

Applying sustainable balanced scorecard in Iraqi health units

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Abstract : The main objective of this research is to study and analyze the effectiveness of applying the balanced scorecard in health units. The importance of the research stems from the significance of the health services sector in society and the importance of performance and its evaluation in service units (hospitals). The study sample was the Maternity and Children's Teaching Hospital in Diwaniyah. This research highlights the importance of the sustainable balanced scorecard in enhancing business sustainability by adding environmental and social dimensions to the traditional balanced scorecard, and the important role this tool plays and how it can be an effective means to achieve a balance between financial performance and social and environmental responsibility. The research will discuss how to integrate the concept of sustainability into the traditional dimensions of the balanced scorecard. The study relied on the method of applying the balanced scorecard to the data of the hospital under study.

Keywords: Sustainable balanced scorecard, dimensions of the sustainable balanced scorecard, sustainable performance of health units

INTRODUCTION: In light of the many economic, social, and environmental challenges and developments witnessed by the world, it has become necessary for economic units to have the ability to achieve their financial and non-financial goals while considering their impact on society and the environment. The Iraqi health system in recent years has faced increasing challenges related to performance efficiency, service quality, and sustainable financial and administrative continuity, all within a complex environment involving economic, social, and political dimensions. The need to develop modern administrative tools that contribute to improving the performance of health units is urgent to ensure the continued provision of efficient and effective healthcare services. Hence, the importance of the sustainable balanced scorecard, which is considered a modern tool for evaluating and monitoring performance, as it helps units perform across several dimensions in a comprehensive and integrated manner. This is done by integrating financial and non-financial factors, including environmental and social variables, making it an important and innovative tool for achieving sustainable development goals.

The research is based on the hypothesis that integrating sustainability dimensions into the balanced scorecard provides a comprehensive vision for improving performance, going beyond the traditional financial perspective to include environmental and social dimensions that are essential for achieving sustainable development in the health sector.

Methodology

The research problem lies in the fact that the health sector in Iraq suffers from significant problems within health units and does not rely on specific indicators to measure performance in line with global indicators and standards, including the sustainable balanced scorecard. Therefore, the aim of this research is to highlight the role of the sustainable balanced scorecard in measuring the performance of health units in Iraq by applying the card's indicators and dimensions to the data of the hospital under study (Maternity and Children's Teaching Hospital / Diwaniyah) to improve the performance of health services provided to the community.

The importance of the research in this topic stems from the importance of the health sector in society due to its direct link to individual health and how to employ the sustainable balanced scorecard to improve the performance of health units.

The research aims to test a main hypothesis that represents a proposed solution to the research problem, which states: Sustainable performance of Iraqi health units can be improved through the application of the sustainable balanced

scorecard, as health units in Iraq have not achieved quality in their performance nor employed modern indicators and standards for performance measurement to develop and improve it, despite its importance in evaluating health units. The analytical approach was adopted to measure the performance results of health units during the period (2023-2024) by applying the indicators of the sustainable balanced scorecard in the Maternity and Children's Teaching Hospital / Diwaniyah. The research consists of three sections after the introduction and methodology: the first is dedicated to the theoretical and conceptual foundation of the research, the second to evaluating the performance of the Maternity and Children's Teaching Hospital / Diwaniyah through the application of the sustainable balanced scorecard, and the third and final section to the conclusions reached and some suggestions and recommendations in the field of the research topic.

Theoretical Framework

The balanced scorecard first appeared in 1992 after a year-long study on twelve economic units in Canada and the United States. Relying solely on financial measures was no longer effective for modern economic units, and exclusive dependence on financial metrics negatively affected their ability to create value. Researchers discussed a range of alternatives, leading them to design a new tool for performance evaluation: the balanced scorecard. The balanced scorecard is considered one of the contemporary administrative methods for monitoring and evaluating performance in economic units (Ayman: 51, 2020).

In 2000, a research team from the Center for Sustainability, in collaboration with a team from the Institute of Economics and Environment and funded by the German Ministry of Education and Research, undertook a two-year research project (2000-2002) to develop the methodology of the balanced scorecard and activate its role in measuring the sustainability of units by designing the sustainable balanced scorecard. This was applied to eight companies following a joint investment strategy. The study found that it was possible to develop the balanced scorecard into the sustainable balanced scorecard, which is based on five main dimensions: financial, internal processes, customers, learning and growth, and the environmental and societal dimension (Davood Askarany: 2021,7).

The sustainable balanced scorecard approach can be considered a set of financial and non-financial metrics that provide senior management with a clear and comprehensive picture of unit performance. It is the first systematic attempt to design a system for evaluating and monitoring performance in units, translating the unit's objectives and strategy into specific goals, metrics, targeted standards, and continuous improvement initiatives, and unifying all the metrics used by the unit (Al-Banhawi et al., 827:2023).

(Nikolaou ,2013:77) defined it as a main tool that contributes to designing and achieving the main objectives of sustainable management of units and supports their implementation over time. It can provide the appropriate context for recording the necessary information regarding the sustainable performance of units by combining financial and non-financial information. The sustainable balanced scorecard is a tool that helps to consider all different aspects of sustainability to achieve it in a balanced way. It is a framework for measuring, managing, and reporting on the results of the unit's sustainability strategy. It not only provides a broader scope by integrating economic, social, and environmental sustainability dimensions but also offers a methodology to bridge the gap between the strategic and operational levels of the unit.

The dimensions of the sustainable balanced scorecard do not differ from those of the traditional balanced scorecard except for the addition of social and environmental indicators when integrating sustainability elements. The sustainable balanced scorecard adds environmental and social dimensions (Aldiasati et al., 7:2021). This axis represents a set of initiatives or contributions by the unit to society, such as providing social care, health, and education services, and developing infrastructure, as follows (Davis:2014, 591-594)(Al-Masoudi:69,2017)(Rami & Kawashi: 93,2020):

1. Financial Dimension:

This dimension measures the traditional performance of economic units according to the financial performance metrics used by most units, including profitability, market value, and strategies applied by the unit, contributing to improving the year-end financial result.

2. Customer Dimension:

This dimension measures customer satisfaction with the products and services offered by the unit to increase its sales, enhance its competitive position, and monitor markets. It evaluates the quality of the unit's performance from the perspective of those who buy and use its products or services, comparing the unit to its competitors in terms of price, quality, innovation, and customer service, among others.

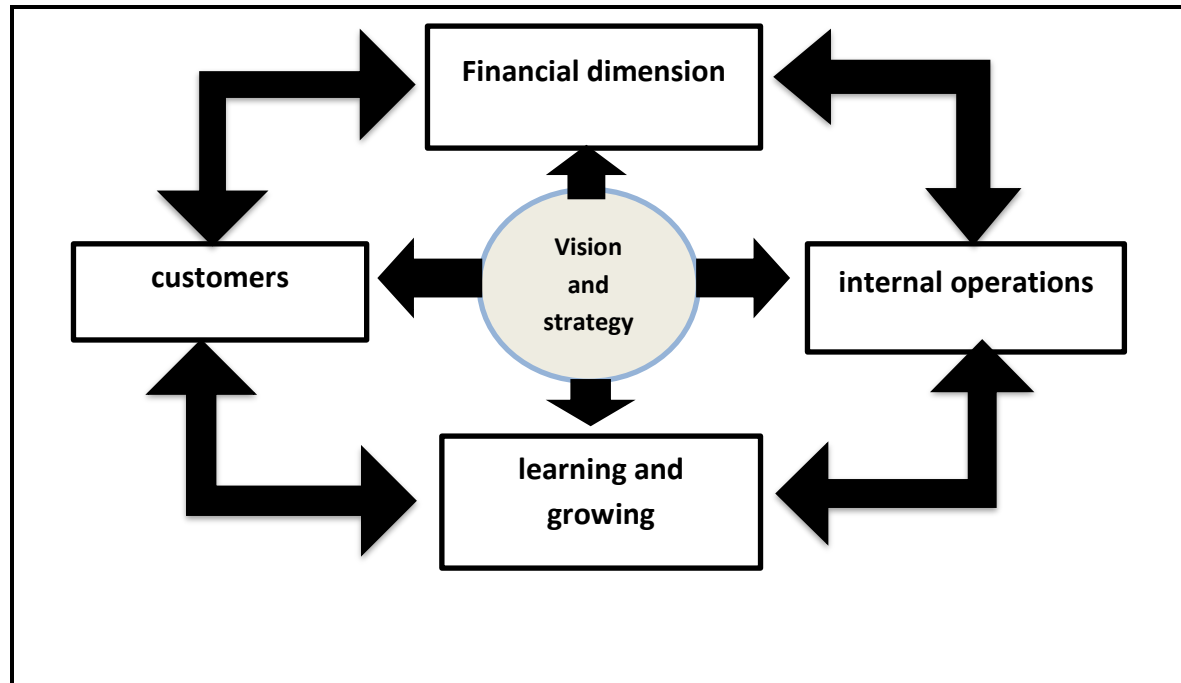
3. Internal Processes Dimension:

This dimension measures the internal processes within the economic unit that impact customer satisfaction and provide a range of requirements. It evaluates operational processes and their effect on achieving the necessary strategy for success, including product development, production, delivery, and after-sales service, ensuring the unit operates efficiently and effectively.

4. Learning and Growth Dimension:

This dimension focuses on how employees are trained and educated within the unit and reflects the unit's progress and ability to retain its staff. It includes evaluating the unit's ability to develop and use human resources to achieve current and future strategic objectives, aiming for survival and improving the unit's competitive position.

The dimensions of the balanced scorecard can be illustrated as follows (Davis et al., 2014, 59):



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inability dimensions have been added to the balanced scorecard to make this tool more comprehensive for evaluating unit performance. There are several options for integrating sustainability into the balanced scorecard:

1. Integrating environmental and social sustainability into the four dimensions of the balanced scorecard:

Environmental and social aspects can be incorporated within the four dimensions, making them an integral part of the traditional balanced scorecard strategy (Rami & Kawashi, 96:2020).

2. Adding a fifth additional dimension for sustainability:

This model is the most modern for the sustainable balanced scorecard and is most suitable for adopting a sustainability strategy, emphasizing the strategic importance of both environmental and social dimensions as core values in the economic unit (Ariwa, 55:2019).

3. Designing a separate sustainable balanced scorecard:

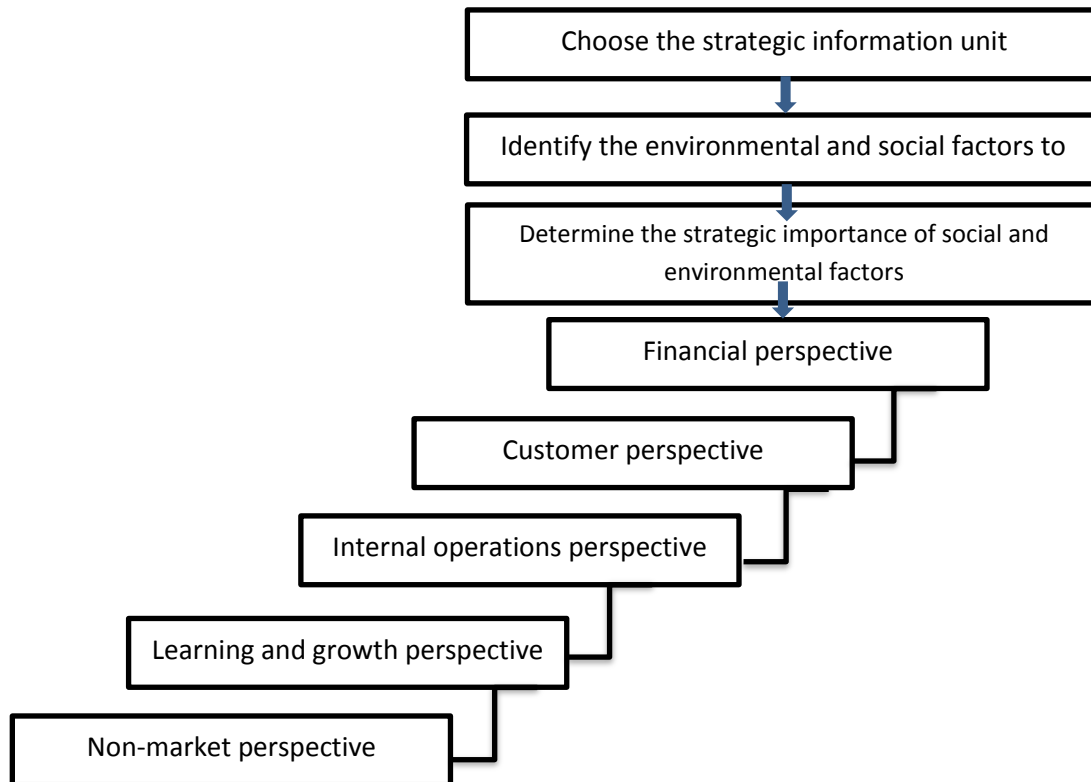
This approach involves creating and implementing an independent sustainable balanced scorecard, integrating sustainability indicators into unit performance. It is used by units without an existing balanced scorecard but wishing to integrate sustainability, or by those emphasizing sustainability as a strategic goal without affecting the existing balanced scorecard (Al-Afifi, 579:2023).

To formulate a sustainable balanced scorecard for any economic unit, three main steps are needed (Rami et al., 96:2020):

- **Determine the business unit's strategy:** This is the first step in formulating a sustainable balanced scorecard, as defining the business unit leads to the development of the balanced scorecard, which can be similar across small and medium units but may differ in larger ones, often organized as profit centers.
- **Identify the environmental and social aspects:** These are the specific needs of the chosen business unit, determining the environmental and social aspects that may affect it.
- **Determine the strategic importance of the environmental and social aspects:** This step assesses the relevance of environmental and social sustainability to the long-term economic success of the business unit, clarifying whether adding a new dimension is necessary or not, and on this basis the formulation is divided. Sustainable Balanced Scorecard in Three Main Steps (Al -Masoudi and Al-Moussawi, 45:2021)

- 1- Determine the strategy of the economic unit whose performance card will be developed .
- 2- Determine the environmental and social aspects related to the economic unit .
- 3- Determine the strategic importance of environmental and social aspects..

The following figure illustrates the steps for formulating a sustainable balanced scorecard (Figge, 2002: 277):



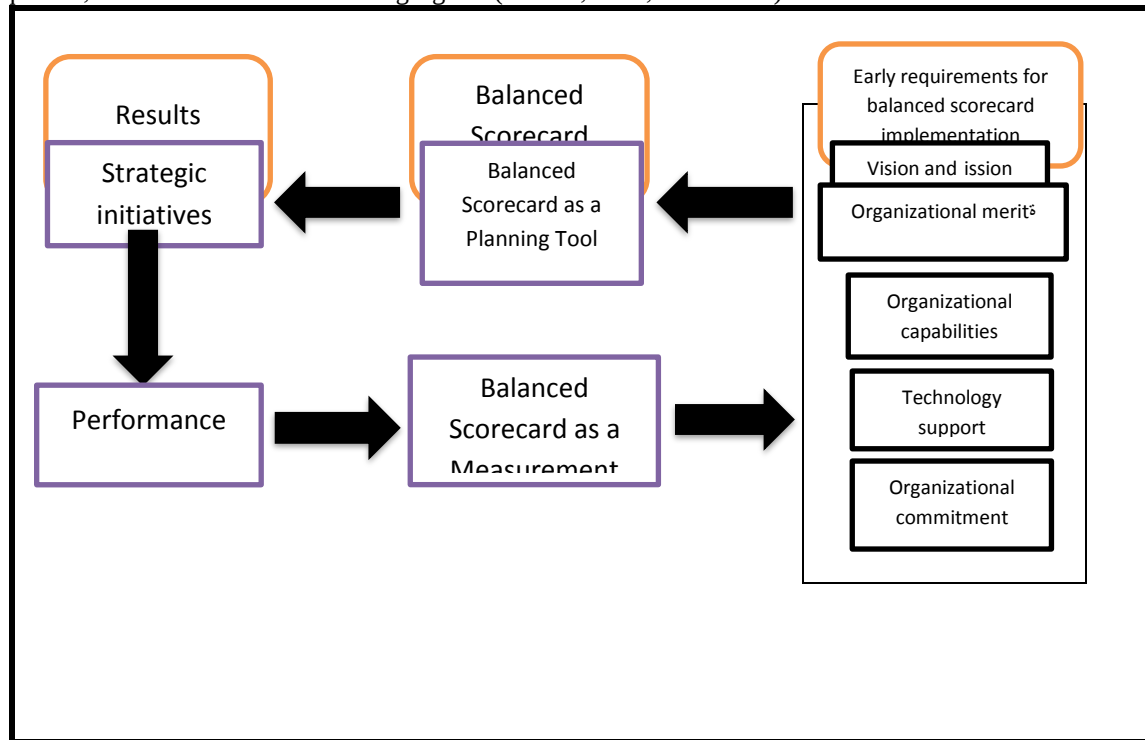
The concept of sustainable performance has gained traction recently to develop sustainable performance strategies. Sustainable performance combines traditional thinking focused on financial growth and profit maximization with modern thinking that emphasizes financial, environmental, and social aspects and a long-term, continuous vision. Performance is no longer limited to financial results; sustainable performance requires considering the future needs of stakeholders.

Many researchers have defined sustainable performance.(Omran ,2013:53) sees it as the best system for allocating resources among shareholders, customers, and employees, aiming to enhance and consolidate the social and environmental system in the economic unit.(Stanciu ,2014:341) defined it as a system expressing the economic unit's ability to meet the needs and expectations of stakeholders and customers in the long term.(Al-Sharmani ,2022:226) considers it a reflection of the unit's ability to optimally use its material and human resources to achieve its objectives. The importance of sustainable performance in economic units is highlighted by meeting the interests of stakeholders seeking better investment choices and rational decisions. Economic units contribute to this by disclosing their sustainable performance. The importance of sustainable performance can be summarized as follows (Al-Dhabhawi, 43:2024)(Al-Hijami, 68:2021):

- Sustainable performance helps predict the outputs and operations of economic units.
- Economic units that report on their sustainable performance and capabilities increase transparency and disclosure regarding financial, environmental, and social performance, contributing to governance, as transparency is a principle of governance.
- Ensures a clear and explicit understanding across all sectors of the economic unit regarding responsibilities and objectives, especially concerning stakeholders.
- Helps reduce energy consumption, use of natural resources, and environmental pollution, improving the community's living standards.
- Sustainable performance relates to innovation in emerging units that produce useful and modern products and services for society and the environment, often considered a benchmark for the success of economic units.

- Sustainable performance aids economic units in making rational and correct decisions for facilitating their operations.

The factors leading health organizations to succeed in applying the sustainable balanced scorecard to improve service quality include organizational fit, capabilities, commitment, and technological support. Health organizations need to address the true concept of the balanced scorecard for all members (doctors, nurses, administrators, technicians) to link all daily activities to achieving overall performance, positively reflecting on the quality of health services (Al-Banna & Ali, 144:2023). Applying the sustainable balanced scorecard in health organizations requires several prerequisites, as illustrated in the following figure: (Khiew, et al , 2017: 618)



Applied Framework

The hospital building was established in 1983, about 40 years ago, by the Japanese company Marubeni, with a capacity of 299 beds distributed over four wards (children's diseases, neonatal intensive care, maternity, emergency). The hospital is considered one of the most important health centers in the governorate, receiving cases including primary healthcare, outpatient clinics, emergencies, and surgeries.

One reason for choosing this research sample is that the hospital suffered a fire caused by an electrical short circuit on January 8, 2024, resulting in the death of four children and injury of 33 others. More than 150 children and 190 companions were evacuated to other hospitals.

The hospital continued its activities, providing pharmaceutical and therapeutic services to inpatients and outpatients in the consulting clinic and emergency ward. Most of its buildings need renovation and are not suitable for the current population growth in the governorate, which was about 300,000 at the time of its establishment and is now unable to accommodate the population increase, being the only teaching hospital in the governorate specializing in maternity and children's diseases. It also receives some critical cases from neighboring governorates, leading to an increase in the number of new buildings affiliated with the hospital, such as the MRI and spiral CT building, and the new neonatal intensive care building. However, this does not accommodate the significant increase in medical and nursing staff and the number of patients.

The performance evaluation indicators in government units vary according to the nature of their activities. In this research, several indicators were adopted to evaluate the performance of the health unit under study, in accordance with the dimensions of the Sustainable Balanced Scorecard, as follows:

1. Financial Dimension

A. Compliance with Budget Allocations

Compliance with budgetary allocations is a critical measure for assessing the extent to which government units adhere to the financial allocations designated for them in the budget, as per the following formula:

Compliance Ratio = (Actual Expenditure / Allocated Budget) × 100

For the purpose of applying this indicator, the financial data extracted from the records of the hospital under study for the years 2023 and 2024 were used, as shown in the table below:

Table (1): Compliance Ratio with Budget Allocations

rate of change	2024	2023	Statement
-%15	23380492027	27689100058	Total financial allocations
%12	29742898415	26540048878	expenses Total actual
	%127	%96	Commitment rate in allocations

Analysis:

As observed from the above table, the financial allocations in 2024 amounted to approximately 23,380,492,027, which is about 15% less than the allocations in 2023, despite the increase in the number of hospital staff and higher expenditures during the year. This resulted in exceeding the allocated budget and non-compliance with the budgeted amount, necessitating the development of a clear and organized plan by the hospital to adhere to budget allocations and avoid overruns. It is also noted that the total expenditures in 2024 reached approximately 29,742,898,415, which is 12% higher compared to the previous year.

B. Cash Flows

The achievement rate of cash flows in government units, including hospitals, is typically 100% since they are centrally funded through the state's general budget. These units are not responsible for generating cash flows, as this is the responsibility of the financial authority in the state; the amount of funds disbursed corresponds to what is allocated in the budget. It is worth noting that the total amounts collected from the hospital's private wing are attributed to the Popular Medical Clinics, which are financially and administratively independent from the hospital. The hospital's revenues for the years under study are shown in the following table:

Table (2): Revenue and Funding Amounts

rate of change	2024	2023	Statement
-%11	395129285	443594585	Total revenue amounts
-%15	23380492027	27689100058	amounts Total financing
	%1.7	%1.6	Revenue/Financing

Analysis:

The table above shows that total revenues in 2024 amounted to approximately 395,129,285, which is 11% less than the previous year.

2. Customer Dimension (Patients)

This perspective focuses on patients as the primary beneficiaries of the services provided by the hospital. The analysis relies on data related to patient visits within the hospital under study, as follows:

Actual Number of Patients During the Year**Table (3): Actual Number of Patients During the Year**

Total number of visitors	Days of stay	The rest	Total number of inpatients and outpatients	year
33776	64186	1692	32084	2023
30357	56975	1393	28964	2024
-%10	-%11	-%18	-%10	rate of change

Analysis:

The table above indicates that the total number of patients in 2024 was approximately 30,357, a decrease of 10% compared to the previous year. The number of outpatients in 2024 was about 32,084, also 10% less than the previous year. The number of inpatients in 2024 was about 1,393, an 18% decrease from the previous year. The total patient bed days in 2024 were about 56,975, representing an 11% decrease from the previous year.

Total Number of Discharged Patients During the Year

Table (4): Total Number of Discharged Patients During the Year

Total number of patients	percentage	deceased	percentage	Referred to another hospital	percentage	He went out on his own responsibility	percentage	to improve	year
33116	%2	681	%0.5	182	%3.5	1095	%94	31158	2023
28974	%2.6	684	%0.4	133	%7	2153	%90	26004	2024
-%13		%0.44		-%27		%97		-%17	rate of change

Analysis:

The table above shows that the total number of patients discharged due to improved health in 2024 was about 26,004, representing 90% of total patients, which is 17% less than the previous year. The number of patients discharged on their own responsibility was about 2,153 (7% of total patients), which is a 97% increase compared to the previous year. The total number of patients referred to other hospitals was 133, representing 0.4% of total discharges, a 27% decrease from the previous year. The hospital management should investigate the reasons behind the increase in patients leaving on their own responsibility and address them.

3- Patients' Opinions on the Quality of Healthcare Services in the Hospital

The customer dimension was reinforced through a questionnaire designed for a sample of patients at the Women and Children Teaching Hospital in Al-Diwaniyah, as they represent one of the main stakeholders benefiting from the healthcare services. This questionnaire aimed to measure their level of satisfaction with the dimensions of sustainable performance (environmental, economic, and social) and their perception of the quality of services provided at the hospital. The questionnaire was developed based on previous studies, and the opinions of a group of professionals and hospital administrators were considered in its formulation.

The questionnaire included a set of items reflecting the dimensions of healthcare service quality, namely: tangibility, reliability, responsiveness, assurance, and empathy. It comprised 20 items distributed to 144 patients over different periods. These questionnaires were collected and analysed using the five-point Likert scale, and the responses were analysed according to the dimensions of healthcare service quality, as shown in the following table:

Table (5): Means and Standard Deviations

No.	Item	Mean	Std. Deviation	Importance Level
1	The hospital location is convenient and easily accessible.	4.06	1.40	High
2	The hospital has modern and suitable equipment.	3.79	1.19	High
3	Staff are keen on maintaining a good appearance.	4.24	0.94	Very High
4	The number of beds is sufficient for the number of patients.	3.58	1.22	High
5	The hospital management provides services on time.	3.88	1.12	High
6	The hospital provides the medications needed by patients.	3.49	1.28	High
7	The hospital has adequate patient care tools.	3.69	1.19	High
8	The hospital ensures services are delivered appropriately.	4.06	1.04	High
9	Medical staff are willing to cooperate and answer patient queries.	4.24	0.96	Very High
10	The hospital provides feedback forms and responds to patient views.	3.36	1.23	Medium
11	The hospital facilitates procedures to ensure prompt service.	3.85	1.16	High
12	Staff promptly respond to patient needs.	3.90	1.15	High
13	Patients feel safe when dealing with hospital staff.	3.70	0.55	High
14	Hospital records are reliable and accurate.	3.50	0.60	High
15	Patients trust the qualifications and experience of the staff.	3.60	0.50	High
16	The hospital has a good reputation in the community.	3.60	0.58	High
17	The hospital gives significant attention to patient interests.	3.50	0.52	High
18	The hospital addresses patient problems and inquiries.	3.60	0.48	High
19	Staff clearly explain patient conditions.	3.40	0.55	High
20	Hospital staff treat patients respectfully and courteously.	3.50	0.50	High

A. Item 1 (Mean = 4.06): The hospital's geographical location is easily accessible, reflecting effective spatial planning in the healthcare context.

B. Item 2 (Mean = 3.79): The equipment is considered modern, indicating efficient capital investment that enhances operational performance.

C. Item 3 (Mean = 4.24): Staff appearance reflects administrative quality and adherence to professional standards, which positively influences patient satisfaction.

D. Item 4 (Mean = 3.58): The bed capacity is acceptable, highlighting the importance of quantitative analysis in resource allocation.

E. Item 5 (Mean = 3.88): The commitment to service timing indicates the presence of a successful operational control system.

F. Item 6 (Mean = 3.49): The shortage of medications suggests weaknesses in the supply chain management and a need for improved oversight.

G. Item 7 (Mean = 3.69): The availability of patient care tools demonstrates good operational efficiency, though not yet fully optimized.

H. Item 8 (Mean = 4.06): The improvement in service delivery methods supports the efficiency of internal processes within the hospital.

I. Item 9 (Mean = 4.24): Staff interaction with patients reflects the activation of the value dimension in healthcare services.

J. Item 10 (Mean = 3.36): The weak patient evaluation system indicates a shortfall in direct quality control practices.

K. Item 11 (Mean = 3.85): The results reflect relative patient satisfaction with the presence of effective administrative procedures that support operational speed.

L. Item 12 (Mean = 3.90): Prompt response to patient needs enhances client satisfaction and reduces service time.

M. Item 13 (Mean = 3.70): The result suggests declining trust in interpersonal interaction, which affects the work environment and may increase the likelihood of complaints—this represents a negative indicator in non-financial risk reports.

N. Item 14 (Mean = 3.50): This average indicates weak data control, which may lead to diagnostic or administrative errors—this is considered a flaw in the hospital's accounting information systems that are meant to ensure compliance and accuracy.

O. Item 15 (Mean = 3.60): This suggests the need to strengthen continuing education programs and quality control of professional performance, and may reflect lower indicators in professional performance within the balanced scorecard framework.

P. Item 16 (Mean = 3.60): The score indicates a decline in reputation, which constitutes an intangible risk that is difficult to measure financially but directly affects patient loyalty and community trust.

Q. Item 17 (Mean = 3.50): This score shows that personalized care is insufficient. From a sustainable accounting perspective, this indicates weak social commitment toward patients, which may threaten their loyalty and weaken the unit's overall performance.

R. Item 18 (Mean = 3.60): The score reflects patient satisfaction with the hospital's responsiveness to their inquiries and complaints.

S. Item 19 (Mean = 3.40): This result highlights a weakness in understanding the variability of patient needs, indicating the hospital's limited ability to tailor services.

T. Item 20 (Mean = 3.50): Although kindness and respect remain within acceptable limits, there is an indication of the need to enhance the hospital staff's culture of communication and interaction with patients.

3. Internal Process Dimension

This dimension focuses on the internal activities and processes within the unit, i.e., what the hospital does to provide the best services to satisfy its customers. The following table illustrates the number of surgeries performed:

1. Change Rate in the Number of Surgeries

Table (6): Change Rate in the Number of Surgeries in 2024

Total	Minor operations	Middle operations	major operations	Major operations	Private	A year
10795	3539	913	3131	2684	528	2023
9605	2944	885	2756	2446	574	2024
-%11	-%17	-%3	-%12	-%9	%9	rate of change

Analysis:

The data above shows that the change rate in the total number of surgeries performed by the hospital in 2024 was 11%

lower compared to the previous year. The change rate in special surgeries was 9% higher than the previous year, while the change rate in supra-major surgeries was 9% lower. The change rate in major surgeries decreased by 12%, medium surgeries by 3%, and minor surgeries by 17% compared to the previous year.

2. Bed Occupancy Rate and Patient Bed Days by Month in 2024

Table (7): Bed Occupancy Rate and Bed Days by Department (2024)

Gynecology and Obstetrics				Premature and newborn babies				Pediatric internal medicine				
Occupancy rate of the prepared family	Days of stay	Number of patients hospitalized	Number of beds	Occupancy rate of the prepared family	Days of stay	Number of patients hospitalized	Number of beds	Occupancy rate of the prepared family	How long will I stay?	Number of patients hospitalized	Number of beds	month
95%	1880	1180	64	53%	1000	433	61	67%	3074	1438	148	December 2
99%	1790	1125	64	48%	815	393	61	65%	2686	1172	148	February
74%	1475	954	64	57%	1082	411	61	51%	2359	1012	148	March
84%	1609	1006	64	59%	1082	411	61	42%	1877	808	148	April
176%	1532	920	28	69%	958	404	45	52%	2184	708	136	May
201%	1690	1028	28	89%	1203	594	45	43%	1734	525	136	June
203%	1764	1013	28	81%	1128	708	45	23%	958	268	136	July
163%	1420	945	28	50%	1330	809	88	19%	844	248	148	dad
156%	1308	885	28	43%	1134	650	88	22%	962	277	148	September
220%	1913	1019	28	47%	1288	694	88	27%	1259	423	148	October 1
223%	1870	1169	28	53%	1393	659	88	34%	1518	481	148	October 2
151%	1684	1052	36	50%	1417	702	88	47%	2070	749	148	December 1
85%	19935	12296	64	43%	13830	6868	88	40%	21525	8109	148	the total

Analysis:

The table above shows that the bed occupancy rate in the hospital during 2024 varied from month to month due to differences in the number of patients. The bed occupancy rate was low in the Pediatric Internal Medicine and Neonatal Intensive Care departments (40% and 43%, respectively), while the rate in the Obstetrics & Gynecology department was high, reaching about 85% during the year.

4. Learning and Growth Dimension

This perspective focuses on developing staff capabilities, enhancing a culture of innovation, and improving the work environment within hospitals to support the achievement of the health unit's strategic objectives. It is considered one of the core pillars of the Sustainable Balanced Scorecard. The following indicators were selected:

1. Number of Hospital Workforce

Table (8): Number of Hospital Workforce

rate of change	2024	2023	Statement
%12	170	152	doctors
%156	494	193	Pharmacists
%5	1818	1735	Other cadres
%19	2482	2080	Total

Analysis:

The table above indicates that the total workforce in the hospital during 2024 was approximately 2,482, representing a 19% increase compared to the previous year.

2. Number of Participations (Courses/Workshops/Lectures) Held in the Hospital

Table (9): Number of Participations (Courses/Workshops/Lectures) Held in the Hospital

Total number of posts	a lecture	Workshop	Number of courses held	year
102	16	20	66	2023
128	26	44	58	2024
%25	%63	%120	-%12	growth rate

Analysis:

The total number of participations in 2024 was about 128, with a growth rate of 25% compared to the previous year. The number of courses held was about 58, which is 12% less than the previous year. The number of workshops was about 44, representing a 120% increase over the previous year, while the total number of lectures was about 26, a 63% increase compared to the previous year.

5. Environmental and Social Dimension

This dimension reflects the extent of the responsible authorities' commitment to environmental preservation and their attention to the social aspects concerning their staff. The hospital has a central sterilization unit responsible for sterilization and disinfection operations, affiliated with the technical department, to prevent contamination. For the treatment of solid medical waste, the hospital has three waste treatment devices and also processes solid medical waste generated in private hospitals using its own device (the shredder). The hospital contains a liquid waste treatment unit, which was put into service in 2019 to treat liquid waste and preserve the environment.

The following table illustrates waste management in the hospital, as shown below:

Table (10): Waste Management and Status of Treatment Devices

Month	Waste Weight (kg)	Number of Bags Used	Medical Incinerator	Shredding & Sterilization Device	Sewage Units
January	3392	1098	Not working	Working	Not working
February	3450	863	Not working	Working	Not working
March	2548	637	Not working	Working	Not working
April	2950	738	Not working	Working	Not working
May	2970	758	Not working	Working	Not working
June	2950	738	Not working	Working	Not working
July	2450	613	Not working	Working	Not working
August	2150	538	Not working	Working	Not working
September	1955	489	Not working	Working	Not working
October	2112	528	Not working	Working	Not working
November	2680	670	Not working	Working	Not working
December	3679	919	Not working	Working	Not working
Total	33,286	8,589	—	—	—

Regarding the social dimension, it is measured through indicators related to staff as part of the social contribution to support employees. This includes measuring the unit's contribution to ensuring the rights of its staff by providing social security and assessing the unit's ability to create new job opportunities by recruiting new employees, thereby contributing to social welfare.

In 2024, the growth rate of staff numbers reached approximately 2,482, with a 19% increase compared to the previous year, which is a positive indicator. The growth rate of doctors was 12%, while the growth rate of pharmacists was 156%. The growth rate of health and supporting staff increased by 51% compared to the previous year, while the growth rate of nursing staff decreased by 17%. The growth rate of engineering, technical, and administrative staff decreased by 16%, and the growth rate of service staff decreased by 12% compared to the previous year.

Conclusions and Recommendations

1. Conclusions

1. The application of the Sustainable Balanced Scorecard (SBSC) helps reveal the extent of performance development over time.
2. Adopting both financial and non-financial indicators and measures in performance evaluation, while considering all targeted success factors by the organization, provides a clear picture of that organization's performance.
3. The use of modern cost management techniques, such as the SBSC system, provides the hospital with relevant information that assists in formulating its objectives, implementing its strategies, and evaluating their effectiveness.
4. The SBSC system is considered an integrated performance evaluation system, relying on a set of perspectives including the financial perspective, customer perspective, learning and growth perspective, internal processes perspective, and the environmental and social perspective.
5. There is a lack of interest from the hospital's responsible authorities in continuous education programs.
6. There is an absence of support and encouragement from the hospital's responsible authorities for creative initiatives among staff.
7. The hospital possesses modern medical equipment in some departments, while the use of advanced and modern technologies is noticeably limited in most departments.

2. Recommendations

1. The hospital should conduct periodic performance evaluations to measure its progress and development.
2. Financial and non-financial indicators and measures should be used in performance evaluation, taking into account all the success factors the organization aims to achieve.
3. The hospital should commit to applying the SBSC technique, as it provides relevant information without requiring significant investments for adoption.
4. It should be emphasized that the application of the SBSC in the hospital provides management with a comprehensive view of the essential aspects of performance evaluation, including the customer, learning and growth, internal processes, financial, and environmental and social perspectives.
5. There should be a focus on training medical and nursing staff abroad, given the hospital's unique nature and prolonged periods of isolation from the outside world.
6. The responsible authorities in the hospital should support and encourage creative initiatives.
7. The hospital should be equipped with the latest medical devices in all departments.
8. A proposal should be submitted to the Ministry to develop a performance evaluation system at the ministry level that aligns with global advancements.
9. It is essential to activate a complaints and suggestions box within the hospital, as this reflects the hospital's commitment to addressing its shortcomings.

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