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Measuring and analyzing the requirements of the ISO (22301:2019) - a Case Study at State Company for Automotive and Equipment Industry

قياس وتحليل متطلبات المواصفة القياسية (ISO 22301:2019) - دراسة حالة في الشركة العامة لصناعة السيارات والمعدات

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Abstract

This research aims to measure and analyze the gap between the actual situation and the requirements of the Business Continuity Management System (ISO 22301:2019) at the General Company for Automotive Industries and Equipment in Alexandria. The study focused on analyzing the requirements of the organizational context, including leadership, planning, support, operations, performance evaluation, and improvement. A case study approach with a checklist was used as the data collection tool, along with statistical methods such as arithmetic means and percentage calculations to determine the levels of implementation and the size of the gap. The results showed a significant gap, with an overall compliance rate of only 29%, compared to a 71% gap. The study revealed that the company faces significant challenges in implementing the leadership and performance evaluation requirements, while achieving relatively higher rates in the support and operations requirements. Based on these findings, the study recommends strengthening the areas that demonstrated high compliance levels and addressing the weaknesses, particularly in the leadership and performance evaluation areas, by developing continuous improvement plans and providing the necessary resources to ensure the company's operational sustainability.

Keywords: ISO 22301:2019, Business Continuity Management, Leadership, Planning, Performance Evaluation, Improvement

المستخلص

تهدف الدراسة إلى قياس وتحليل الفجوة بين الواقع الفعلي ومتطلبات نظام إدارة استمرارية الأعمال (ISO 22301:2019) في الشركة العامة لصناعة السيارات والمعدات/ الاسكندرية. ركزت الدراسة على تحليل متطلبات (سياق المنظمة والقيادة والتخطيط والدعم والتشغيل وتقييم الأداء والتحسين) . تم استخدام منهج دراسة الحالة فضلا عن استخدام قائمة الفحص كأداة لجمع البيانات، إلى جانب الأساليب الإحصائية مثل (المتوسط الحسابي والنسبة المئوية) لتحديد مستويات التطبيق وحجم الفجوة. أظهرت النتائج وجود فجوة كبيرة، حيث بلغ معدل المطابقة الإجمالي 29٪ فقط، مقابل فجوة 71٪. وكشفت الدراسة أن الشركة تواجه تحديات جوهرية في تنفيذ متطلبات القيادة وتقييم الأداء، مع تحقيق معدلات أعلى نسبيًا في متطلبات الدعم والعمليات، وبناءً على هذه النتائج، توصي الدراسة بتعزيز نقاط القوة التي أظهرت مستويات تطبيق عالية ومعالجة نقاط الضعف، وخاصة في مجالات القيادة وتقييم الأداء، ويتطلب ذلك وضع خطط للتحسين المستمر، وتخصيص الموارد المالية والبشرية اللازمة، وتبني نهج استراتيجي متكامل لضمان تحقيق الاستدامة التشغيلية للشركة وتعزيز قدرتها على مواجهة الأزمات والتهديدات المحتملة.

الكلمات المفتاحية : ISO 22301:2019 ، إدارة استمرارية الأعمال، القيادة، التخطيط، تقييم الأداء، التحسين.

1. Introduction

Business Continuity Management Systems (BCMS) identify potential threats to an organization and the impacts on business operations that such threats, if realized, might cause them provide a framework for building organizational resilience with the capability to manage any disruption to business-as-usual activities that create so-called "time windows of disruption." The standard definition of Business Continuity includes elements of the social dimension and corporate agenda, suggesting a clearly strategic focus on organizational goals. This approach identifies the critical dependencies for services and products customers need and can therefore be the basis for operational

risk management as well .That means, "Successful" business continuity defines and depends on those processes, skills, and services a firm must have to maintain discretion over risk.

In these modern times, it is crucial for the efficient functioning and viability of an organization to reduce the duration and impact of disruptive incidents, thereby improving a company's operational integrity by establishing and maintaining arrangements and procedures that will facilitate the timely and effective recovery of its mission-critical functions. The lack of planning for emergencies is clearly the domino that might precipitate very dramatic consequences, and ideally, planning and preparedness is best not just at the management level, but throughout the organization. On the negative side, besides the potential for legal repercussions, organizations that are found wanting in the area of business continuity risk alienating the trust of existing and potential clients and stakeholders who may look elsewhere for their needs. This may lead to loss of income and impact on the viability of the organization. Also, many organizations are required by law to have a business continuity management system in place, and implementation of an effective BCMS also demonstrates a duty of care towards employees, the rest of the workforce, and, through the use of compliant providers, end-customers. The key reasons for carrying out this research can be summarized as follows:

- The State Company for Automotive and Equipment Industry faces major challenges due to unstable economic conditions, negatively impacting the continuity and efficiency of production operations.
- The implementation of Business Continuity Management System (ISO 22301:2019) is vital for improving crisis management capability and reducing its impact on the company's daily operations.

2. Research Methodology

2.1 Research problem

The General Company for Automotive Industries and Equipment in Iraq currently faces significant obstacles in maintaining operational continuity. These challenges stem from unstable economic conditions, security circumstances, and supply chain disruptions. Furthermore, the company lacks sufficient administrative preparedness and the necessary basic infrastructure for effective crisis and emergency management. Consequently, this has led to frequent production interruptions and a marked decline in operational efficiency.

This international standard provides a systematic approach to identifying essential requirements and building organizational resilience to withstand crises. According to Smith and Fischbacher (2009), achieving operational resilience is crucial for maintaining performance under unstable conditions. Al-Dahash et al. (2016) indicate that ISO 22301:2019 emphasizes the importance of risk assessment and organizational preparedness to mitigate the negative impacts of crises on businesses. Based on these considerations, the current research seeks to answer the following fundamental questions:

A. To what extent does the General Company for Automotive Industries and Equipment implement the ISO 22301:2019 standard? .
B. What are the gaps between the company's current situation and the requirements of ISO 22301:2019? .
C. What are the strengths and weaknesses of implementing the requirements of ISO 22301:2019? .

2.2. Research Importance

The importance of the study can be summarized in the following points:

A. Clarifying the role of the international standard in promoting operational sustainability in challenging and unstable industrial environments.
B. Assisting the General Company for Automotive and Equipment Industries in achieving business continuity and minimizing disruptions during crises.

C. Highlighting the importance of implementing the ISO 22301:2019 international standard as a structured tool for risk management and emergency response.
D. Contributing to increased productivity and reduced financial losses resulting from operational downtime.
E. Enhancing the company's competitiveness in local and international markets.
F. Providing a framework that helps align international standards with the economic and security conditions in Iraq.

2.3. Research objective

The research aims to measure and analyze the requirements of the Business Continuity Management System ISO 22301:2019 and evaluate its role in reducing operational disruptions and improving operational resilience in the State Company for Automotive and Equipment Industry in Iraq. To achieve this, the research seeks to accomplish the following sub-objectives:

A. Identify the level of implementation of ISO 22301:2019 in the State Company for Automotive and Equipment Industry.
B. Determine the gap between the actual reality of the State Company for Automotive and Equipment Industry and the requirements of ISO 22301:2019.
C. Identify the strengths and weaknesses of ISO 22301:2019 requirements in the State Company for Automotive and Equipment Industry.

2.4: Data Analysis Methods

The following equations were used to extract the percentage of conformity as follows (Al-Khatib, 2008:326):

A- Calculating the approximate rate of conformity of actual implementation and documentation of the specification ISO 22301:2019 in the State Company for Automotive and Equipment Industry, , by extracting the weighted arithmetic mean according to the following equation:

$$\text{Weighted arithmetic mean} = \frac{\text{requencies} \times \text{weights}}{\text{Sum of frequencies}}$$

B- The percentage of the extent to which the application and actual documentation match the requirements according to the specification under investigation and based on the following equation:

$$\text{The percentage of matching} = \frac{\text{Arithmetic mean}}{(\text{highest score on the scale})(6)} \times 100\%$$

As the highest weight in the seven-point scale is (6) points and represents the state of full compliance with the requirements of the operating clause.

Calculating the gap size through the following equation: Gap size = 1 - Percentage of compliance.

Checklists were prepared for the operation clause according to the specification ISO 22301. The seven-point Likert scale was determined according to weights from (0- 6) as shown in Table (1):

Table (1) the Seven-Point Scale

Not applied, undocumented	Partially applied, undocumented	Partially applied, partially documented	Partially applied, fully documented	Fully applied, undocumented	Fully applied, partially documented	Fully applied, fully documented
0	1	2	3	4	5	6

Source: Al-Khatib, Samir Kamel (2008), "Total Quality Management and ISO, a Contemporary Approach", Misr Library and Dar Al-Mortada, Baghdad, Iraq. P: 326.

2.5: Some previous studies

Table (2) shows some previous studies as follows:

Table (2) Some previous studies

A- study (Jassim, & Lafta, 2023)

Study Name	Diagnosing the reality of applying the operational requirement according to the international standard for business continuity management system (ISO 22301: 2019) An applied study in the General Tax Authority
Study Location	General Authority for Taxes – Republic of Iraq.
Study Problem	Weak implementation of the operational requirement (requirement eight) of the Business Continuity Management System according to the international standard ISO 22301:2019 within the General Authority for Taxes in Iraq
Study Methodology	Case study/checklist
Study Objectives	Determining the level of implementation of operational requirements at the General Authority for Taxes in accordance with ISO 22301:2019. Identifying gaps between current practices and the requirements of the international standard. Proposing development mechanisms to improve the planning, implementation, and control of operational processes. Enhancing the Authority's crisis management capabilities and achieving operational resilience.
Key Findings	The General Authority for Taxation achieved only 7% compliance with operational requirements, reflecting a 93% gap from the international standard. This indicates significant weaknesses in operational planning, documentation, and crisis management..
B- study (Ahmed Hani, et al,2021)	
Study Name	Measuring the availability of the requirements of the international standard for business continuity management system ISO 22301: 2019/a field study in the Central Bank of Iraq, Mosul branch
Study Location	Central Bank of Iraq – Mosul Branch.
Study Problem	The Central Bank of Iraq/Mosul Branch relies on individual expertise and unsystematic information in managing business continuity and risks, rather than adhering to the requirements of the ISO 22301:2019 standard.
Study Methodology	Case study/checklist
Study Objectives	Analyzing the extent to which the Central Bank of Iraq/Mosul Branch complies with the requirements of the ISO 22301:2019 standard. Identifying gaps between the bank's actual practices and the standard's regulatory requirements. Assessing the bank's administrative and technical readiness to respond to crises. Proposing mechanisms for adopting the international standard and enhancing business continuity and operational resilience.
Key Findings	The study recommended the need to adopt the international standard as a basis for risk management and business continuity, improve administrative and technical readiness, and implement training and awareness programs for employees to raise awareness of business continuity concepts.

Source: Based on the study mentioned above

3. Theoretical framework

3.1. Definition and Importance of Business Continuity

Business continuity is defined as those procedures that an organization must follow to ensure critical activities are maintained or restored during and after a crisis. A crisis may be caused by natural events, societal factors, suboptimal human systems, or technological failure, as well as international and global political developments affecting trade. (Păunescu & Argatu, 2020: 499) Thus, there is potential for many organizations to unexpectedly experience a principal incident, and as more organizations become dependent on international markets and resources, business continuity will become increasingly important. Indeed, effective business continuity can safeguard shareholders', stakeholders', and the public's interests, as it protects the assets of the organization as well as its long-term reputation (Crask, 2024:68). Organizational losses include the inability to produce a product or service for the market, non-receipt of income, and the denial of access to facilities. (Amiri et al.2023:314)Further, a crisis means disruption of trade, denial of services or products to customers, failure to meet legal obligations, and non-receipt of revenue. Organizational reputation can be tarnished, and court cases or insurance claims could result.Without business continuity, therefore,

there may be substantial financial loss, as well as loss of public confidence, which would further undermine the ability to trade. Indeed, many organizations that close after a principal incident are unable to reopen, indicating that the recovery time is also an important factor in the formulation of a business continuity plan (Grissom & Condon, 2021:317). Because of the potential problems associated with not having continuity arrangements within the organization, business continuity planning is recognized as important. Sustainable organizations are able to continue trading through any incident; they plan and develop procedures and have systems in place that will help to mitigate any losses (Saad & Elshaer, 2020:6).

3.2. Overview of ISO 22301: 2019 Standard

Developed to provide a standard process that can be used by the entire organization to establish and maintain a (BCMS), the ISO 22301 standard replaces the former British Standard. It is important to note that as an international standard, ISO 22301 is issued by an international body that issues the standards for international businesses in many areas. (Civča et al.2021:342) It provides a best practice framework that, should an organization implement it, will not only help safeguard the company's key markets and supporting activities but also its reputation. The expectation is that benefits from the adoption of this management system will result in greater assurance to its key stakeholders, regulators, or customers in both the private and public sectors and will ensure that the Board and Senior Management are able to comply with laws regarding the disclosure of risk. (Latilo et al.2024:76) .At the core of ISO 22301 is the process design, which requires the organization to identify and prioritize potential incidents, impacts of a disruption, and undertake a risk assessment. The outputs from this feed into the systems design that forms the requirements of the BCMS. (Hendaryatna et al.2023: 1160) It must also provide mitigations against the impacts of a disruption. Adopting the Process Approach and Plan-Do-Check-Act structure will allow all aspects of the BCMS to be fully addressed and for Continuous Improvement to be developed. The driving forces for the adoption of the ISO 22301 standard have been the realization of the ever-increasing risks to organizations from natural as well as man-made incidents This will drive the need for businesses to develop the appropriate plans and hence to adopt a structured approach to business continuity, such as ISO 22301. A number of related standards are (Gracey & Yearwood2022: 344).

3.3. Scope and Purpose of the Standard ISO 22301: 2019

ISO 22301: 2019 provides the method to ensure business as usual as much as possible and recover quickly when incidents occur. While the resources needed to do this will vary depending on the organizational size and type of activity, business continuity management ultimately aims to ensure the strategy, programs, and plans can be operationalized and work effectively(Hendaryatna et al.2023: 1161) It considers the ongoing expectations of interested parties while also providing an effective response at the time of an incident. The bigger the incident, the more likely it is that continuity plans will be needed to ensure the organization successfully recovers. The controls in an ISO 22301 Business Continuity Management System are based on identified assurance objectives and 'Interested Party-related Requirements.' The purpose of the standard is to provide a framework that can be used by organizations to implement Business Continuity Management. It brings together documents, procedures, and systems that are specific to the management of continuity risks into a comprehensive management system. (Suresh et al.2020:130) An overarching concept in the ISO 22301 standard is that 'continual improvement' should be promoted and that business continuity management systems should evolve through the feedback of experience, monitoring, measurement, analysis, evaluation, and review. This means aligning activities with strategic objectives and explicitly with the organization's culture. The standard is applicable to organizations of all types and sizes, whether or not they have a business continuity management system in place. (Brás, 2024:89) It is also applicable to organizations of all sectors and sizes. Once in place, organizations are able to gain certification to the standard. This demonstrates conformance to best practice and continuous improvement. (Banmairuroy et al.2022:202)

3.4. Key Components of ISO 22301: 2019

Understanding the (BCMS), risk assessment is a primary necessity. Risk assessment must first identify threats that might affect an organization. It explores international, national, regional, and local threats likely to have an impact on an organization. (Hendaryatna et al.2023: 1163) Potential human-influenced threats, including terrorism, sabotage, or employee strikes, must also be identified. A second component is risk treatment. Risk treatment strategies may respond to inherent risks to reduce their likelihood or impact. (Majerník et al.2023: 4727) This generally occurs over longer periods of time through strategic-level decisions, affecting the whole organization. As an example, insuring against loss is risk treatment, spreading the impact in case something goes wrong across the pool of insured entities. (Păunescu & Argatu, 2020: 500). A detailed look at risk treatment includes the business impact analysis and recovery strategies. The business impact analysis examines the critical functions, supporting infrastructure, human resources, and any other business facets that must be preserved in the event of a disaster. (Dargin & Mostafavi, 2020:10) Supported by the business impact analysis, recovery strategies suggest how to recover an organization's functions and infrastructure. A continuity plan also includes the provision of key resources and facilities that aid disaster response and recovery. Allocation of these resources should be identified within plans as part of preparedness activities. Once allocated, these resources must be physically obtained, brought to the emergency area, and used to implement and sustain plans and recovery procedures. (Yang et al.2020:5) All of these details supporting risk treatment must be documented, implemented, and communicated to facilitate the effective organization of response and recovery in the event of a disaster. The standard can also be auditable proof of compliance and a sign of discipline in the organization. All components of the system must be integrated to ensure that the whole system is effective in practice (Antunes et al., 2022:38). A set of generally accepted key performance indicators must be developed to measure the extent to which systems are effective. This allows the organization to use the system as an element of continual improvement, providing yet another layer of risk treatment. (Nour et al.2020:6). The Business Continuity Management System requires a solid foundation, including documented information and communications processes. The organization should have relevant legislation and requirements, as well as its management system scope, documented. (Jack et al.2024: 5144) The business impact analysis is the document that determines the potential impact of incidents and disruptions to the organization's spectacular interest in the business continuity life cycle by using dependency maps to identify the key resources needed and risks touching those same resources. The business impact analysis is one of the first activities a Business Continuity Management System initiates, but it is flexible and can change as a result of the output from other Business Continuity Planning-wide activities and specialist-based activities. It integrates three Business Continuity Planning-wide activities: identifying risks and impacts, using dependency maps, and recovery strategies identified through the project management team. . All teams interact with this document to write the business processes. It is a living document that is updated as part of the status update. Dealt with on a risk basis in line with our economic interest. (Ramesh et al.2022: 5520).

3. 3.5.Implementing ISO 22301: 2019

Implementing ISO 22301 involves a systematic process of BCMS development, involving various key steps. These include: conducting a gap analysis of current practices with the standard’s requirements; developing a detailed implementation plan; resource identification and allocation; internal and external communications; employee training and awareness; performance measures and objective setting; establishing monitoring and review processes; compliance auditing; and undertaking reviews and continuous improvement efforts (Lampe et al.2020: 944). It is further suggested that some form of process management tool, such as process mapping, may be used to

prepare an organization for ISO 22301 implementation. Several of these activities will be further discussed to provide guidance to organizations that are in the early stages of BCMS implementation (Brás et al.2024:85). The gap analysis report can be complex and contain a large amount of documentation. However, at a high level, five key areas may be typically identified in the gap analysis (Böckel et al.2021:529) (Hopmans et al.2021:102):

A. Documentation. B- Resources .C- Training. D-Monitoring .E-Defining and Communicating Organizational Objectives

3.6. Benefits and Challenges of ISO 22301: 2019

In adopting ISO 22301, there are numerous benefits available to an organization. It will result in a more resilient, reliable, and secure environment, as well as improving the confidence of stakeholders.(Crask, 2024:70)The advantages linked to ISO 22301 include professional opportunities, competitive market support, market opportunities, happy consumers, loyal workers, cash flow advantages among suppliers, and ultimately, minimized noncompliance risk. (Routhu & Sharma: 310).There are also challenges that need to be considered in the implementation of ISO 22301. To reach the stage of acceptance required, improvement could be hindered by resistance from an organizational society. (Azadegan et al.2020: 749) Often, the resources required for certification may cost more. Plus, without the presence of a crisis, it would be impossible to recognize the importance of Business Continuity. It is very important to grasp the advantages and obstacles side by side. Systematic preparation, awareness, and information activities facilitate the rapid establishment of a BCMS and recognize and remove potential barriers and difficulties. An action plan expresses the business case for ISO 22301 to allow decision-making. In parallel, the new standard is a good opportunity to implement a risk-based approach. A comprehensive view of the costs and benefits of ISO 22301 is crucial. (Gonçalves, 2020:140) It is important to have a systematic strategy in order to include a BCMS in the investments of the organization. It is advantageous to be conscious of the challenges so that the individual actions needed to overcome them can be taken, maximizing the financial advantages of BC investments. (Russo et al.2024:55).

4.Practical Aspect of Research

This section refers to the analysis of the checklist through field surveys conducted by the researcher and personal interviews at the General Company for Automotive Industries and Equipment. The arithmetic mean was calculated to determine the actual implementation rate of the studied specifications and the implementation gap for each item on the checklist. The specifications are divided into seven requirements as follows:

4.1. Organizational Context: Through Table (3), the specification (ISO 22301:2019) determines the requirement for **Organizational Context**. The checklist showed results of the level of application and documentation of requirement achieving an arithmetic mean of (0.93) points out of (6) points and a conformity rate of (%15), which indicates a gap of non-conformity by (%85). This result can be interpreted into the following strengths and weaknesses:

A- Strengths

- The company has the ability to identify internal and external issues affecting goal achievement, such as local market challenges, changes in customer trends, and supplier relationships.
- There is a focus on understanding the needs of interested parties such as customers, community, and suppliers, reflecting basic knowledge of stakeholders' role in achieving company objectives.

B- Weaknesses

- Absence of comprehensive documentation for all company activities and tasks, leading to weak information management.

- Lack of clear connection between company general objectives and business continuity management policies.
- Weakness in business continuity management procedures, with lack of clarity in responsibilities and duties.

Table (3) the level of actual implementation and documentation for the Organizational Context

Checklist for Compliance with the Requirements of (ISO 22301:2019) Standard		Scale						
NO	Organizational Context	Fully implemented fully documented	Fully implemented partially documented	Fully implemented	Partially implemented fully	Partially implemented partially	Partially implemented	Not implemented undocumented
		6	5	4	3	2	1	0
1	The organization identifies internal issues that affect achieving its objectives.					✓		
2	The organization identifies external issues that affect achieving its objectives.					✓		
3	The organization documents and updates its activities, tasks, services provided, and relationships with stakeholders.					✓		
4	The organization links its objectives and other policies to business continuity management policy.						✓	
5	The organization has the willingness and ability to adopt and handle risks.					✓		
6	The organization focuses on understanding the needs and expectations of interested parties including (customers, suppliers, and community).					✓		
7	The organization establishes, implements, and maintains its procedures to achieve a business continuity management system.						✓	
8	The organization evaluates legal and regulatory requirements when implementing the business continuity management system.						✓	
9	The organization documents its procedures related to the business continuity management system.							✓
10	The organization determines the applicability and boundaries of the business continuity management system.						✓	
11	The organization establishes business continuity management system requirements in line with its tasks and internal and external obligations.							✓
12	The organization determines all services, products, and activities related to the business continuity management system.							✓
13	The scope of the business continuity management system is determined according to the size, nature, and complexity of the organization.							✓

14	The organization documents and clarifies exceptions that do not affect its ability and responsibilities to meet business continuity management system requirements.							✓
15	The organization develops, implements, and maintains continuous improvement programs according to ISO 22301:2012.							✓
Frequencies		0	0	0	0	5	4	6
Result		0	0	0	0	10	4	0
Weighted arithmetic mean (average) = Sum of results / Sum of frequencies		0.93						
Percentage of matching = Weighted arithmetic mean / Highest weight in the scale		%15						
Gap size = 1 - Percentage of matching		%85						

Source: Prepared by the researcher in light of the specification (ISO 22301:2019).

4.2. Leadership: Through Table (4), the specification (ISO 22301:2019) determines the requirement for **Leadership**. The checklist showed results of the level of application and documentation of requirement achieving an arithmetic mean of (0.33) points out of (6) points and a conformity rate of (%5), which indicates a gap of non-conformity by (%95). This result can be interpreted into the following strengths and weaknesses:

A- Strengths

- The company has experienced leadership with awareness of local and international market challenges.
- Some administrative roles are linked to participation in decision-making, reflecting a desire to involve different levels in the management process.

B- Weaknesses

- Lack of clear policies defining the company's strategic directions in business continuity.
- Insufficient incentives for employees to actively participate in implementing the business continuity management system.
- Shortage of specialized human and material resources needed to support the system.

Table (4) the level of actual implementation and documentation for the Leadership

Checklist for Compliance with the Requirements of (ISO 22301:2019) Standard		Scale						
NO	Leadership	Fully implemented fully documented	Fully implemented partially documented	Fully implemented	Partially implemented fully documented	Partially implemented	Partially implemented	Not implemented
		6	5	4	3	2	1	0

1	The organization encourages its employees to actively participate in maintaining and improving the effectiveness of the business continuity management system.						✓	
2	Policies and goals related to business continuity are developed to align with the organization's general strategy and long-term vision.						✓	
3	Efforts are directed toward preparing and qualifying the necessary human resources to ensure successful system implementation.							✓
4	The organization also secures and manages the material and logistical resources required to support the continuity of operations.							✓
5	Administrative responsibilities and decision-making roles are clearly defined to support effective participation and accountability.					✓		
6	Strategic plans and operational objectives are formulated to guarantee the proper execution of business continuity activities.							✓
7	Regular internal reviews and audits are conducted to evaluate the performance and compliance of the system.							✓
8	A clear and comprehensive business continuity policy is established, reflecting the organization's priorities and operational goals.							✓
9	This policy is periodically reviewed and updated to ensure its continued relevance and approval by top management.							✓
10	All key information related to business continuity management is properly identified, documented, and maintained.							✓
11	Responsibilities and authorities for implementing continuity procedures are formally assigned to designated personnel.							✓
12	Regular performance reports are prepared and submitted to senior management to support informed decision-making and ongoing improvement.							✓
Frequencies		0	0	0	0	1	2	9
Result		0	0	0	0	2	2	0
Weighted arithmetic mean (average) = Sum of results / Sum of frequencies		0.33						
Percentage of matching = Weighted arithmetic mean / Highest weight in the scale		5%						
Gap size = 1 - Percentage of matching		95%						

Source: Prepared by the researcher in light of the specification (ISO 22301:2019) .

4.3. Planning: Through Table (5), the specification (ISO 22301:2019) determines the requirement for **Planning**. The checklist showed results of the level of application and documentation of requirement achieving an arithmetic mean of (2.82) points out of (6) points and a conformity rate of (%47), which indicates a gap of non-conformity by (%53). This result can be interpreted into the following strengths and weaknesses:

A- Strengths

- The company develops operational plans to achieve its objectives, including some business continuity plans.
- There is knowledge of response planning for expected risks and opportunities.

B- Weaknesses

- Weakness in fully involving operational units in the stages of collecting data and information necessary for effective planning.
- Lack of periodic updates to objectives makes them incompatible with dynamic market changes.
- Limited communication of business continuity plans to all operational departments, which weakens internal coordination.

Table (5) the level of actual implementation and documentation for the Planning

Checklist for Compliance with the Requirements of (ISO 22301:2019) Standard		Scale						
NO	Planning	Fully implemented fully documented	Fully implemented partially documented	Fully implemented undocumented	Partially implemented fully documented	Partially implemented partially documented	Partially implemented undocumented	Not implemented undocumented
		6	5	4	3	2	1	0
1	The organization conducts SWOT analysis when planning the system to ensure achievement of objectives.					✓		
2	The organization plans appropriate responses to risks and opportunities to prevent and reduce undesired effects.			✓				
3	The organization sets business continuity plan objectives in line with its general objectives.			✓				
4	The organization announces business continuity plans to all operational units.					✓		
5	The organization's business continuity plan objectives are measurable, applicable, and regularly updated.						✓	
6	All operational units are consulted to obtain data and information about core activities necessary for developing plans.			✓				
Frequencies		0	0	3	0	2	1	0
Result		0	0	12	0	4	1	0
Weighted arithmetic mean (average) = Sum of results / Sum of frequencies		2.82						
Percentage of matching = Weighted arithmetic mean / Highest weight in the scale		%47						
Gap size = 1 - Percentage of matching		%53						

Source: Prepared by the researcher in light of the specification (ISO 22301:2019) .

4.4. Support: .Through Table (6), the specification (ISO 22301:2019) determines the requirement for **Support .**The checklist showed results of the level of application and documentation of requirement achieving an arithmetic mean of (3) points out of (6) points and a conformity rate of (%50), which indicates a gap of non-conformity by (%50). This result can be interpreted into the following strengths and weaknesses:

A- Strengths

- The company provides essential material and training resources that support the implementation of some aspects of the business continuity management system.
- There is a clear identification of some communication methods related to the business continuity system.

B- Weaknesses

- Awareness programs are insufficient, leading to lack of employee awareness of their roles during crises.
- Poor management of system-related documentation, increasing the risk of unauthorized modification or deletion.
- Lack of documentation of external communications that help in quick decision-making during crises.

Table (6) the level of actual implementation and documentation for the Support

Checklist for Compliance with the Requirements of (ISO 22301:2019) Standard		Scale						
NO	Support	Fully implemented fully documented	Fully implemented partially documented	Fully implemented	Partially implemented fully documented	Partially implemented partially	Partially implemented	Not implemented undocumented
		6	5	4	3	2	1	0
1	The organization identifies and provides the required resources for continuous improvement in the business continuity management system.						✓	
2	The organization specifies the required competency for individuals performing the work.		✓					
3	The organization provides necessary resources for educating and training individuals to increase their expertise and competency.		✓					
4	The organization's management maintains all approved information and documents as evidence of individuals' competency.		✓					
5	Individuals are aware of the consequences of non-compliance with ISO 22301:2019 requirements.						✓	
6	The organization establishes awareness programs to distribute roles during chaos.		✓					
7	There is precise identification of communications related to the business continuity management system.						✓	
8	The organization establishes documented information databases regarding external communications to facilitate sound decision-making.		✓					
9	The organization ensures communication methods during disruptive incidents.				✓			
10	The organization facilitates regular communication with relevant competent authorities.					✓		
11	The organization ensures the operation and testing of communication capabilities intended for use during chaos.			✓				
12	The organization provides the documented information required by ISO 22301:2019 to ensure its effectiveness.						✓	
13	The organization confirms that the documented information for the business continuity management system is appropriate to its size, operational complexity, and personnel competency.						✓	
14	Management determines the language of information and documentation methods appropriate for achieving efficiency.			✓				
15	The organization ensures the protection of documented information from unauthorized modification and deletion.					✓		
Frequencies		0	5	2	1	2	5	0

Result	0	25	8	3	4	5	0
Weighted arithmetic mean (average) = Sum of results / Sum of frequencies	3						
Percentage of matching = Weighted arithmetic mean / Highest weight in the scale	%50						
Gap size = 1 - Percentage of matching	%50						

Source: Prepared by the researcher in light of the specification (ISO 22301:2019) .

4.5. Operation: Through Table (7), the specification (ISO 22301:2019) determines the requirement for **Operation** .The checklist showed results of the level of application and documentation of requirement achieving an arithmetic mean of (3.05) points out of (6) points and a conformity rate of (%51), which indicates a gap of non-conformity by (%49). This result can be interpreted into the following strengths and weaknesses:

A- Strengths

- Having clear operational standards for some processes helps improve efficiency.
- The company is working on implementing formal business impact analysis and risk assessment. There is a focus on the importance of continuous improvement to ensure business continuity effectiveness.

B- Weaknesses

- Weakness in monitoring outsourced operations, which may affect the quality of the final product.
- Lack of flexible plans to respond to emergency and unexpected crises.
- Lack of precise timeframes for resuming operations after crises.

Table (7) the level of actual implementation and documentation for the Operation

Checklist for Compliance with the Requirements of (ISO 22301:2019) Standard		Scale						
NO	Operation	Fully implemented fully documented	Fully implemented partially documented	Fully implemented undocumented	Partially implemented fully documented	Partially implemented partially documented	Partially implemented undocumented	Not implemented undocumented
		6	5	4	3	2	1	0
1	The organization plans, implements, and monitors the processes required to meet business continuity management system requirements.						✓	
2	The organization formulates operational performance criteria.		✓					

3	The organization periodically measures the implementation rate of objectives from operational plans according to specified criteria.		✓					
4	The organization maintains documented information to ensure processes are carried out as planned.			✓				
5	The organization monitors outsourced processes.					✓		
6	The organization prepares and implements a formal and documented process for business impact analysis and risk assessment.				✓			
7	The organization prioritizes risk treatment and associated costs.			✓				
8	The organization determines the required outputs from business impact analysis and risk assessment.		✓					
9	Management evaluates the consequences of not performing activities that support service delivery.				✓			
10	The organization establishes a prioritized timeframe for business resumption according to the minimum acceptable level.				✓			
11	The organization defines procedures and treatments in line with business continuity management system objectives.						✓	
12	The organization determines and selects the strategic plan based on business impact analysis and risk reduction.				✓			
13	The organization identifies the necessary resources to implement the selected strategic plans.		✓					
14	The organization takes proactive measures to reduce the impact of risks on its key services.			✓				
15	Plans are flexibly determined to respond to unexpected threats and changing internal and external circumstances within a timeframe.				✓			
16	The organization establishes a structure and procedures that define the formal response initiation, potential impacts, and resources needed to support operations to minimize effects.				✓			
17	The organization prioritizes the safety of its individuals.	✓						
18	The organization conducts warnings and alerts, including media and relevant authorities whenever possible.					✓		
19	The organization distributes roles and identifies individuals and teams with authority and competence to manage incidents.			✓				
20	The organization regularly tests business continuity procedures with reports including results and recommendations.						✓	
Frequencies		1	4	4	6	2	3	0
Result		6	20	16	12	4	3	0
Weighted arithmetic mean (average) = Sum of results / Sum of frequencies		3.05						
Percentage of matching = Weighted arithmetic mean / Highest weight in the scale		% 51						
Gap size = 1 - Percentage of matching		% 49						

Source: Prepared by the researcher in light of the specification (ISO 22301:2019) .

4.6. Performance Evaluation: Through Table (8), the specification (ISO 22301:2019) determines the requirement for **Performance Evaluation .**The checklist showed results of the level of application and documentation of requirement achieving an arithmetic mean of (0.08) points out of (6) points and a conformity rate of (%8), which indicates a gap of non-conformity by (%92). This result can be interpreted into the following strengths and weaknesses:

A- Strengths

- The company records some information related to operational performance, reflecting efforts to monitor performance.

B- Weaknesses

- Absence of regular internal audit programs to analyze performance and detect weaknesses.
- Weakness in implementing periodic reviews of the business continuity system.
- Lack of clear and measurable criteria for evaluating system performance.

Table (8) the level of actual implementation and documentation for the Performance Evaluation

Checklist for Compliance with the Requirements of (ISO 22301:2019) Standard		Scale						
NO	Performance Evaluation	Fully implemented fully documented	Fully implemented partially documented	Fully implemented	Partially implemented fully documented	Partially implemented partially documented	Partially implemented undocumented	Not implemented undocumented
		6	5	4	3	2	1	0
1	The organization determines monitoring, measurement, and analysis methods to ensure accurate results.						✓	
2	The organization maintains documented information as evidence of results.						✓	
3	The organization periodically records data and monitoring results to facilitate corrective actions.						✓	
4	The organization evaluates business continuity procedures periodically to ensure their suitability, efficiency, and effectiveness.							✓
5	The organization conducts internal audits within planned timeframes to provide information about the compliance of the business continuity management system with organizational requirements.							✓
6	The organization's audit program is based on risk assessment results of activities and previous audit results.							✓
7	The organization determines audit criteria and scope for each audit process. The organization takes necessary corrective actions without delay to eliminate detected non-conformities.						✓	
8	The organization ensures careful selection of auditors and conducts verification to ensure objectivity and integrity.						✓	
9	The organization maintains documented information as evidence of audit program implementation and results.						✓	
10	The organization reviews the business continuity management system at specified intervals.							✓
11	Management review is based on previous reviews and internal and external changes relevant to the business continuity management system.							✓
12	Management review outputs include decisions related to improvement opportunities and the need for changes in the business continuity management system.							✓
Frequencies		0	0	0	0	0	6	6
Result		0	0	0	0	0	6	0
Weighted arithmetic mean (average) = Sum of results / Sum of frequencies		0.08						

Percentage of matching = Weighted arithmetic mean / Highest weight in the scale	%8
Gap size = 1 - Percentage of matching	%92

Source: Prepared by the researcher in light of the specification (ISO 22301:2019) .

4.7. Improvement: Through Table (9), the specification (ISO 22301:2019) determines the requirement for **Improvement .**The checklist showed results of the level of application and documentation of requirement achieving an arithmetic mean of (1.6) points out of (6) points and a conformity rate of (%27), which indicates a gap of non-conformity by (%73). This result can be interpreted into the following strengths and weaknesses:

A- Strengths

- The company works on identifying and correcting errors transparently, which enhances organizational transparency.
- There is a focus on the importance of continuous improvement to ensure business continuity.

B- Weaknesses

- Lack of documentation of improvement results and corrective actions, which reduces the ability to track progress.
- Absence of clear follow-up mechanisms for improvements based on internal audit results.

Table (9) the level of actual implementation and documentation for the Improvement

Checklist for Compliance with the Requirements of (ISO 22301:2019) Standard		Scale						
NO	Improvement	Fully implemented fully documented	Fully implemented partially documented	Fully implemented	Partially implemented fully documented	Partially implemented	Partially implemented	Not implemented
		6	5	4	3	2	1	0
1	The organization identifies non-conformities and takes necessary actions to control and correct them, dealing with consequences transparently.					✓		
2	The organization ensures that corrective actions are proportionate to the effects of nonconformities encountered.					✓		
3	The organization documents nonconformities and results of any corrective action.					✓		
4	The organization emphasizes continuous improvement to ensure the suitability, adequacy, and effectiveness of the business continuity management system.						✓	
5	The organization ensures continuous improvement through audit results and corrective actions for business continuity management system requirements.						✓	
Frequencies		0	0	0	0	3	2	0
Result		0	0	0	0	6	2	0
Weighted arithmetic mean (average) = Sum of results / Sum of frequencies		1.6						
Percentage of matching = Weighted arithmetic mean / Highest weight in the scale		%27						
Gap size = 1 - Percentage of matching		%73						

Source: Prepared by the researcher in light of the specification (ISO 22301:2019) .

Table (10) and Figure (1) shows the actual level of implementation of the ISO 22301:2019 standard. The overall compliance rate was 29%, while the overall gap was 71%.

Both the support and operations sections achieved the highest compliance rates, indicating the company's focus on operational processes and support provision. The leadership and performance evaluation sections achieved the lowest levels of implementation, indicating weak support from senior management for implementing the standard, as well as weaknesses in performance evaluation mechanisms.

Table (10) Overall Results for the ISO 22301:2019

NO	Total results for the Table (10) Overall Results for the ISO 22301:2019		Evaluation scores for actual application and documentation		
	Requirement number	Requirement name	Weighted arithmetic mean	Percentage of compliance	Gap size
1	4	Organizational Context	0.93	%15	%85
2	5	Leadership	0.33	%5	%95
3	6	Planning	2.82	%47	%53
4	7	Support	3	%50	%50
5	8	Operation	3.05	%51	%49
6	9	Performance Evaluation	0.08	%8	%92
7	10	Improvement	1.6	%27	%73
Total matching percentage and size of the gap				**%29**	**%71**

Source: Prepared by the researcher based on practical data.

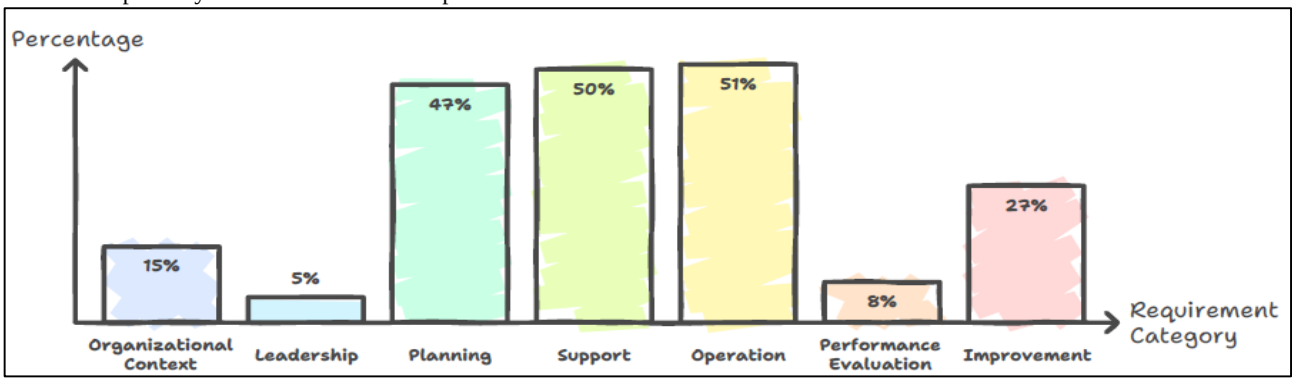

Figure (1) Overall Results for the ISO 22301:2019

Source: Prepared by the researcher based on practical data.

6. Conclusions and Recommendations

6.1. Conclusions

The conclusions can be formulated as follows:

A- After reviewing the final results, the overall implementation level was found to be only 29%, indicating a significant gap of 71% between current practices and the requirements of ISO 22301:2019.

B- In the leadership category, the implementation rate was only 5%, and in the performance evaluation category, it was 8%, indicating a lack of senior management support for the standard's implementation and weak performance evaluation mechanisms.

C- The operations category showed a compliance rate of 51%, while the support category showed a compliance rate of 50%. This reflects partial implementation of operational

processes and resource management, but without full alignment with the requirements of the researched standard.

D- The results reveal that the planning category achieved a compliance rate of 47%, and the improvement category achieved a compliance rate of 27%, indicating weaknesses in planning processes, risk identification, and non-conformities.

E- The compliance rate was only 15% in the organizational context, indicating a weak understanding among internal and external stakeholders, including customers, suppliers, and other parties, regarding the company's business continuity.

6.2. Recommendations

The most important recommendations were as follows:

A- To implement ISO 22301:2019, senior management must commit to strengthening areas of strength and addressing weaknesses by allocating resources, establishing clear policies, and ensuring that business continuity objectives are integrated into the company's strategic plans.

B- Develop a structured business continuity plan to address potential threats and assess their impact.

C- Conduct regular audits and establish a feedback mechanism to continuously monitor the effectiveness of the business continuity system.

D- Organize specialized training courses for company employees to raise awareness of business continuity requirements and enhance their ability to understand the standard's requirements for crisis management.

E- Allocate specific annual financial resources to support risk management activities for emergency response.

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