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Aspects of the Six Sigma Method and its Role in Improving the Quality of Recreational Services According to the Vision of the Arab Republic of Egypt 2030

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Abstract

The current research aims to identify the role of the Six Sigma approach in improving the quality of recreational services in accordance with the Arab Republic of Egypt's Vision 2030. This research aims to identify the aspects of diagnosing the support and commitment provided to improve the quality of recreational services Areas of availability and analysis of management information systems as an entry point for upgrading recreational services, aspects of improving human capital management to upgrading recreational services, achieving the material capabilities and infrastructure necessary to develop the quality of recreational services, areas of measuring and evaluating the nature of work in recreational activities, obstacles to developing the quality of recreational services in light of the vision of the Arab Republic of Egypt The researcher used the descriptive approach (survey studies method) with its steps and procedures due to its suitability to achieve the research objectives. The research community consists of employees of Egyptian sports clubs in the Arab Republic of Egypt, represented by the clubs' boards of directors, members of the general assembly, the executive director, the financial director, sports specialists, The researcher selected the research sample using the stratified random method from the research community, which consisted of (488) individuals. The researcher used the questionnaire on the role of the Six Sigma method in improving the quality of recreational services according to the vision of the Arab Republic of Egypt 2030 as a data collection tool. One of the most important results was that the Six Sigma method has an important role in improving the quality of recreational services if it is properly applied according to the vision of the Arab Republic of Egypt 2030 One of the most important recommendations was to provide statistical software and the latest versions of Six Sigma programs and facilitate training on them.

Keywords: Six Sigma method, quality, service, recreational services, vision of the Arab Republic of Egypt.

Introduction

Six Sigma is one of the most well widely management concepts in the world of Total Quality Management. It appeared in the American company Motorola in the early 1980s and quickly attained

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widespread adoption with major international companies beginning to implement it across their various administrative procedures. Six Sigma is used to achieve excellence, improve profits, satisfy customers and discard barriers to submission into the competitive arena (Mohammed Al-Naami, 2009: 14). As a management system Six Sigma is a highly structured and integrated administrative framework designed to improve various operational activities. It supplies leaders with the analytical methods and tools necessary to solve problems and elevate processes to their highest potential. Six Sigma combines effective leadership with employee participation and engagement. Furthermore the benefits of Six Sigma extend beyond increased profits. Employees at all management levels within organizations implementing Six Sigma find that working towards customer satisfaction, clear performance processes, precise measurement, and tool development makes their work more effective and rewarding both materially and morally. (Momen Taha, 2016: 24) Six Sigma is known in many organizations as simply a measure of quality that strives for perfection as much as possible. Six Sigma is a control for data movement and a methodology for removing defects (pushing towards six standard deviations between the mean and the nearest limit specifications in any process) (Mohammed Al-Nuaimi, Rateb and Suwaiss, 2008: 48).

The Six Sigma system depandes on the continuous analysis of gathered data and statistics to identify weaknesses and defects in processes or products. This facilitates for their ongoing correction and aims to reduce errors to zero whenever possible. Six Sigma is according to fundamental principles: defining processes then measuring and analyzing their performance, followed by improvement and ultimately achieving the highest levels of quality control in processes and production (Perzikop & Penelope, 2008: 78). Carrying out Six Sigma requires analyzing the gap between ongoing performance levels and the desired or expected levels in both the short and long term. Six Sigma operates based on a precise and flexible system of matrices and procedures allowing its adopters to adapt and reshape it to fit the objectives of any organization. It uses a variety of approaches, pathways and tools. There are multiple tools that are most commonly used when applying the Six Sigma methodology and these vary depending on whether the organization is a production or service-oriented organization. There are also tools that are used less commonly. For production-oriented organizations the tools used contain: defect rate, time to customer complaint, number of customer complaints and the production process. In service-oriented organizations the tools used comprise: brainstorming, mapping, diagrams, root cause analysis, control charts, measurement, Pareto analysis and change management tools. (Zainab Al-Sharifi: 2014) Six Sigma uses the DMADV methodology to generate new processes or products or to enhance existing processes or products to the Six Sigma quality level. DMADV stands for Six Sigma.

1. Define (Diagnosis) and define the goal of sports clubs that are compatible with the club's members and the goals of the Ministry of Youth.
2. Measurement: This includes identifying the distinctive characteristics that have a decisive impact on quality and the efficiency of the production process.
3. Analyze (analyze) the process options improve several designs and choose the best one
4. .Design (Improvement): Designing the process to meet the requires of club visitors.

Verify the validity of the performance design and its capacity to meet customer needs. The Six Sigma system depandes heavily on statistical methods to decrease defects and measure quality. It improves process performance reduces deviations and preserves consistent quality in production outputs. This leads to fewer defects continuous improvement in product quality (the service provided by the club)and ultimately, customer satisfaction. (Abdullah Al-Zahrani, 2017: 56) Quality is one of the most important management indicators. To guarantee effective management of the organization, continuous improvement is essential not only in quality but also in production volume and costs. High quality requirements have become integral to all stages and processes of production as they directly and completely impact the

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organization's performance and reputation. The notion of quality can be defined from the perspectives of both the producer and the customer From the producer's viewpoint quality is measured based on pre-established specifications, i.e..the standards set by the organization when improving the service (product). From the customer's perspective the meaning of quality is more comprehensive. Customers are related with quality from two perspectives. The first is the tangible quality of the product or service in terms of (continuity, safety and ease of use). The second is the customer's concern for the quality of service in terms of (accuracy, responsiveness and continuity) in promoting the product, i.e., after-sales service. Quality is also defined as the ability of a product to meet the needs and desires of the consumer. The American Society for Quality Control defines it as "the set of characteristics of a product or service that affect its ability to satisfy" "Explicit and implicit needs," and thus product quality is linked to its characteristics resulting from its components as well as to the services accompanying it. (Bilal Al-Satarneh, 2018: 17) The relationship between Six Sigma and quality is crystallized in the following points: In the past, quality programs focused on meeting customer needs at any cost and these companies were able to generate high-quality products despite the inefficiency of their internal processes. The prevailing concept was that quality costs a lot of effort, money, and time and that the emergence of Six Sigma is merely a natural extension of quality efforts. Therefore Six Sigma is regarded initiative for quality development. Six Sigma is a performance objective implemented to each element of quality, not to the product at the lowest cost. Six Sigma cannot operate in isolation from quality as Six Sigma quality management provides the necessary tools and applications to bring about cultural changes and process enhacement within management.

Six Sigma is not about quality for quality's sake, but rather about delivering greater value to customers, employees and investors. (Anbari, FT, 2014: p45) A sports club has principle that constitute its identity and distinguish it generally from other civil society organizations, as well as specifically from other clubs and youth centers that may share similar objectives. These concepts also provide a clearer picture of what a sports club should be as an organization that is responsive to political, economic and social changes that may impact its direction. Sports clubs are a prime example of sports institutions, established solely by the members of the general assembly, without direct intervention from the state or any of its executive bodies. They aim to utilize the leisure time of their members through sports activities as a primary pursuit. (Kamal El-Din Darwish & Ashraf Abdel-Moez, 2000: 30) Sports clubs are recreational sports institutions that aim to contribute positively to the athletic and social development of community members, addressing their needs and desires, thus contributing to the realization of the state's philosophy. (Amani Salim, 2003: 24) Based on the above, the researcher found that the Six Sigma methodology is considered a modern field in management sciences due to its capacity to help sports clubs face challenges, both in their internal work environment through the necessity of optimal and efficient use of available resources and capabilities and in their external work environment and participation at the local, regional and international levels. It has become essential for sports clubs that wish to improve the level of their sports activities to adopt the Six Sigma methodology. Furthermore all service institutions need the Six Sigma methodology because they face numerous logistical problems that require an effective Six Sigma approach to help them develop their service level and achieve a competitive advantage in the sports market. Through her review of the recreational services provided by Egyptian sports clubs the researcher found several shortcomings in the services offered to club members, such as bureaucracy and red tape in the paperwork required for club membership, requesting specific services, or registering for a particular sport. Additionally, the security and safety measures at the sports clubs are inadequate and the facilities do not meet the needs and requirements of club visitors, nor is there adequate maintenance. A periodic review of the club's fields and facilities. The researcher recored that many sports club websites generally lacked detailed explanations of club operations, working hours, and fees for facility use. This prompted the researcher to consider and attempt to implement

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a modern service quality system to present sports clubs in a positive light online and to those interacting with the club. The obgective was also to uncover the components of this management approach by developing an innovative scientific method to improve service levels which should present sports clubs in a distinguished manner with high-quality specifications that meet the needs of major clubs. This encouraged the researcher to explore the role of the Six Sigma methodology and its contribution to improving the quality of recreational services in accordance with the Arab Republic of Egypt's Vision 2030, which will ultimately lead to an improvement in the quality of recreational services at Egyptian sports clubs.

Research Objective: This research objectives to explain the role of the Six Sigma methodology in improving the quality of recreational services in accordance with the Arab Republic of Egypt's Vision :2030, by identifying.

.1.Diagnostic factors of support and commitment provided to enhance the quality of recreational services
2.Areas of availability and analysis of management information systems as an method.
. to improving recreational services.
3..Aspects of improving human capital management to enhance recreational services
4.The necessary material resources and infrastructure are in place to improve the quality of recreational .services
5..Areas for measuring and examining the nature of work in recreational activities 5
6.barriers to developing the quality of recreational services in light of the vision of the Arab Republic of .Egypt

Research questions: In light of the research objective the researcher poses questions about the nature of :each of the following

1.What are the diagnostic aspects of support and commitment offered to enhance the quality of recreational services in accordance with the vision of the Arab Republic of Egypt 2030?
2.What are the areas of availability and analysis of management information systems as an approach to ?developing recreational services in accordance with the vision of the Arab Republic of Egypt 2030
3.factors of improving human capital management to enhance recreational services in accordance with **?**the vision of the Arab Republic of Egypt 2030
4.To what extent are the essential material resources and infrastructure available to develop the quality ?of recreational services in accordance with the vision of the Arab Republic of Egypt 2030
What are the areas of measurement and assessment of the nature of work in recreational activities -5 according to the vision of the Arab Republic of Egypt 2030?

What are the obstacles to developing the quality of recreational services in accordance with the vision -6 of the Arab Republic of Egypt 2030?

Research methodology: The researcher used the descriptive method (survey studies method) with its steps and procedures, as it is suitable for achieving the research objectives.

Research Community and Sample: The research community include employees of Egyptian sports clubs in the Arab Republic of Egypt, represented by: 1. Club boards of directors. 2. Members of the general assembly. 3. The executive director. 4. The financial director. 5. Sports specialists. The researcher chosed the research sample using stratified random sampling from the research community, which consists of (488) individuals.

Data collection tool: A questionnaire on the role of the Six Sigma method in developing the quality of recreational services according to the vision of the Arab Republic of Egypt 2030: This is a form created by the researcher and the following was followed in its preparation:

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1.Defining the survey objective: The survey objective was defined and it was to determine the role of the Six Sigma method in improving the quality of recreational services in accordance with the vision of the Arab Republic of Egypt 2030.

2.Defining the questionnaire's themes: Based on the researcher's review of prior studies she defined a set of themes, which were as follows:

First axis: Afactor of diagnosing aspects of support and commitment provided to improve the quality of recreational services. - Second axis: Areas of availability and analysis of management information systems as an approach to improving recreational services. - Third axis: Aspects of improving human capital management to enhance recreational services. - Fourth axis: attaining the necessary material capabilities and facilities to develop the quality of recreational services Fifth axis: Areas of measuring and evaluating the nature of work in recreational activities. - Sixth axis: barriers to developing the quality of recreational services in light of the vision of the Arab Republic of Egypt.

3.The researcher presented it to a group of (7) experts in the submitted of sports management to give their opinion on its suitability. The topics that received 70% or more of the experts' opinions were selected and the following table (1) illustrates this. Table(1)

Table1. shows cores Relative Weights, and Chi-Square (χ^2) Values for the Sample's Responses to the First Dimension: Assessment of Support and Commitment for Improving the Quality of Recreational Services (N = 488).

	Statement	Response						Statement	Response Agree	Statement
		Agree		Somewhat		Agree				
		X	%	X	%	X	%			
.1	A suitable environment is provided For practicing recreational activities.	134	27.46	232	47.54	122	25.00	988	%67.49	44.77
.2	Flexibility exists in implementing the executive procedures for recreational activities	58	11.89	291	59.63	139	28.48	895	%61.13	172.04
.3	The administration is fully prepared to provide the best recreational service to beneficiaries	74	15.16	283	57.99	131	26.84	919	%62.77	143.51
.4	Outstanding employees in providing recreational services are rewarded.	52	10.66	328	67.21	108	22.13	920	%62.84	261.70
.5	. Employees are encouraged to excel in providing recreational services. .	72	14.75	309	63.32	107	21.93	941	%64.28	201.23
.6	The necessary resources are provided to obtain the best service.	130	26.64	285	58.40	73	14.96	1033	%70.56	147.99
.7	. Decisions regarding recreational activities are	49	10.04	275	56.35	164	33.61	861	%58.81	157.01

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	made quickly based on sound information									
.8	Contracts are made with sponsoring companies to provide their recreational services.	32	6.56	192	39.34	264	54.10	744	%50.82	173.38
.9	Services are provided to beneficiaries on a regular basis.	77	15.78	366	75.00	45	9.22	1008	%68.85	384.40
.10	Beneficiary suggestions for improving recreational services are approved	79	16.19	377	77.25	32	6.56	1023	%69.88	430.41
.11	Directing staff to serve beneficiaries of recreational activities to the fullest extent.	60	12.30	387	79.30	41	8.40	995	%67.96	465.18
.12	Utilizing experts specializing in the field of recreation to enhance the quality of recreational activities.	47	9.63	152	31.15	289	59.22	734	%50.14	181.06
								11061	%62.96	

Table (1) shows that the percentage of opinions of the research sample concerning the statements of the first axis (Aspects of Diagnosing Support and Commitment Provided to enhance the Quality of Recreational Services) ranged between (50.14% - 70.56%), while the percentage for the axis reached (62.96%). There are statistically significant differences between the opinions of the research sample regarding statements (1, 2, 3, 4, 5, 6, 7, 9, 10, 11) in the direction of some agreement. There are also statistically significant discrepancy between the opinions of the research sample regarding statements (8, 12) in the direction of disagreement. The researcher characteristics this finding to the lack of sufficient diagnostic aspects of support and commitment offered to improve the quality of recreational services. There are shortcomings in diagnosing the support and commitment provided in recreational services within sports clubs. The most important of these limitations are the weak availability of a suitable environment for practicing recreational activities the absence of flexibility in implementing executive procedures for recreational areas, the lack of full preparedness on the part of management to apply the best recreational service for beneficiaries and the lack of Outstanding employees in providing recreational services are rewarded but they are not encouraged to excel in providing these services. There is also a limitation in providing the necessary resources to obtain the best service, the deficiency of speed in making decisions regarding recreational activities based on sound information and a lack of success to contract with sponsoring companies to provide their recreational services. Services are not provided periodically to beneficiaries, beneficiary recommendations for developing recreational services are not approved and employees are not directed to serve beneficiaries of recreational activities to the fullest extent. Furthermore experts specializing in the field of recreation are not utilized to improve the quality of recreational activities. This is what was revealing by the study of "Ezz El-Din Mahmoud" (2014), whose results indicated a statistically significant relationship between the criteria of (senior management support, training, encouragement and motivation of human resources, information systems and technology, changing organizational culture, attention to quality, work environment, attention to employees) and the application of the Six Sigma methodology and the enhancement of the quality of processes in Palestinian government hospitals.

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The study of Muhammad Saleh Al-Zahrani (2010) indicated that the results of the study participants indicated that the club was ready to apply the Six Sigma method.

The answer to the second question which states: What are the areas of availability and analysis of management information systems as an approach to developing recreational services according to the vision of the Arab Republic of Egypt 2030

Table2. shows Scores Relative Weights, and Chi-Square (χ^2) Values of the Samples Responses to the Second Dimension: Availability and Analysis of Management Information Systems as an Approach to Improving Recreational Services (N = 488).

	Statement	Response						Statement	Response Agree	Statement
		Agree		Somewhat		Agree				
		X	%	X	%	X	%			
3	There is a communication network that includes all recreational services.	174	35.66	285	58.40	29	5.94	1121	%76.57	202.63
4	All new developments in online recreational services are considered and implemented when commencing activities.	38	7.79	187	38.32	263	53.89	751	%51.30	161.07
5	There is an ongoing improvement plan to update the databases of recreational service users.	39	7.99	107	21.93	342	70.08	673	%45.97	310.77
6	Strategies are being developed to manage databases related to the entertainment sector.	65	13.32	306	62.70	117	23.98	924	%63.11	197.76
7	There are plans to create and develop databases for recreational fields.	89	18.24	362	74.18	37	7.58	1028	%70.22	374.71
8	Electronic communication is maintained between beneficiaries to inform them about the recreational services offered	32	6.56	35	7.17	421	86.27	587	%40.10	615.42
9	A database is available to assist in making various decisions regarding recreational activities	38	7.79	143	29.30	307	62.91	707	%48.29	225.99
10	Information resources are accessible via the internet to assist management and beneficiaries	42	8.61	90	18.44	356	72.95	662	%45.22	351.75
11	A comprehensive database exists for beneficiaries, staff, and all those involved in recreational activities.	36	7.38	57	11.68	395	80.94	617	%42.14	499.11
12	The database is updated regularly.	39	7.99	160	32.79	289	59.22	726	%49.59	192.18
								7796	%53.25	

Table (2) shows that the percentage of opinions of the research sample regarding the statements of the second axis (areas of availability and analysis of management information systems as an approach to

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improving recreational services) ranged between (40.10%: 76.57%), and the percentage of the axis reached .(%53.25)

There are statistically significant differences between the opinions of the research sample regarding statements (13, 16, 17) demonstrating some agreement and statistically significant differences between the opinions of the research sample concerning statements (14, 15, 18, 19, 20, 21, 22) revealing disagreement. The researcher attributes this finding to the limited availability of management information systems examination as an approach to developing recreational services. This is due to a lack of a comprehensive network encompassing all recreational services, a lack of attention to and application of new online recreational services when initiating activities, the absence of a continuous improvement plan for updating databases of recreational service users, the absence of strategies for managing recreational databases, and the absence of plans for creating and developing such databases. Furthermore there is a lack of electronic communication among users to inform them about the available recreational services, the absence of a database to support decision-making regarding recreational services, and the failure to direct online information resources to assist management and users. There is limited database for beneficiaries, employees and all factors of the recreational fields and the database outdated regularly. This demands that sports club officials rely on the availability and analysis of management information systems as an approach to improving recreational services. This plays important role in providing the necessary data for decision-makers and understanding the trends and activities that members of the general assembly wish to engage in within the field of recreational activities. This was highlighted in the study by Mohammed Hamad Salem (2011), whose results indicated the need to provide statistical programs and the latest versions of Six Sigma software, and to facilitate training on its use.

The answer to the third question, which states: What are the components of improving human capital management to enhance recreational services according to the Arab Republic of Egypt's Vision 2030?

Table3. shows Scores, Relative Weights, and Chi-Square (χ^2) Values for the Sample's Responses to the Statements of the Third Dimension: Aspects of Improving Human Capital Management to Enhance Recreational Services (N = 488).

	Statement	Response						Statement	Response Agree	Statement
		Agree		Somewhat		Agree				
		X	%	X	%	X	%			
.23	Experts in the field of recreation are appointed to manage the recreational activities provided	52	10.66	160	32.79	276	56.56	752	%51.37	154.30
.24	Training programs on recreational service quality are provided for personnel involved in recreational activities	16	3.28	67	13.73	405	82.99	587	%40.10	549.52
.25	Developmental and innovative programs are designed to ensure the delivery of high-quality recreational services to beneficiaries.	21	4.30	263	53.89	204	41.80	793	%54.17	195.77

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.26	A suggestion box is available to collect proposals for improving the quality of recreational services.	30	6.15	85	17.42	373	76.43	633	%43.24	417.25
.27	Experts in recreation and quality management are invited to share their expertise in the delivery of recreational activities.	19	3.89	76	15.57	393	80.53	602	%41.12	499.21
.28	An organizational structure is in place to monitor the recreational services provided to beneficiaries.	16	3.28	99	20.29	373	76.43	619	%42.28	429.13
.29	A specialized quality assurance unit is established to develop quality standards and evaluate the suitability of recreational services.	28	5.74	77	15.78	383	78.48	621	%42.42	455.05
.30	Employees' ideas and suggestions aimed at improving the quality of recreational services are welcomed and encouraged.	46	9.43	128	26.23	314	64.34	708	%48.36	231.85
.31	Beneficiaries' opinions are considered and submitted to the administration for implementation whenever appropriate.	25	5.12	81	16.60	382	78.28	619	%42.28	453.25
.32	There is consistency between administrative decisions and the actual needs related to the recreational activities provided.	17	3.48	386	79.10	85	17.42	908	%62.02	474.15
								6842	%46.74	

The crucial chi-square value at a significance level of 0.05 = 5.99 as shown in Table (3): The percentage of the research sample's opinions on the statements of the third axis (Aspects of Improving Human Capital Management to Enhance Recreational Services) ranged between 40.10% and 62.02%, while the percentage for the axis as a whole reached 46.74%. Statistically significant differences exist between the research sample's opinions on statements (25 and 32) demonstrating some agreement and statistically significant differences exist between the research sample's opinions on statements (23, 24, 26, 27, 28, 29, 30, and 31), indicating disagreement. The researcher qualities this result to limitations in the aspects of improving human capital management to enhance recreational services. There is inadequate attention given to developing human resource management as experts in the field of recreation are not appointed to manage the activities provided, and training programs on the quality of recreational services are not available for those working in these activities. Developing and implementing innovative programs to provide quality services to beneficiaries is lacking as is a suggestion box for improving recreational service quality. Furthermore, recreation and quality experts are not invited to distribute their experience in delivering activities. An organizational structure for tracking recreational services is also absent, as is a dedicated quality control department responsible for setting quality standards and testing appropriate recreational services. Ideas from staff aimed at improving service quality are not accepted and beneficiary opinions are

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not regarded or presented to management for implementation. There is also a disconnect between management decisions and the actual needs for recreational activities. Therefore sports club boards must prioritize the human element, as it is the central driver for developing administrative work and recreational activities within sports clubs,magor to increased quality and participation in these activities. This was highlighted in a study by Ibrahim Othman Ibrahim Awad (2012)which indicated a significant difference in opinions among study participants regarding management's commitment to the quality concept and the feasibility of using Six Sigma in banks. In the study there is important difference between the opinions of the study groups regarding human resources strategies and the possibility of using Six Sigma in banks.

The answer to the fourth question which states: To what extent are the necessary material resources and infrastructure available to develop the quality of recreational services?

Table4. shows Score Relative Weight, and Chi-Square (χ^2) Values for the Sample's Responses to the Statements of the Fourth Dimension (Availability of Physical Resources and Infrastructure Required for Improving the Quality of Recreational Services) (N = 488).

	Statement	Response						Statement	Response Agree	Statement
		Agree		Somewhat		Agree				
		X	%	X	%	X	%			
.33	Financial support is allocated to improve the quality of recreational activity services.	33	6.76	282	57.79	173	35.45	836	%57.10	191.56
.34	The equipment and tools required for participating in recreational activities are easily accessible.	127	26.02	296	60.66	65	13.32	1038	%70.90	175.75
.35	The facilities and sports fields used for recreational activities are capable of development and improvement.	26	5.33	398	81.56	64	13.11	938	%64.07	515.13
.36	The sports fields and facilities are sufficient to accommodate the largest possible number of participants in recreational activities.	92	18.85	359	73.57	37	7.58	1031	%70.42	364.75
.37	Safety and security measures are available in equipment and storage rooms.	110	22.54	348	71.31	30	6.15	1056	%72.13	336.41
.38	The storage areas allocated for equipment and tools are adequate, appropriate, and secure.	15	3.07	442	90.57	31	6.35	960	%65.57	720.30

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.39	An information system containing all data related to storage facilities, equipment, and sports fields is available and regularly updated.	56	11.48	138	28.28	294	60.25	738	%50.41	179.72
.40	Safe equipment and materials are available for use in recreational activity areas.	115	23.57	343	70.29	30	6.15	1061	%72.47	322.09
.41	Senior management provides the necessary funding for new ideas that contribute to improving the quality of recreational services.	55	11.27	146	29.92	287	58.81	744	%50.82	168.00
.42	A sufficient number of support service staff (e.g., attendants) are available during the implementation of recreational activities.	129	26.43	299	61.27	60	12.30	1045	%71.38	1486.03
.43	Financial allocations are appropriately directed toward improving the quality of recreational services.	123	25.20	316	64.75	49	10.04	1050	%71.72	233.64
								10497	%65.18	

The tabulated value of (Ka) at a significance level of (0.05) = 5.99. It is clear from Table (4): The percentage of opinions of the research sample regarding the statements of the fourth axis (achieving the essential material capabilities and infrastructure to improve the quality of recreational services) ranged between (50.41%: 72.47%) and the percentage of the axis reached (65.18%). There are statistically significant differences between the opinions of the research sample regarding statements (33, 34, 35, 36, 37, 38, 40, 42, and 43) some demonstrtingagreement. Conversely, there are statistically significant differences between the opinions of the research sample regarding statements (39 and 41), indicating disagreement. The researcher attributes this finding to the absence of essential material resources and infrastructure to sufficiently develop the quality of recreational services. The areas of emphsis on recreational activities and programs have not acquired sufficient attention within sports clubs. Therefore officials must prioritize the enhancement of recreational activities and strive to fulfill the aspirations and desires of the club's general assembly members. This is due to a lack of allocated financial support to enhance the quality of recreational activities, difficulty in requier the necessary equipment and tools the absence of facilities and fields suitable for development and improvement, insufficient fields and facilities for the largest possible number of participants, inadequate safety and security measures in equipment storage areas, and insufficient and unsuitable storage space for equipment and tools. And securing them. There is also no information system and all data associated to stores, equipment and playgrounds that is constantly updated. Furthermore, there are no safe tools and materials available for use in activity areas, and senior management lacks the necessary funding for any new ideas that would improve the quality of recreational services. There is also an insufficient number of support staff (female workers) throughout the implementation of recreational activities, and financial allocations are not directed towards improving the quality of recreational services. This is what was indicated by the study by Sina Ahmed Al-Rawi (2011), whose results indicated a statistically significant influnce of Six Sigma standards senior leadership support,

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feedback, continuous improvement, processes and systems and human resources on the quality of internal auditing in private hospitals that won the Quality and Excellence Award in Amman.

The answer to the fifth question, which states: What are the areas of measurement and assessment of the nature of work in recreational activities according to the vision of the Arab Republic of Egypt 2030?

Table5. shows Score Score, Relative Weight, and Chi-Square (χ^2) Value for the Sample's Responses to the Statements of the Fifth Axis (Areas of Measuring and Evaluating the Nature of Work in Recreational Activities) (N = 488).

		Somewhat		Somewhat		Somewhat		Somewhat	Somewhat	Somewhat
		Somewhat		Somewhat		Somewhat				
		Somewhat	Somewhat	Somewhat	Somewhat	Somewhat	Somewhat			
.44	A committee is established to evaluate the performance of personnel involved in recreational activities.	27	5.53	105	21.52	356	72.95	647	%44.19	363.37
.45	Specialized offices are available to assess administrative performance.	45	9.22	101	20.70	342	70.08	679	%46.38	306.20
.46	The administration conducts regular follow-up to ensure the efficient implementation of recreational activities.	85	17.42	328	67.21	75	15.37	986	%67.35	252.37
.47	Continuous communication is maintained between the administration and staff to ensure ongoing performance evaluation.	77	15.78	309	63.32	102	20.90	951	%64.96	199.38
.48	Standards are established to identify and measure any deficiencies that may arise during the delivery of recreational services to beneficiaries.	104	21.31	347	71.11	37	7.58	1043	%71.24	327.13
.49	Changes to the administrative structure are permitted when necessary to ensure effective performance evaluation.	28	5.74	21	4.30	439	89.96	565	%38.59	704.29
.50	Performance evaluation is conducted by specialists in administrative performance assessment.	82	16.80	144	29.51	262	53.69	796	%54.37	102.80
.51	The results of performance evaluations are utilized to update programs and activities for subsequent years.	89	18.24	346	70.90	53	10.86	1012	%69.13	313.92
.52	The evaluation process contributes to identifying weaknesses in the	110	22.54	348	71.31	30	6.15	1056	%72.13	336.41

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	implementation of recreational activities.									
.53	Seminars and workshops are organized to evaluate performance and improve the quality of recreational services provided.	40	8.20	148	30.33	300	61.48	716	%48.91	209.77
.54	Clear and well-defined standards are available for evaluating the performance of recreational services.	130	26.64	308	63.11	50	10.25	1056	%72.13	214.44
								9507	%59.03	

The tabulated value of (Ka) at important level of (0.05) = 5.99. Table (5) shows that the percentage of opinions of the research sample regarding the statements of the fifth axis (areas of measuring and inspection the nature of work in recreational activities) ranged between (38.59%: 72.13%) and the percentage of the axis reached (59.03%). There are statistically significant differences between the opinions of the research sample concerning statements (46, 47, 48, 51, 52, 54), indicating some agreement. In contrast there are statistically significant differences between the opinions of the research sample concerning statements (44, 45, 49, 50, 53), indicating disagreement. The researcher attributes this result to the limited scope for measuring and evaluating the nature of work in recreational activities. The evaluation process for recreational activities has not received due attention from the boards of directors of sports clubs. Attention is concentrated on team sports activities such as football and volleyball, while such recreational programs and activities implemented for members are neglected. There is no committee to evaluate the performance of employees in recreational activities, nor are there specialized offices for measuring administrative performance. Furthermore there is no scheduled follow-up by management to ensure the efficient implementation of recreational activities no continuous communication between management and employees for ongoing performance evaluation, no established standars for measuring any shortcomings that may arise throughout the provision of recreational services to beneficiaries, and no authorization for changes in the administrative structure to guarantee performance evaluation. Finally, evaluation is not conducted by [unclear - possibly "by"]. professional in administrative performance evaluation are not depended upon, nor are the findings used to update programs and activities in subsequent years. Furthermore, the evaluation process fails to identify weaknesses in the implementation of recreational activities, and there is a lack of specialized seminars for performance evaluation and improvement of recreational services. Clear and well-defined standards for evaluating the performance of recreational services are also absent. This was highlighted in the study by Salaheldin & Abdelwahab (2010), which indicated several benefits of using the Six Sigma methodology, including control and design. Similarly the study by Aghili (2009) indicated that integrating the Six Sigma methodology using the Damic Cycle steps—identify, measure, analyze, recommend, and control—with the internal audit phases—planning, performance, analysis, recommendation and follow-up—is beneficial.

The answer to the sixth question, which states: What are the barriers to enhancing the quality of recreational services in accordance with the vision of the Arab Republic of Egypt 2030?

Table6. shows Score Relative Weight, and Chi-Square (χ^2) Value for the Sample's Responses to the Statements of the Sixth Dimension (Barriers to Improving the Quality of Recreational Services) (N = 488).

Somewhat	Somewhat	Somewhat	Somewhat	Somewhat	Somewhat	Somewhat	Somewhat	Somewhat

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		Somew hat	Somew hat	Somew hat	Somew hat	Somew hat	Somew hat			
.55	Lack of full conviction among the administration regarding the importance of recreational services.	329	67.42	129	26.43	30	6.15	1275	%87.09	285.25
.56	Inadequate managerial guidance for employees in implementing the philosophy of recreational service quality when initiating recreational activities.	311	63.73	112	22.95	65	13.32	1222	%83.47	209.68
.57	Insufficient periodic meetings to identify work-related problems and develop appropriate solutions.	318	65.16	110	22.54	60	12.30	1234	%84.29	230.18
.58	Failure to promote recreational activities and services through effective communication channels.	321	65.78	118	24.18	49	10.04	1248	%85.25	245.81
.59	Inadequate budget allocation for quality improvement and development initiatives.	250	51.23	104	21.31	134	27.46	1092	%74.59	73.10
.60	Failure to conduct continuous monitoring of financial expenditures and the quality of recreational services provided.	319	65.37	126	25.82	43	8.81	1252	%85.52	246.55
.61	Weak evaluation methods for assessing targeted outcomes to ensure the quality of recreational services.	286	58.61	127	26.02	75	15.37	1187	%81.08	148.56
.62	Failure of the administration to implement effective corrective actions to address deficiencies in employees' performance that affect the achievement of the required quality of recreational services.	277	56.76	109	22.34	102	20.90	1151	%78.62	120.69
.63	The information system does not include comprehensive data on inventories, equipment, and sports facilities, nor is such information updated on a regular basis.	308	63.11	143	29.30	37	7.58	1247	%85.18	229.31
.64	Lack of dedicated databases for participants in various recreational activities.	277	56.76	109	22.34	102	20.90	1151	%78.62	120.69

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	12059	%82.37

The crucial chi-square value at a importnace level of 0.05 is 5.99. Table (6) shows that the percentage of the research sample's opinions on the statements of the fifth axis (barriers to developing the quality of recreational services) ranged between 74.59% and 87.09%, while the percentage for the axis as a whole reached 82.37%. There are statistically significant differences between the research sample's opinions on all statements indicating agreement. The researcher dimensions this result to the existence of many obstacles to developing the quality of recreational services, the most important of which are: the absence of complete conviction on the part of management regarding the importance of recreational services; the inadequacy of management's direction to employees in applying the philosophy of recreational service quality when commencing activities; the infrequency of holding periodic meetings to identify problems facing the work and develop appropriate solutions; the lack of publicizing activities and services through effective communication channels; the low budget allocation for spending on improvement and development processes; the lack of continuous monitoring of financial expenditure items and the quality of services provided; the weakness of evaluation methods for the targeted results to ensure the achievement of recreational service quality; and the failure to take The administration has implemented corrective and effective procedures to address shortcomings in employee performance that affect the achievement of the required service quality. These shortcomings include the lack of comprehensive and up-to-date information systems for warehouses, equipment and playgrounds, as well as the absence of databases for participants in various recreational activities. This was highlighted in a study by Ezz El-Din Mahmoud (2014), which indicated insufficient attention to customer care from both management and staff, a lack of interest in measuring customer feedback on services provided and a failure to identify customer needs and desires in Palestinian government hospitals

Conclusions

1. The Six Sigma methodology plays a important role in improving the quality of recreational services if suitable implemented in accordance with Egypt's Vision 2030.
1. 2.conducting Six Sigma in sports clubs offering recreational services requires the presence of individuals with specialized skills whose roles and skill levels are clearly defined.
2. The diagnostic aspects of support and commitment enable to improve the quality of recreational services, as outlined in Egypt's Vision 2030 have not yet been achieved.
3. The availability and examination of management information systems are insufficient as a means to enhance recreational services in line with Egypt's Vision 2030.
4. It is essential to provide statistical software and the latest versions of Six Sigma programs and to facilitate training on their use.
5. 6.Six Sigma processes significantly influnce the achievement of competitive advantage. 7. The Six Sigma system helps in setting performance standards and measuring the actual performance of sports institutions providing recreational services thereby enabling corrective actions and improvements to enhance their efficiency.
6. 8. The Six Sigma methodology can be applied to improve quality in sports clubs providing recreational services if the necessary requirements for success are met.
7. 9. Implementing Six Sigma contributes to developing the stnding of sports clubs providing recreational services compared to other institutions.
8. 10.There are many obstacles that hinder the improvement of the quality of recreational services in accordance with the Arab Republic of Egypt's Vision 2030.

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Recommendations

1. In light of the research findings, the researcher recommends the following:
2. 1.Offering statistical software and the latest versions of Six Sigma programs and facilitating training on their use.
3. 2.Improviment the information and communication infrastructure to provide wider access to internet services in countries that are sports tourism destinations or countries targeted by tourism marketing.
4. 3.Establishing a clear and specific strategy to accomplish distinguished service delivery in sports clubs, based on the Six Sigma methodology.
5. 4.Conducting training courses for office staff to refine their skills and talents for implementing and improving service quality.
6. 5.Establishing a Service Quality Management Unit in the Minya sports clubs and adopting the Six Sigma requirements.
7. 6.Carrying out corrective and effective measures by management to address shortcomings in employee performance that affect the achievement of the required service quality.
8. 7.Conducting continuous monitoring of financial expenditures and the quality of services offere

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