive strategies and adopting a CSR policy in SMEs.

Despite the good results obtained, this work must be tested with a greater number of companies. To do this, the first step is to provide the application with a good data input/output interface that allows its integration with the rest of the applications implemented in the companies, so that data processing is carried out with the greatest possible

traceability and integrity. This step will feed the objectives back to Long Term (L.T.) and the operational objectives to Short Term (S.T.). Another aspect to take into account is the updating of CSR objectives, aligning them through step 1 (Section 2.1.) with the Sustainable Development Goals (SDGs) of the United Nations Development Program (UNDP).

Author Contributions: D.G.F.P. and A.R. conceived the presented idea and designed the work; Á.M.G. and J.A.P. carried out data collection and literature review. A.R. proposed the initial structure of the article and D.G.F.P. planned the methodology. D.G.F.P. carried out the presentation of the results after their interpretation, carried out in conjunction with Á.M.G., A.R. and J.A.P. The final critical review was conducted by A.R. and J.A.P. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

INTEGRATION OF CSR and KM INDICATORS WITH THE BSC STRATEGIC MODEL									
Block A			Block B			Block C			
A.1	A.2	A.3	B.1	B.2	B.3				
KNOWLEDGE MANAGEMENT INDICATORS (KM)			CORPORATE SOCIAL RESPONSIBILITY INDICATORS (CSR)			BSC STRATEGIC PERSPECTIVES			
CODE	DIMENSION	DESCRIPTION	CODE	DIMENSION	DESCRIPTION	FINANCIAL	STAKEHOLDERS	INTERNAL PROCESSES	LEARNING AND GROWTH
CR1	CREATION	Internal satisfaction survey	EC1	ECONOMIC	Direct economic value generated and distributed, including revenues, employee compensation, retained earnings.	EC1	CR1		CR1
CR2	CREATION	Financial incentives for training	EC2	ECONOMIC	Financial implications and opportunities for the organization's activities.	EC2	CR2 EC6		CR2
CR3	CREATION	Career plan	EC3	ECONOMIC	Coverage of the organization's obligations due to social benefit programmes.	EC3	CR3		CR3 CR3 / LA11 - ES2.1
CR4	CREATION	Research and Development Sector	EC4	ECONOMIC	Financial aid received from governments.	EC4	CR4 EC6		CR4 CR4 / EN14 - EN18 - EN26
CR5	CREATION	Regular Meetings / Conferences	EC5	ECONOMIC	Range of ratios of standard entry level wage to local minimum wage.	EC5	CR5		CR5 CR5 / LA10 - HR3 - PR6
CR6	CREATION	Team building to create new knowledge	EC6	ECONOMIC	Policy, practices and proportion of spending on local suppliers at significant locations of operation.		EC6 - CR6 CR6 / EC7		CR6 CR6 / EN18 - LA11 - ES3.4
CR7	CREATION	Brainstorming to create new knowledge	EC7	ECONOMIC	Procedures for local hiring and proportion of senior management.		EC7 - CR7		CR7 CR7 / EN14 - EN26 - ES3.3
CR8	CREATION	Identification of new knowledge, ideas and solutions created	EC8	ECONOMIC	Development and impact of infrastructure investments.	EC8	CR8		CR8 CR8 / EN26
CR9	CREATION	Reward system for employees who create new knowledge, ideas and solutions	EC9	ECONOMIC	Understanding and describing significant indirect economic impacts.	EC9 - CR9 CR9 / EC1	CR9		CR9
CR10	CREATION	Observation practices	EN1	ENVIRONMENTAL	Materials used, by weight or volume.			EN1	CR10 CR10 / SO5

Figure A1. Cont.

INTEGRATION OF CSR and KM INDICATORS WITH THE BSC STRATEGIC MODEL									
Block A			Block B			Block C			
A.1	A.2	A.3	B.1	B.2	B.3				
KNOWLEDGE MANAGEMENT INDICATORS (KM)			CORPORATE SOCIAL RESPONSIBILITY INDICATORS (CSR)			BSC STRATEGIC PERSPECTIVES			
CODE	DIMENSION	DESCRIPTION	CODE	DIMENSION	DESCRIPTION	FINANCIAL	STAKEHOLDERS	INTERNAL PROCESSES	LEARNING AND GROWTH
CR11	CREATION	Knowledge management with the client	EN2	ENVIRONMENTAL	Percentage of materials used.		CR11 / PR5 - PR6	EN2	CR11
AQ1	ACQUISITION	Coordination with customers and suppliers	EN3	ENVIRONMENTAL	Direct energy consumption by primary sources.			EN3 - AQ1	
AQ2	ACQUISITION	Use of ICT system	EN4	ENVIRONMENTAL	Indirect consumption of energy broken down by primary sources.			EN4 - AQ2	
AQ3	ACQUISITION	In-house training	EN5	ENVIRONMENTAL	Energy savings due to efficiency improvements			EN5 - AQ3 / EN6	AQ3
AQ4	ACQUISITION	Total internal communication flow	EN6	ENVIRONMENTAL	Initiatives to provide energy-efficient or renewable energy products and services			EN6 - AQ4 / EN7	
AQ5	ACQUISITION	External assessment/training	EN7	ENVIRONMENTAL	Initiatives to reduce indirect energy consumption			EN7 - AQ5 / EN6	AQ5
AQ6	ACQUISITION	Intellectual training of employees	EN8	ENVIRONMENTAL	Total water collection by source.			EN8 - AQ6 / EN6	
AQ7	ACQUISITION	Systematic meetings	EN9	ENVIRONMENTAL	Water sources that have been affected by water collection.			EN9 - AQ7 / EN7	
AQ8	ACQUISITION	Recruitment of new employees	EN10	ENVIRONMENTAL	Percentage and total volume of water recycled and reused			EN10 - AQ8	
AQ9	ACQUISITION	Use of Benchmarking	EN11	ENVIRONMENTAL	Description of land adjacent to or located within protected natural areas or unprotected areas of high biodiversity.			EN11 - AQ9 / EN6	

INTEGRATION OF CSR and KM INDICATORS WITH THE BSC STRATEGIC MODEL									
Block A			Block B			Block C			
A.1	A.2	A.3	B.1	B.2	B.3				
KNOWLEDGE MANAGEMENT INDICATORS (KM)			CORPORATE SOCIAL RESPONSIBILITY INDICATORS (CSR)			BSC STRATEGIC PERSPECTIVES			
CODE	DIMENSION	DESCRIPTION	CODE	DIMENSION	DESCRIPTION	FINANCIAL	STAKEHOLDERS	INTERNAL PROCESSES	LEARNING AND GROWTH
AQ10	ACQUISITION	Coordination of managers/workers on information/knowledge procedures, etc.	EN12	ENVIRONMENTAL	Description of the most significant impacts on biodiversity in protected natural spaces or unprotected areas of high biodiversity.			EN12 - AQ10	
AQ11	ACQUISITION	Use of the internet to acquire knowledge	EN13	ENVIRONMENTAL	Protected or restored habitats.		EN13	AQ11	
AQ12	ACQUISITION	Knowledge repositories accessible to all (internally)	EN14	ENVIRONMENTAL	Strategies and planned actions for the management of impacts on biodiversity.			AQ12 / EN7 - PR3	EN14
AQ13	ACQUISITION	Relationship with universities	EN15	ENVIRONMENTAL	Number of species, broken down according to their danger of extinction, included in the IUCN Red List and in national lists.			EN15 - AQ13 / EN6	
AQ14	ACQUISITION	Having experts to codify knowledge	EN16	ENVIRONMENTAL	Total emissions of greenhouse gases, by weight.			EN16 - AQ14 / EN6	
TR1	TRANSFER	Use of computer system or email	EN17	ENVIRONMENTAL	Other indirect greenhouse gas emissions, by weight.			EN17 - TR1	
TR2	TRANSFER	E-learning training	EN18	ENVIRONMENTAL	Initiatives to reduce greenhouse gas emissions, by weight.			TR2 / EN6	EN18
TR3	TRANSFER	Participation in meetings	EN19	ENVIRONMENTAL	Emissions of ozone-depleting substances, by weight.			EN19 - TR3	
TR4	TRANSFER	Classroom training	EN20	ENVIRONMENTAL	NO, SO and other significant air emissions by type and weight.			EN20 - TR4	
TR5	TRANSFER	Online training: videoconferencing...	EN21	ENVIRONMENTAL	Total discharge of wastewater.			EN21 - TR5 / EN6	

Figure A1. Cont.

INTEGRATION OF CSR and KM INDICATORS WITH THE BSC STRATEGIC MODEL									
Block A			Block B			Block C			
A.1	A.2	A.3	B.1	B.2	B.3	BSC STRATEGIC PERSPECTIVES			
KNOWLEDGE MANAGEMENT INDICATORS (KM)			CORPORATE SOCIAL RESPONSIBILITY INDICATORS (CSR)						
CODE	DIMENSION	DESCRIPTION	CODE	DIMENSION	DESCRIPTION	FINANCIAL	STAKEHOLDERS	INTERNAL PROCESSES	LEARNING AND GROWTH
TR6	TRANSFER	Involvement of employees in informal discussions to share knowledge	EN22	ENVIRONMENTAL	Total weight of managed waste.			EN22 - TR6 TR6 / EN6 - EN7	
TR7	TRANSFER	Use by employees of technological tools to transfer knowledge.	EN23	ENVIRONMENTAL	Total number and volume of the most significant accidental spills.			EN23 - TR7	
TR8	TRANSFER	Number of mentors-oriented	EN24	ENVIRONMENTAL	Weight of waste transported, imported, exported or treated that is considered hazardous.			EN24 - TR8	
TR9	TRANSFER	Informal internal conversations	EN25	ENVIRONMENTAL	Identification, protection status and biodiversity value of water resources and related habitats.			EN25 - TR9	
TR10	TRANSFER	Regular conferences	EN26	ENVIRONMENTAL	Initiatives to mitigate the environmental impacts of products and services, and the degree of reduction of such impacts.			TR10 TR10 / EN6	EN26
TR11	TRANSFER	Participation in workshops	EN27	ENVIRONMENTAL	Percentage of products sold, and their packaging materials, that are recovered at the end of their useful life.			EN27 - TR11 TR11 / EN6	
TR12	TRANSFER	Coding and storage of knowledge in company knowledge repositories	EN28	ENVIRONMENTAL	Cost of significant fines and number of non-monetary sanctions for non-compliance with environmental regulations.	EN28		TR12 TR12 / PR3-PR4	
TR13	TRANSFER	Updating enterprise knowledge repositories	EN29	ENVIRONMENTAL	Environmental impacts of transporting products and materials used for the organization's activities.			EN29 - TR13	
AP1	APPLICATION	Evaluation of employee performance	EN30	ENVIRONMENTAL	Breakdown of total environmental expenditures and investments by type.	EN30 - AP1 AP1 / EC1	AP1	AP1	AP1 AP1 / LA11

INTEGRATION OF CSR and KM INDICATORS WITH THE BSC STRATEGIC MODEL									
Block A			Block B			Block C			
A.1	A.2	A.3	B.1	B.2	B.3	BSC STRATEGIC PERSPECTIVES			
KNOWLEDGE MANAGEMENT INDICATORS (KM)			CORPORATE SOCIAL RESPONSIBILITY INDICATORS (CSR)						
CODE	DIMENSION	DESCRIPTION	CODE	DIMENSION	DESCRIPTION	FINANCIAL	STAKEHOLDERS	INTERNAL PROCESSES	LEARNING AND GROWTH
AP2	APPLICATION	Evaluation of training effectiveness	LA1	SOCIAL	Breakdown of the group of workers by type of employment.	AP2 AP2 / EC1	LA1 - AP2	AP2 AP2 / EN7	AP2 LA10 - LA12 - HR3 - HR8 - SO3
AP3	APPLICATION	Certifications obtained	LA2	SOCIAL	Total number of employees and average employee turnover.	AP3 AP3 / EN30	LA2 - AP3	AP3	AP3
AP4	APPLICATION	Implementation of useful proposals/ideas in practice by employees	LA3	SOCIAL	Social benefits exclusively for full-time employees.	AP4 AP4 / EC2	LA3 - AP4	AP4 AP4 / EN7 - EN5	AP4 AP4 / EN14 - EN26
AP5	APPLICATION	Application of knowledge to solve problems by employees	LA4	SOCIAL	Percentage of employees covered by a collective agreement.	AP5 AP5 / EC2	LA4 - AP5	AP5	AP5 AP5 / EN14 - EN18
AP6	APPLICATION	New products/services released.	LA5	SOCIAL	Minimum notice period(s) regarding organizational changes.	AP6 AP6 / EC1	LA5 - AP6 AP6 / ES5.4	AP6 AP6 / EN27 - PR1	AP6 AP6 / EN26
AP7	APPLICATION	Knowledge Repositories	LA6	SOCIAL	Percentage of total workforce represented on joint management-employee health and safety committees.	AP7 AP7 / EC8	LA6 - AP7	AP7	AP7 AP7 / ES2.1 - ES3.5 - ES6.1
			LA8	SOCIAL	Education, training, risk prevention and control programmes applied to workers in relation to serious diseases.		LA7 - LA8		
			LA10	SOCIAL	Average hours of training per year per employee.		LA9		LA10
			LA12	SOCIAL	Percentage of employees who receive regular performance and career development reviews.				LA11 - LA12
			LA14	SOCIAL	Ratio of basic salary of men to women.		LA14		LA13

Figure A1. Cont.

INTEGRATION OF CSR and KM INDICATORS WITH THE BSC STRATEGIC MODEL										
Block A			Block B			Block C				
A.1	A.2	A.3	B.1	B.2	B.3	BSC STRATEGIC PERSPECTIVES				
KNOWLEDGE MANAGEMENT INDICATORS (KM)			CORPORATE SOCIAL RESPONSIBILITY INDICATORS (CSR)			FINANCIAL	STAKEHOLDERS	INTERNAL PROCESSES	LEARNING AND GROWTH	
CODE	DIMENSION	DESCRIPTION	CODE	DIMENSION	DESCRIPTION					
			HR2	SOCIAL	Percentage of major distributors and contractors that have undergone human rights screening.	HR1	HR2			
			HR4	SOCIAL	Total number of incidents of discrimination and actions taken.		HR4		HR3	
			HR6	SOCIAL	Activities identified that carry a potential risk of incidents of child exploitation.			HR5 - HR6		
			HR8	SOCIAL	Percentage of security personnel who have been trained in the organization's policies or procedures on human rights issues.			HR7	HR8	
			SO1	SOCIAL	Nature, scope and effectiveness of programmes and practices to assess and manage the impacts of operations on communities.		HR9	SO1		
			SO3	SOCIAL	Percentage of employees trained in the organization's anti-corruption policies and procedures.			SO2	SO3	
			SO5	SOCIAL	Position in public policies and participation in their development and lobbying activities.	PR1			SO4 - SO5	
			SO7	SOCIAL	Total number of actions for causes related to monopolistic practices and against free competition.	SO6			SO7	

INTEGRATION OF CSR and KM INDICATORS WITH THE BSC STRATEGIC MODEL										
Block A			Block B			Block C				
A.1	A.2	A.3	B.1	B.2	B.3	BSC STRATEGIC PERSPECTIVES				
KNOWLEDGE MANAGEMENT INDICATORS (KM)			CORPORATE SOCIAL RESPONSIBILITY INDICATORS (CSR)			FINANCIAL	STAKEHOLDERS	INTERNAL PROCESSES	LEARNING AND GROWTH	
CODE	DIMENSION	DESCRIPTION	CODE	DIMENSION	DESCRIPTION					
			PR1	SOCIAL	Phases in the life cycle of products and services in which the impacts on the health and safety of customers are assessed.	SO8		PR1		
			PR3	SOCIAL	Types of information on products and services that are required by current procedures and regulations.			PR2 - PR3		
			PR5	SOCIAL	Practices with respect to customer satisfaction and the results of their studies.		PR5	PR4		
			PR7	SOCIAL	Total number of incidents resulting from non-compliance with regulations concerning marketing communications, including advertising.				PR6 - PR7	
			PR9	SOCIAL	Cost of significant fines resulting from non-compliance with regulations regarding supply.	PR9	PR8			
			ES1.1	SOCIAL	Description of a report that highlights the primacy of people and the corporate purpose over capital.				4.11 - ES1.1	
			ES2.2	SOCIAL	Requirements and conditions for leaving the organization.				ES2.1 - ES2.2	
			ES3.1	SOCIAL	Percentage of persons or groups with voting rights in the highest decision-making bodies.				ES2.3 - ES3.1	

Figure A1. Cont.

INTEGRATION OF CSR and KM INDICATORS WITH THE BSC STRATEGIC MODEL									
Block A			Block B			Block C			
A.1	A.2	A.3	B.1	B.2	B.3				
KNOWLEDGE MANAGEMENT INDICATORS (KM)			CORPORATE SOCIAL RESPONSIBILITY INDICATORS (CSR)			BSC STRATEGIC PERSPECTIVES			
CODE	DIMENSION	DESCRIPTION	CODE	DIMENSION	DESCRIPTION	FINANCIAL	STAKEHOLDERS	INTERNAL PROCESSES	LEARNING AND GROWTH
			ES3.3	SOCIAL	Work groups or spaces generated that favour the organisation's decision making.				ES3.2 - ES3.3
			ES3.5	SOCIAL	Information process by which the people of the organization have access to information of triple aspect (corporate, business and economic).				ES3.4 - ES3.5
			ES3.8	SOCIAL	Description of the preparatory process of the maximum body of social representation.				ES3.7 - ES3.8
			ES4.2	SOCIAL	Existing relational flows between the organization and its stakeholders.		ES4.1 - ES4.2		
			ES4.5	SOCIAL	Existence of a system for assessing stakeholder satisfaction.		ES4.4 - ES4.5		
			ES5.4	ENVIRONMENTAL	Consideration of environmental criteria when selecting suppliers, products and services.	ES5.2	ES5.4		
			ES6.1	SOCIAL	Description of a report detailing the requirements and limitations of the management sovereignty of the organization's highest decision-making bodies.		ES5.5		ES6.1
			ES7.2	ECONOMIC	Percentage of distribution of surpluses destined for collective or irreparable funds.	ES7.1 - ES7.2			
			ES7.3	ECONOMIC	Percentage of surplus allocated to members of the organization or to the incorporation of persons.	ES7.3			

INTEGRATION OF CSR and KM INDICATORS WITH THE BSC STRATEGIC MODEL									
Block A			Block B			Block C			
A.1	A.2	A.3	B.1	B.2	B.3				
KNOWLEDGE MANAGEMENT INDICATORS (KM)			CORPORATE SOCIAL RESPONSIBILITY INDICATORS (CSR)			BSC STRATEGIC PERSPECTIVES			
CODE	DIMENSION	DESCRIPTION	CODE	DIMENSION	DESCRIPTION	FINANCIAL	STAKEHOLDERS	INTERNAL PROCESSES	LEARNING AND GROWTH
TOTAL						PERSPECTIVE FINANCIAL	PERSPECTIVE STAKEHOLDERS	PERSPECTIVE INTERNAL PROCESSES	PERSPECTIVE LEARNING AND GROWTH
NOTE: It is noted that there are KM indicators that are linked to various perspectives of the BSC, hence their sum is greater than the initial 45.			CSR	102		17	24	33	28
			KM	45		8	17	34	18
			CSR / KM	67		8	6	23	30

Figure A1. Integration of CSR and KM Indicators with the BSC Strategic Model.

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