

The Impact of Applying Sustainable Leadership Principles on Achieving the Characteristics of a Smart Organisation: A Field Study

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Abstract: *The importance of sustainability and environmental protection are among the most important pillars of contemporary business organisations that are described as intelligent. We attribute the first responsibility for this to the organisation's leadership because it is the one that can support sustainability issues and considers them as part of its work ethics. Therefore, the objective of our study is to identify the most important principles of sustainable leadership that can contribute to achieving the characteristics of a smart organisation. Especially in Algerian public hospitals, because they are the most important service institutions in the country. In addition, the intelligence of business organisations does not mean the acceleration in acquiring and developing information and communication technology. However, it has also included environmental, social, and economic standards. In order to achieve the objective of the study, we reviewed the most important intellectual literature that dealt with the two variables (sustainable leadership and intelligent organisation), in addition to designing a questionnaire to collect information divided into three main axes. It was distributed to a sample of employees in public hospitals in Djelfa (Algeria). We used statistical programs (SPSS, smart pls) to process the data from the questionnaire. The tests showed several important results, including that the principle of conservation and social justice has an important impact on achieving the characteristics of smart organisations in public hospitals in Djelfa. This indicates that the leadership of hospitals attaches great importance to these two principles. It seeks to conserve the resources used through prudent use. It also considers that social justice among members of society is one of its priorities, especially since we know that these hospitals are public and accessible, aimed at all citizens without exception. Several important recommendations, among them the need to support the efforts of conservation and social justice for hospitals to ensure the continuation of adopting the characteristics of smart organisations. They should also reconsider the embodiment of the principles of sustainable leadership by working to deepen sustainability and consolidate it among its leaders and then exporting their ideas inside and outside the organisation.*

Keywords: leadership, sustainability, environment, smart organization, a field study.

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1. Introduction

For a short while ago, it was believed that the intelligence of organisations depended on their possession of state-of-the-art technology. Its development has gone beyond reason, and staying in competition is linked to its control, but today, things have changed. Intelligence is becoming linked to creating twinning between the organisation and the environment through developing a strategic vision and a culture based on merit, working to continuous learning and acquiring knowledge, and making sustainability one of its priorities for the current and future period. So, attaining the attributes of a smart organisation hinges on genuine commitment and support from the organisation's leadership. This is why we advocate for adopting sustainable leadership principles within the organisation. Contemporary environmental changes require the organisation to have an internal driving force to navigate them successfully. Sustainable leadership, in particular, strongly emphasises influencing individuals' behaviours, values, and emotions to achieve shared long-term objectives. A sustainable leader should possess certain traits, including ethical responsibility, the ability to inspire and motivate individuals, and the capacity to act sustainably, especially in the case of environmental uncertainty (Woo & Kang, 2020).

To get closer to this perception, we approached some hospitals in our region to answer the following question: *What impact has the application of the principles of sustainable leadership had on achieving the characteristics of a smart organisation in public hospitals in the city of Djelfa-Algeria?*

That is why the author asked the following sub-questions:

- What is meant by sustainable leadership? What are the most important principles on which it is based?
- What are the most prominent characteristics that ensure the achievement of a smart organization?
- Is there a statistically significant effect at a significant level ($\alpha \leq 0.05$) of applying sustainable leadership on achieving the characteristics of a smart organization in public hospitals in Djelfa?
- Are - there statistically significant differences at the level of significance ($\alpha \geq 0.05$ according to the sample studied in the direction of the study variables (sustainable leadership principles, characteristics of the smart organization) due to personal and functional factors (gender, academic level, years of seniority)?

From the two previous practical questions, the author assumes:

- First hypothesis: There is a statistically significant effect of applying the principles of sustainable leadership on adopting the characteristics of the smart organization within Djelfa city hospitals.
- Second hypothesis: There are statistically significant differences in the utilization of sustainable leadership principles for adopting smart organization traits within public hospital institutions of Djelfa city when accounting for at least one variable modification through the personal data aspect of the study.

Importance of the study:

- The importance of the study stems from the fact that it sheds light on an important point in the world today, the concern for the environment, which is the responsibility of all groups in society, especially business organizations. Because of its direct relationship with the environment, it affects and is affected by it. Therefore, achieving the requirements of the environment depends on adopting sustainability among the goals of the organization.
- The importance of the study comes in the direction of changing some of the traditional practices of the organization to apply the principles of sustainable leadership as one of the requirements of today's world, in addition to introducing some of the characteristics of the smart organization, such as adding environmental and community standards.

Objectives of the study:

- Review the intellectual literature relevant to the study's variables and dimensions;
- To recognize the characteristics of an intelligent organization that responds to contemporary requirements;
- Identifying the principles of sustainable leadership presented by the various researchers in their studies and weighting the most prominent ones that will help us carry out the field study in the institution under study;
- Determine the impact of applying the principles of sustainable leadership on the adoption of the learned organization characteristics of the organization in question.

2. Literature Review

2.1 Smart Organization

Concept. A smart organisation integrates technology with its new tasks to ensure the compatibility of the organisation and the environment (Al Shobaki, Abu Naser, Abu Amuna, & El Talla, 2018). This type of organisation is often called a knowledge-centric entity, where its members collaborate with a shared drive for growth. It cannot only detect and understand its environment but also operates within a framework that mirrors its real-world context. Furthermore, it exhibits the agility required to adjust to its surroundings and capitalise on opportunities to maintain its competitiveness (Al-Ukosh, 2020). Therefore, a smart organisation attains consistent and enduring success by adapting to its external environment, capitalising on opportunities, and cultivating a work environment conducive to learning, development, and knowledge acquisition. This, in turn, empowers the organisation to make distinctive decisions that set it apart (Ali Abdullah, Hamad, & Abdul Karim, 2020).

Characteristics of a Smart Organisation. The authors summarize them as mentioned in (Al-Zoubi & Al-Nawasra, 2019).

- **Risk-Taking:** This involves seizing opportunities associated with manageable risks, where employees are encouraged to confront and address these risks themselves.
- **Independence:** The organization actively pursues independent processes, serving as a driving force for entrepreneurs in realizing their aspirations.
- **Motivation:** Smart business organizations foster motivation among their employees by offering both material and moral incentives to incentivize outstanding performance.
- **Division of Labor:** Responsibilities within these organizations are meticulously defined, ensuring efficient task distribution that unleashes the full potential and talents of employees.
- **Future Vision:** Smart organizations create a well-defined future vision by meticulously analyzing the external environment and subsequently formulating future-oriented plans.
- **Creativity:** This trait signifies the capability to generate novel ideas and translate them into tangible achievements.

The Importance of a Smart Organisation. Some have emphasized that smart organizations prioritize investing in the intellectual capital and information technology available to them. They do so through a valuable system built on principles such as transparency and information sharing while moving away from hierarchical structures and functional silos. In these smart organizations, the focus is on defining responsibilities and tasks, promoting diverse experiences, and maximizing the skills of each individual.

However, certain studies have overlooked the critical role of human intellectual resources and their reciprocal interactions in shaping smart organizations. As Skandia, as cited by (Al-Jubouri, 2020) suggests, the organization's intelligence can be likened to a combination of (Schafer, 2009) intellectual capital, technology, and information, forming a structured body of intellectual assets. In a smart organization, the utilization of knowledge management practices is of paramount importance (Salih & Ismael, 2018). These practices serve as adaptable tools for navigating the constantly evolving business landscape. They enable the identification of opportunities and early risk mitigation, empowering organizations to make well-informed and astute decisions, particularly in intricate and unpredictable environments. Consequently, knowledge management

and organizational intelligence are interdependent, each supporting and enhancing the effectiveness of the other (Ahlam & Newar, 2020).

Smart Organisation Dimensions. Researchers have examined the concept of the smart organization, scrutinizing its principles and characteristics as tangible metrics used to gauge the degree of intelligence within organizations. Among these studies, the initial work stands out as one of the most prominent (Matheson & Matheson, 2001), which posited that three fundamental principles exist: achieving objectives, comprehending the environment, and leveraging resources. Albrecht (2003) added seven dimensions (strategic vision, shared destiny, desire for change, discretionary effort, alignment and congruence, knowledge, pressure and action). Hansen (2003) presented a model of five dimensions (external information awareness, internal knowledge, effective decision structure, organizational focus, and continuous innovation). In our study, we will choose the model of (Schafer, 2009) who divided the dimensions into:

Strategic Vision. It is the overarching vision of an organisation or a closely related concept known as the organisational dream. It represents a future-oriented perspective for the organisation. It also serves as a source of belonging and loyalty for employees. This vision encompasses broad and far-reaching aspirations and is directed towards the future (Al-Titi, 2013). The organisation's vision is what the organisation wants to achieve. It is characterised by comprehensive and clear awareness, especially for future developments (Ilesanmi, 2011). The strategic vision can be considered as that statement of the dream that the organisation aspires to, which reflects the long-term future picture of what the organisation will be. They are associated with challenge, ambition, broad-mindedness, and breaking down of difficulty.

Culture of Meritocracy is a professional combination of knowledge, skill, behaviour and abilities directly related to performance (Al-Fadala, 2018). In addition, one of the principles of the smart organization is the culture of generation value, which is a general orientation towards its maximum value, as it needs, like other organizations, reasons for existence, so it continues to work on clarifying the reason for its existence, revealing the dimensions of the smart organization – an analytical study of a sample of the teaching staff at Samarra University Issue:126 December/ 2020 (660) and ensures that all individuals working for it understand this reason and that they use this understanding as a final choice to judge their strategies, activities and work whether they generate value for customers and the organization, that is, the organization ensures that its culture gives high priority to value generation (Ali Abdullah, Hamad, & Abdul Karim, 2020).

Rewards and Incentives. A smart organization adapts its incentives to encourage behaviour, i.e., associated with collective intelligence. By setting incentives that reward effective workers. For example, creating incentives and rewards that help develop a team that adapts quickly to the environment. Or as a plan for incentives for the organization, which enhances the organization's values (Qandil, Nebras, Fadel Al-Tarfi, & Al-Shammari, 2023).

2.2 Sustainable Leadership.

Concept. Sustainable leadership is a concept that has been practiced by human groups throughout history and continues to be relevant today. Leadership involves the art of influencing others, fostering their understanding and agreement on what actions to take and how to execute them, and guiding both individual and collective efforts toward the attainment of shared objectives. It is important to note that leadership is an interactive dynamic characterized by two-way communication between leaders and subordinates rather than a one-directional process (Shahhosseini & Ali Nadi, 2015). Leadership entails guiding and inspiring individuals within an organization, primarily through the leader's influence rather than relying solely on authority. It involves the capacity to shape the behaviour of others. Leadership carries a significant responsibility for decision-making processes (Kiyak & Bozkurt, 2020). Thus, its goals and roles will constantly change, as it is affected by five basic factors: competition, information technology, speed, flexibility, teams and employee needs (Kiyak & Bozkurt, 2020).

On the other hand, leadership can be viewed as the art or process of influencing members of an organisation in a way that makes them act willingly. It is also keen to train followers to focus their efforts on accomplishing a certain task, as they are dedicated to ensuring the organisation's survival on the one hand and achieving common goals on the other (Delia, 2018). We note that leaders and subordinates formulate common goals, as a result of which they make a series of changes without coercive force but rather the opposite with a mutual desire (Rosari, 2019). Leadership is a real skill that requires time, thinking and dedication (Qadri, 2016). Sustainable leadership can be considered one of the key forces influencing long-term change or continuity. Sustained leadership behaviour emerges when there are friendly and collaborative behavioural interactions

(Çayak, 2021). Iqbal & Piwowar-Sulej (2022) believe that it is the organisation's leadership towards sustainable development by implementing socially responsible activities.

Sustainable leadership is achieved through the interplay of three key elements: sustainable management, sustainable projects, and sustainable practices (Purnomo, Septianto, Anam, Rahmayanti, & Wiyono, 2021). Sustainable leadership operates equitably and ethically when engaging with internal and external stakeholders. It accomplishes this by formulating sustainable business models and strategies (De la Rosa, Riera-Roca, & Bulmer, 2023). Sustainable leadership proves to be a practical approach to addressing enduring challenges. Ene (2023) observed that it is a continuous and enduring practice within organizations. This perspective is supported by Bulmer and Wójcik, who contend that this long-term vision enables organizations to endure hardship periods and crises, including the stagnation of international trade, intense competition, and events like the COVID-19 pandemic. Sustainable leadership emphasizes balancing economic, social and environmental (Ene, 2023). Awan and Rehman Khan (2021) further endorse the notion that sustainable leadership is manifested through ethical conduct, facilitating individuals in addressing challenges and achieving shared objectives meaningfully. Woo and Kang (2020) contend that sustainable leadership is a transformative process that centres on individuals' emotions, values, ethics, and long-term objectives, ultimately leading to economic, social, and environmental advancement.

The importance of Sustainable Leadership. We begin with a statement (Roy, Sritama Dey, & Tania, 2022): “Business is wholly owned by society and the environment wholly owns society”. The significance of sustainable leadership lies in its role as a conduit for organizations to meet the demands of environmental sustainability. It underscores the necessity of striking a balance between economic, social, environmental, and sustainable factors, all while safeguarding the welfare of future generations, as highlighted by (Ene, 2023).

Characteristics of Sustainable Leaders. A sustainability leader inspires and supports action towards a better world (Visser & Courtice, 2011). They are the people who initiate generative thinking and action with others aimed toward co-creating a better world (Institute, 2011). It is difficult for us to convince leaders to change their old methods to move towards sustainable practices. However, they have skills that enable them to adopt modern ones (Dahiru et al., 2023). A sustainable leader can foster sustainable behaviours within their group or team (Bulmer & Wójcik). They inspire and encourage them to understand the business climate, thereby increasing sustainable performance (Iqbal & Piwowar-Sulej, 2022). Sustainable leaders must possess a strong ethical foundation and a sense of purpose, as these qualities are vital in driving change, fostering creativity, and spurring innovation (Boeske, 2023). They also need to serve as a source of inspiration for their subordinates.

Dimensions of Sustainable Leadership. In the realm of sustainable leadership, researchers have put forth various principles, some of which have garnered consensus, while others have sparked disagreement, depending on the specific study's requirements and the context of the field research. Notably, all these studies draw from the foundational research of (Hargreaves, Fink, 2004). In our study, we will select five dimensions that align with the objectives of our research:

- **Depth:** The organization must move away from superficial choices (Lambert, 2012) that represent temporary solutions to problems and difficulties, that is, have an essential sustainable value (Çayak, 2021). It must identify all its current and future dimensions and try to turn towards its strategies and vision.
- **Sustainability:** It means the continuity of business within the organization for a long time, such as the sustainability of learning and success, which allows the generation and exploitation of knowledge to develop, in addition to the sustainability of the leadership of others by involving them in the decision-making process and delegating some powers, which gives him a sense of belonging (Al-Jawdah & Al Shamasi, 2022).
- **Consolidation:** involves maintaining and strengthening cooperation through sustained collaborative efforts and enduring partnerships, all aimed at realizing mutual benefits. (Hamid Al-Hadrawi, Muhammad Al-Janabi, & Ahsuni, 2018). Cooperative work requires both parties to establish open trust and confidence grounded in shared objectives, identify mutually agreed-upon problem-solving methods, and commit to diligently pursuing measurable and ongoing enhancements (Al-Bakri, 2023).
- **Social justice:** This concept refers to distributing resources and rewards to employees fairly and the integrity of the procedures used in making decisions (Al-Jawdah & Al Shamasi, 2022). Furthermore, the evolving responsibilities of organizations in the context of sustainability necessitate a focus on serving

society without discrimination. Their social responsibility mandates that they prioritize actions that contribute to the betterment of society at large.

- **Preservation:** It refers to safeguarding all the physical and human assets of the organization. This is achieved through learning from past experiences and using foresight to shape the future (Hawaluh & Al-mutairi, 2019).

This can be accomplished by nurturing and appreciating human resources, ensuring they receive the support and recognition they deserve for their contributions to the organization. *Human resources* are the true capital that appreciates investment and development. Additionally, the utilization of resources should be done judiciously, as resource preservation is a fundamental aspect of sustainability.

3. Methodology and Research Methods

The Community and Sample of the Study. This study is concerned with testing the impact of applying sustainable leadership principles on achieving smart organizational characteristics. The research was conducted in public hospital institutions in the Djelfa province of Algeria. It included all hospital personnel, regardless of their roles: senior executives, executives, supervisors, and employees. The community consisted of 362 workers. 150 questionnaires were distributed. The number of appropriate questionnaires for analysis has reached (70).

Research Model. This investigation is guided by the study's hypotheses and objectives and employs the structural equation modelling method. The provided figure elucidates the research model, which was developed using structural equation modelling, employing the Partial Least Squares (PLS) method and the Smartpls 4 software.

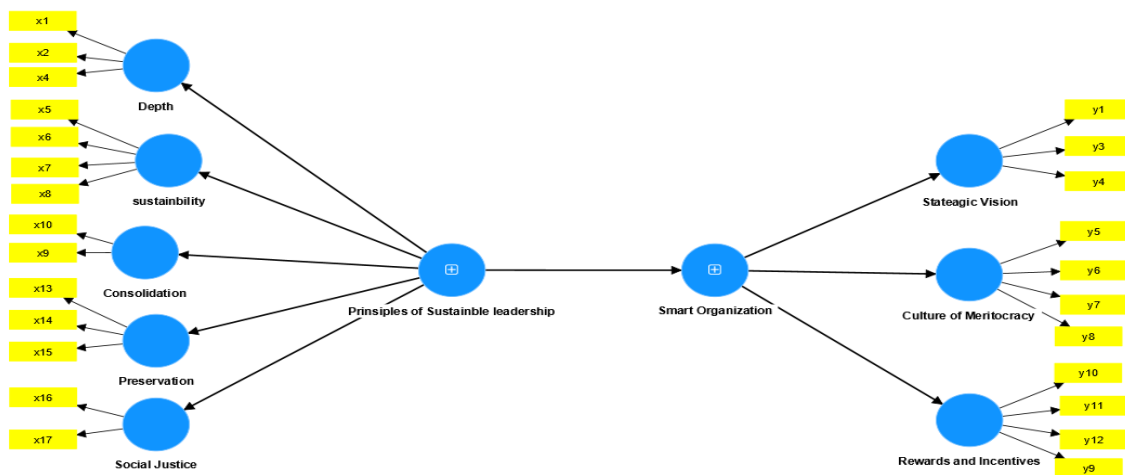


Figure 1. The General Structural Model of the Study According to the Structural Equation Modeling Method

Source: Compiled by the authors based on the outputs of (Smartpls 4)

The study's structural model encompasses two primary categories of study variables. It begins with the independent variable, which comprises five dimensions of sustainable leadership principles: depth, sustainability, consolidation, preservation, and social justice. On the other hand, the dependent variable is centred on the Characteristics of a smart organisation. It includes three dimensions: strategic vision, a culture of merit, and the wage and incentive system.

The Core Elements of the Research Instrument: To attain the intended outcomes of the field study, following the guidance of prior research exploring these aspects, we input questionnaire data into the Statistical Software for Statistical Packages for Social Sciences (SPSS version 25). Subsequently, we analysed using the SPSS software and the Smart PLS 4. The questionnaire was designed and divided into three sections.

Table 1. Details of the Questionnaire Phrases

Statement	Dimension	statement Number	Code
Principles of Sustainable Leadership	Depth	Phrases 1 to 4	X1 to X4
	Sustainability	Phrases 5 to 8	X5 to X8
	Positioning	Phrases 9 to 12	X9 to X12
	Preservation	Phrases 13 to 15	X13 to X15
	Social justice	Phrases 16-19	X16 to X19
Characteristics of the Learned Organization	Strategic Vision	Phrases 20 to 23	Y1 to Y4
	Culture of meritocracy	Phrases 24-27	Y5 to Y8
	Wages and Incentives	Phrases 28-31	Y9 to Y12

Source: Compiled by the author from the questionnaire's data

About the scale used for the study phrases, the five-point Likert scale (strongly agree, agree, agree to a medium degree, disagree, strongly disagree) was adopted as one of the most common and used measurements by researchers and specialists in many studies.

Reliability of the Questionnaire. Below are the results of the Cronbach's Alpha values of the exploratory study and the final study.

Table 2. The Study's Cronbach's Alpha Reliability Coefficient Values

S/N	Variable	Number of paragraphs	Cronbach's alpha value for the study
01	Principles of Sustainable Leadership	19	0.860
02	Characteristics of a Smart Organization	12	0.845
	The questionnaire	31	0.895

Source: Compiled by the author based on the outputs of SPSS version 25

The table above reveals that the reliability coefficients for all variables in the study surpass 0.8. The overall coefficient is 0.895, signifying the measurement tool's robust and enduring stability for future use under similar conditions. Furthermore, it demonstrates remarkable internal consistency among the phrases and their corresponding dimensions. Notably, the fundamental dimensions of the study, encompassing sustainable leadership principles and smart organizational characteristics, exhibit high stability with values of 0.860 and 0.845, respectively. These results provide additional confidence in the reliability of the measurement tool for the study variables.

Personal and Functional Characteristics of the Study Sample. After unpacking all the questionnaire data, we carry out a descriptive analysis of the first section of the questionnaire, represented in the study sample's personal and functional characteristics, through three elements: gender, academic level, and seniority years. These characteristics can be enabled through the repetitions of the results reached and the corresponding ratios as follows:

Table 3. Descriptive Statistics to Personal and Functional Variables

Title	Phrase	Frequency	Percentage %
Gender	Male	50	53.2%
	Female	44	46.8
Educational level	Secondary school level	21	22.3
	Bachelor/ Master	17	18.1
	advanced studies	6	6.4
	Paramedic	36	38.3
	Medic!	14	14.9
Seniority years	Less than 5 years	46	48.9
	From 6 to 10 years	29	30.9
	From 11 to 11 years	9	9.6
	16 years and over	10	10.6

Source: Compiled by the author based on the outputs of the (SPSS version 25)

The table above shows that the study sample comprises nearly equal proportions of both females and males. We note that the percentage of paramedics is large because hospitals need them a lot. Regarding the years of seniority, the group with less than five years of experience falls within a range close to the middle of the sample, while the category of 6 to 10 years accounts for 30.9% of the total.

Analysis of Study Findings. In analyzing the study's findings, we will rely on evidence and indicators through the (smart pls 4) program. These tools are represented in the evidence of the sincerity of convergence and the evidence of the sincerity of differentiation, as well as the quality indicators of the model (Q^2 . F^2 . R^2 , GOF) are also called model suitability indicators. They are considered a core constituent in adopting the structural equation modelling method by testing the model in general and accepting or rejecting it according to the frameworks and fields provided by researchers and specialists in this field. They provide more explicit images of the suitability of a model of information related to the study with the proposed model.

Proximity Validity evidence. Proximity validity assesses the closeness and compatibility of questions with each other. After analyzing the results, the following findings were obtained for all the statements, as presented in the table below.

Table 4. Results of Proximity Validity Evidence

Indicator	Statements	Factor Loading	Composite Reliability	λ Ave λ
Acceptance Rate	-	Greater than 70%	Greater than 70%	Greater than 50%
Depth	X1:	.902	0.935	0.827
	X2	0.935		
	x3	0.453		
	X4	0.891		
Sustainability	X5	0.816	0.898	0.689
	X6	0.913		
	X7 :	0.726		
	X8 :	0.854		
Positioning	X9	0.938	.970	0.942
	X10	0.911		
	x11	0.245		
	x12	0.799		
Preservation	X13	0.928	0.916	0.784
	X14	0.871		
	X15	0.855		
Social justice	X16	0.830	.829	.708
	X17	0.852		
	X18	0.548		
	X19	0.455		
Strategic Vision	Y1	.795	0.868	.688
	Y2	0.254		
	Y3	0.871		
	Y4	0.821		
Culture of merit	Y5	0.838	0.825	0.544
	Y6	0.777		
	Y7	0.712		
	Y8	0.708		
Wages and Incentives	Y9	0.729	0.883	0.655
	Y10	0.799		
	Y11	0.858		
	Y12	0.846		

Source: Compiled by the author based on the outputs of (Smartpls 4)

Factor Loading. The external load coefficient must exceed its value of 0.708 because this quadratic number (0.7082) is equal to 0.50, and we note from the results of the Table above that the indicators of phrases (Y2.X19.X18.x11X3) have external load coefficients that are less than 0.7, these indicators and have to be deleted.

Composite Reliability. From Table 4, all CR coefficients are significant and statistically acceptable because they are greater than 0.7, indicating a correlation between the study paragraphs in measuring the underlying variables and, therefore, the reliability of the measurement model used.

The Average Variance Extracted. Analyzing Table 4, all the significant Average Variance Extracted (AVE) coefficients surpass the threshold of 0.5. This signifies that each latent variable accounts for more than half of

the variations in its respective indicators. Consequently, this attests to the achievement of convergent validity in the model, indicating that the questions in the model are indeed compatible.

Discriminant Validity Evidence. It is the extent to which the construction is truly distinct from other constructions according to empirical criteria proving the validity of the distinction means that the construction is unique, capturing phenomena not represented by other constructions in the model and by M. Hult et al., there are two criteria for evaluating discriminatory honesty:

Cross Loading Indicator. The author verified that the questions that measure one latent variable do not measure another latent variable by that the value of the relationship between the question and its latent variable is greater than the value of its relationship with another latent variable to say that the questions are independent, and this is consistent with our study model.

Table 5. The Results of the Cross Loading Index

Statements	Depth	Sustainability	Positioning	Preservation	Social justice	Strategic Vision	Culture of meritocracy	Wages and Incentives
X1:	0.901	0.611	0.518	0.513	0.418	0.327	0.332	0.163
X2	0.935	0.568	0.491	0.512	0.287	0.422	0.427	0.286
X4	0.892	0.526	0.604	0.512	0.260	0.384	0.400	0.208
X5	0.386	0.816	0.518	0.431	0.445	0.345	0.431	0.150
X6	0.474	0.912	0.511	0.463	0.223	0.419	0.412	0.196
X7:	0.425	0.730	0.376	0.098	0.233	0.174	0.318	0.004
X8:	0.477	0.852	0.501	0.495	0.267	0.444	0.366	0.165
X9	0.356	0.437	0.971	0.505	0.349	0.433	0.422	0.312
X10	0.518	0.619	0.970	0.402	0.367	0.420	0.440	0.305
x12	0.498	0.514	0.799	0.478	0.402	0.855	0.478	0.353
X13	0.494	0.473	0.457	0.928	0.472	0.562	0.485	0.371
X14	0.470	0.408	0.422	0.872	0.442	0.491	0.458	0.412
X15	0.442	0.303	0.356	0.854	0.372	0.493	0.344	0.433
X16	0.261	0.341	-0.306	0.399	0.829	0.576	0.593	0.391
X17	0.329	0.362	0.314	0.420	0.852	0.264	0.282	0.170
Y1	0.365	0.646	0.412	0.489	0.456	0.794	0.536	0.557
Y3	0.311	0.396	0.346	0.528	0.349	0.871	0.589	0.452.
Y4	0.360	0.357	0.339	0.337	0.370	0.821	0.548	0.339
Y5	0.435	0.458	0.437	0.455	0.458	0.537	0.838	Four eighty-six.
Y6	0.365	0.338	0.387	0.552	0.466	0.564	0.777	0.412
Y7	0.266	0.278	0.268	0.220	0.263	0.321	0.712	0.437
Y8	0.159	0.264	0.188	0.155	0.292	0.549	0.780	0.474
Y9	0.235	0.170	0.270	0.358	0.335	0.539	0.406	0.729
Y10	0.171	0.182	0.267	0.338	0.296	0.547	0.534	0.799
Y11	0.205	0.089	0.261	0.404	0.225	0.429	0.541	0.858
Y12	0.176	0.103	0.228	0.372	0.203	0.505	0.440	0.845

Source: Compiled by the author based on the outputs of (Smartpls 4)

Discriminant Validity Evidence. It is the extent to which the construction is truly distinct from other constructions according to empirical criteria proving the validity of the distinction means that the construction is unique, capturing phenomena not represented by other constructions in the model and by M. Hult et al., there are two criteria for evaluating discriminatory honesty:

Cross Loading Indicator. The author verifies that the questions that measure one latent variable do not measure another latent variable by that the value of the relationship between the question and its latent variable is greater than the value of its relationship with another latent variable to say that the questions are independent, and this is consistent with our study model.

Variable Correlation. The author measures the difference in dimensions, and the value of the relationship between the dimension and itself must be greater than the value of the relationship with another dimension to say that the dimensions are independent. The results of the study are shown as follows.

Table 6. Variable Correlation Index (VC) Results

Themes	Sustainability	Positioning	Strategic Vision	Social justice	Depth	Preservation	Culture of meritocracy	Wages and Incentives
Sustainability	0.830							
Positioning	0.551	0.871						
Strategic Vision	0.418	0.369	0.829					
Social justice	0.418	0.369	0.471	0.841				
Depth	0.591	0.608	0.416	0.352	0.910			
Preservation	0.451	0.468	0.583	0.487	0.530	0.885		
Culture of meritocracy	0.462	0.444	0.558	0.513	0.426	0.489	0.838	
Wages and Incentives	0.170	0.318	0.561	0.329	0.243	0.455	0.521	0.809

Source: Compiled by the author based on the outputs of (Smartpls 4)

The author notes from Table 6 values that the relationship of each variable to itself constitutes the highest value compared to its relationship with the rest of the variables. This is evidence that the latent variables are independent. This confirms the quality of fit of the measurement model. Therefore, we can rely on the study model.

Heterotrait-Monotrait Ratio (HTMT) refers to the ratio of interfacial attribute correlations to internal attribute correlations.

Table 7. The Results of the Heterogeneity Attribute – the Monotrait Attribute of the Correlations (Heterotrait – Monotrait Ratio)

Themes	Sustainability	Positioning	Strategic Vision	Social justice	Depth	Preservation	Culture of meritocracy	Wages and Incentives
Sustainability								
Positioning	0.611							
Strategic Vision	0.468	0.418						
Social justice	0.380	0.497	0.610					
Depth	0.683	0.670	0.499	Four eighty-six.				
Preservation	0.490	0.517	0.715	0.680	0.603			
Culture of meritocracy	0.584	0.530	0.789	0.784	0.519	0.593		
Wages and Incentives	0.192	0.361	0.724	0.478	0.282	0.554	0.731	

Source: Compiled by the author based on the outputs of (Smartpls 4)

Table 7 shows that all HTMT values are below the threshold level of 0.9, which means that the dimensions have genuine differentiation in the measurement model of this study. In summary, the evaluation results of the measurement model above indicate that the criteria and conditions for assessing the validity of convergence and differentiation have met the required threshold. This is a reassuring sign of the measurement model's quality and validity.

Evaluation of the Structural Model

The structural model of the study. The following figure illustrates this after employing the evidence of the validity of convergence and the validity of differentiation, that is, after unsaturated exclusion.

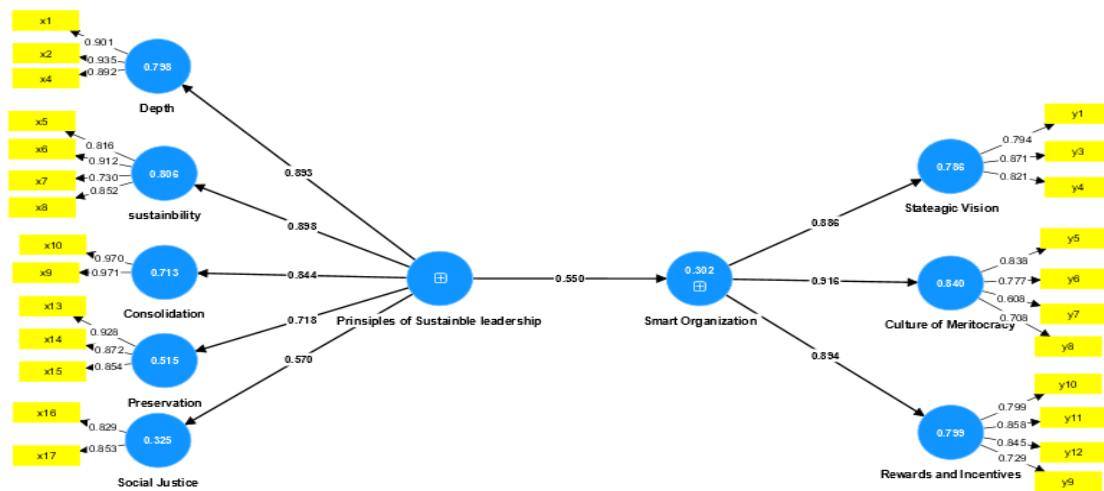


Figure 2. The Final Form of the Study

Source: Compiled by the author based on the outputs of (Smartpls 4)

Assessing the Quality Indicators of the Study Model. These indicators are Coefficient of Determination Index (R²), Impact Volume Index (F²), and Predictive Capacity Index (Q²).

Table 8. Results of the Study Model Quality Indicators

Indicator	Definition	Obtained Result	Resolution
Coefficient of Determination Index (R ²)	The ability of independent variables to explain the dependent variable	Characteristics of a Smart Organization	0.3 Moderate
Impact Volume Index (F ²)	The impact of all independent variables on dependent variables	Principles of Sustainable Leadership	0.434 Very High
Predictive Capacity Index (Q ²)	The ability of independent variables to predict dependent variables	Characteristics of a Smart Organization	0.221 Good.

Source: Compiled by the author based on the outputs of (Smartpls 4)

From the above table, we note that all the results of the indicators are good, reassuring that the studied model is of high quality and giving us more confidence to answer the study's hypotheses.

4. Results

Testing the first main hypothesis

Table 9. Results of Testing the First Main Hypothesis

Statement	Slope Rate	Standard Deviation	t	p Value	Resolution
Principles of Sustainable Leadership → Characteristics of a Smart Organization	0.550	0.049	11.145	0.000	Hypothesis accepted

Source: Compiled by the author based on the outputs of (Smartpls 4)

Through the above table, we found that there is an impact of the independent variable (sustainable leadership principles) as an independent variable on the achieving of the characteristics of the smart organization as a dependent variable in public hospital institutions of the city of Djelfa at a significant level (0.05 = α), because its probability value is 0.000, which is less than the significant level of 0.05.

The author divides the first main hypothesis into five sub-hypotheses.

Table 10. Results of Sub-Hypothesis Testing

Statement	Slope Rate	Standard Deviation	t	p Value	Resolution
Depth → Smart Organization Characteristics	0.010	0.164	0.068	0.946	Hypothesis rejected
Sustainability → Smart Organization Characteristics	0.021	0.169	0.123	0.902	Hypothesis rejected
Consolidation → Smart Organization Characteristics	0.180	-0.128	1.411	0.158	Hypothesis rejected
Preservation → Smart Organization Characteristics	0.333	0.095	3.520	0.000	Hypothesis accepted
Social Justice → Smart Organization Characteristics	0.323	0.073	4.455	0.000	Hypothesis accepted

Source: Compiled by the author based on the outputs of (Smartpls 4)

The table reveals the impact of each of them (preservation, social justice) as the dimensions of the independent variable sustainable leadership principles and achieving the smart organisation's characteristics as a dependent variable among the employees in public hospital institutions in Djelfa. At a moral level ($0.05 = \alpha$) because its probability value is 0.000 for both dimensions, from which we accept the fourth and fifth hypotheses that there is an impact of applying sustainable leadership principles on achieving the characteristics of the organisation smart in public hospital institutions of the city of Djelfa through the two dimensions (preservation and social justice) while rejecting the rest of the hypotheses related to the following dimensions (depth, sustainability, consolidation) because their probability value exceeds 0.05 and thus has no impact.

Testing the second main hypothesis

Results of the Difference Test for the Modified Variables. The following figure shows the results of the model adopted in the test of the impact of the modified variables, represented by: (gender, academic level, and seniority years).

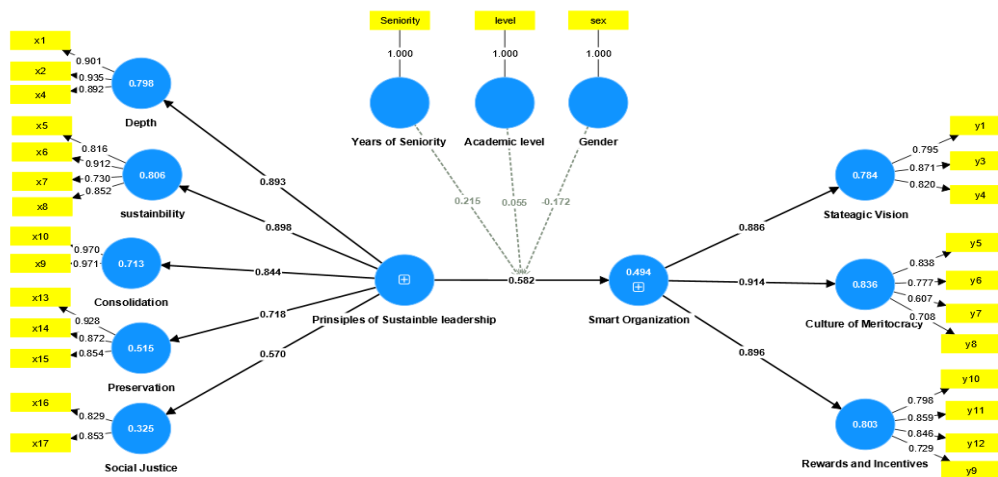


Figure 3. Differences Test Model for Modified Variables

Source: Compiled by the author based on the outputs of (Smartpls 4)

Table 11. Results of Testing Differences for Modified Variables

Resolution	Probability value (Sig)	Statistical value (T)	Standard Deviation	Slope Rate	Phrase
Rejected Hypothesis	0.299	1.038	0.165	0.172	Characteristics of a Smart organization → Gender
Rejected Hypothesis	0.563	0.579	0.095	0.055	Characteristics of a Smart Organization → Academic Level
Rejected Hypothesis	0.108		0.134	0.215	Characteristics of Smart Organization → years of seniority

Source: Compiled by the author based on the outputs of (Smartpls 4)

According to the above table, the probabilistic value of the gender variable was 0.299; therefore, it is greater than the significance level (0.05). That is, there are no statistical differences in the impact of applying sustainable leadership principles on achieving the characteristics of the smart organization in the presence of the gender variable as a modified variable in the relationship between them at the significance level ($0.05 = \alpha$). As well as the rest of the variables (academic level, seniority years), all exceed the moral level ($0.05 = \alpha$). Therefore, the rest of the hypotheses are not accepted; that is, there are no statistical differences in the impact of the Independent variable. On the dependent variable in the presence of a modified variable through the data of personality and job in the relationship between them among the employees Achieving the characteristics of the organization in public hospital institutions in the city of Djelfa at the significance level ($0.05 = \alpha$).

5. Conclusions

Organizations' quest to be smart makes them keen to resort to all means that can support their quest. Our study showed the extent to which sustainable leadership principles contribute to the embodiment of this endeavour, especially after we tested the study's hypotheses, as the results showed the impact of both preservation and social justice on the dependent variable in the hospitals under study.

The overall results are summarized in:

- The results are good for the evidence of the validity of convergence and differentiation.
- The quality of the model is good for all indicators.
- There is an impact of both the dimension of preservation and social justice on the achieving of the characteristics of the smart organization among the employees of public hospital institutions in the city of Djelfa.
- The dimensions of depth, sustainability and consolidation do not affect the achieving of the characteristics of the smart organization among the employees of public hospital institutions in the city of Djelfa
- The dimension of conservatism and social justice affect the characteristics of the smart organization among workers in public hospital institutions in the city of Djelfa.
- There are no statistical differences in the impact of sustainable leadership principles on achieving the smart organisation in the presence of modified variables (the data of personality and job) in public hospital institutions in Djelfa.

Recommendations: Through the results obtained and the literary thought of the two variables, we propose some recommendations, the most prominent of which are:

- The need to support the preservation and social justice efforts of hospitals to ensure the continued achievement of the characteristics of smart organisations;
- Public hospital institutions in the city of Djelfa should reconsider embodying the principles of sustainable leadership by ensuring that sustainability is deepened and consolidated among their leaders and then exporting their ideas inside and outside the organisation;
- Making the issue of sustainability and concern for the environment, in particular, the focus of change during the coming period for all hospitals in the region;
- Promote the social responsibility of the hospital, and hospital managers and administrators must ensure that they assume their full responsibility to the community.

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