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Sustainable Enterprise Excellence: Attribute-Based Assessment Protocol

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Abstract: This paper is intended to design and provide a reliable and valid measurement instrument to aid organizations that wish to self-assess their performance and positioning relative to sustainable enterprise excellence. Recent research trends in performance excellence, quality management, and organizational sustainability have been directed towards integrated management systems (IMS). Sustainable Enterprise Excellence (SEE) is among these integrated management systems. SEE is undergoing ongoing development and its measurement scale is rudimentary, hence it lacks the more sophisticated sorts of measurement scales often used for organizational self-assessment purposes. A scientific approach is used herein to devise a more comprehensive SEE-oriented organizational assessment against six proposed performance results-oriented domains or constructs: governance and strategy, process implementation, sustainability performance, financial performance, innovation performance, and human capital performance. Each organizational performance construct is to be measured by ten attributes-based items. Maturity scale ratings that range from 0 to 10 reflect organizational performance relative to the associated item and the sum of item ratings across a construct reflects performance within the specific domain, the summation of the six construct scores then yields a measure of the overall organizational performance with respect to SEE. The assessment areas against which organization performance compares poorly suggest opportunities for improvement of associated business processes, the achievement of which will contribute to a sustainable future.

Keywords: business excellence; sustainability; governance; process orientation; innovation; scale development; human capital; capacity building

1. Introduction

The dynamic nature of businesses, expanding markets, ever-increasing customer awareness, and innovative technologies have a significant role in reshaping the ways organizations do business in

the modern era. Sustainable Enterprise Excellence (SEE), as proposed by [1] and further developed by [2–7] is an integrated management approach to achieve business excellence. The slogans of quality, wars of survival, branding for a competitive edge, thinking beyond customers' expectations, and proactive business decisions are the hallmarks of the revolutionary changes in organizational approaches towards businesses excellence [8–11]. Thoughtful research has been published in recent decades focusing on: quality management [12,13]; business excellence [14–16]; and organizational sustainability [17–20]. The notions, objectives, key enablers, and ultimate expected outcomes across these different proposed frameworks overlap to a great extent [21–23].

Organizations are generally keen to identify and implement reliable performance improvement strategies. However, not all organizations are successful in this pursuit and literature on business excellence and allied fields suggests there is no sure remedy or shortcut. Business excellence does not happen overnight or accidentally. Rather, it results from an integrated, synchronized, and effective use of human, financial, and social resources deployed by the organization [14,24,25].

Business excellence models (BEM) are intended to provide a roadmap that can be adapted by an organization to achieve business excellence [25,26]. Comparatively, sustainable enterprise research *additionally* focuses on devising a mechanism to enhance organizational ability to maintain and excel its business performance in future markets [27–31]. Schaltegger, Hansen [32] explored the evolution of research in business models for sustainability by evaluating the number of proposed business models for sustainability (SBMs), for example, the sustainability business model [18], the sustainability innovation cube [33], business models for relocation [34], generative models of social enterprise [35], and industry-level business models for sustainability [36].

An organization's pursuit of excellence is driven by both internal and external factors. Organizational performance is a strong reflection of organizational well-being, effective delivery of products and services, process efficiency and effectiveness, business longevity, and sustainability [37,38]. However, for many organizations, sustainability remains a vague concept that requires extensive investment of both financial and non-financial resources to understand and effectively implement it [39,40]. The effective adoption of knowledge management strategies can speed up both the understanding and leverage of sustainable system dynamics [41,42].

With the mission of enhancing the understanding of and progress toward sustainable excellence, by building the sound theoretical foundation [1], proposed the Sustainable Enterprise Excellence (SEE) model wherein:

Sustainable enterprise excellence is a consequence of ongoing attainment of balance among the competing and complementary interests of key stakeholder segments. In addition to more commonly noted stakeholder segments such as customers, shareholders, and policy makers, SEE deeply integrates society as an explicit stakeholder and the natural environment as an implicit one. Attainment of such balance increases the likelihood of superior and sustainable competitive positioning and hence long-term enterprise success.

This is accomplished through an integrated approach to organizational design and function emphasising innovation, operational, customer-related, human capital, financial, marketplace, societal, and environmental performance. [4]

The attainment of SEE requires successful and sustainable *management for excellence*, which delivers an enterprise that is:

- *Sustainable* to the extent that it creates and maintains economic, ecological, and social value for itself, its stakeholders, society at large, and policy makers;
- *Resilient* to the extent that it possesses the capacity to self-renew through innovation by adapting its responses to negative shocks and challenges over time;
- *Robust* to the extent that it is highly resistant or immune to a critical subset of such shocks and challenges;

- *Excellent* when its governance, leadership, and strategy, as deployed through people, processes, partnerships, and policies, deliver sustained superior performance and impact in critical enterprise areas such as enterprise human ecology, innovation, financial, social, ecological, enterprise intelligence gathering, analytics, and supply chain management [3,5]

SEE provides an organizational framework to perform a self-assessment of an organization's current status (insight) and provide foresight into the changes necessary for the organization to further progress in its pursuit of sustainable excellence. The SEE framework employs six performance domains; however, the development of scale and the validation of measuring the SEE constructs was left to the organization. This paper intends to fill this gap through the development of relevant attribute-based measures and associated reliable scales for each of the domains. The following section discusses each relevant SEE enabler and attribute-based measure.

2. The Role of Governance and Strategy in Achieving SEE

The critical dimensions of governance—culture, style, structure, approach, and mechanisms—and performance indicators vary considerably across organizations, nations, and regions depending on prevailing traditions and norms [43–45]. Organizational governance has been addressed in business excellence models and quality awards through the use of leadership as a proxy. There is little consensus on the definition and reliability of its most commonly proposed indicators [43]. Despite being different in formational nature, governance has almost universally agreed upon the expected features: transparency, fairness, accountability, effectiveness, and efficiency [46,47]. There is a strong association between organizational business strategies and the governance mechanism where organizations with a more aggressive strategy generally have more results-oriented governance [48]. Although most organizations adopt a single primary strategy, others tend to devise a limited portfolio of collectively dominant strategies [49].

In conceptualizing the governance and strategy construct for SEE, [50] demonstrated that through the integration of E3 (efficient, effective, and ethical) governance with 3E (equitable, ecological, and economic) strategy, organizations could achieve better performance in 3P (People, Profit, Planet) performance domains. Table 1 provides the proposed subscale for *governance and strategy*; the scale is based on attributes and associated measurement items.

Table 1. Attributes-based measures of governance and strategy.

Attribute	Attribute-Based Measures
Fairness and transparency	To what extent is governance fair and transparent?
Effectiveness	To what extent is governance accountable?
Command and control	To what extent is governance of command and control effective?
Trustfulness	To what extent do employees trust in governance capability?
Competence	To what extent has leadership been successful in managing the organization?
Initiating	To what extent is leadership proactive on strategic fronts?
Harmony	What is the extent of agreement between the organization's strategy and implementation?
Aggressiveness	To what extent is organizational strategy aggressive?
Corruption free	To what extent is organizational leadership free of corruption?
Effectiveness	To what extent does leadership deliver effective governance?

2.1. SEE and Process Execution and Implementation

In competitive business environments, change is the phenomenon that drives the organization to adopt new and better business strategies and to align and synchronize business processes. Strategically, organizations secure their competitive edge by developing efficient and cost-effective business processes rather than through the more frequent introduction of new product-lines. The results of individual business processes are determinants of organizational performance, competitiveness, and sustainability [51]. Performance management emphasizes the coordination of processes that together form systems, with system success determined by purposeful alignment, synergistic functionality, operative measurement, and effective control. This requires a clear identification and understanding

of the purpose, function, and execution of each process together with the relevant performance measurement [52–54]. A business process lifecycle may be explained effectively through its division into six main components: modelling, deployment, optimization, management, culture, and structure (for detail, see: [55]). Table 2 provides the proposed subscale for process implementation and execution; the scale is based on representative attributes and associated measurement items.

Table 2. Attributes-based measures of process implementation and execution.

Attribute	Attribute-Based Measures
Job description	What is the extent to which standard operating procedures (SOPs) for all major jobs/tasks exist and are used?
Job Clarity	What degree of clarity do the workers responsible for a process have concerning its inputs and outputs?
Process clarity	To what extent does the organization successfully identify, define, and document critical processes?
Process implementation	To what extent are organizational processes implemented and followed as intended?
Stakeholder identification	To what extent are key process stakeholders well-identified?
Representation	To what extent are useful measurable performance parameters employed?
Alignment	What is the extent of alignment among key organizational processes?
Monitoring and controlling	To what extent are effective organizational process monitoring and control mechanisms used?
Creative problem-solving	To what extent is human ecology encouraged to engage in creative problem-solving?
Acceptability	To what extent do employees have positive attitudes towards organizational processes?

2.2. SEE and Financial Performance

A significant amount of literature on performance management reports financial performance as a proxy for overall firm performance [56,57]. Mostly, organizations face challenges in managing their financial resources effectively due to poor organizational performance on associated fronts [58,59]. Although organizations must address both economic and social results to gauge their performance, establishing and simultaneously pursuing complementary goals for both is challenging [60–63]. The devastating impact of recent financial crises on global and regional economies has raised questions concerning the aptness and effectiveness of financial models in the face of modern challenges. An improved response to such challenges demands the derivation of more reliable financial information systems and management practices [64,65]. Corporate financial performance is a reflection of product and service quality, the effectiveness of the organization's business approach, collective well-being, and the ability to remain sustainable and competitive [66]. Table 3 provides the proposed subscale for *financial performance* and is based on relevant financial attributes and associated measurement items.

Table 3. Attributes-based measures of financial performance results.

Attribute	Attribute-Based Measures
Reliability	To what extent are the organization's financial reports reliable?
Trust	To what extent is the organization trusted by its stakeholders?
Availability	To what extent do insufficient financial resources hinder organizational growth?
Performance	To what extent is current financial performance alarming?
Expectancy	To what extent is the organization's future perceived as financially healthy?
Accountability	To what extent is financial accountability assured?
Resilience	To what extent is the organization resilient to financial shocks?
Fairness and transparency	What is the extent of organizational fairness and transparency in financial matters?
Solvency	To what extent does the organization have sufficient financial resources to withstand a more prolonged economic crisis?
Diversification	To what extent has the organization diversified its profit-generating products, services, and activities?

2.3. SEE and Sustainability Performance

The rise to prominence of the environmental and social concerns of sustainability over the last few decades has drawn significant attention to the jointly optimal deployment of natural, intellectual, and financial resources [40,67,68]. This thinking reflects the approach to sustainable development first espoused in the landmark report “Our Common Future” [69] as well as the traditional beliefs held by many cultures of meeting the needs of the present generation while concurrently acting as stewards of resources for generations not yet born. Corporate Social and Environmental Responsibility (CSER) reflects the effort organizations exert to contribute to global sustainability [70]. As integral parts of society, organizations are ethically bound to use their resources in ways that contribute to social, environmental, and organizational sustainability, with the 10R approach (for detail, see: [71]), operational learning (for detail, see: [72]), and integrative modelling [for detail, see:37] providing examples of viable strategies for pursuing these goals.

Successful organizational sustainability efforts demand passionate involvement of leadership in the process of sensing, bringing, promoting, and appreciating the changes needed to promote a culture characterized by socio-economic and environmental sustainability [17,73]. Future organizational success relies heavily on many factors, including the identification of relevant new business strategies, resource utilization, and the ability to remain viable on economic, social, and environmental fronts [28,74–76]. Edgeman and Eskildsen [1] regard organizational performance in the sustainability domain as an indicator of organizational ability to become and remain sustainably excellent. Table 4 provides a subscale for sustainability performance that is based on attributes and associated measurement items that reflect business sustainability.

Table 4. Attributes-based measures of sustainability performance results.

Attribute	Attribute-Based Measures
Competitiveness	To what extent does the organization hold an edge over its competitors?
Customer expectation	To what extent does the organization have the ability to satisfy customers’ future needs?
Exploration	To what extent has the organization successfully leveraged market trends?
Expansion	To what extent has the organization successfully upgraded processes, products, and services over time?
Collaboration	To what extent has the organization succeeded in building strong relationships with its suppliers?
Goal orientation	To what extent does the organization successfully balance and align short- and long-term goals?
Retention	To what extent has the organization succeeded over time in retaining valuable intellectual resources?
Market reputation	To what extent has the organization successfully achieved and maintained solid market standing?
Exploitation	To what extent has the organization successfully exploited market opportunities?
Assessment	To what extent does the organization have an effective self-assessment mechanism?

2.4. SEE and Innovation Performance

The competitive contexts in which organizations function vary over time, meaning that business strategies, practices, and mind-sets that were successful in prior times should not be regarded as monolithic if an organization is to adapt and prosper when its competitive landscape shifts [77,78]. Rapid learning that delivers timely innovation ranks highly among competitive edges exhibited by market leaders [50,79].

This is especially critical for organizations functioning in more uncertain or dynamic environments. In such environments, faster technology or service innovation and advancement drives the agility needed to respond to changing customer expectations [80]. This, in turn, fuels the drive toward sustainable business excellence via the development of new and innovative ways of performing business functions. In this way, organizational sustainability orientations encourage innovation [81,82]. Thus, research and development, technology innovation, business model innovation, and innovation in processes, leadership style, and structure each stimulate advancement toward sustained excellence [83–85].

Innovation is the key to organizational development and organizations that do not adapt or revolutionize ways of getting jobs done, managing people, dealing with customers, and governing enterprise risk stagnation or obsolescence [86]. More generally, the sort of innovation sought is social-ecological innovation (SEI) that results from the integration of sustainable innovation with innovation for sustainability. Innovation for sustainability presumes that some portion of the efforts included in organization's innovation portfolio must target social or ecological objectives, whereas sustainable innovation implies that the organization's approach to innovation is regular, routine, rigorous, systematic, and systemic [50]. Better SEI occurs when it is strongly aligned with organizational culture [87]. Strategic relationships between SEI, SEE, and C2C (Cradle-to-Cradle) approaches that recycle or transform end-of-product-life technical and organic components into nutrients for other or next-generation products have been identified and the means for their advancement described (for detail, see: [71]). Table 5 provides a subscale for innovation performance that is based on attributes and associated measurement items.

Table 5. Attributes-based measures of innovation performance results.

Attribute	Attribute-Based Measures
Engaging	To what extent does the organization encourage employee suggestions of new and innovative business ideas?
Consulting	To what extent does the organization engage external consultants for improvements?
Participating	To what extent does the organization participate in relevant seminars, conferences, and other similar learning occasions?
Initiating	To what extent does the organization implement new ideas?
Innovating	To what extent does the organization innovate its business approaches?
Collaborating	To what extent does the organization collaborate with industry leaders to learn new ways of business?
Launching	To what extent does the organization have a systematic mechanism to launch innovative ideas?
Promoting	To what extent does the organization want to be known as an innovative organization?
Excelling	To what extent does the organization utilize innovation as a strategic tool for gaining a competitive edge?
Caring	To what extent does the organization have a mechanism to collect customer voices?

2.5. SEE and Human Capital Performance

The strategic significance of an organization's human capital for competitiveness, business performance, and progress toward SEE and hence a sustainable future is widely acknowledged [88–90], with development and engagement being especially central [91,92]. The effective integration of business excellence, sustainable development, and continuous improvement required to prepare organizations call for the alignment of general strategic planning and human resource strategies [93,94]. This, in turn, improves the organization's ability to combat challenges to its survival through strategically and tactically improved competitive positioning.

The adoption of state-of-the-art human resource management practices has the potential to provide an enhanced work environment and quality of work life – two factors that are essential to high levels of employee motivation, engagement, loyalty, and commitment to organizational purpose [95]. The linkage of employee development efforts with employee intentions and behaviors and, in turn, healthy organizational cultures is well-established [96,97].

An organization is enriched when its human capital offers diverse individual attitudes, behaviors, capabilities, and actions. At the same time, such diversity creates management challenges that demand careful attention with respect to both individual and team dynamics (for detail, see: [98]). The ability of organizations to attract competent and diverse talent is the foremost enabler of human capital capacity building and is strongly related internally to the work environment and externally to an organization's market reputation. Optimizing the environment in which the organization's human ecology performs and the results of that performance requires an effective human resource management system that follows a highly strategic approach to the improvement of work, compensation, and career enrichment and advancement and, concurrently, a healthy work-life balance.

The SEE Model regards organizational ability for the effective and efficient management of human capital as a key indicator of the organization's propensity toward sustainable enterprise excellence. Table 6 provides a subscale for human capital performance that explores the extent to which the organization successfully capitalizes its available human ecology.

Table 6. Attributes-based measures of human capital performance results.

Attribute	Attribute-Based Measures
Attraction	To what extent has the organization succeeded in attracting talented intellectual capital?
Employment	To what extent has the organization succeeded in hiring valuable human capital?
Retention	To what extent does the organization successfully retain talented human capital?
Motivation	To what extent does the organization's human ecology consistently deliver best performance?
Appraisal	To what extent has the organization implemented a fair, transparent, and adaptive performance appraisal system?
Resolution	To what extent does the organization successfully resolve job-related grievances?
Promotion	To what extent does the organization provide clear and upward employee career paths?
Reputation	To what extent has the organization earned a positive reputation as a leading employer?
Compensation	To what extent does the organization provide competitive compensation?
Capacity building	To what extent has the organization succeeded in building its human ecology capacity and to what extent does it have a strategic plan in place to ensure ongoing improvement in this area?

3. Sustainable Enterprise Excellence Scale (SEES) Summary

The SEE assessment scale is based on six performance domains, as suggested by [1]: strategy and governance (SAG); process implementation and execution (PIE); financial performance results (FPR); sustainability performance results (SPR); innovation performance results (IPR); and human capital performance results (HCR). The constructs are essential for measuring the ability of an organization to achieve and sustain excellence. Each performance domain is represented by a construct composed of ten items, with each item being based on an associated attribute. Each item is assigned a score from 0 to 10 that depends upon the extent to which the organization excels with respect to the item attribute. Furthermore, scores of all the given items in a construct are summed to yield a total score for each construct. Finally, a summation of all six construct subtotals will provide a SEE score of the investigated organization that can range from 0 to 600, with higher scores indicating greater overall progress toward SEE.

Mathematically, this leads to the following formulation. Let X_{ij} be the score of the i th attribute for the j th construct, then $0 \leq X_{ij} \leq 10$. The score of the i th construct can be represented by S_i , where $S_i = \sum X_{ij}$, such that $0 \leq S_i \leq 60$. Finally, if the overall SEE score of the k th organization is represented by SEE_k , then $SEE_k = \sum S_i$, such that $0 \leq SEE_k \leq 600$.

A maximum score of 600 is expected for the organization believed to be excellent within all six performance domains provided that all constructs are weighted equally. However, interested organizations may determine priorities based on contextual facts by assigning relative weights, W_i , to each construct. If relative weights are assigned, then $SEE_k = \sum W_i S_i$, where $0 \leq W_i \leq 1$, while $(W_{GAS} + W_{PEI} + W_{FPR} + W_{SPR} + W_{IPR} + W_{HCR} = 1)$.

One simple procedure for assigning weights can be derived by asking an informed organizational representative or team of representatives to rank the six constructs from 1 to 6 in terms of priority without assigning duplicate ranks to any constructs, and with higher ranks signifying greater importance.

If a team from the organization is involved in assigning importance rankings, then the nominal group technique (NGT) can be used to derive a proxy ranking representing the collective wisdom of the team [99]. In using the NGT, the rank total (R_i) for each construct is first attained by adding ranks assigned by team members, from which the weight (W_i) of each construct can be calculated as $W_i = \frac{R_i}{\sum R_i}$ as $i = 1, 2, \dots, 6$. A similar approach can, if desirable, be applied within each construct to differentially weight the associated 10 items. The weight assignment technique can be beneficial in customizing the SEE assessment according to organizational or sectoral preferences and contextual realities. Figure 1 portrays the proposed SEE assessment approach where, for the sake of simplicity, each construct is equally weighted and, within each construct, each assessed item is equally weighted.

Figure 1. Sustainable Enterprise Excellence Scale (SEES).

4. Conclusions

This article presented a quantitative measurement scale for the Sustainable Enterprise Excellence (SEE) model proposed by [1]. The research journey of business excellence has a long history but with different nomenclatures in different times, which include performance excellence, organizational excellence, enterprise excellence, and operational excellence. Its roots can be traced to Taylorism as it was developed near the beginning of the twentieth century. The evolving field benefited greatly from Japanese Statistical Quality Control (SQC), British quality standards, ISO quality standards, business excellence models (BEM), Corporate Social and Environmental Responsibility (CSER), and the field of sustainability. A sophisticated and well-balanced integration of these intellectual knowledge-based sources emerged as the theoretical framework of Sustainable Business Excellence (SEE). Conceptually, the SEE approach is grounded in six constructs, namely: (I) governance and strategy; (II) process execution and implementation; (III) sustainability performance; (IV) financial

performance; (V) innovation performance; and (VI) human capital performance. This study provides organizations with a measurement scale that can be used to evaluate their performance against the SEE assessment criteria.

It is suggested herein that organizational governance and strategic standing be measured through ten items: (i) fairness and transparency; (ii) effectiveness; (iii) command and control; (iv) trustfulness; (v) competence; (vi) initiating; (vii) harmony; (viii) aggressiveness; (ix) corruption free; and (x) effectiveness. Ten measurements are proposed to assess organizational achievements on the process execution and implementation fronts: (i) job description; (ii) job clarity; (iii) process clarity; (iv) process implementation; (v) stakeholder identification; (vi) representation; (vii) alignment; (viii) monitoring and controlling; (ix) creative problem-solving; (x) and acceptability. For the measurement of organizational financial behavior, ten attributes were proposed herein: (i) reliability; (ii) trust; (iii) availability; (iv) performance; (v) expectancy; (vi) accountability; (vii) resilience; (viii) fairness and transparency; (ix) solvency; and (x) diversification. Organizational business excellence is significantly associated with the organization's ability to remain sustainable on socio-economic fronts. To measure organizational sustainability performance, ten attributes were proposed herein: (i) competitiveness; (ii) customer expectation; (iii) exploration; (iv) expansion; (v) collaboration; (vi) goal orientation; (vii) retention; (viii) market reputation; (ix) exploitation; and (x) assessment. Organizations have always been exposed to severe and persistent challenges to be innovative for the sake of survival. To assess how effectively and efficiently an organization delivers on this front, ten attributes were proposed herein: (i) engaging; (ii) consulting; (iii) participating; (iv) initiating; (v) innovating; (vi) collaborating; (vii) launching; (viii) promoting; (ix) excelling; and (x) caring. Human capital is the most valuable asset for organizations and managing it properly is essential to achieving business excellence. To assess organizational performance in managing human capital, ten attributes were proposed herein: (i) attraction; (ii) employment; (iii) retention; (iv) motivation; (v) appraisal; (vi) resolution; (vii) promotion; (viii) reputation; (ix) compensation; and (x) capacity building.

The proposed measurement scale has the potential to be highly beneficial to organizations willing to measure and gauge their business processes for sustainable excellence in rigorously competitive markets. The assessment approach provided herein can also be used as a self-assessment tool by organizations before submitting to an independent third-party external assessment or audit for quality certification or process validation purposes. SEE could prove more effective and add more value if adopted and exercised considering the approach proposed by [100]. Future research focused on SEE could take multiple directions, including the development of means of measurement such as maturity indices for the items associated with each of the six constructs and, as a natural evolution, the establishment of the statistical validity and reliability of the proposed scale through a field survey. The proposed framework needs to be validated using real-time data to enhance its application to industrial stakeholders' concerns in relation to sustainable business solutions.

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