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MASTER'S DISSERTATION

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**The Contribution of Digitalisation to Improving Stock
Management through the Implementation of DLGC System
at the Thermal Management Company of Hammam Righa**

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Abstract

This research examines the contribution of digitalisation to improving stock management through the implementation of the DLGC system within the Hammam Righa Thermal Management Company (EGTHR). The study aims to analyse how the integration of digital technologies has transformed traditional stock management practices and enhanced operational performance within the organisation. A qualitative research approach was adopted based on a case study methodology. Data were collected through semi-structured interviews, direct observation, and document analysis involving employees directly engaged in stock management activities and users of the DLGC system. The collected data were analysed using NVivo software through thematic, lexical and cognitive analyses.

The findings reveal that the implementation of the DLGC system contributed significantly to improving inventory accuracy, facilitating real-time stock monitoring, reducing manual errors, enhancing operational efficiency, and supporting the evaluation of stock management performance through Key Performance Indicators (KPIs). The study also highlights the role of digitalisation in strengthening coordination between departments and improving inventory visibility within the organisation. However, some challenges related to system adaptation, technical constraints, and user training were also identified. Overall, this research demonstrates that digitalisation represents an important strategic tool for modernising stock management practices and improving organisational performance within service-oriented organisations.

Keywords: Digitalisation, stock management, DLGC system, operational performance, KPI.

Résumé

Cette recherche examine la contribution de la digitalisation à l'amélioration de la gestion des stocks à travers l'implémentation du système DLGC au sein de l'Entreprise de Gestion Thermale de Hammam Righa. L'étude vise à analyser comment l'intégration des technologies numériques a transformé les pratiques traditionnelles de gestion des stocks et amélioré la performance opérationnelle de l'organisation. Une approche qualitative fondée sur une étude de cas a été adoptée. Les données ont été collectées à travers des entretiens semi-directifs, l'observation directe et l'analyse documentaire auprès des employés impliqués dans les activités de gestion des stocks et utilisateurs du système DLGC. Les données recueillies ont été analysées à l'aide du logiciel NVIVO selon des analyses thématiques, lexicales, linguistiques et cognitives.

Les résultats montrent que l'implémentation du système DLGC a contribué de manière significative à l'amélioration de la précision des inventaires, au suivi des stocks en temps réel, à la réduction des erreurs manuelles, à l'amélioration de l'efficacité opérationnelle ainsi qu'au soutien de l'évaluation de la performance de la gestion des stocks à travers des indicateurs clés de performance (KPI). L'étude met également en évidence le rôle de la digitalisation dans l'amélioration de la coordination entre les services et de la visibilité des stocks au sein de l'organisation. Toutefois, certains défis liés à l'adaptation au système, aux contraintes techniques et à la formation des utilisateurs ont également été identifiés. Dans l'ensemble, cette recherche démontre que la digitalisation constitue un levier stratégique important pour moderniser les pratiques de gestion des stocks et améliorer la performance organisationnelle au sein des organisations de services.

Mots clés : Digitalisation, gestion des stocks, système DLGC, performance opérationnelle, KPI.

الملخص

يهدف هذا البحث إلى دراسة مساهمة الرقمنة في تحسين تسيير المخزون من خلال نظام DLGC في المؤسسة العمومية للتسيير الحموي بحمام ريغة EGTHR. وتسعى الدراسة إلى تحليل كيفية مساهمة إدماج التكنولوجيات الرقمية في تطوير الأساليب التقليدية لتسيير المخزون وتحسين الأداء العملي داخل المؤسسة. وقد تم اعتماد المنهج النوعي القائم على دراسة الحالة، حيث جُمعت البيانات من خلال تحليل الوثائق المتعلقة بتسيير المخزون واستخدام نظام DLGC إضافة إلى الملاحظة الميدانية، والمقابلات النصف موجهة. كما تم تحليل المعطيات باستخدام برنامج NVivo اعتمادًا على التحليل الموضوعاتي والمعرفي.

أظهرت نتائج الدراسة أن تطبيق نظام DLGC ساهم بشكل ملحوظ في تحسين إدارة المخزون، وتسهيل متابعته في الوقت الحقيقي، وتقليل الأخطاء اليدوية، وتحسين الكفاءة التشغيلية، بالإضافة إلى دعم تقييم أداء تسيير المخزون من خلال مؤشرات الأداء الرئيسية KPI. كما أبرزت الدراسة دور الرقمنة في تعزيز التنسيق بين مختلف المصالح وتحسين وضوح المعلومات المتعلقة بالمخزون داخل المؤسسة. مع ذلك، تم تسجيل بعض التحديات المرتبطة بالتكيف مع النظام، والقيود التقنية، وتكوين المستخدمين. وبصفة عامة، يؤكد هذا البحث أن الرقمنة تمثل أداة استراتيجية مهمة لتحديث ممارسات تسيير المخزون وتحسين الأداء التنظيمي داخل المؤسسات الخدمية.

الكلمات المفتاحية: الرقمنة، تسيير المخزون، نظام DLGC، الأداء العملي، مؤشرات الأداء.

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List of abbreviations

Abbreviation	Signification
EGTHR	Entreprise de Gestion Thermale Hammam Righa
EOQ	Economic Order Quantity
ERP	Enterprise Resource Planning
FEFO	First Expired, First Out
FIFO	First In, First Out
IoT	Internet of Things
JIT	Just in Time
KPI	Key Performance Indicator
LIFO	Last In, First Out
MRP	Material Requirements Planning

GENERAL INTRODUCTION

In recent years, digitalisation has become one of the most significant transformations influencing organisations across different sectors. The rapid development of digital technologies has profoundly changed the way companies manage information, coordinate operations, and improve organisational performance. In an increasingly competitive and dynamic environment, organisations are continuously seeking innovative solutions capable of improving efficiency, reducing operational constraints, and supporting more effective management practices. Consequently, digitalisation is no longer considered merely a technological innovation, but rather a strategic necessity for organisations aiming to strengthen their operational performance and maintain their competitiveness.

Among the organisational functions most affected by digital transformation, stock management represents a critical area within supply chain operations. Effective stock management plays an essential role in ensuring product availability, maintaining operational continuity, reducing operational costs, and supporting organisational efficiency. However, traditional stock management systems often face several limitations related to manual procedures, delays in updating information, data inaccuracies, weak coordination between departments, and limited visibility regarding inventory activities. These operational difficulties may negatively affect workflow organisation and reduce the effectiveness of decision-making processes within organisations.

In this context, the integration of digital technologies into stock management activities has emerged as an important solution for improving inventory control and operational coordination. Digital systems facilitate the automation of operational tasks, the centralisation of information, and the real-time monitoring of stock movements. They also contribute to improving inventory accuracy, reducing manual errors, simplifying workflow processes, and supporting better managerial decision-making through the availability of reliable and updated data. As a result, many organisations have progressively adopted digital solutions in order to modernise stock management practices and improve operational performance.

Within the Algerian context, organisations have also started integrating digital systems into their operational activities as part of broader modernisation efforts. Among these organisations, the Thermal Management Company of Hammam Righa (EGTHR) implemented the DLGC system as a digital solution intended to improve stock and commercial management operations. The implementation of this system aimed to facilitate

stock monitoring, reduce manual work, improve coordination between departments, and strengthen operational control through the use of digital technologies. Despite the growing integration of digital systems within organisations, several questions remain regarding the actual contribution of digitalisation to improving stock management performance and the extent to which digital tools can effectively transform traditional operational practices. In this regard, understanding the role of digitalisation in enhancing inventory management activities has become an important issue for organisations seeking better operational efficiency and performance improvement.

Problem Statement

Although digital technologies are increasingly used in organisations, many companies still face difficulties in fully benefiting from digitalisation in operational activities such as stock management. Traditional inventory practices often lead to problems related to stock control, data accuracy, delays in information processing, and decision-making efficiency. In this context, the implementation of digital systems has become an important solution for improving stock management practices and enhancing operational performance. Therefore, this study seeks to answer the following main research question:

What is the contribution of the DLGC system to improving stock management within the Hammam Righa Thermal Centre?

The major question mentioned above may be further divided into several other questions as follows:

- How was the process of stock management handled before the adoption of the DLGC system?
- How is the DLGC system used in managing stock within the organisation?
- What are advantages that have been attained in relation to stock management as a result of digitisation?
- What challenges arise in the implementation of the DLGC system?

Research objectives

The main objective of this study is to examine how digitalisation, through the implementation of the DLGC system, contributes to improving stock management practices within the Hammam Righa Thermal Center.

To achieve this objective, the study focuses on the following secondary objectives:

- To explore how stock was managed before the introduction of the DLGC system;
- To understand how the DLGC system is used in managing stock;
- To explore the contribution of digitalisation to the improvement of stock management performance indicators;
- To highlight the benefits of using the DLGC system in daily operations;
- To identify the main challenges faced during its implementation and use.

Relevance of the Research

Such research is important due to the increasing need for digitalisation in enhancing the operational processes of an organisation. Traditionally, most companies face challenges related to stock management since the approaches applied in such cases tend to be less efficient and accurate. Through the use of a case study method to evaluate the application of the DLGC system in the Hammam Righa Thermal Center, this study provides a deeper understanding of the contribution of digitalisation to stock management practices. This research, therefore, makes a theoretical and practical contribution to the subject matter. Theoretically, this study enhances the knowledge base on the use of digitalisation in enhancing stock management practices. Practically, it provides valuable insights into digitalisation in stock management practices in organisations. Lastly, the importance of digitalisation cannot be understated, especially when considering the contemporary business environment.

Research methodology

In order to gain a global understanding of the contribution of digitalisation to stock management, a qualitative research approach was adopted. The methodological framework was structured around several complementary procedures. Initially, an extensive review of the literature was undertaken to establish a solid theoretical foundation on digitalisation, stock management, and the role of information systems in enhancing organisational performance. Subsequently, a case study was conducted at Hammam Righa Thermal Center to analyse the organisational context, particularly the transition from manual stock management practices to the implementation of the DLGC system. Furthermore, semi-structured interviews were carried out with employees involved in stock management as well as users of the DLGC system, in order to collect in-depth qualitative data. Finally, the

collected data were analysed using qualitative analysis techniques to identify and evaluate the contribution of the DLGC system to digital stock management.

Research structure

Structure of the dissertation consists of three chapters related to the problem concerning the effect of digitalisation on stock management optimization within the researched organisation.

Chapter I: This chapter offers theoretical grounds, concerning the following notions: digitalisation, stock management, information systems as the tool for productivity improvement of companies. The important notions and frameworks are outlined thoroughly and can be applied as a conceptual background for studying application of the DLGC system within the company.

Chapter II: This chapter offers detailed information concerning the methodological framework of the dissertation, and includes, amongst others, application of the qualitative case study methodology within this research. The organisation of research, Hammam Righa Thermal Center, is presented, and the way of gathering and analysing the data with respect to it is described.

Chapter III: This chapter is dedicated to the presentation and analysis of the findings obtained from the field study conducted at Hammam Righa Thermal Center. It examines the contribution of the DLGC system to improving stock management practices through the interpretation of the collected qualitative data. The chapter also discusses the main results related to operational efficiency, performance evaluation, decision-making, and the challenges associated with the implementation of the system.

**CHAPTER I:
LITERATURE REVIEW
AND CONCEPTUAL
FRAMEWORK**

In order to better understand the contribution of digitalisation to improving stock management performance, it is necessary to establish a theoretical and conceptual framework related to the research topic. This chapter is therefore devoted to the presentation of the principal concepts associated with digitalisation, digital transformation, and stock management, while highlighting the importance of digital technologies within organisational operations. Particular attention is also given to the role of information systems, KPIs, and modern digital tools in improving inventory control and operational efficiency. In addition, this part includes a review of previous studies and theoretical contributions related to digitalisation and stock management in order to provide the theoretical basis necessary for analysing the implementation of the DLGC system within EGTHR.

Section 01: Literature Review

Digitalisation is key in the realization of success of any organisation especially when it comes to inventory management in the modern world that is characterized by quick adaptation of technological changes and information technology. Given the increasing complexity of the operations of organisations and the need for quick availability of information, the need for digitalisation cannot be understated. The purpose of this part of the paper is to offer an extensive review of the literature related to the link between digitalisation and inventory management. This involves reviewing numerous articles in terms of the methodologies adopted, findings, and the flaws in their analyses in order to determine how digitalisation enhances inventory management. The purpose of this part is to provide a background of the current study in relation to the body of literature on digitalisation and inventory management using DLGC in Hammam Righa Thermal Center.

Previous research

1.Improving stock management

The study conducted by Atnafu and Balda (2020) entitled “The impact of inventory management practice on firms’ competitiveness and organisational performance” focuses on analysing the role of inventory management practices in improving stock management and organisational performance. The main objective of the study is to examine how inventory control mechanisms, including stock monitoring, replenishment systems, and inventory tracking, contribute to enhancing operational efficiency and competitiveness.

The researchers adopted a quantitative methodology based on structured questionnaires distributed to firms, and the collected data were analysed using statistical techniques such as regression analysis. The findings reveal that effective inventory management significantly improves inventory accuracy and stock availability, while reducing stock-out situations and excess inventory. In addition, the study highlights that organisations with structured inventory systems are better able to balance supply and demand and reduce operational inefficiencies. The authors conclude that improving inventory management practices is essential for achieving efficient stock management and maintaining organisational competitiveness.

The study by Sugut and Ondara (2023) entitled “Inventory management practices and performance of supply chain at the Nairobi City County, Kenya” analyses the relationship between inventory management practices and stock management performance within organisations. The main objective of the study is to assess how inventory control techniques contribute to improving stock efficiency and supply chain performance. The researchers adopted a quantitative methodology based on questionnaires distributed to employees involved in inventory and supply chain operations. The findings show that effective inventory management significantly improves stock availability, reduces stock-out frequency, and enhances operational efficiency. In addition, the study highlights that accurate inventory records and proper stock monitoring systems support better planning and decision-making. The authors conclude that improving inventory management practices is essential for achieving better stock management performance and ensuring efficient supply chain operations.

Orobia et al (2020), in their study titled “Inventory management, managerial competence and financial performance of small businesses”, examine how inventory management practices influence stock management efficiency and organisational performance. The main objective of the study is to evaluate the role of managerial competence in improving inventory control systems and stock-related decisions. The study adopts a quantitative approach, using survey data collected from small businesses and analysed through statistical methods. The findings indicate that effective inventory management improves inventory tracking accuracy, reduces stock discrepancies, and minimises losses caused by poor stock control. In addition, the results suggest that organisations supported by strong inventory practices tend to experience greater operational stability and fewer disruptions in stock-related activities. The study ultimately

emphasises that managerial capability, combined with effective inventory systems, plays a central role in strengthening stock control and improving overall inventory performance.

Ali et al (2022), in their study titled “The impact of inventory management practices on firm performance: Evidence from manufacturing firms”, investigate how inventory management practices contribute to improving stock management and organisational performance. The main objective of the study is to analyse the effect of stock control systems on operational efficiency and firm outcomes. The study adopts a quantitative methodology based on data collected from manufacturing firms and analysed using regression techniques. The findings indicate that effective inventory management improves inventory turnover, reduces stock-related costs, and enhances stock availability. Furthermore, the study shows that better inventory control leads to improved operational performance and reduced inefficiencies in stock handling. The authors conclude that improving inventory management practices is essential for achieving effective stock management and maintaining organisational performance.

The study by Mwangi and Nyambura (2022), entitled “Inventory management practices and service delivery in public institutions”, examines the contribution of inventory management practices to the efficiency of stock operations in public organisations. It aims to assess how inventory control systems affect both service delivery and stock availability. To address this objective, the authors apply a quantitative approach based on questionnaire data analysed through statistical methods. The findings show that organisations implementing structured inventory practices are more capable of maintaining stable stock levels, reducing delays in supply, and ensuring better transparency in inventory processes. In addition, the study indicates that effective inventory control supports improved workflow organisation and limits operational inefficiencies. The authors emphasise that strengthening inventory management practices is essential for improving stock performance and supporting overall organisational effectiveness.

Musau, Wanyoike and Muturi (2023) , in their study titled “Influence of inventory management practices on performance of procurement functions in public institutions”, focus on examining the impact of inventory practices on procurement activities and overall stock performance. The purpose of the study is to assess how inventory control systems contribute to improving stock accuracy and supporting procurement efficiency within public institutions. The research is based on a quantitative approach, relying on survey data

collected from procurement departments and analysed using statistical tools. The results highlight that well-managed inventory systems play a significant role in ensuring accurate stock records, limiting inconsistencies, and facilitating smoother operational processes. In addition, the study points out that effective inventory practices strengthen coordination across departments and contribute to more informed managerial decisions. The authors emphasise that reinforcing inventory management systems is crucial for improving both procurement performance and the reliability of stock management processes.

2.Digitalisation in stock management

The study conducted by Ali, Fayad, Alomair, and Al Naim (2014), directly examines the relationship between digital supply chain practices and inventory management effectiveness. The main objective of the study is to analyse how digital supply chain characteristics contribute to improving inventory management within engineering companies. The study adopts a quantitative methodology, using data collected from engineering companies in Jordan to examine the effect of digital supply chain practices on inventory performance. The findings indicate that digital supply chains provide regular information about stock status, demand, future needs, and supplier performance, which supports better inventory decisions and improves the effectiveness of inventory management. The study concludes that digitalisation plays an important role in strengthening inventory management by improving visibility, coordination, and decision-making within the supply chain.

The study by Fang, Zhou, Jiang, and Li (2024), investigates the impact of digital transformation on inventory management at the firm level. The main objective of the research is to explore how digital infrastructure and internet access influence firms' inventory levels and inventory management efficiency. The authors adopt a quantitative methodology based on firm-level data from the China National Tax Statistics Database, using the Broadband China Strategy as a digitalisation context. The findings show that internet access and digital development lead to a significant decrease in inventory levels, particularly among small and medium-sized enterprises. The study also indicates that digital infrastructure supports firms in improving information access, reducing information frictions, and enhancing inventory management efficiency. The authors conclude that digital transformation can improve firms' inventory practices by supporting better information flow and more efficient resource allocation.

The study conducted by Zaman, Khan (2023), focuses on digital warehouse management and its contribution to supply chain performance. The main objective of the study is to identify and evaluate the main digitalisation factors that influence warehouse management systems and supply chain performance. The researchers use a grey DEMATEL methodology, combining a literature review with expert opinions from the textile industry. The study highlights several important digital technologies, including RFID, sensors, cloud computing, augmented reality, IoT, and advanced analytics. The findings show that integrating digitalisation with warehouse management systems is essential for improving warehouse performance, operational visibility, and decision-making. The authors conclude that digital warehouse management can address key challenges related to supply chain performance and digital system implementation.

The study by Villegas-Ch, Maldonado Navarro, and Sanchez-Viteri (2024), examines how computer vision and machine learning can optimise warehouse inventory management. The objective of the study is to implement and evaluate a computer vision platform capable of improving inventory accuracy and operational efficiency. The researchers adopt an applied experimental methodology, implementing the platform in a real warehouse environment and comparing its performance with traditional inventory systems. The findings show a 45% reduction in inventory counting time, a 9% increase in inventory accuracy, and a significant reduction in overcounting and undercounting errors. The study concludes that digital technologies such as computer vision and machine learning can transform warehouse operations by improving accuracy, reducing manual limitations, and supporting more efficient inventory management.

The study conducted by Liu, Kalaitzi, Wang, and Papanagnou (2025), focuses on the use of machine learning to improve stockout prediction in inventory management. The main objective is to develop a predictive model that helps identify stockout risks using inventory levels, sales data, and demand forecasts. The study adopts a quantitative methodology based on machine learning modelling and data analytics. The findings reveal that current inventory levels, short-term demand forecasts, and recent sales data are the most influential factors in predicting stockouts. The results also show that near-term data has stronger predictive value than longer-term forecasts. The authors conclude that machine learning can improve inventory management strategies by supporting more accurate stockout prediction and better replenishment decisions.

The study by Rajendran, Balaraman, and Viswanathan (2025), examines how AI, IoT, and automation improve real-time inventory management and physical stock counting. The main objective is to analyse how these technologies enhance inventory accuracy, reduce manual adjustments, and improve stock visibility. The study uses a case-based and analytical approach, discussing applications in logistics and warehouse environments. The findings show that AI, IoT, and automation improve the integrity and efficiency of inventory data, support real-time monitoring, and reduce reliance on manual stock counting. The study also indicates that these technologies help reduce errors, improve decision-making, and optimise inventory operations. The authors conclude that adopting AI, IoT, and automation can significantly improve inventory accuracy and operational efficiency in modern supply chain processes.

3. Comparison between the present study and previous works

In light of the existing literature, previous studies have made significant contributions to understanding how inventory management practices and digital technologies contribute to improving stock management performance. These studies have focused on analysing the role of practices such as inventory control, tracking systems, and replenishment techniques in enhancing inventory accuracy, reducing stock-out situations, and improving stock availability, while also highlighting the importance of digital systems and modern technologies, such as data analytics and information systems, in improving inventory visibility, reducing errors, and accelerating operational processes. Overall, these works emphasise that the integration of effective management practices with digital tools plays a crucial role in enhancing operational efficiency and improving the quality of decision-making within organisations. Building on these contributions and extending their insights, the present study adopts a complementary perspective by focusing on a specific organisational context, namely an Economic Public Enterprise (EPE) operating in the hospitality, tourism, and thermal services sector, a context characterised by particular operational features that differ from industrial environments and private-sector organisations commonly addressed in previous research. From a methodological perspective, this study adopts a qualitative case study approach to analyse the transition from manual stock management practices to a digital system (DLGC), thereby enabling a deeper understanding of organisational processes and practices; in this regard, by examining this transformation in a real-world setting, the study provides empirical insights into how digitalisation concretely contributes to improving stock management by reducing

manual work, enhancing transparency, improving inventory visibility, and supporting more accurate and effective decision-making. In conclusion, and in contrast to the existing literature, this research contributes to expanding the current body of knowledge by offering a contextualised and practice-oriented analysis of digital stock management, thereby enhancing the overall understanding of its implementation and impact within service-oriented organisations.

Section 2: Theoretical Framework

To understand the role of digitalisation in improving stock management within organisations, it is essential to establish a solid theoretical foundation. This section aims to present the key concepts related to digitalisation and inventory management by examining their definitions, importance, and applications in organisational contexts. In this regard, digitalisation, which refers to the integration of digital technologies and data into business processes in order to improve operations and create value, has become a fundamental driver of organisational transformation (Reis, Amorim, Melão, & Matos, 2020).

In today's competitive environment, digitalisation plays a crucial role in enhancing operational efficiency, reducing manual work, and improving the accuracy and accessibility of information. Its importance is particularly evident in the field of stock management, where it enables real-time monitoring of inventory, minimises human errors, and improves the visibility of stock flows, thereby supporting more effective decision-making and better control of inventory levels (Brown, 2023).

1. Digitalisation and digital transformation

1.1. Digitalisation

Digitalisation refers to the use of digital technologies to transform organisational processes and improve performance. It has been widely discussed in the literature as a key enabler of efficiency and innovation within organisations.

According to Gartner (2020), digitalisation is defined as the use of digital technologies to change business models and provide new revenue and value-producing opportunities.

According to Reis, Amorim, Melão, and Matos (2020), digitalisation involves the integration of digital technologies into organisational processes in order to improve operations and enhance value creation.

According to Bharadwaj, El Sawy, Pavlou, and Venkatraman (2013), digitalisation represents the use of digital resources to create value and improve organisational capabilities through strategic integration.

According to Verhoef et al. (2021), digitalisation focuses on improving business processes through the adoption of digital technologies, leading to enhanced efficiency and performance.

According to Brennen and Kreiss (2016), digitalisation refers to the process of leveraging digital technologies to transform information into digital formats that support organisational activities.

According to Vial (2019), digitalisation is a process that aims to improve organisational performance through the adoption and use of digital technologies.

Based on these definitions, digitalisation can be understood as the process of integrating digital technologies into organisational activities in order to improve efficiency, enhance performance, and support value creation through better data utilisation and process optimisation.

1.2. Digital Transformation

Digital transformation is closely related to digitalisation but represents a broader and more strategic change within organisations. It involves a deep transformation of organisational structures, processes, and business models.

According to Vial (2019), digital transformation refers to a process that aims to improve an entity by triggering significant changes through the combination of information, computing, communication, and connectivity technologies.

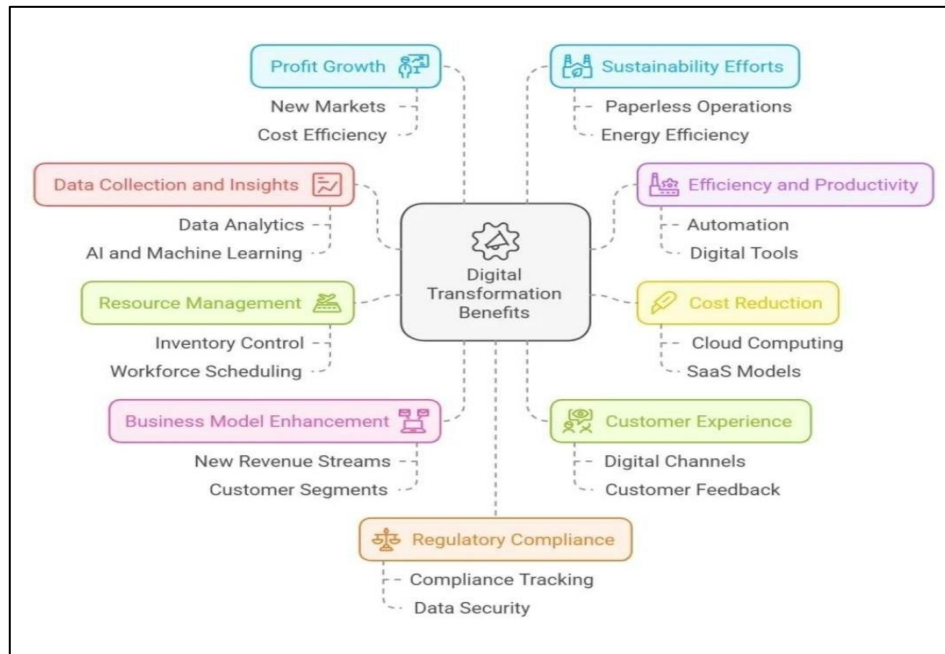
According to Verhoef et al. (2021), digital transformation is defined as the integration of digital technologies that fundamentally changes how firms operate and deliver value to customers.

According to Reis et al. (2020), digital transformation involves organisational change driven by digital technologies, affecting strategy, processes, and organisational culture.

As a broader organisational process, digital transformation generates several benefits through the integration of digital technologies into managerial and operational activities. It contributes to improving organisational performance, enhancing coordination between

departments, and supporting more efficient and data-driven organisational practices (figure1).

Figure 1 : Benefits of digital transformation In organisational operations



Source: Adapted from (Acceldata, 2024), Digital Transformation Benefits infographic

1.3. Relationship between Digitalisation and Digital Transformation

Digitalisation and digital transformation are closely interconnected concepts, as digitalisation often represents the first step toward broader organisational transformation. While digitalisation focuses on improving existing processes through the use of digital tools, digital transformation goes further by fundamentally changing how organisations operate and create value. According to Vial (2019), digital transformation builds upon digitalisation by leveraging digital technologies to drive organisational change and innovation. Therefore, digitalisation can be seen as an operational improvement process, whereas digital transformation represents a strategic and comprehensive organisational shift.

2. Digital Technologies in Organisations

Digital technologies have become essential components of modern organisations, as they enable the transformation of traditional processes into more efficient, integrated, and data-driven operations. These technologies refer to the set of digital tools and systems used to collect, process, and exchange information within organisations, thereby supporting

communication, coordination, and decision-making activities (Reis, Amorim, Melão, & Matos, 2020). In today's business environment, the adoption of digital technologies plays a crucial role in improving operational performance, as it facilitates automation, enhances data accuracy, and allows real-time access to information. Moreover, these technologies contribute to increasing organisational flexibility and responsiveness, which are essential for adapting to dynamic market conditions and improving overall efficiency (Henke, 2020).

2.1 Information Systems

Information systems are defined as integrated systems used to collect, process, and manage data in order to support organisational operations and decision-making (Laudon & Laudon, 2018). They play a key role in improving efficiency by ensuring accurate data management, reducing errors, and facilitating communication between different departments. In the context of stock management, information systems enable better monitoring of inventory levels and recording of stock movements, which improves control and supports more effective decision-making processes (Reis, Amorim, Melão, & Matos, 2020).

2.1 ERP Systems

ERP systems are integrated digital systems that centralise organisational data and automate business processes, allowing different departments to share information in real time. Their importance lies in improving data accuracy, reducing manual work, and enhancing coordination within organisations (Marpaung, Wijiyanto, & Utomo, 2025). In stock management, ERP systems play a key role in digitalisation by enabling real-time tracking of inventory, recording stock movements, and providing reliable data for decision-making, which improves control and overall operational efficiency.

Figure 2 : ERP system modules



Source: (TutorialsPoint ERP , 2026)

2.2 IoT for the Supply Chain

Internet of Things (IoT) is a concept where several devices are connected together, exchange data in real time, and thus give the possibility to organisations to manage their operations better. It is a crucial component for digitisation, since the constant flow of data and increased visibility in supply chain operations is ensured through IoT technologies (Büyüközkan & Göçer, 2018). Inventory management can be improved through IoT technologies in a few ways including tracking products in real time, keeping track of the stock condition, and decreasing the chance of making mistakes while recording the data.

2.3 Role of Digital Technologies in organisational Operations

With the growing importance of digital technology in business operations, it is imperative for companies to adopt digital technology because it allows them to simplify their activities and cut down on manual work via software-based processes and systems (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013). In terms of stock control, the use of digital technology plays a critical role in the process of digitalisation, making it possible to track stock movement and gain access to reliable information regarding stocks.

3. Stock management

This section aims to present the main concepts related to stock management within organisations. It focuses on defining inventory, identifying its different types, and explaining its importance in ensuring operational efficiency. In addition, this section highlights the main methods and techniques used in inventory control, particularly in the context of digitalisation, which has significantly transformed the way stock is managed and monitored.

3.1 Definition of Stock Management

Stock management is considered a fundamental organisational function that ensures the availability of products while maintaining cost efficiency. It plays a key role in balancing supply and demand, supporting operational performance, and enhancing decision-making within organisations. Due to its importance, several authors have proposed different definitions of stock management from various perspectives.

According to Wild (2017), stock management refers to the process of controlling and organising inventory in order to ensure that the right quantity of goods is available while minimising costs associated with excess stock and shortages. According to Heizer, Render, and Munson (2020), inventory management is an essential operational activity that ensures product availability and supports efficiency within the supply chain by coordinating inventory flows.

According to Christopher (2016), stock management is concerned with managing the flow of goods across the supply chain in order to ensure smooth movement from suppliers to customers while reducing delays and inefficiencies. According to Stevenson (2018), inventory management is a decision-making process that involves determining stock levels, controlling replenishment, and monitoring inventory performance to achieve organisational objectives.

According to Jacobs and Chase (2018), inventory management focuses on maintaining an optimal level of stock that allows organisations to meet customer demand while minimising operational and holding costs. According to Slack and Brandon-Jones (2019), stock management involves the planning and control of inventory to ensure that operations run efficiently and that materials are available when needed without unnecessary accumulation.

Based on these definitions, stock management can be defined as a comprehensive organisational process that involves controlling, monitoring, and optimising inventory to ensure product availability, reduce costs, and improve operational efficiency. It also plays a strategic role in supporting decision-making and enhancing overall organisational performance, particularly in a context characterised by increasing digitalisation and data-driven management.

3.2 Types of Stock

Stock may be categorised based on its function within an organisation's operations. Understanding these categories is essential, as each type of stock requires specific management and control approaches to ensure operational efficiency, product availability, and cost optimisation within the supply chain (Heizer, Render, & Munson, 2020; Jacobs & Chase, 2018). Accordingly, stock can be broadly classified into the following main types:

- **Raw materials:**

Raw materials constitute the initial inputs of the production process and have not yet been transformed into finished products. Effective management of raw materials is essential to prevent production disruptions (Heizer, Render, & Munson, 2020).

- **Work-in-progress (WIP):**

Work-in-progress refers to partially completed goods that are still undergoing production. It represents the intermediate stage between raw materials and finished goods (Jacobs & Chase, 2018).

- **Finished goods:**

Finished goods are completed products that are ready for sale or distribution. Their availability directly influences customer satisfaction and service levels (Heizer, Render, & Munson, 2020).

- **MRO inventory (Maintenance, Repair, and Operations):**

MRO inventory includes items used to support production processes, such as tools, spare parts, and maintenance supplies. Although they are not part of the final product, they are essential for ensuring smooth and continuous operations (Jacobs & Chase, 2018).

3.3 Stock Management Methods

Stock management methods refer to the different techniques used by organisations to control inventory and optimise stock levels. These methods are essential for improving efficiency, reducing costs, and ensuring product availability, especially in a digitalised

environment where data accuracy and real-time monitoring play a key role (Heizer, Render, & Munson, 2020; Jacobs & Chase, 2018).

Main stock management methods:

- First In, First Out

The FIFO method is based on the principle that the oldest inventory items are used first. As highlighted in the literature, “FIFO assumes that the oldest inventory items are sold first” (Edge, 2023), which means that products entering the warehouse earlier are prioritised for use or sale. This approach is particularly suitable for perishable goods, as it helps reduce waste and ensures better stock rotation, thereby improving inventory quality and operational efficiency.

- Last In, First Out

The LIFO method assumes that the most recently acquired items are used first. This approach is mainly applied in accounting contexts rather than physical inventory management. It may be useful in inflationary environments, but it does not always reflect the actual flow of goods within the organisation (Heizer, Render, & Munson, 2020).

- First Expired, First Out

FEFO is a method that prioritises products based on their expiration dates. Items with the earliest expiry are used first, which is essential in sectors such as food and pharmaceuticals. This method improves product safety and reduces losses caused by expired goods (Workspace, 2023).

- Just-In-Time

The Just-In-Time method aims to minimise inventory levels by receiving goods only when they are needed for production or sales. This reduces storage costs and avoids overstocking, but it requires accurate demand forecasting and strong coordination with suppliers (Heizer, Render, & Munson, 2020).

- Economic Order Quantity

EOQ is a quantitative method used to determine the optimal order quantity that minimises total inventory costs. It balances ordering costs and holding costs, helping organisations make more efficient purchasing decisions (Jacobs & Chase, 2018).

- **Material Requirements Planning**

MRP is a planning system that uses data such as demand forecasts and production schedules to determine when and how much to order. It improves coordination between inventory and production processes and supports better planning decisions (Heizer, Render, & Munson, 2020).

- **ABC Analysis**

ABC analysis classifies inventory into three categories (A, B, and C) based on their value and importance. This method allows organisations to focus on high-value items, thereby improving inventory control and resource allocation (Heizer, Render, & Munson, 2020).

- **Safety stock**

Safety stock refers to the additional quantity of inventory maintained by an organisation to manage uncertainty in demand and supply conditions. It serves as a protective buffer that helps prevent stock-outs and ensures the continuity of operations. As highlighted by Camisullis and Giard (2010), “safety stock is established within the framework of a supply policy to deal with demand that is not known with certainty” . This implies that safety stock plays a crucial role in absorbing demand variability and maintaining service levels within the supply chain.

- **Vendor Managed Inventory**

Vendor Managed Inventory is a modern approach where the supplier is responsible for managing stock levels based on real-time information. This method enhances collaboration and improves inventory accuracy while reducing stock shortages (Guide, 2023).

3.4 Importance of Stock Management

Stock management plays a critical role in ensuring the efficiency and continuity of organisational operations. It enables firms to balance supply and demand, minimise costs, and improve customer satisfaction. According to the literature, effective inventory management contributes significantly to operational performance and decision-making within the supply chain.

- **Cost reduction**

Stock management helps organisations reduce various costs such as holding costs, ordering costs, and shortage costs. Efficient control of inventory levels avoids overstocking and unnecessary capital investment (Stevenson, 2021, pp. 545-552).

- **Ensuring product availability**
Maintaining appropriate inventory levels ensures that products are available when needed, which improves service level and customer satisfaction. Poor stock management may lead to stock-outs and lost sales (Heizer, Render, & Munson, 2020).
- **Supporting production continuity**
Inventory ensures that production processes are not interrupted due to shortages of raw materials or components. This is essential for maintaining smooth operations (Jacobs & Chase, 2018, pp. 518-525).
- **Improving decision-making**
Accurate inventory data allows managers to make better decisions regarding purchasing, production planning, and demand forecasting (Ivanov, Tsipoulanidis, & Schönberger, 2019).
- **Enhancing supply chain performance**
Inventory acts as a buffer within the supply chain, helping organisations respond to uncertainties in demand and supply (Christopher, 2016).
- **Optimising resource allocation**
Effective stock management ensures that financial and physical resources are used efficiently, avoiding waste and improving profitability (Rushton, Croucher, & Baker, 2017).

4. The Role of Digitalisation in Stock Management

Digitalisation has become a key driver in transforming stock management by enabling real-time data visibility, automation, and integration of supply chain processes. It allows organisations to enhance coordination and reduce uncertainties within inventory operations. According to (Gunasekaran, Papadopoulos, & Dubey, 2017), digital technologies significantly enhance supply chain efficiency through improved data sharing and integration.

4.1 Stock Management Performance and KPIs

In the context of stock management performance, measuring results and monitoring operational activities have become essential for ensuring efficiency and continuous improvement. Organisations increasingly rely on structured tools that allow them to assess their performance and align their operations with strategic objectives. Among these tools,

Key Performance Indicators (KPIs) play a central role in providing measurable and reliable information for performance evaluation.

According to Parmenter (2015), KPIs are measurable indicators that reflect the critical success factors of an organisation and enable managers to monitor performance effectively.

According to Kaplan and Norton (1966), KPIs represent a set of performance measures that provide managers with a comprehensive view of organisational performance, particularly in relation to strategic objectives.

According to Marr (2012), KPIs are quantifiable metrics used to evaluate the success of an organisation in achieving its key objectives, and they play a crucial role in performance management systems.

According to Gunasekaran, Patel, and McGaughey (2004), KPIs in supply chain management are essential for assessing operational efficiency, responsiveness, and overall performance of logistics and inventory systems.

According to Eckerson (2011), KPIs are performance metrics that help organisations translate strategic goals into measurable outcomes, allowing continuous monitoring and improvement of processes.

According to Bhatti, Awan, and Raza (2014), KPIs provide organisations with the ability to measure performance accurately and support decision-making by offering reliable and timely information.

Based on these definitions, KPIs can be defined as quantifiable performance measures used to monitor, evaluate, and improve organisational processes by providing accurate and relevant data for decision-making and performance assessment.

Building on this definition, KPIs play a crucial role in enhancing stock management performance by providing organisations with measurable indicators to assess the effectiveness of inventory operations. In particular, they allow managers to monitor key aspects such as inventory accuracy, stock availability, and operational efficiency, which are essential for ensuring smooth stock control. Moreover, KPIs facilitate the identification of inefficiencies and operational issues, enabling organisations to implement corrective actions and improve performance. In the context of digitalisation, their importance becomes even more significant, as they provide real-time and reliable data that supports faster and more informed decision-making. Therefore, KPIs are considered essential tools for evaluating and improving stock management performance within modern organisations (Parmenter, 2015; Gunasekaran, Patel, & McGaughey, 2004).

4.2 KPIs Related to Stock Management

Effective stock management depends on a set of key indicators that measure inventory performance and operational efficiency. These KPIs provide reliable data that supports decision-making and enables the evaluation of inventory control processes (Silver, Pyke, & Thomas, 2017; USAID, 2019).

Main KPIs:

- **Inventory Accuracy**

Inventory accuracy measures the consistency between recorded data and actual physical stock. It is essential for ensuring reliable inventory information and effective stock control (USAID, 2019)

- **Stock Availability**

Stock availability reflects the ability of an organisation to meet customer demand without delay, making it a key indicator of service performance (Silver, Pyke, & Thomas, 2017).

- **Stock-out Rate**

The stock-out rate measures the frequency at which inventory is unavailable when required. It indicates weaknesses in inventory planning and replenishment processes (Silver, Pyke, & Thomas, 2017).

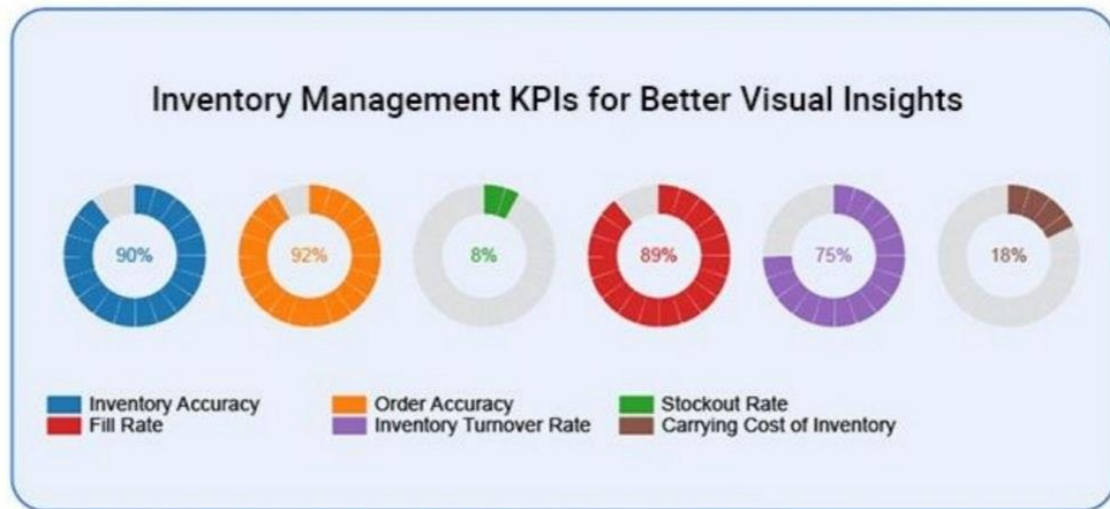
- **Order Cycle Time**

Order cycle time represents the total time required to process and fulfil customer orders. It reflects operational efficiency and coordination across supply chain activities (Gunasekaran, Patel, & McGaughey, 2004).

- **Inventory Turnover**

Inventory turnover measures how frequently inventory is sold and replenished over a given period. It reflects the efficiency of inventory utilisation and cost management (Silver, Pyke, & Thomas, 2017).

Figure 3 : Inventory management KPIs used to evaluate operational performance



Source: (Jenkins, 2025)

4.3 Challenges of digitalisation in stock management

Despite its advantages, digitalisation in stock management presents several challenges that may limit its effectiveness. These challenges can be technological, organisational, and human-related, requiring appropriate strategies to ensure successful implementation (Verhoef, et al., 2021).

Main Challenges of Digitalisation in Stock Management

- **High Implementation Costs**

Digitalisation requires significant financial investment in technologies such as ERP systems, RFID, and data analytics tools. These costs include system acquisition, maintenance, infrastructure, and training. For many organisations, these financial constraints can limit or delay the adoption of digital solutions (OECD, 2019).

- **Resistance to Change**

Employees may resist digital transformation due to a lack of familiarity with new technologies or concerns about job security. This resistance can slow down the adoption process and reduce the effectiveness of digital initiatives if not properly managed (Verhoef P. C., 2021).

- **Lack of Technical Skills**

The implementation of digital systems requires employees with competencies in data analysis, information systems, and digital tools. However, many organisations face a

shortage of such skills, which can limit the effective use of digital technologies (OECD, 2019).

- **Data Management and Complexity**

Digitalisation generates large volumes of data that must be processed and analysed efficiently. Without appropriate tools and expertise, organisations may struggle to convert this data into useful insights for decision-making (Wang, Gunasekaran, Ngai, & Papadopoulos, 2016).

- **Integration of Digital Systems**

Integrating new digital technologies with existing systems can be complex, particularly when organisations rely on outdated infrastructure. This may create compatibility issues and affect coordination between different organisational functions (OECD, 2019).

- **Data Security and Privacy Risks**

The increasing digitalisation of organisational operations has significantly raised concerns regarding data security and privacy. As organisations rely more on interconnected systems, cloud platforms, and real-time data exchange, they become more vulnerable to cybersecurity threats that may affect the confidentiality and protection of sensitive information.

Key data security and privacy risks include:

- ✓ **Cyberattacks**

Digital systems are highly exposed to cyber threats such as hacking, malware, and ransomware, which can disrupt organisational operations and compromise sensitive data (Ivanov D. D., 2020).

- ✓ **Data Breaches**

The continuous storage and exchange of large volumes of data increase the risk of unauthorized access, which may lead to the leakage of confidential organisational information (Kshetri, 2021).

- ✓ **Lack of Data Privacy**

Organisations often manage sensitive data, including operational, financial, and personal information, which raises concerns about data protection, privacy, and regulatory compliance (Saber, Kouhizadeh, Sarkis, & Shen, 2019).

- ✓ **System Interconnectedness Risks**

The integration of technologies such as IoT, ERP systems, and digital platforms creates a highly interconnected environment, increasing system vulnerability and expanding potential points of cyberattacks (Büyüközkan & Göçer, 2018).

These risks highlight that while digitalisation improves organisational efficiency and decision-making, it also introduces critical challenges related to data security and privacy. Therefore, organisations must implement effective cybersecurity strategies to protect sensitive information and ensure safe digital operations.

4.4 KPIs as Tools for Evaluating Digital Systems

KPIs are essential tools for evaluating the effectiveness of digital systems implemented in stock management. They allow organisations to assess how digital technologies, such as ERP systems and inventory management platforms, support operational performance. By comparing performance indicators before and after digitalisation, organisations can assess performance changes in accuracy, efficiency, and responsiveness (Kache & Seuring, 2017). Furthermore, KPIs help evaluate how digital systems enhance real-time data processing and decision-making. Digital technologies generate large volumes of data, and KPIs transform this data into actionable insights that support better inventory planning and control.

This contributes to evaluating coordination, visibility, and operational effectiveness within supply chain activities (Kache & Seuring, 2017). In addition, KPIs play a strategic role in assessing the performance and value of digital systems. They help organisations determine whether digitalisation contributes to service levels, cost reduction, and overall operational performance. Therefore, KPIs are crucial for ensuring that digital transformation initiatives achieve their intended objectives in stock management (Melnik, Bititci, Platts, Tobias, & Andersen, 2014).

Conclusion of Chapter 1

This chapter established the theoretical and conceptual foundations necessary for understanding the relationship between digitalisation and stock management performance within organisations. Through the review of previous studies and academic contributions, attention was given to the principal concepts related to digitalisation, digital transformation, stock management, and organisational performance. The chapter also highlighted the importance of information systems, KPIs, and digital tools in improving inventory control, operational efficiency, and decision-making processes. In addition, the literature review made it possible to identify the principal dimensions and issues associated with the implementation of digital technologies within stock management activities. These theoretical contributions therefore constitute an essential basis for analysing the implementation of the DLGC system within EGTHR and understanding its contribution to improving stock management practices.

**CHAPTER II:
ORGANISATIONAL AND
METHODOLOGICAL
FRAMEWORK**

Introduction of chapter 2

This chapter presents the practical framework of the study by combining both the description of the host organisation and methodological approach. It aims to provide a clear understanding of the context in which the research is conducted, as well as the methods used to collect and analyse the required data. The chapter is divided into two main sections. The first section focuses on the presentation of the host organisation, highlighting its main characteristics, activities, and operational environment. The second section is devoted to the methodological framework, including the research approach, data collection techniques, and analysis methods adopted in this study.

Section 01: Presentation of the Host Organisation

The host organisation represents the practical field of this research, where the study is applied and analysed. It provides a real environment that allows a better understanding of how stock management is carried out and how digitalisation contributes to improving organisational practices. This section aims to present the general profile of the organisation, including its main activities, services, and its role in the tourism and healthcare sector. It also highlights the importance of the organisation as a case study for analyzing the contribution of digital systems in improving stock management.

1.1 Presentation of EGT Hammam Righa

The Thermal Management Establishment “Hammam Righa” (EGT Hammam Righa) is a tourism and healthcare organisation located in Ain Defla, Algeria. It is considered one of the main thermal destinations in the region due to its natural mineral water resources and its diversified services. The institution specializes in thermal tourism and natural treatments, offering a range of services such as thermal baths, hydrotherapy, physiotherapy, and wellness treatments. These services are supported by appropriate infrastructure, including accommodation facilities, treatment units, and tourism services such as the Zaccar Hotel and other lodging structures.

EGT Hammam Righa attracts a large number of visitors from different regions, both national and international, who seek medical treatment and relaxation. Its mineral waters are known for their the apneustic benefits in treating several health conditions such as rheumatism, skin diseases, and respiratory disorders.

Figure 4 : EGT Hammam Righa LOGO



Source : <http://www.hammam-righa.com/>

1.2 Mission of EGTTHR

The mission of Hammam Righa thermal centre company is to deliver high-quality thermal and tourism services that enhance customer well-being and satisfaction. The organisation is committed to promoting health tourism by leveraging its natural mineral water resources while ensuring efficient and modern management practices. It also aims to continuously improve its performance through the integration of digital systems, such as Mc Stock, DLG, and DLGC, the latter being the most recent and advanced version adopted by the organisation, and the optimization of its internal processes, particularly in operational areas like stock management

1.3 Legal Status of the Establishment

The Algerian establishment of mineral baths was created by Decree No. 08/70 of July 16, 1970, with the aim of promoting domestic tourism. This establishment was entrusted with the management and operation of mineral centres (thermal baths). Starting from 1970, all mineral baths across the national territory were attached to this establishment, including the Hammam Righa centre. After this period, classified areas were developed under Decree No. 232/88 of November 5, 1988, covering a total area of 47,037 hectares. These areas are distributed across the entire national territory.

On April 10, 1990, the establishment was transformed into a joint-stock company with an initial share capital of 1,000,000.00 DA. On October 19, 1995, the company's general assembly decided to increase this capital from 14,000,000.00 DA to 15,000,000.00 DA.

pools distributed between individual baths and collective baths. The temperature of the thermal water varies between 44°C and 68°C.

1.5.2 Complementary Services:

- **Accommodation:** Accommodation at Zaccar Hotel: It is a three-star classified hotel, known for its unique architectural style. It offers customers well-equipped buildings and rooms, providing all the required comfort.
- **Pavilions:** The hotel provides 30 pavilions to its customers, with a total capacity of 200 beds, divided into two types: F3 and F4.
- **Rooms:** The establishment also has 30 rooms, with a maximum capacity of 60 beds, distributed as follows:
 - Room equipped for two persons
 - Room equipped for one person
- **Family Housing:** The Thermal Management Company of Hammam Righa provides family housing adapted for comfortable stays. It has 112 family units, with a capacity of 4 to 5 beds per unit, representing a total estimated capacity of 500 beds. These accommodations are equipped with small kitchens for various uses. They are distributed as follows: Family housing type A, Family housing type B , Family housing type C .
- **Catering:** The establishment has three restaurants:
 - One restaurant reserved for patients, with a capacity of 120 meals per day
 - Two restaurants dedicated to tourists staying at the hotel, serving approximately 80 meals per day
 - Meals can also be served in rooms upon customer request via telephone .

1.6 Stock Management within EGTHR

The stock management system within EGTHR includes several important aspects related to inventory control, organization, and material flow. It is based on different processes and methods that ensure the proper management of available resources. This also involves the classification of stock items, warehouse organization, and the monitoring of materials necessary for daily operations.

1.6.1 Stock Management Processes

✓ Types of Stock Handled

EGTHR manages different categories of stock distributed across three main warehouses:

Économat: This warehouse contains consumable goods classified by nature, including:

- Office supplies (papeterie)
- Pharmaceutical products
- Detergents
- Food items (alimentation)
- Water and beverages

Maintenance Warehouse: This warehouse includes technical and operational materials such as:

- Spare parts
- Park equipment
- Maintenance materials and tools

Investment Warehouse: This warehouse contains durable and long-term assets, including:

- Equipment and machinery
- Electrical materials
- Other investment-related items

Some items in this category are consumable, while others are considered durable goods subject to amortization over a period of approximately four years. In addition, specific procedures such as “the minutes of rejected” are used to record damaged, lost, or unusable items.

1.7 DLGC system

In order to better understand the role of digitalisation in stock management, this section presents a brief introduction to the DLGC system used within the organisation, as well as some of its main operational functions (dlgc-dz.com).

1.7.1 Presentation of the DLGC System

The DLGC system is a commercial and stock management software designed to support inventory operations, purchasing, sales management, and stock monitoring within

organisations. The system operates in both standalone and network modes and provides several functionalities related to stock valuation, inventory control, data centralisation, accounting integration, and real-time operational monitoring. It also supports barcode management, data import/export through Excel, automated inventory processing, and KPI-related reporting tools, which contribute to improving operational efficiency and decision-making processes within the organisation.

1.7.2 Main Functionalities of the DLGC System

- Real-time stock monitoring
- Centralised inventory data
- Barcode management
- Inventory valuation (FIFO/PMP)
- Automatic generation of stock reports
- Integration with accounting systems
- User access control and data security
- Import and export of Excel data
- Monitoring of purchases, sales, and stock movements

The following figure presents an example of the DLGC system interface used for managing stock operations and monitoring inventory activities within the organisation.

Figure 6 : Interface of the DLGC Stock Management System

The screenshot displays the DLGC Stock Management System interface. At the top, there is a menu bar with options: Tables, Pièces, Outils, Auxiliaire, Article, Réglages. Below the menu is a toolbar with icons for Aperçu[F8], Ouvrir[F3], Nouveau[F4], Imprimer[F9], Lignes, Fermer pièces, Aide, Supprimer, 02/05/18, and Sortir. The main area is divided into several sections:

- Header Section:** Contains fields for CODE-AUX (00002), CHANTIER LES OLIVIERS ORAN, and DATE:24/04/18.
- Article Section:** Includes fields for ARTICLE and DESIGNATION, and a large green box displaying STOCK: -5 116 039,82504.
- Table Section:** A table with columns: >0<, DATE-MVM, Q. STK, ARTICLE, DESIGNATION, UNITE, CASIER, QUANTITE, and PMP/J. The table contains 6 rows of data.
- Footer Section:** Includes a search field (<Recherche>), a menu icon, a trash icon, and buttons for Q+1, Q-1, and S.

>0<	DATE-MVM	Q. STK	ARTICLE	DESIGNATION	UNITE	CASIER	QUANTITE	PMP/J
1	25/03/18	[776.0000]	S0308	SABLE 3-8	M2		200.0000	2 347,84309
2	25/03/18	[1099.0000]	S0815	SABLE 8-15	M2		400.0000	2 423,50475
3	25/03/18	[1492.0000]	S1521	SABLE 15-21	M2		350.0000	2 092,15146
4	25/03/18	[259.0000]	CN150	CIMENT NOIRE 150	M3		150.0000	2 894,73684
5	25/03/18	[367.5000]	CN250	CIMENT NOIRE 250	M3		200.0000	6 598,87005
6	25/03/18	[957]	FR08	FER ROND 08	BARRE		300	1 228,01621

Source: DLGC official technical documentation (2026).

Section 2: Research Methodological Framework

This section presents the methodological framework adopted in this research. It outlines the main choices made in conducting the study, including the selection of the research topic, the choice of the case study organisation, and the research approach. These methodological decisions are essential to ensure the coherence, validity, and relevance of the study in examining the contribution of digitalisation to improving stock management through the implementation of the DLGC system at EGTHR.

2.1 Justification of the Research Topic

The choice of this research topic is mainly justified by the growing importance of digitalisation in improving organisational performance, particularly in the field of stock management. In recent years, organisations have increasingly relied on digital tools to enhance efficiency, ensure better data accuracy, and support decision-making processes (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013). However, despite these developments, many organisations still face difficulties related to inventory control, especially when using traditional or semi-manual systems. These challenges are often reflected in data errors, delays, lack of visibility, and poor coordination of stock-related activities. In this context, digitalisation represents an important solution that allows

organisations to improve their stock management practices through better control, automation, and integration of processes. This study focuses on analysing the contribution of the DLGC system implemented at EGTHR, in order to understand how digitalisation can improve stock management performance in a real organisational environment. This topic is therefore relevant both from a theoretical and a practical perspective, as it contributes to the understanding of digital transformation while also providing useful insights for organisations.

2.2 Justification of the Choice of the Organisation

The selection of EGTHR is based on its relevance to the research objectives. The organisation operates in a service sector where stock management plays an important role in ensuring the continuity of activities. In addition, the implementation of the DLGC system within the organisation provides an appropriate context for studying the impact of digitalisation on stock management. This transition from a traditional system to a digital system allows the researcher to analyse practices before and after digitalisation. Furthermore, access to internal information and the possibility of conducting interviews with employees facilitated the data collection process. Therefore, this organisation represents a relevant and accessible case study that allows for a better understanding of the research problem.

2.3 Epistemological Positioning

In management research, different epistemological paradigms are used to explain how knowledge is produced and interpreted. Among these paradigms, positivism, post-positivism, constructivism, and interpretivism are the most commonly used (Creswell, 2018). In this study, an interpretivism epistemological position is adopted. This approach considers that reality is constructed through individuals' experiences and interactions. It is particularly suitable for qualitative research, as it allows the researcher to understand how participants perceive and interpret the impact of digitalisation on stock management within their organisational context. The focus is therefore placed on meanings and experiences rather than on objective measurement.

2.4 Research Approach

Research approaches are generally divided into deductive and inductive approaches. The deductive approach is based on testing theories through hypotheses, whereas the inductive

approach focuses on building understanding from empirical data (Saunders, Lewis, & Thornhill, 2019). In this research, an inductive approach is adopted. This choice is justified by the exploratory nature of the study, which aims to understand how digitalisation affects stock management practices within EGTHR. The study does not aim to test predefined hypotheses, but rather to analyse data collected from the field in order to identify patterns and develop interpretations based on participants' experiences.

2.5 Research Methodology

Research methodology refers to the set of approaches used to collect and analyse data in order to address the research problem. In management research, three main methodological approaches are commonly identified:

- **Quantitative approach:** This approach is based on the collection and analysis of numerical data in order to test hypotheses and examine relationships between variables. It relies on structured tools such as surveys and questionnaires, and aims to produce generalisable and objective results (Saunders, Lewis, & Thornhill, 2019).
- **Qualitative approach:** This approach focuses on understanding phenomena through non-numerical data such as interviews, observations, and documents. It aims to explore participants' experiences, perceptions, and interpretations within a specific context, allowing for an in-depth and detailed analysis (Creswell, 2018).
- **Mixed-methods approach:** This approach combines both quantitative and qualitative techniques to provide a more comprehensive understanding of the research problem. It allows the researcher to integrate numerical data with qualitative insights in order to strengthen the analysis (Saunders, Lewis, & Thornhill, 2019).

In the context of this study, a qualitative methodology is adopted. This choice is justified by the exploratory nature of the research, which seeks to understand the impact of digitalisation on stock management practices within a specific organisational context. The qualitative approach allows for the collection of rich and detailed data, providing a deeper understanding of participants' perspectives and experiences.

2.6 Data Collection Methods

Data collection represents a key stage in the research process, as it enables the researcher to gather relevant information aligned with the research objectives. In this study, a qualitative data collection strategy was adopted, relying on several complementary

methods in order to obtain a comprehensive understanding of stock management practices within EGTHR.

- **Observation:** Observation allows the researcher to examine activities and behaviours in their natural setting (Creswell, 2018). In this study, direct observation was used to better understand how stock management operations are carried out in practice. It focused on stock organisation, stock movements, the use of the DLGC system, and interactions between employees during daily activities. This method provided a realistic view of organisational practices.
- **Document analysis:** This method involves the examination of internal organisational documents in order to obtain contextual and supporting information (Bowen, 2009). In this study, documents such as stock records, inventory reports, and system data related to stock management were analysed. These documents provided valuable insights into organisational practices and supported the data collected through other methods.
- **Interviews:** Interviews are widely used in qualitative research to collect in-depth and experience-based data directly from participants (Kvale, 1996). There are three types of interviews:
 - Structured Interview: are based on a predetermined set of questions asked in the same order to all participants. This type of interview ensures consistency and facilitates comparison between responses. It is commonly used when the researcher seeks precise and standardized information. However, it offers limited flexibility for participants to elaborate on their answers.
 - Semi-Structured Interviews: combine predefined questions with the flexibility to explore additional topics during the discussion. They allow researchers to obtain detailed insights while maintaining a clear research direction. This method is particularly suitable for exploratory studies because it encourages participants to express their experiences and perceptions freely.
 - Unstructured Interviews are informal and conversational in nature, with few or no predetermined questions. The discussion develops according to the participant's responses, allowing the researcher to explore issues in depth. This approach is useful when studying complex experiences or gaining rich qualitative data, although it may be more difficult to analyse systematically.

In this study, semi-structured interviews were adopted as the primary data collection method, as they provide a balance between structure and flexibility. This choice is justified

by the exploratory nature of the research, which aims to understand the impact of digitalisation on stock management practices. The interviews allowed participants to express their experiences while ensuring that key topics were addressed.

2.7 Data Collection Tools

Data collection tools refer to the instruments used by the researcher to gather and organise data. In this study, specific tools were used to ensure the consistency and effectiveness of the data collection process:

Interview guide: A semi-structured interview guide was developed to facilitate the data collection process. It included open-ended questions designed to explore stock management practices, the implementation of the DLGC system, and its impact on organisational performance. This tool ensured that all key topics were covered while allowing flexibility in participants' responses.

The interview guide represents a fundamental data collection tool in qualitative research, as it ensures consistency across interviews while allowing sufficient flexibility for in-depth exploration of participants' perspectives. In the context of this study, a semi-structured interview guide was carefully developed to facilitate the collection of rich, relevant, and coherent data aligned with the research objectives. This guide was designed based on established methodological principles in qualitative research, which recommend structuring interviews around thematic axes to ensure both comparability and depth of analysis (Kvale, 1996; Creswell, 2018). The guide was organised in a logical and thematic manner, aiming to encourage open discussion while maintaining a clear focus on the research problem. It begins with a brief introduction presenting the purpose of the study, the context of the research, and the assurance of confidentiality in order to create a climate of trust and facilitate participants' engagement. Subsequently, the interview guide is structured around four main thematic axes, each addressing a specific dimension of the research topic:

Axis 1: Stock management before the implementation of the DLGC system: This axis explores the traditional practices of stock management within EGTHR prior to digitalisation. It focuses on how stock operations were conducted, the tools and procedures used, and the main operational challenges encountered, such as errors, delays, or stock discrepancies. It provides a baseline for comparison before and after the implementation of the system.

Axis 2: Analysis of the implementation of the DLGC system: This axis examines the process of adopting the DLGC system, including the motivations behind its implementation, the difficulties encountered, and the level of user adaptation. It highlights the organisational and technical aspects related to the integration of digitalisation.

Axis 3: Contribution of DLGC to stock management performance: This axis evaluates the impact of the system on performance, including improvements in data accuracy, reduction of stock issues, optimisation of operations, and enhancement of decision-making. It also considers the evolution of key performance indicators (KPIs).

Axis 4: Improvement opportunities and future perspectives: This axis identifies the limitations of the current system and explores potential improvements, as well as future actions to strengthen the effectiveness of digitalisation in stock management.

Overall, the interview guide ensures a comprehensive and coherent exploration of the research problem, supporting the collection of high-quality qualitative data and facilitating an in-depth analysis of the studied phenomenon. These tools contributed to improving the reliability and organisation of the collected data, ensuring alignment with the research objectives.

2.7.1 Selection of Interviewees

The selection of interviewees constitutes an essential step in ensuring the relevance and reliability of the collected data. In this study, participants were selected based on their direct involvement in stock management activities and their familiarity with the DLGC system, allowing the researcher to obtain accurate and experience-based information.

The following table presents the profile of the interviewed experts and their respective departments:

Table 1 : Profile of Interviewed Experts and Their Respective Departments

Expert	Position	Department	Interviews duration
Expert 1	Head of General Services Department	Department of general resources	1hour
Expert 2	IT specialist	Technical department	1hour 30min
Expert 3	Storekeeper	Department of general resources	2hours
Expert 4	Management Controller	Management control department	30min

Source: Developed by the author

2.7.2 Criteria for the Selection of Interviewees

➤ In the present case, the process of choosing the respondents was conducted in a rather intentional way so that the obtained information could prove its relevance. To be more precise, four people employed by EGTHR were selected on the basis of their participation in stock management and their active usage of the DLGC program. The choice of such employees was made in connection with their responsibilities related to operational and decision-making processes in their work. The inclusion of people with various statuses and job positions into the process of research was of great help in getting a deeper insight into the issue under discussion.

➤ Expert 1: Head of General Services Department

The Head of the General Services Department was selected based on his crucial role in the company and responsibility for overseeing all activities concerning general services management (resource and stock management). The contribution of this expert provided the manager's point of view regarding the significance of digitalisation and the importance of the role it plays in stock management improvement and decision making.

➤ Expert 2: IT specialist

IT specialist was chosen due to his responsibility for maintenance of the DLGC system. This person provides necessary assistance in technical operation and maintenance of the system, which makes him a vital part in the operation and implementation of DLGC .

➤ **Expert 3: Storekeeper**

The storekeeper was chosen for this research due to his involvement in operational processes related to managing the company's stock. His duties involve processing stock entries and exits, controlling stock balance, and registering stocks through the DLGC system. The expert's opinion was useful in evaluating the efficiency of the system in an operational environment.

➤ **Expert 4: Management Controller**

The Management Controller was chosen due to his responsibility for monitoring and evaluating the company's operational performance. His main duties involve studying the data on the stock, evaluating performance indicators, and making decisions based on the obtained information.

2.8 Data Analysis

Data analysis constitutes a crucial stage in the research process, as it enables the interpretation of the collected data in order to generate meaningful insights aligned with the research objectives. In the present study, qualitative data were analysed using NVivo software, which is widely recognised as an effective tool for managing and analysing non-numerical data such as interview transcripts and organisational documents. NVivo facilitates the organisation of qualitative data and supports a systematic and structured analysis process (Jackson, 2013). In this research, NVivo was used to explore and interpret the data collected from interviews, with the aim of understanding the impact of digitalisation on stock management practices within EGTHR. The software provides several analytical approaches that allow the researcher to examine the data from different perspectives. The main approaches used in this study include:

- Word Frequency Analysis (Lexical Analysis)

This approach was used to identify the most frequently recurring words and expressions within the interview data. It made it possible to highlight the dominant themes and the principal concepts most discussed by the participants regarding stock management and the implementation of the DLGC system. The analysis also facilitated the identification of recurring organisational concerns and priorities related to digitalisation.

- Linguistic Analysis

Linguistic analysis focused on examining the language and expressions used by participants during the interviews. This approach helped to better understand how employees perceived digitalisation and how they described the transformations generated by the DLGC system within the organisational context. It also allowed the interpretation of participants' attitudes, perceptions, and experiences related to stock management practices.

- Cognitive Mapping

The cognitive mapping approach was used to establish links between the principal ideas, concepts, and themes emerging from the interview data. This method contributed to identifying relationships between operational efficiency, inventory control, decision-making, and the role of digitalisation within the organisation. It also provided a clearer visual understanding of the interactions between the different dimensions of the research topic.

- Thematic Analysis

Thematic analysis constituted the principal analytical approach adopted in this research. The collected data were classified into coherent themes based on recurring patterns identified in participants' responses. This approach facilitated a deeper understanding of the main issues related to stock management before and after digitalisation, operational efficiency, KPIs, decision-making processes, and the challenges associated with the implementation of the DLGC system.

The use of these analytical approaches contributed to a clearer and more structured interpretation of the qualitative data, thereby improving the reliability, consistency, and organisation of the research findings. In addition, NVivo visualisation tools such as word clouds and charts facilitated the identification of patterns, relationships, and recurring terms within the dataset (Lewins, 2014).

Conclusion of chapter 2

This chapter presented the organisational and methodological framework adopted in this research by providing an overview of EGTHR, its principal activities, organisational structure, and stock management practices. It also highlighted the operational context surrounding the implementation of the DLGC system and the role of digitalisation within the organisation. The information collected through observation, semi-structured interviews, and internal documents contributed to developing a clearer understanding of the company's operational processes and stock management activities. In addition, this chapter described the methodological approach adopted for conducting the field study, including the research methods, data collection techniques, and analysis tools used throughout the research. These elements therefore provide the necessary methodological basis for analysing and interpreting the empirical findings related to the contribution of digitalisation to improving stock management performance within EGTHR.

CHAPTER III:

RESULTS AND DISCUSSION

Introduction of chapter 3

This chapter presents and discusses the main findings derived from the empirical investigation conducted within EGTHR. It builds upon the qualitative research approach adopted in this study, which is based on semi-structured interviews, direct observation, and document analysis. The objective is to analyse how digitalisation, through the implementation of the DLGC system, contributes to improving stock management performance within the organisation.

The analysis is carried out using qualitative data analysis techniques supported by NVivo software. The collected data are examined through several complementary approaches, including lexical, linguistic, and cognitive analysis, in order to identify recurring patterns, key concepts, and underlying meanings in participants' responses. This multi-dimensional analysis allows for a deeper understanding of the impact of digital tools on organisational practices and decision-making processes.

The findings are structured into two main sections. The first section presents and interprets the results obtained from observation and interviews, while the second section focuses on the detailed analysis of qualitative data using NVivo outputs. This organisation ensures a coherent and progressive presentation of the results, moving from descriptive insights to in-depth analytical interpretation. In addition, the chapter integrates the results of direct observation conducted within the organisation. This approach provides valuable insights into the actual functioning of stock management processes, enabling a comparison between theoretical practices and real operational conditions. It also helps to highlight the transformations brought about by the adoption of the DLGC system.

Section 1: Presentation of results

This section presents the main results obtained from the empirical study and provides an analysis of the findings in relation to the research objectives. It combines insights derived from direct observation within the organisation and the analysis of qualitative data collected through interviews. The aim is to highlight the key changes in stock management practices and to assess the contribution of digitalisation, particularly through the DLGC system, to improving organisational performance.

1. Results of observation

The direct observation conducted within the general services department, particularly at the level of warehouse operations, provided a comprehensive understanding of stock management practices within EGTHR. This immersion made it possible to analyse how inventory-related activities are performed in practice and to identify the major transformations associated with the adoption of the DLGC system.

Before the implementation of the digital system, stock management relied mainly on manual processes and the use of fragmented tools such as paper records, Excel files, and other simple tools. This approach was characterised by a high workload, time-consuming procedures, and a significant level of operational inefficiency. The lack of integration between tools resulted in limited visibility over stock levels, which often led to discrepancies such as stock shortages or overstock situations. In addition, the absence of a unified system reduced transparency and made it difficult to ensure accurate and reliable data. Following the implementation of the DLGC system, a clear improvement in the organisation and management of stock activities was observed. The system enabled the integration of all stock-related operations into a single digital platform, thereby simplifying processes and reducing manual intervention. Key operational documents, including purchase orders, goods receipt notes, and consumption vouchers, are now generated automatically within the system, which significantly enhances efficiency and reduces processing time.

Moreover, the DLGC system is involved in all stages of stock management, from the reception of goods to their storage and final distribution. It provides real-time information on stock availability, incoming and outgoing flows, and remaining quantities, which

improves monitoring and control. The use of predefined thresholds also allows for better anticipation of stock shortages, ensuring a more effective management of inventory levels.

Another important aspect highlighted through observation is the introduction of performance measurement practices based on Key Performance Indicators (KPIs). These indicators are used to evaluate the effectiveness of stock management processes and to support decision-making. The use of KPIs contributes to improving organisational performance by enabling better planning, cost optimisation, and forecasting of future activities.

From a human perspective, the adoption of the system has been generally positive. While some employees adapted quickly to the new digital environment, others required additional support. However, collaboration between staff members and assistance from IT personnel facilitated the integration of the system into daily operations. Additionally, the system demonstrates a high level of reliability, as technical issues remain limited.

Overall, the observation results highlight a significant transformation in stock management practices within EGTHR. The implementation of the DLGC system has improved operational efficiency, enhanced data accuracy, reduced errors, and strengthened transparency, thereby confirming the positive impact of digitalisation on stock management performance.

2. Interviews analysis

This part presents the results obtained from the qualitative data collected through interviews. The analysis is conducted using NVivo software in order to identify key patterns, recurring concepts, and meaningful insights related to stock management practices and the impact of the DLGC system. The results are presented progressively, starting with lexical analysis, followed by more in-depth analytical approaches.

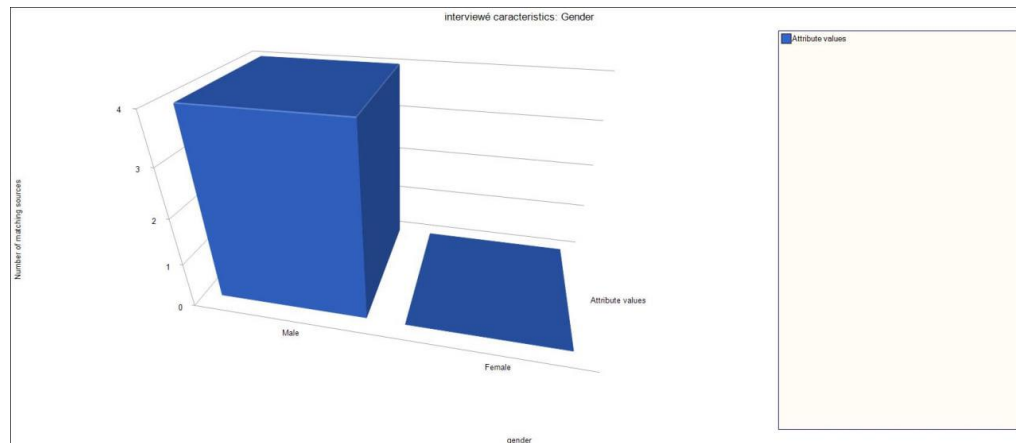
2.1 Study sample description

The sample selected for this study consists of four respondents holding different positions related to stock management and operational activities within EGTHR. This diversity allows for a comprehensive understanding of the impact of digitalisation through the implementation of the DLGC system.

➤ Gender

The gender of the participants provides a basic descriptive characteristic of the study sample. It helps to present the distribution of male and female respondents involved in the interviews. This information offers contextual insight into the profile of participants without influencing the interpretation of the research findings.

Figure 7 : Characteristics of Interviewees (Gender)



Source: Results generated using NVivo software

As illustrated in Figure 8, the gender distribution of respondents reveals a predominance of male participants compared to female participants. This imbalance reflects the organisational context in which operational and technical roles related to stock management are primarily occupied by male employees.

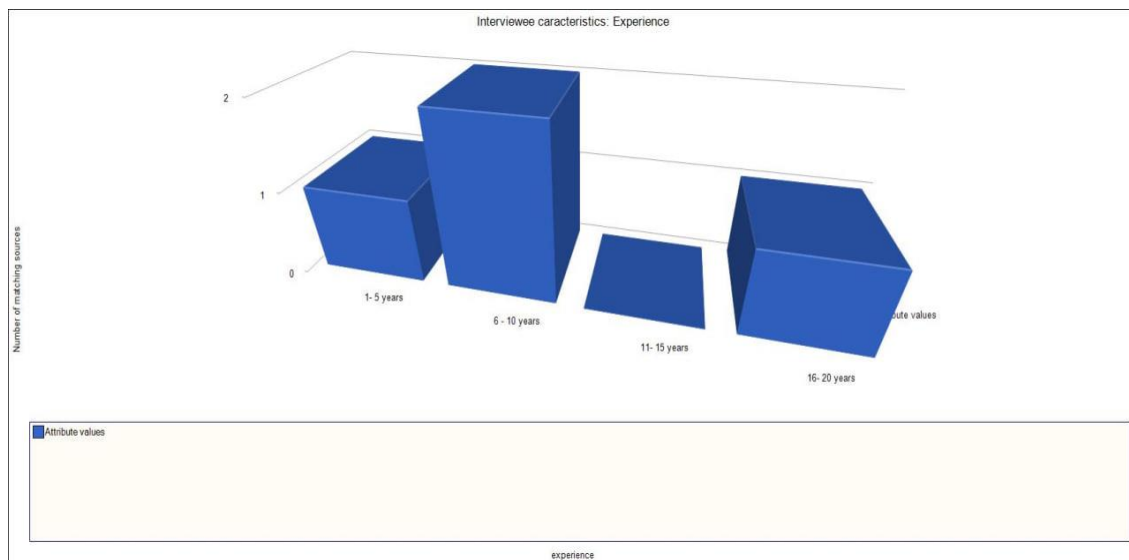
Although gender is not a determining variable in assessing stock management performance,

its distribution provides important contextual information regarding the profile of the respondents. More importantly, it does not affect the validity of the findings, as participants were selected based on their roles, expertise, and direct involvement in stock management processes and the use of the DLGC system.

➤ Professional Experience

In addition to gender distribution, the professional experience of respondents represents a key factor in evaluating the reliability and depth of the collected data.

Figure 8 : Professional Experience of Interviewees



Source: Results generated using NVivo software

As presented in Figure 8, respondents demonstrate varying levels of professional experience, ranging from 1–5 years to more than 15 years. A significant proportion of participants falls within the 6–10 years category, indicating a solid level of experience in stock management operations. This diversity in experience enhances the richness of the data, as it combines both practical operational knowledge and more advanced expertise. Respondents with substantial experience are better positioned to assess the impact of the DLGC system, particularly in terms of improving data accuracy, reducing processing time, and supporting decision-making.

Furthermore, the presence of experienced participants strengthens the credibility of the analysis, as their insights are based on a clear comparison between the pre-digitalisation context and the improvements observed after the implementation of the system.

2.2 Qualitative data analysis using NVivo software

Qualitative data analysis plays a crucial role in interpreting participants' insights and extracting meaningful patterns. In this study, NVivo software was used to systematically organise and analyse the collected data. Four main analytical approaches were adopted to ensure a comprehensive and structured understanding of the research findings.

2.2.1 Lexical approach

Lexical analysis constitutes an initial step in the exploration of qualitative data, as it allows for identifying the most frequently used terms in participants' discourse. Through the use of NVivo software, a word frequency table was generated in order to highlight the dominant vocabulary structuring the corpus.

Table 2 : Word frequency table

Word	Length	Count	Weighted Percentage (%)
stock	5	91	4,53
system	6	70	3,49
dlgc	4	58	2,89
management	10	40	1,99
data	4	35	1,74
time	4	32	1,59
improved	8	31	1,54
performance	11	31	1,54
inventory	9	28	1,40
implementation	14	23	1,15
digitalisation	14	20	1,00
operations	10	18	0,90
used	4	18	0,90
kpis	4	17	0,85
accuracy	8	16	0,80
issues	6	16	0,80
technical	9	16	0,80
encountered	11	15	0,75
indicators	10	15	0,75
real	4	15	0,75

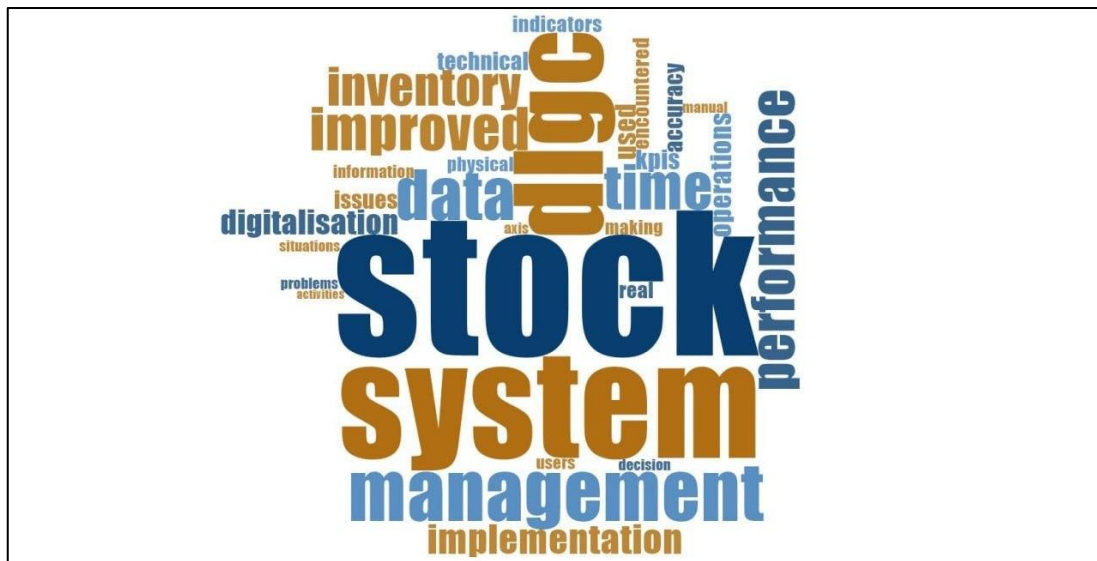
Source: Developed by the researcher based on data processed using NVivo

The analysis of the most frequent terms reveals several key elements reflecting the main orientations of participants' discourse. The table shows that words such as "stock", "system", "DLGC", "management", and "data" occupy the top positions, accounting for a significant proportion of the total occurrences. The predominance of the word stock (91 occurrences) clearly reflects the centrality of inventory-related activities within the organisation. It highlights the strong focus placed on stock control, monitoring, and availability, which are at the core of daily operations. Similarly, the high frequency of the term system (70 occurrences) emphasises the central role of the DLGC system in managing stock-related processes. This indicates that the system has become an essential tool in organising and controlling operational activities. The recurrent use of the word

DLGC (58 occurrences) further confirms its importance in participants' discourse. It reflects the significant impact of this system on the transformation of stock management practices, suggesting that it is fully integrated into the organisational environment. The presence of the term management (40 occurrences) points to a more structured approach to handling stock activities. It indicates that operations are no longer limited to execution, but are increasingly oriented towards coordination, supervision, and control. The recurrence of the word data (35 occurrences) highlights the growing importance of information accuracy and reliability. It suggests a shift towards a data-driven approach, enabled by the digitalisation of stock management processes. The term time (32 occurrences) reflects the importance of efficiency and speed in operational activities. It indicates that reducing processing time has become a key concern, particularly with the implementation of the DLGC system. In addition, the presence of words such as improved and performance (31 occurrences each) reveals a positive perception of the system's impact. These terms suggest that the introduction of DLGC has contributed to enhancing the efficiency and effectiveness of stock management practices. The appearance of the term inventory (28 occurrences) reinforces the operational dimension of the discourse, while words such as implementation (23 occurrences) and digitalisation (20 occurrences) highlight the ongoing transformation process within the organisation. Furthermore, the occurrence of terms such as operations, KPIs, accuracy, and indicators reflects the integration of performance measurement and monitoring practices. It shows that stock management is increasingly based on evaluation and control mechanisms aimed at improving organisational performance. Finally, the presence of words such as manual, problems, technical, and issues indicates that certain challenges still persist. These terms reflect the difficulties encountered during the transition from traditional practices to a digitalised system, particularly in relation to system usage and user adaptation.

This first reading of the corpus reveals that participants' discourse is structured around three main dimensions: stock management practices, the use of the DLGC system, and performance improvement. This provides a relevant basis for further analysis through more advanced qualitative approaches.

Figure 9 : Word cloud representation



Source: Developed by the researcher based on data processed using NVivo

The word cloud offers a visual synthesis of the lexical results, where the size of each term reflects its frequency of occurrence within the corpus. The clear dominance of stock confirms the centrality of inventory-related activities in participants' discourse, while the prominence of system and DLGC highlights the pivotal role of the digital platform in structuring daily operations. The visibility of management further indicates a shift towards more organised and controlled practices, going beyond simple execution to include coordination and supervision. In parallel, the presence of data and accuracy points to an increasing emphasis on information reliability, suggesting a transition towards data-driven decision-making enabled by digitalisation. Terms such as time, operations, and implementation underline improvements in processing speed and workflow organisation, reflecting the system's contribution to operational efficiency. Moreover, the appearance of performance, KPIs, and indicators reveals the integration of evaluation and monitoring mechanisms within stock management practices, indicating a stronger orientation towards performance measurement. At the same time, smaller yet visible terms such as manual, problems, and technical suggest the persistence of certain challenges, particularly those related to system adaptation and user experience.

Overall, the word cloud confirms that participants' discourse is structured around three interrelated dimensions: the management of stock, the use of the DLGC system, and the pursuit of improved performance, thereby reinforcing the findings derived from the frequency table.

2.2.2 Linguistic approach

Following the lexical analysis, the linguistic approach aims to deepen the understanding of participants' discourse by examining not only the words used, but also the way they are structured, articulated, and contextualised. It allows for capturing similarities and differences in expression, as well as identifying the level of convergence between participants' representations.

Table 3 : Pearson correlation coefficient between interviews

Source A	Source B	Pearson correlation coefficient
Interview 4	Interview 2	0,89724
Interview 4	Interview 1	0,863367
Interview 2	Interview 1	0,858815
Interview 3	Interview 2	0,819738
Interview 4	Interview 3	0,791528
Interview 3	Interview 1	0,74379

Source: Developed by the researcher based on data processed using NVivo

The results presented in the table reveal a high degree of lexical similarity between the different interviews conducted. The Pearson correlation coefficient reaches 0.897 between Interview 4 and Interview 2, representing the highest level of similarity observed. Similarly, a strong correlation of 0.863 is recorded between Interview 4 and Interview 1, and 0.858 between Interview 2 and Interview 1. In addition, the correlation between Interview 3 and Interview 2 reaches 0.819, while the value between Interview 4 and Interview 3 is 0.791. The lowest correlation is observed between Interview 3 and Interview 1, with a value of 0.743.

Overall, all correlation coefficients remain relatively high, exceeding 0.74, which indicates a strong convergence in the vocabulary and themes addressed by the participants. This suggests that, despite differences in roles and responsibilities, the respondents share a common understanding of stock management practices and the use of the DLGC system.

These results reflect a consistent discourse structured around similar concerns, particularly those related to system usage, operational efficiency, data management, and performance evaluation. The high level of similarity also indicates that the digitalisation process has contributed to aligning perceptions and practices among employees.

Thus, the linguistic analysis confirms the coherence of the qualitative data collected and reinforces the reliability of the findings. It shows that participants' discourse is not fragmented, but rather organised around shared representations and common organisational experiences.

2.2.3 Cognitive mapping

Cognitive mapping is a visual analytical approach that enables the representation of participants' ideas, perceptions, and conceptual associations in the form of a semantic network. It is particularly useful for identifying the relationships between key concepts emerging from interviews and for highlighting the central elements structuring the discourse. In the context of this study, cognitive mapping was conducted using the NVivo software, based on the coding of semi-structured interviews. This approach allows for a deeper understanding of how participants conceptualise stock management and digitalisation, and how these elements interact within organisational practices.

element of the participants' discourse. This centrality confirms that stock management constitutes the primary operational concern within the organisation.

The first branch, related to operations, highlights the transformation of stock-related activities such as receiving, issuing, and tracking inventory. Expressions such as "automating processes", "receiving, issuing and tracking", and "reducing delays" indicate a clear shift from manual practices to a more structured and system-driven approach. This reflects the integration of the DLGC system into daily operations, leading to improved workflow efficiency.

The second branch focuses on performance, where key notions such as inventory accuracy, stock availability, and processing time are strongly present. The recurrence of expressions like "fewer errors", "improved accuracy", and "better performance monitoring" suggests that the system has significantly enhanced operational performance. In particular, the reduction of stock-out and overstock situations indicates better control over inventory levels.

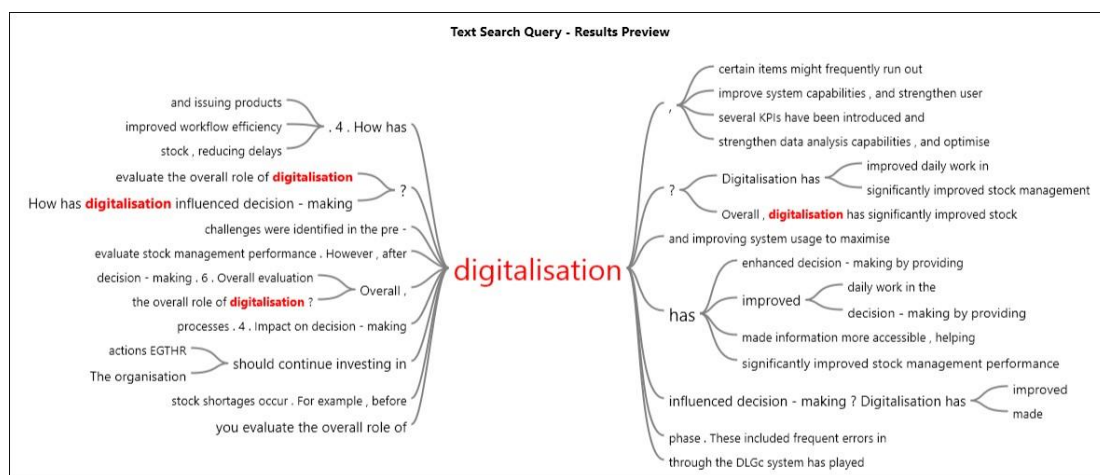
Another important branch relates to data and information management. Terms such as "real-time visibility", "data entry automation", and "traceability" reflect the improved accessibility and reliability of information. Participants emphasise that the availability of real-time data allows for immediate detection of discrepancies and facilitates corrective actions, which was not possible in the previous system.

The map also reveals a strong connection between stock management and decision-making processes. References to "identifying shortages", "taking appropriate actions", and "improved decision-making" indicate that digitalisation has enhanced the organisation's ability to make informed decisions. This demonstrates that the DLGC system plays not only an operational role but also a managerial one.

In contrast, several elements in the map refer to the pre-digitalisation phase, characterised by "manual recording", "lack of visibility", and "errors in stock recording". These expressions highlight the limitations of the previous system (MC Stock and Excel), reinforcing the idea that digitalisation has led to a significant improvement in stock management practices.

Overall, this cognitive map reveals a structured transformation from a manual, fragmented system to an integrated, data-driven approach, where stock management is closely linked to performance, data accuracy, and decision-making efficiency.

Figure 11 : Cognitive Map of Digitalisation



Source: Developed by the author based on data processed using NVivo

The second cognitive map focuses on the concept of digitalisation, which appears as a key driver of organisational improvement. The analysis shows that digitalisation is strongly associated with enhanced performance, efficiency, and decision-making.

The first set of associations highlights the impact of digitalisation on daily operations and workflow efficiency. Expressions such as “improved daily work”, “reducing delays”, and “optimising processes” indicate that digitalisation has simplified operational tasks and improved overall productivity within the organisation.

Another important branch relates to performance improvement. Terms such as “significantly improved stock management”, “system capabilities”, and “KPIs” suggest that digitalisation has enabled the organisation to better evaluate and monitor its performance. The introduction of performance indicators reflects a more structured and analytical approach to management.

The map also emphasises the role of digitalisation in decision-making. The presence of expressions such as “enhanced decision-making” and “making information more accessible” indicates that digital tools facilitate access to relevant data, allowing managers to make faster and more accurate decisions. Furthermore, digitalisation is associated with continuous improvement and future orientation. Statements such as “should continue

investing” reflect a positive perception of digital transformation and its long-term benefits for the organisation.

At the same time, references to the pre-digitalisation phase highlight the contrast between the old and the new system. Mentions of “frequent errors” and “lack of efficiency” reinforce the idea that digitalisation has played a crucial role in overcoming previous limitations.

In sum, this cognitive map confirms that digitalisation is perceived as a central factor in improving stock management performance, enhancing operational efficiency, and supporting better decision-making processes within the organisation.

Overall, the cognitive mapping analysis provides a comprehensive understanding of how participants perceive the transformation of stock management practices. It highlights the strong interconnections between stock, performance, data, and decision-making, and confirms that the implementation of the DLGC system has significantly contributed to improving organisational efficiency through digitalisation.

2.2.4 Thematic analysis

The thematic analysis was conducted using NVivo software, which allowed the classification of interview data into coherent themes based on recurring patterns in participants responses. This approach made it possible to structure the analysis around the main issues related to stock management and the contribution of the DLGC system. The themes presented below emerged directly from the data collected during the interviews and reflect the perceptions and experiences of the participants.

Theme 01: Stock management before and after digitalisation

Based on the interviews conducted with the participants, stock management practices before the implementation of the DLGC system were mainly traditional and highly dependent on manual procedures. Employees explained that most stock-related operations relied on paper documents, handwritten records, Excel files, and printed tables used for monitoring inventory activities. Tasks such as stock registration, purchase order preparation, stock reception, and inventory verification required considerable manual effort and continuous updating of information through different disconnected tools. In many situations, employees had to record the same information several times on separate documents, which increased workload and consumed a significant amount of time.

Participants also highlighted that the absence of a centralised digital system made stock monitoring more complicated and less reliable. Information was not always updated in real time, and communication between departments was sometimes difficult due to delays in transmitting stock-related information. As a result, the organisation frequently experienced operational problems such as stock shortages, overstock situations, discrepancies between physical and recorded inventory, and delays in identifying stock movements. Participants explained that tracing products and verifying stock availability required additional manual checking, particularly during periods of high operational activity. Moreover, physical inventory counts were described as complex and time-consuming operations. Employees had to manually compare physical stock with recorded documents, which often generated inconsistencies and required corrective adjustments. Participants stated that the traditional stock management approach lacked visibility and made operational control more difficult, especially when managing a large quantity of products distributed across different departments.

After the implementation of the DLGC system, participants observed a significant transformation in stock management practices within EGTHR. The system introduced a more organised, integrated, and digitalised approach to inventory operations. Stock-related activities became centralised within a single digital platform, allowing employees to access updated information in real time. Participants explained that operations such as purchase order preparation, stock reception, stock issuing, and inventory tracking became more structured and easier to manage through the system.

The implementation of DLGC also improved traceability and monitoring of stock movements. Employees are now able to identify incoming and outgoing products more efficiently, monitor stock levels continuously, and detect shortages or abnormal stock variations more rapidly. Participants reported that the digitalisation of stock operations significantly reduced paperwork and minimised repetitive manual tasks, which facilitated operational activities and improved daily workflow management.

Another important change highlighted by the participants concerns the accessibility and reliability of information. Since stock data is automatically updated through the system, employees can easily consult inventory information, monitor product availability, and verify stock movements without relying on separate documents or manual calculations.

This transition reflects a clear shift from a fragmented and traditional management system towards a more digital, integrated, and data-driven stock management approach.

Table 4 : Stock management transformation

Theme	Before DLGC Implementation	After DLGC Implementation
Stock Management Method	Traditional and manual procedures based on paper documents, handwritten records, Excel files, and printed tables.	Integrated and digitalised management through the DLGC system.
Data Recording	Information entered several times in different documents and tools.	Centralised data entry within one digital platform.
Workflow Efficiency	Time-consuming operations and heavy manual workload.	Faster and more organised operations with simplified workflows.
Information Access	Information not updated in real time and difficult to access.	Real-time access to updated stock information.
Communication Between Departments	Delays in transmitting stock-related information between departments.	Improved coordination and smoother information sharing.
Stock Monitoring	Difficult stock tracking and limited visibility over inventory movements.	Continuous monitoring and easier tracking of stock movements.
Traceability	Product tracing required additional manual verification.	Improved traceability of incoming and outgoing products.
Inventory Accuracy	Frequent discrepancies between physical and recorded stock.	Better inventory accuracy and reduced inconsistencies.

Operational Problems	Stock shortages, overstock situations, and delays in identifying stock movements.	Faster detection of shortages and abnormal stock variations.
Inventory Counts	Complex and time-consuming physical inventory operations.	More structured and efficient inventory management processes.
Paperwork	High dependence on paperwork and printed documents.	Significant reduction in paperwork and repetitive tasks.
Overall Control	Limited visibility and difficult operational control.	Improved operational control and better decision-making support.

Source: Developed by the author based on interview data and thematic analysis findings.

Theme 02: Improvement of operational efficiency

The analysis of the interviews reveals that digitalisation has had a significant impact on improving operational efficiency within stock management activities at EGTHR. Participants consistently emphasised that the implementation of the DLGC system simplified daily operations and considerably improved the speed and organisation of work processes. Before digitalisation, employees had to perform several repetitive administrative tasks manually, including writing stock information on paper documents, updating Excel files separately, printing stock records, and verifying inventory data through multiple documents. These procedures required substantial effort and increased the risk of delays and operational errors.

Following the implementation of DLGC, many operational activities became automated and more coordinated. Participants explained that the system now integrates several stock management functions within a single digital platform, allowing employees to perform operations more rapidly and efficiently. For example, purchase orders can be generated directly through the system, stock reception documents are automatically created once products arrive, and stock consumption records are updated immediately after products are issued from the warehouse. This automation reduced the need for repetitive manual recording and simplified operational procedures.

Participants also indicated that the reduction of manual work contributed significantly to improving workflow organisation within the company. Since information is centralised and

continuously updated, employees can perform their tasks more effectively without spending excessive time searching for stock information or verifying paper documents. Coordination between departments also improved because stock-related information became accessible in real time through the system. This facilitated communication between employees and enabled quicker operational responses. Another important aspect highlighted during the interviews concerns the reduction of operational errors. Participants explained that before digitalisation, mistakes related to data recording, stock quantities, and inventory calculations occurred more frequently due to manual processing. However, the implementation of DLGC improved the accuracy of operational activities by reducing human intervention in repetitive tasks and ensuring automatic updating of stock information.

The participants further explained that the system improved the speed of stock-related operations such as receiving products, tracking stock movements, and issuing products for consumption. Employees are now able to process stock operations more rapidly, monitor inventory status immediately, and generate stock-related documents with fewer administrative procedures. This improvement reduced operational delays and increased productivity within stock management activities. Overall, the findings demonstrate that digitalisation played an essential role in enhancing operational efficiency at EGTHR by simplifying procedures, reducing manual work, improving coordination, minimising errors, and facilitating faster execution of stock management activities.

Table 5 : Improvement of operational efficiency

Main Aspect	Before Digitalisation	After DLGC Implementation	Impact on Efficiency
Administrative Tasks	Manual recording on paper and Excel files	Automated digital processing through one platform	Reduced workload and saved time
Purchase Orders	Prepared manually	Generated directly through DLGC	Faster execution of operations
Stock Reception	Separate manual documentation	Automatic creation of reception documents	Improved organisation and accuracy

Stock Updates	Delayed and manually updated	Real-time automatic updates	Better monitoring of stock levels
Information Access	Searching through multiple documents	Centralised digital information	Easier and quicker access
Coordination Between Departments	Slow communication and information exchange	Real-time shared information	Improved coordination and communication
Error Management	Frequent human errors in calculations and recording	Reduced manual intervention and automated updates	Increased operational accuracy
Inventory Tracking	Time-consuming manual verification	Immediate stock movement tracking	Faster inventory control
Productivity	Slower operational procedures	Rapid processing of stock activities	Increased productivity
Workflow Organisation	Complex and repetitive procedures	Simplified and integrated processes	Better workflow efficiency

Source: Developed by the author based on interview data and thematic analysis findings.

Theme 03: Use of KPIs and performance evaluation

The interviews conducted with the participants revealed that the implementation of the DLGC system introduced a more structured approach to performance evaluation within stock management activities at EGTHR. Before digitalisation, stock management performance was not evaluated through formal performance indicators. Participants explained that inventory monitoring mainly depended on personal experience, manual observation, and traditional verification methods. Decisions concerning stock control and operational performance were often based on estimations and physical checking rather than measurable indicators or real-time analytical data.

In the traditional system, employees had limited visibility regarding the actual performance of stock management operations. Since information was fragmented between paper documents and Excel files, it was difficult to evaluate operational efficiency accurately or identify the main weaknesses affecting inventory activities. Participants stated that there was no continuous monitoring of performance indicators such as stock availability, inventory accuracy, or operational processing time. As a result, identifying operational

problems or evaluating the effectiveness of stock management procedures required significant manual effort and depended largely on employee experience.

Following the implementation of the DLGC system, participants observed a major improvement in the way stock management performance is monitored and evaluated. The system introduced the use of Key Performance Indicators (KPIs), allowing the organisation to measure operational activities more accurately and objectively. Participants explained that several indicators are currently used within EGTHR to evaluate stock management performance, particularly inventory accuracy, stock availability, stock-out rate, processing time, and operational efficiency. One of the most important changes highlighted by the participants concerns the automation of performance monitoring. Since the system updates stock information in real time, KPIs are generated automatically and can be consulted continuously by employees and managers. This allows the organisation to monitor inventory operations more effectively and quickly identify operational issues requiring corrective action. Participants explained that the use of KPIs improved visibility regarding stock movements and facilitated the evaluation of operational performance on a daily basis.

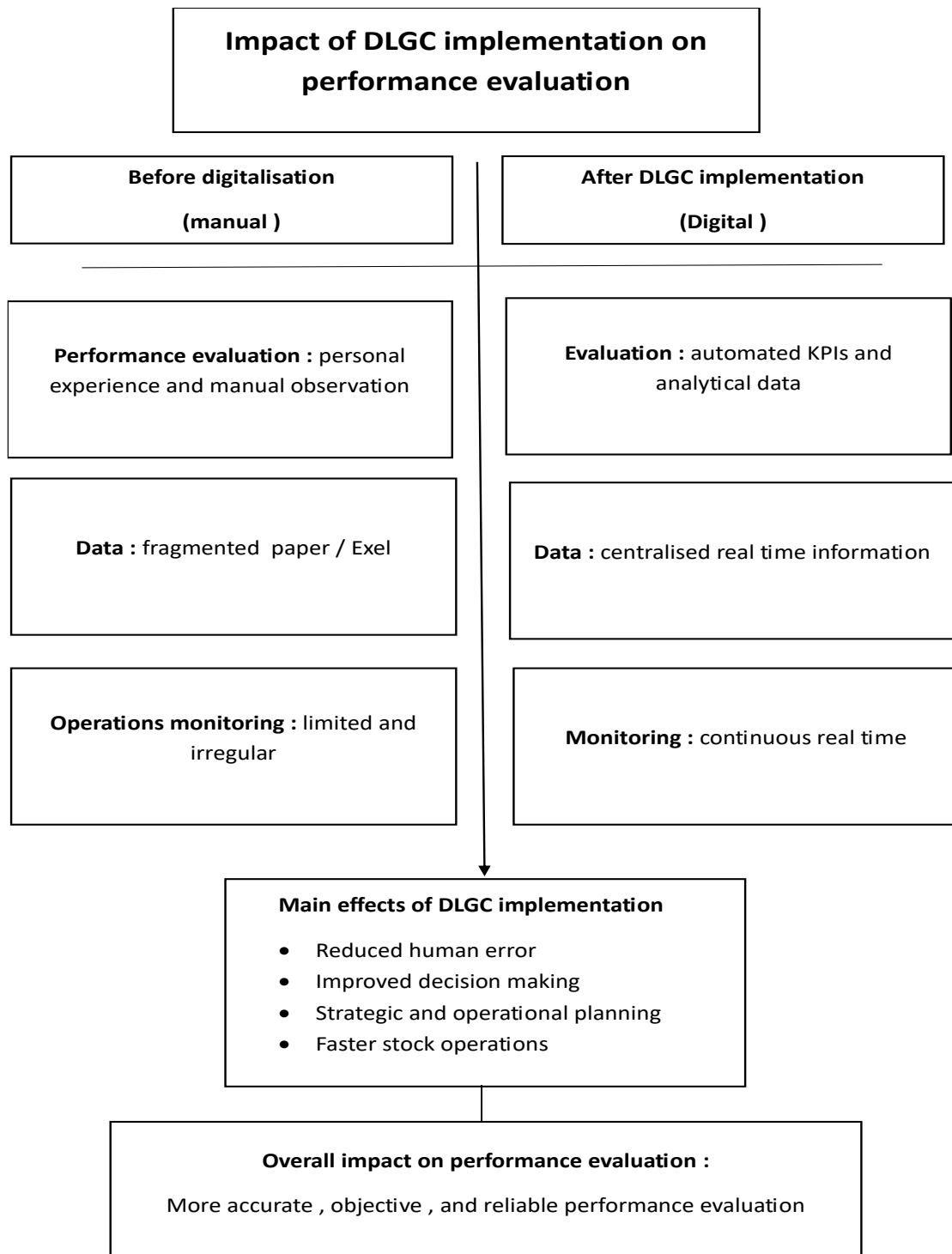
Inventory accuracy was frequently mentioned during the interviews as one of the most important indicators improved by digitalisation. Participants indicated that the DLGC system reduced discrepancies between physical and recorded stock by improving data reliability and reducing manual recording errors. Similarly, the monitoring of stock availability became more efficient because the system provides updated information concerning available quantities and product movements in real time.

The participants also emphasised that the monitoring of stock-out situations became easier after the implementation of DLGC. The system allows employees to identify products approaching critical stock levels and facilitates quicker intervention before shortages occur. In some departments, minimum stock thresholds are integrated into the system, enabling employees to anticipate stock needs more efficiently and avoid interruptions in operational activities. Processing time was another important aspect discussed during the interviews. Participants explained that digitalisation reduced the time required to complete stock-related operations, particularly for stock reception, issuing procedures, inventory verification, and document preparation. Since several operations are now automated, employees can process inventory activities more rapidly and focus on operational

monitoring rather than repetitive administrative tasks. Moreover, participants stated that the use of KPIs contributed to improving managerial control and operational planning within the organisation. Performance indicators provide measurable information regarding the effectiveness of stock management activities and support the evaluation of organisational performance over time.

According to the participants, the organisation is now able to analyse operational trends, identify weaknesses, estimate future needs, and support strategic planning through more reliable and measurable data. This evolution reflects a significant transition from a traditional stock management approach based mainly on manual observation and subjective judgement towards a more analytical, structured, and performance-oriented management system supported by digital technologies and real-time operational indicators.

Figure 12 : Effects of DLGC implementation on KPI based performance evaluation



Source: Developed by the researcher based on interview data and thematic analysis findings.

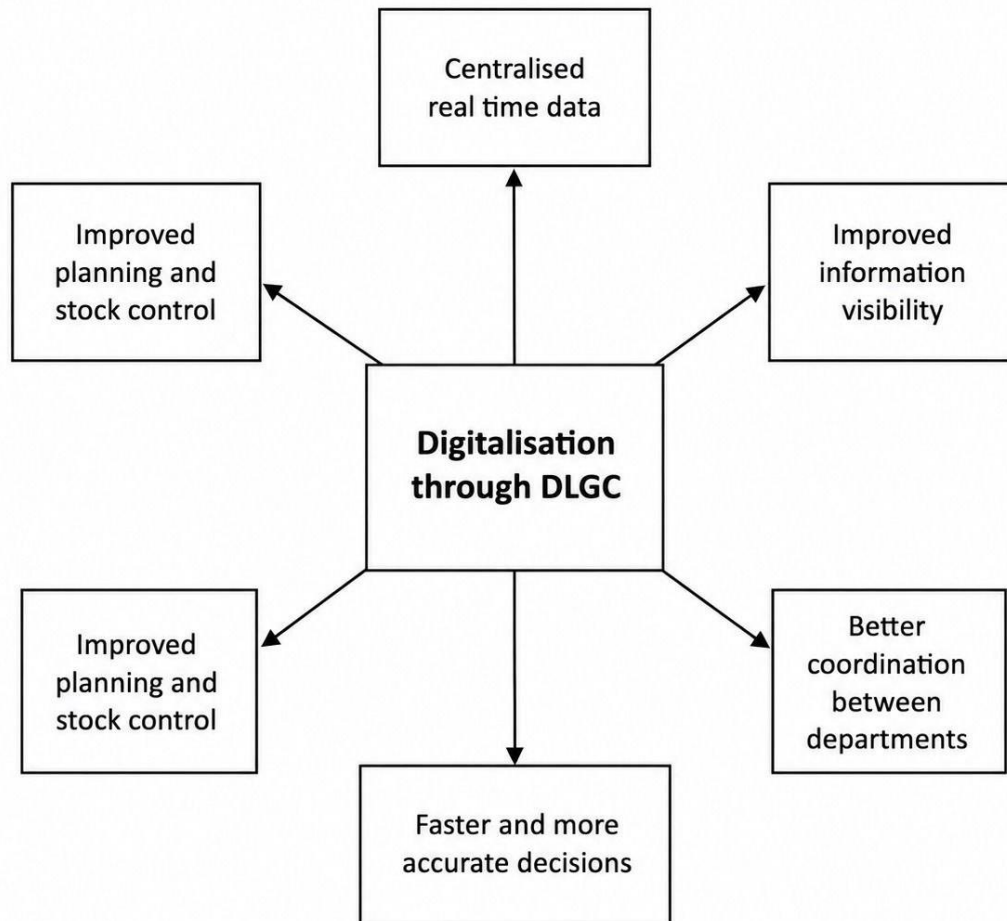
The interviews also revealed that the use of KPIs and real-time operational data contributed significantly to improving decision-making processes related to stock management within EGTHR. Before the implementation of the DLGC system, managerial

decisions concerning stock replenishment, operational planning, and inventory monitoring were mainly based

manual observations, delayed information, and fragmented documents. However, the digitalisation of stock management activities improved access to accurate and centralised information, allowing managers and employees to make faster and more informed decisions. Participants also explained that the system facilitated coordination between departments and improved planning capacities by providing real-time visibility regarding stock levels, product movements, and operational activities. This evolution reflects the transition towards a more structured, data-driven, and performance-oriented management approach supported by digital technologies and automated operational indicators.

The following figure illustrates the role of digitalisation through the DLGC system in improving decision-making processes within stock management activities at EGTHR by facilitating information accessibility, operational coordination, planning, and inventory control.

Figure 13 : Role of digitalisation in improving decision making processes



Source : Developed by the author based on interview finding.

Theme 04: Challenges and limitations of the system

Despite the significant improvements generated by digitalisation, the interviews revealed that the implementation and use of the DLGC system also involved several challenges and limitations. Participants explained that the transition from a traditional manual system to a digitalised management approach required an important period of adaptation for employees. Since many workers were accustomed to manual procedures and paper-based operations, the introduction of digital tools initially created uncertainty and resistance among some users.

One of the main challenges identified during the interviews concerns user adaptation. Participants stated that certain employees experienced difficulties understanding and using the new system, particularly during the early stages of implementation. The transition required employees to change their working habits and learn new operational procedures based on digital technologies rather than manual methods. Although some employees adapted rapidly to the system, others required additional support and assistance from technical staff.

Training was also highlighted as an important factor influencing the success of the implementation process. Participants explained that user support and technical assistance played a major role in facilitating the adoption of the DLGC system within the organisation. The presence of IT support helped employees resolve operational difficulties and progressively become more familiar with the system's functionalities.

In addition, some minor technical issues were mentioned during the interviews. Participants referred to occasional system delays, network interruptions, or temporary technical problems affecting certain operational activities. However, they also emphasised that these issues remain relatively limited and are generally resolved quickly through technical intervention and system maintenance.

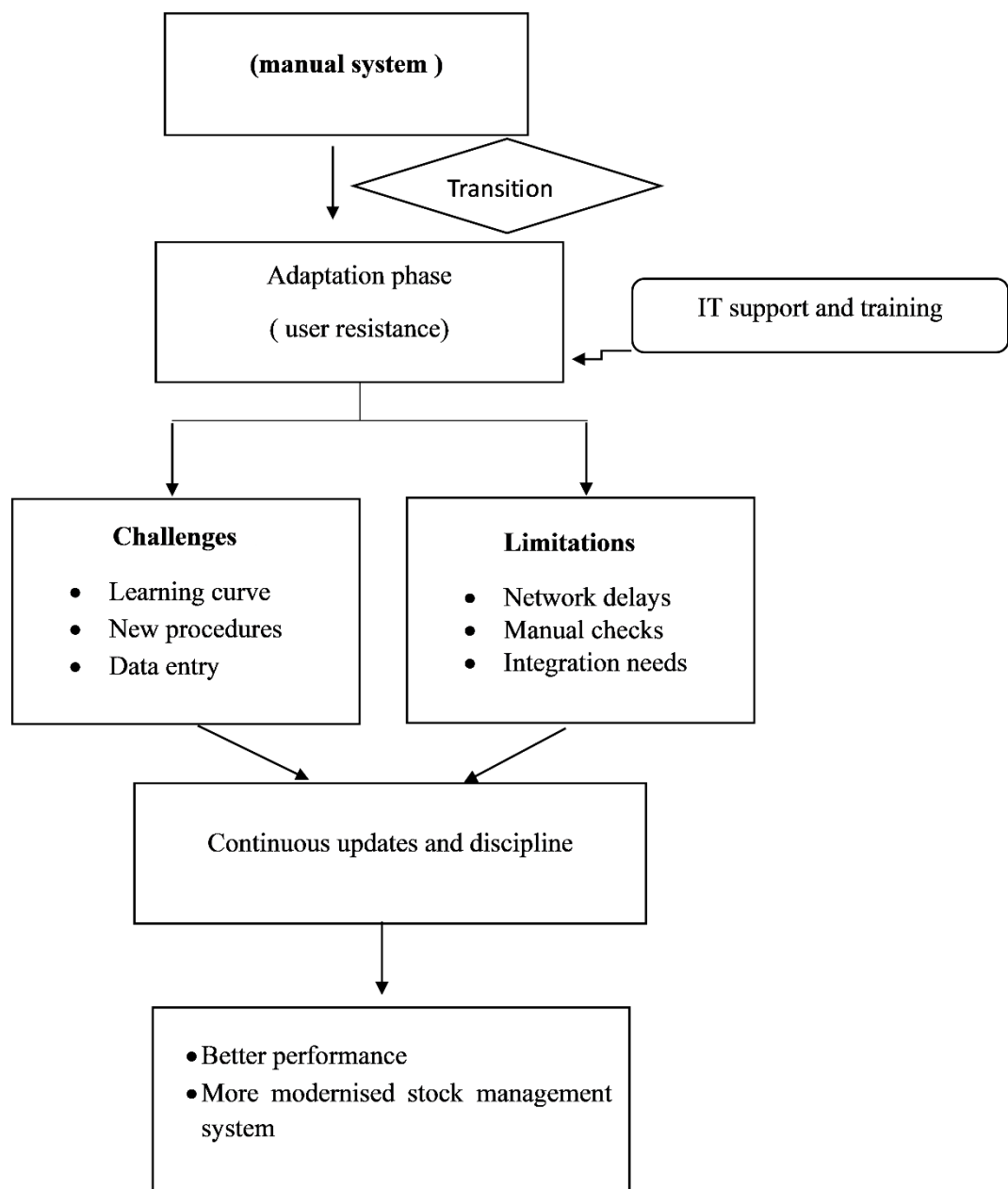
Another limitation discussed by the participants concerns the persistence of certain manual procedures within some stock management activities. Although the DLGC system considerably reduced manual work, some operations still require human verification or physical control, particularly during inventory counts and stock verification procedures. This indicates that digitalisation has not completely eliminated the need for manual intervention within operational processes.

Participants also explained that the effectiveness of the system depends largely on the accuracy of data entry and employee commitment. Since the system relies on real-time information, incorrect data input or operational negligence may affect the reliability of inventory information and performance evaluation. Therefore, continuous employee awareness and operational discipline remain essential for maintaining system efficiency.

Finally, several participants suggested the possibility of further improving the DLGC system through additional functionalities, continuous updates, and stronger integration with other organisational systems. They explained that digitalisation remains an evolving process requiring continuous adaptation and improvement to respond effectively to

operational needs and organisational development. Overall, although certain technical and organisational challenges remain present, the participants agreed that the advantages generated by the DLGC system largely outweigh its limitations. The implementation of digital technologies within stock management operations has therefore contributed positively to improving organisational performance and modernising inventory management practices at EGTHR.

Figure 14 : Adaptation challenges in the digitalisation of stock management



Source: Developed by the author based on interview finding.

2.3 Global analysis

The qualitative analysis conducted using NVivo enabled a comprehensive and structured interpretation of the data collected from the interviews. Through lexical, thematic, and cognitive analyses, the findings provide a nuanced understanding of how digitalisation, through the implementation of the DLGC system, has contributed to improving stock management practices within EGTHR. Overall, the results reveal a clear transition from a traditional, manual, and fragmented system of stock management toward a more structured, digitalised, and data-driven approach. Prior to the implementation of the DLGC system, stock management processes were characterised by limited visibility, frequent discrepancies between physical and recorded stock, and a lack of formal performance monitoring tools. These limitations often resulted in operational inefficiencies, including delays in processing, stock shortages, and difficulties in decision-making. Following the implementation of the DLGC system, significant improvements have been observed across several key dimensions of stock management performance. First, inventory accuracy has improved considerably due to the automation of data entry and the real-time updating of stock information. This has reduced discrepancies and enhanced the reliability of inventory data. Second, stock availability has increased, as the system enables better tracking of inventory levels and facilitates timely replenishment decisions, thereby reducing the frequency of stock-outs and overstock situations.

In addition, the analysis highlights a substantial reduction in processing time, as many previously manual tasks such as recording, tracking, and verifying stock movement are now digitalised and integrated within a single system. This has contributed to improved workflow efficiency and better coordination between different departments involved in stock management activities. Furthermore, the use of Key Performance Indicators (KPIs) has become more structured and effective following digitalisation. Indicators such as inventory accuracy, stock availability rate, stock-out frequency, and processing time are now systematically monitored, enabling the organisation to evaluate performance more objectively and support data-driven decision-making. This represents a significant shift from the pre-digitalisation phase, where performance assessment was largely informal and based on individual experience rather than measurable indicators. However, despite these positive outcomes, the analysis also identifies certain challenges associated with the implementation and use of the DLGC system. These include initial resistance to change, the need for user training, and some technical or organisational constraints affecting system

utilisation. In some cases, the persistence of manual practices alongside digital tools indicates that the transition toward full digital integration remains incomplete. Nevertheless, the overall findings demonstrate that digitalisation, through the DLGC system, has played a crucial role in enhancing stock management performance within EGTHR. By improving data accuracy, increasing operational efficiency, and supporting more informed decision-making, the system has contributed to transforming stock management into a more reliable, transparent, and performance-oriented process.

In conclusion, the results confirm that the successful integration of digital tools in stock management not only optimises operational processes but also strengthens the organisation's ability to monitor performance and respond effectively to operational challenges. This highlights the strategic importance of digitalisation as a key driver of performance improvement in supply chain and inventory management.

Section 02: Discussion of Results

The findings obtained through the thematic analysis of interviews and the use of NVivo software reveal that the implementation of the DLGC system has significantly contributed to improving stock management practices within EGTHR. The results demonstrate that digitalisation has transformed several inventory-related operations by reducing manual tasks, improving information accessibility, and strengthening operational coordination between departments. Through the integration of the DLGC system, stock management has progressively shifted from a traditional manual process to a more structured and data-driven approach.

The analysis also highlights that digitalisation has positively influenced key dimensions of stock management performance, particularly inventory accuracy, stock availability, operational efficiency, and decision-making processes. However, despite these improvements, some organisational and technical challenges remain, including occasional resistance to change, dependence on user adaptation, and the need for continuous system improvement and staff training.

1. Interpretation of Results

1.1 Interpretation of results related to inventory accuracy

The findings indicate that the DLGC system has significantly improved inventory accuracy within EGTHR. Before the implementation of the system, stock operations relied heavily on manual recording procedures, which frequently resulted in inconsistencies between physical inventory counts and recorded data. Respondents explained that the absence of real-time monitoring made inventory control difficult and increased the probability of recording errors and stock discrepancies. After the implementation of DLGC, inventory operations became more organised and systematic. The digitalisation of stock data enabled better traceability of inventory movements and facilitated faster verification processes. Interviewees reported that the system reduced human errors in data entry and improved the reliability of stock information. Real-time visibility also made it easier to identify discrepancies immediately and apply corrective actions when necessary.

These findings confirm that digitalisation plays an essential role in enhancing data accuracy and inventory control. This result is consistent with the literature, which emphasises that digital technologies improve inventory visibility and reduce operational errors through automated data processing and real-time information systems (Heizer, Render, & Munson, 2020).

1.2 Interpretation of results related to operational efficiency

The analysis demonstrates that the DLGC system has considerably improved operational efficiency in stock management activities. According to the respondents, stock-related operations such as receiving, issuing, tracking inventory, and updating stock information became faster and more efficient after digitalisation.

Prior to the implementation of DLGC, inventory management procedures were largely manual, time-consuming, and dependent on paperwork. This often caused delays in processing operations and reduced workflow coordination between departments. However, the introduction of digital tools enabled the automation of several operational tasks, which reduced processing time and simplified inventory procedures.

Interviewees also indicated that digitalisation improved workflow organisation and reduced unnecessary manual intervention. The availability of real-time data enhanced coordination between employees and facilitated quicker responses to stock-related issues. Furthermore,

the reduction of stock shortages and overstock situations reflects a better level of operational control and efficiency.

These findings support the argument that digitalisation contributes to operational performance improvement by automating routine processes and enhancing organisational responsiveness (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013).

1.3 Interpretation of results related to decision-making

The results reveal that the DLGC system has positively influenced decision-making processes related to stock management. Before digitalisation, decisions concerning stock replenishment and inventory monitoring were mainly based on manual observations and fragmented information, which limited the organisation's ability to react efficiently to stock issues.

The implementation of DLGC improved access to accurate and real-time information, allowing managers to make more informed and timely decisions. Respondents explained that the system provides immediate visibility of stock levels, inventory movements, and stock availability, which facilitates monitoring and operational planning.

The findings suggest that digitalisation strengthens decision-making capabilities by improving information accessibility and supporting data-driven management practices. This aligns with the work of Wang and Papadopoulos (2016), who argue that digital technologies and data analytics improve managerial decision-making through timely and actionable insights.

1.4 Interpretation of results related to stock availability and stock-out reduction

The findings show that the DLGC system contributed to improving stock availability and reducing the occurrence of stock-out situations within EGTHR. Respondents stated that before digitalisation, the organisation frequently experienced delays in identifying shortages because inventory monitoring lacked real-time visibility.

Following the implementation of DLGC, inventory monitoring became more accurate and responsive. The system enabled continuous tracking of stock levels and improved the organisation's ability to anticipate shortages and avoid interruptions in operations. Interviewees also explained that the availability of updated inventory information improved

coordination between departments and enhanced stock replenishment processes. Moreover, respondents indicated that digitalisation reduced the risk of overstock situations by facilitating better stock control and improving inventory planning. These improvements demonstrate that digital systems can significantly enhance inventory availability and supply continuity. This finding is consistent with previous studies which emphasise that digital inventory systems improve stock visibility and support more effective inventory planning and control (Jacobs & Chase, 2018).

1.5 Challenges and limitations of the DLGC system

Despite the significant improvements generated by the DLGC system, the analysis also identified several challenges affecting the effectiveness of digitalisation within EGTHR. Some respondents highlighted difficulties related to user adaptation and resistance to organisational change, particularly during the early stages of implementation. In addition, interviewees mentioned that the effectiveness of the system still depends on proper data entry and continuous employee engagement. Certain operational activities continue to require manual intervention, which may occasionally reduce process efficiency. Respondents also stressed the importance of continuous training and system updates to maximise the benefits of digitalisation.

These findings indicate that digital transformation is not limited to technological implementation alone, but also requires organisational adaptation, employee involvement, and continuous process improvement. This supports the argument of Vial (2019), who explains that digital transformation involves organisational change alongside technological integration.

2. Comparison between findings and previous studies

2.1 Points of convergence with previous studies

The findings of this study show several similarities with the existing literature on digitalisation and stock management. Previous studies have emphasised that digital technologies improve inventory control, operational efficiency, and organisational decision-making. The results obtained at EGTHR confirm these theoretical assumptions and demonstrate the practical contribution of the DLGC system to stock management performance. First, the improvement in inventory accuracy identified in this study aligns with the findings of Heizer, Render and Munson (2020), who argue that digital inventory

systems enhance stock visibility and reduce recording errors through automated monitoring and real-time data management. Similarly, respondents at EGTHR confirmed that the DLGC system improved the reliability of stock information and reduced discrepancies between physical and recorded inventory data. In addition, the findings related to operational efficiency are consistent with the work of Bharadwaj (2013), who explain that digital technologies support organisational performance by improving process efficiency and facilitating operational coordination. At EGTHR, interviewees reported that digitalisation reduced processing time, simplified inventory procedures, and improved workflow organisation between departments. The results also converge with previous studies concerning decision-making improvement.

Wang (2016) state that digital systems and data analytics enhance managerial decision-making by providing timely and actionable information. Likewise, the respondents in this study indicated that the DLGC system improved access to real-time inventory data, which strengthened monitoring processes and supported faster operational decisions. Furthermore, the findings regarding stock availability and stock-out reduction support the literature on digital inventory management.

Jacobs and Chase (2018) emphasise that digital inventory systems improve stock control and facilitate inventory planning. Similarly, respondents at EGTHR explained that the DLGC system improved stock monitoring and helped reduce shortages and overstock situations. Finally, the study confirms the argument developed by Vial (2019), who considers digital transformation as both a technological and organisational process. The implementation of DLGC not only introduced digital tools into stock operations, but also changed the way inventory activities are organised and monitored within the organisation.

2.2 Points of divergence with previous studies

Despite the important similarities between the findings of this study and previous literature, several differences and limitations were also identified. While many theoretical studies present digitalisation as a highly integrated and fully optimised process, the practical implementation of the DLGC system at EGTHR still faces organisational and operational constraints.

First, although the literature frequently highlights the complete automation of inventory processes through digital systems, some stock management activities at EGTHR continue to involve manual intervention. Respondents explained that certain procedures still depend

on employee verification and manual validation, particularly during physical inventory counts and data corrections. This indicates that digitalisation within EGTHR remains partially dependent on traditional operational practices.

Second, previous studies often describe digital transformation as a smooth process leading to rapid organisational adaptation. However, the findings of this study reveal that resistance to change and user adaptation difficulties remain important challenges during the implementation of the DLGC system. Some employees initially experienced difficulties adapting to the new digital procedures, which temporarily affected workflow efficiency. In addition, while theoretical models generally emphasise the strategic integration of digital technologies across all organisational functions, the results suggest that the use of DLGC is still mainly concentrated on operational inventory activities. This means that the system has not yet reached a fully integrated strategic role in broader organisational decision-making processes. Furthermore, certain studies suggest that digital systems eliminate most inventory-related problems. In contrast, the findings at EGTHR demonstrate that although the DLGC system significantly reduced stock errors and shortages, some operational issues still persist, particularly those related to user practices and data updating procedures.

These divergences demonstrate that the effectiveness of digitalisation depends not only on the technological system itself, but also on organisational readiness, employee involvement, and continuous improvement efforts. Therefore, the implementation of digital inventory systems should be viewed as a progressive organisational transformation process rather than an immediate operational solution.

Conclusion of Chapter 3

This last chapter made it possible to empirically examine the concepts previously developed in the theoretical framework through the analysis of interviews, observations, and thematic interpretation using NVivo software. The findings revealed that the implementation of the DLGC system at EGTHR contributed to a progressive transformation of stock management practices by introducing a more structured and data-driven approach to inventory operations. The analysis highlighted several positive outcomes, particularly in terms of inventory accuracy, stock availability, operational efficiency, workflow organisation, and decision-making processes. The use of real-time information and performance indicators also improved the monitoring and control of stock activities while reducing manual tasks and operational errors. At the same time, the study identified certain challenges related to user adaptation, resistance to organisational change, and the persistence of some manual procedures during the transition process. The comparison between the empirical findings and previous studies demonstrated that the results obtained at EGTHR remain largely consistent with the literature concerning the contribution of digitalisation to improving stock management performance. These findings reflect the organisation's ongoing efforts to modernise inventory operations and strengthen operational performance through the integration of digital technologies.

GENERAL CONCLUSION

The rapid development of digital technologies has significantly transformed organisational practices and operational management within modern companies. In this context, digitalisation has become an essential factor for improving organisational efficiency, facilitating information management, and supporting decision-making processes. Among the organisational functions most concerned by this transformation, stock management occupies an important position due to its direct relationship with operational continuity, inventory control, and organisational performance. For this reason, the present research aimed to examine the contribution of digitalisation to improving stock management through the implementation of the DLGC system within the Thermal Management Company of Hammam Righa (EGTHR).

In order to achieve this objective, the research first established a theoretical and conceptual framework related to digitalisation, stock management, information systems, and organisational performance. The practical part of the study focused on analysing the implementation of the DLGC system within EGTHR through a qualitative approach based on semi-structured interviews, observation, and thematic analysis using NVivo software. The empirical findings obtained from the field study made it possible to better understand the transformations generated by digitalisation within stock management activities and operational processes inside the organisation.

Main Findings

The empirical findings obtained from the field study made it possible to identify several significant transformations generated by the implementation of the DLGC system within stock management activities at EGTHR. The following points summaries the main results of the research:

- The implementation of the DLGC system improved inventory control and facilitated stock monitoring activities within EGTHR.
- Digitalisation contributed to reducing manual work, minimising operational errors, and improving workflow organisation.
- Real-time access to information strengthened decision-making processes and improved coordination between departments.
- The use of KPIs and automated monitoring tools enhanced performance evaluation practices within the organisation.

- The transition from manual procedures to a digitalised system contributed positively to improving operational efficiency and organisational performance.

Despite these improvements, certain challenges related to employee adaptation, training requirements, and occasional technical issues were identified during the implementation process.

Recommendations and Practical Suggestions

Based on the findings obtained during the research, several practical recommendations can be proposed in order to strengthen the effectiveness of the DLGC system and support the continuous improvement of digitalised stock management practices within EGTHR.

- Strengthening continuous employee training programs related to the use of the DLGC system.
- Improving technical support and system maintenance in order to minimise operational interruptions.
- Developing additional functionalities and stronger integration between the DLGC system and other organisational systems.
- Encouraging continuous digital development within stock management activities and operational processes.
- Reinforcing employee awareness regarding the importance of accurate data entry and digital operational discipline.

Limitations and Future Perspectives

The present study remains limited to a single case study conducted within EGTHR and mainly relied on qualitative data collected from a limited number of participants. Consequently, the findings cannot be fully generalised to all organisations or sectors. Future research could explore the contribution of digitalisation within other organisational functions, compare different digital management systems, or adopt quantitative approaches to evaluate the impact of digitalisation on organisational performance more extensively.

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APPENDICES

Appendix 1: Semi-structured interview guide

Introduction

My name is Kassed Ikram, and I am a Master 2 student at the National Higher School of Management (ENSM), specialising in Supply Chain Management.

As part of the preparation of my graduation dissertation entitled «The Contribution of Digitalisation to Improving Stock Management through the Implementation of the DLGC System at EGTHR», I am conducting a series of interviews with employees and managers involved in stock management activities within the organisation. This interview guide aims to structure the discussions in order to collect relevant information regarding stock management practices before and after digitalisation, analyse the contribution of the DLGC system to improving stock management operations, and identify the main changes, benefits, and challenges associated with the implementation of this system within the organisation.

Axis 1: Stock Management Before the Implementation of DLGC

1. How was stock management carried out within EGTHR before the implementation of the DLGC system?
2. What were the main problems encountered in stock management before DLGC (e.g., errors, delays, stock-outs, overstock)?
3. How were physical inventory counts conducted, and how were they reconciled with recorded data?
4. Which performance indicators (if any) were used before DLGC (e.g., inventory accuracy, service level, carrying cost, lead time)?

Axis 2: Analysis of the Implementation of DLGC at EGTHR

1. What were the main reasons that led EGTHR to implement the DLGC stock management system?
2. What difficulties were encountered during the implementation of DLGC (technical, organizational, resistance to change)?

3. How were users trained to use the DLGC system, and how was their acceptance evaluated?
4. Are there any stock management activities that remain manual or outside the system? Why?

Axis 3: Contribution of DLGC to Stock Management Performance

1. How has the DLGC system affected the accuracy and reliability of stock data?
2. Has the system reduced stock-out or overstock situations? Please explain.
3. How has DLGC impacted the speed of stock-related operations (receiving, issuing, tracking)?
4. How has digitalisation influenced decision-making and coordination between departments?
5. Which key performance indicators (KPIs) are currently used, and how have they improved after implementing DLGC?
6. How do you evaluate the overall role of digitalisation in improving stock management performance at EGTHR?

Axis 4: Improvement opportunities

1. What are the current limitations or constraints of the DLGC system?
2. Have you encountered technical issues (network, system speed, integration with other systems) that affect stock management?
3. What improvements or additional functionalities would you suggest to enhance the DLGC system for better stock management?
4. In your opinion, what future actions should EGTHR take to maximize the benefits of digitalisation in stock management?

Thank you for your time and participation in this interview.

Matrix- axis 01: Stock Management Before the Implementation of DLGC

Experts	Q1. How was stock management carried out before DLGC?	Q2. What were the main problems encountered before DLGC?	Q3. How were physical inventory counts conducted?	Q4. Which performance indicators were used before DLGC?
Expert 1	<p>Before the implementation of the DLGC system, stock management at EGTHR was carried out mainly through manual processes. Inventory data were recorded using paper-based documents and basic tools, which required significant human intervention. The monitoring of stock levels and movements was not centralised, leading to fragmented information across departments. As a result, stock control relied heavily on individual experience rather than structured systems, making the overall process less efficient and more time-consuming.</p>	<p>Several operational challenges were identified in the pre-digitalisation phase. These included frequent errors in stock recording, delays in processing stock operations, and a lack of real-time visibility of inventory levels. Stock-outs were common due to the absence of accurate tracking, while overstocking also occurred as a result of poor planning. Additionally, the heavy reliance on paperwork made the workflow disorganised and reduced transparency in stock management activities.</p>	<p>Physical inventory counts were conducted manually and periodically. Employees were required to perform stock counts physically and then compare the results with recorded data. This reconciliation process was time-consuming and often resulted in discrepancies due to human errors. The absence of automated tools made it difficult to ensure consistency between physical and recorded inventory.</p>	<p>Before the implementation of DLGC, performance indicators were either limited or informally used. There was no structured system for measuring key metrics such as inventory accuracy, service level, or lead time. In most cases, performance evaluation relied on basic observations rather than quantitative indicators, which limited the organisation's ability to assess and improve stock management performance effectively.</p>

<p>Expert 2</p>	<p>Before the implementation of the DLGC system, stock management at EGTHR was based on manual and semi-structured processes. Inventory data were recorded using basic tools, without a centralised system to manage information. As a result, stock monitoring was limited and lacked real-time visibility.</p>	<p>Several issues were identified, including inconsistencies in stock data, delays in updating information, and difficulties in tracking stock movements. These problems often led to stock-outs or overstock situations due to the absence of accurate and timely data.</p>	<p>Physical inventory counts were conducted manually by counting products and comparing them with recorded data. This process was time-consuming and often resulted in discrepancies due to human errors and the lack of automated verification tools.</p>	<p>Before DLGC, no structured KPIs were used. Stock management performance was mainly monitored through observation rather than measurable indicators.</p>
<p>Expert 3</p>	<p>Before DLGC, stock management was mainly carried out manually. Inventory data were recorded on paper, and most activities depended on practical experience rather than structured procedures.</p>	<p>Several problems were encountered, including errors in recording stock quantities, difficulty in accessing information, and lack of real-time visibility. These issues often led to stock shortages or excess stock.</p>	<p>Physical inventory counts were done manually by counting products and comparing them with records. This process was slow and often resulted in discrepancies.</p>	<p>No formal KPIs were used. Stock management was evaluated based on daily work and experience rather than measurable indicators.</p>
<p>Expert 4</p>	<p>Before the implementation of the DLGC system, stock management at EGTHR was conducted using manual processes without a structured information system. Inventory data were not centralised, and operations relied on paper-based records, which made control and monitoring difficult. As a result, stock management lacked organisation and real-time visibility.</p>	<p>Several issues were identified, including inconsistencies in stock data, delays in updating information, and limited visibility of inventory levels. These problems often led to stock-outs or overstock situations. In addition, the absence of reliable data affected the efficiency of stock management and limited the organisation's ability to control inventory properly.</p>	<p>Physical inventory counts were carried out manually by comparing actual stock with recorded data. This process was time-consuming and often resulted in discrepancies due to human errors and the lack of automated verification tools.</p>	<p>Before DLGC, no formal Key Performance Indicators were used. Stock management performance was evaluated based on general observations rather than precise and measurable indicators, which limited the effectiveness of performance control.</p>

Matrix- axis 02: Analysis of the Implementation of DLGC

Experts	Q1. What were the main reasons for implementing DLGC?	Q2. What difficulties were encountered during implementation?	Q3. How were users trained and how was acceptance evaluated?	Q4. Are there activities that remain manual?
Expert 1	<p>The main motivation behind the implementation of the DLGC system was to modernise stock management practices and overcome the limitations of manual processes. The organisation aimed to improve data accuracy, enhance transparency, and ensure better control over inventory operations. Additionally, the need for faster decision-making and improved coordination between departments played a key role in adopting the digital system.</p>	<p>During the implementation phase, several challenges were encountered. These included technical issues related to system installation and configuration, as well as organisational challenges such as resistance to change among employees. Some users initially found it difficult to adapt to the new system, particularly those accustomed to manual methods. However, these challenges were gradually overcome through system stabilisation and training.</p>	<p>Users were provided with training sessions to learn how to operate the DLGC system. Although initial adaptation required time, most employees progressively accepted the system as they became familiar with its functionalities. Over time, user acceptance improved significantly, especially after recognising the benefits of reduced workload and improved efficiency.</p>	<p>Although most stock management activities are now digitalised, some minor tasks remain manual, particularly in exceptional situations such as system downtime or specific operational constraints. However, these activities are limited and do not significantly affect overall performance.</p>

<p>Expert 2</p>	<p>The implementation of DLGC aimed to modernise stock management processes and improve data reliability. From a technical perspective, the system was introduced to centralise information, automate operations, and ensure real-time data access.</p>	<p>Some technical and organisational challenges were encountered, including system configuration issues and resistance to change among users. These difficulties were gradually resolved through system adjustments and user support.</p>	<p>Training sessions were organised to help users understand and operate the system. Over time, acceptance improved as users became familiar with the system and recognised its advantages.</p>	<p>Although most processes are digitalised, some minor activities may still be performed manually in exceptional cases, such as system interruptions or technical issues.</p>
<p>Expert 3</p>	<p>The system was implemented to simplify stock management tasks and improve organisation within the warehouse.</p>	<p>Some difficulties were encountered at the beginning, mainly related to adapting to the new system and learning how to use it.</p>	<p>Users received training, and over time they became more comfortable with the system. Acceptance improved as the system made daily tasks easier.</p>	<p>Some minor tasks may still be performed manually in specific situations, such as system downtime.</p>
<p>Expert 4</p>	<p>The main objective was to improve stock management performance by introducing a structured and reliable system. The organisation aimed to enhance data accuracy, improve control over inventory operations, and support better decision-making through real-time information.</p>	<p>Some challenges were encountered, including resistance to change among employees and the need to adapt to a new system. In addition, technical adjustments were required to ensure proper system functioning.</p>	<p>Training sessions were organised to help users understand the system and use it effectively. Over time, acceptance improved as users recognised the benefits of the system in simplifying tasks and improving efficiency.</p>	<p>Although most operations are now digitalised, some minor activities may still be performed manually in exceptional situations, such as technical issues or system interruptions.</p>

Matrix – axis 03: Contribution of DLGC to Stock Management Performance

Experts	Q1. How has DLGC affected data accuracy?	Q2. Has the system reduced stock-out or overstock situations?	Q3. How has DLGC impacted the speed of operations?	Q4. How has digitalisation influenced decision-making?	Q5. Which KPIs are used and how have they improved?	Q6. How do you evaluate the overall role of digitalisation?
Expert 1	The DLGC system has significantly improved the accuracy and reliability of stock data. By automating data entry and tracking processes, the system reduces human errors and ensures consistency between physical and recorded inventory.	The system has contributed to reducing both stock-outs and overstock situations. Through real-time monitoring and alert mechanisms, managers can anticipate stock needs and take appropriate actions in a timely manner.	DLGC has considerably improved the speed of stock-related operations, including receiving, issuing, and tracking inventory. Tasks that previously required significant time are now performed more efficiently through automated processes.	Digitalisation has enhanced decision-making by providing accurate and real-time data. It has also improved coordination between departments by ensuring that all stakeholders have access to the same information.	Before the implementation of the DLGC system, EGTHR did not rely on formal Key Performance Indicators (KPIs) to evaluate stock management performance. Although certain aspects of inventory operations were informally monitored, they were not measured through structured or quantifiable indicators, and performance assessment was mainly based on manual observation and experience. However, after the implementation of	Overall, digitalisation through the DLGC system has played a crucial role in improving stock management performance at EGTHR. It has enhanced efficiency, reduced errors, and supported better organisational control.

					DLGC, several KPIs have been introduced and are now systematically used to monitor and evaluate stock management performance.	
Expert 2	The system has significantly improved data accuracy by automating data entry and ensuring consistency between physical and recorded stock.	Yes, the system has reduced stock-outs and overstock situations by providing real-time visibility and improving stock monitoring.	DLGC has improved the speed of operations by automating processes such as receiving, issuing, and tracking stock, reducing delays.	Digitalisation has improved decision-making by providing accurate and real-time data and enhancing coordination between departments.	Before DLGC, no formal KPIs were used. After implementation, the system introduced measurable indicators such as inventory accuracy, stock availability, stock-out rate, and processing time. These KPIs are automatically generated by the system and updated in real time.	Digitalisation has significantly improved stock management performance by enhancing efficiency, reducing errors, and supporting better decision-making.
Expert 3	The system has improved data accuracy by reducing errors in recording stock information.	Yes, stock-related problems have decreased, and it is easier to manage stock levels.	Operations have become faster, especially receiving and issuing products.	Digitalisation has made information more accessible, helping workers perform their tasks more efficiently.	From an operational perspective, KPIs are not formally used by the storekeeper. However, improvements can be observed in stock availability, fewer errors, and faster operations.	Digitalisation has improved daily work in the warehouse, making it more organised and efficient.

<p>Expert 4</p>	<p>The system has significantly improved the accuracy and reliability of stock data by ensuring better control and traceability of inventory movements. This has reduced discrepancies and improved confidence in the data.</p>	<p>Yes, the system has contributed to reducing both stock-outs and overstock situations by providing real-time visibility and enabling better anticipation of stock needs.</p>	<p>DLGC has improved the speed of stock-related operations by automating processes such as receiving, issuing, and tracking. This has reduced delays and improved workflow efficiency.</p>	<p>Digitalisation has improved decision-making by providing accurate and real-time data. It has also enhanced coordination between departments by ensuring access to the same information.</p>	<p>Before the implementation of DLGC, the organisation did not use formal KPIs to evaluate stock management performance. However, after digitalisation, several KPIs have been introduced and are now systematically used. These include inventory accuracy, stock availability rate, stock-out rate, processing time, and workflow efficiency.</p>	<p>Overall, digitalisation has significantly improved stock management performance at EGTHR. It has enhanced efficiency, reduced errors, and introduced a structured and data-driven approach to managing inventory.</p>
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Matrix – axis 04: Improvement Opportunities

Experts	Q1. What are the current limitations?	Q2. Have you encountered technical issues?	Q3. What improvements would you suggest?	Q4. What future actions should be taken?
Expert 1	Despite its benefits, the system still faces some limitations, particularly related to system flexibility and adaptation to specific operational needs.	Some technical issues were experienced during the early stages, such as system bugs and connectivity problems. However, these issues have become rare after system stabilisation.	It is recommended to enhance system functionalities, improve integration with other systems, and provide continuous training for users.	EGTHR should continue investing in digitalisation, improve system capabilities, and strengthen user engagement to maximise the benefits of digital stock management.
Expert 2	Some limitations remain, particularly related to system flexibility and integration with other systems.	Occasional technical issues such as system latency or network problems have been observed.	It would be beneficial to improve system integration, enhance functionalities, and provide continuous technical support.	The organisation should continue investing in digitalisation and improving system usage to maximise its benefits.
Expert 3	Some minor limitations remain, such as occasional technical issues.	Yes, some minor technical problems such as system delays may occur.	Improving system speed and adding more functionalities would be beneficial.	Continuous training and better use of the system would help improve stock management further.
Expert 4	Some limitations remain, particularly related to system flexibility and integration with other organisational systems.	Some technical issues, such as occasional system delays or connectivity problems, have been observed, although they are relatively limited.	It would be beneficial to enhance system integration, improve analytical tools, and provide continuous training for users.	The organisation should continue investing in digitalisation, strengthen data analysis capabilities, and optimise the use of KPIs to maximise system benefits.