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MIDDLE EAST UNIVERSITY
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The Effect of Dynamic Capabilities of Business Intelligence on Decision-Making Quality: A Field Study on Jordanian Hypermarkets.

أثر القدرات الديناميكية لذكاء الأعمال على جودة صنع القرار: دراسة ميدانية على الأسواق الكبيرة الأردنية.

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Authorization

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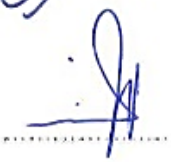
3. Prof. Dr. Ahmad Ghandour	Middle East University	Internal Examiner	
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Acknowledgment

" يَرْفَعِ اللَّهُ الَّذِينَ آمَنُوا مِنكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ ۚ وَاللَّهُ بِمَا تَعْمَلُونَ خَبِيرٌ"صدق الله العظيم

" إلهي لا يطيبُ الليلُ إلا بشُكركَ ... ولا يطيبُ النهارَ إلا بطاعتكَ ... ولا تطيبُ اللحظاتِ إلا بذكركَ ... ولا تطيبُ الآخرةَ إلا بعفوكَ ... ولا تطيبُ الجنةَ إلا برؤيتكَ ... الحمدالله الذي ما تم جُهدٌ ولا خُتمَ سعيٌ إلا بفضله , أبتدأ بشغفٍ وخُتمَ بلذة أنجاز"

" اللهمَ لكَ الحمدُ من قاعِ الفؤادِ إلى عرشكَ المقدس حمداً يوافي نعمتكَ "

أودُ أن أتقدمَ بالشكرِ والتقديرِ إلى جميع الأكاديميين في جامعة الشرق الأوسط على الفرصةِ العظيمة والمعرفة التي قُدّمت لي ولزملائي خلال برنامج الماجستير في الأعمال الإلكترونية والجهد الذي قُدمَ من أجلنا والعلمِ والمعرفةِ التي اكتسبناها بفضلهم.

أتقدمُ بالشكرِ الخاص والتقدير إلى قدوتي ومشرفي **الأستاذ الدكتور عبدالعزيز أحمد الشرباتي** الذي كان دائماً حاضراً للاستماع وتقديمِ المشورة والتوجيه على الطريق الصحيح في كل وقت وتفكيرهُ الابداعي الذي قادني إلى العلمِ والمعرفة.

Dedication

" وَقَضَىٰ رَبُّكَ أَلَّا تَعْبُدُوا إِلَّا إِيَّاهُ وَبِالْوَالِدَيْنِ إِحْسَانًا ۚ إِمَّا يَبْلُغَنَّ عِندَكَ الْكِبَرَ أَحَدُهُمَا أَوْ كِلَاهُمَا فَلَا تَقُل لَّهُمَا أُفٍّ وَلَا تَنْهَرْهُمَا وَقُل لَّهُمَا قَوْلًا كَرِيمًا (23) وَاخْفِضْ لَهُمَا جَنَاحَ الذُّلِّ مِنَ الرَّحْمَةِ وَقُل رَّبِّ ارْحَمْهُمَا كَمَا رَبَّيَانِي صَغِيرًا (24) " صدق الله العظيم

إلى التي أُفضِلها عن نفسي , فهيَ التي ضحت من أجلي ....

إلى التي لم أرها يوماً تدّخرُ جهداً في سبيلِ إسعادي ....

إلى مصدر الأمان الذي أستمدُ منهُ قوتي ....

إلى من كانت الداعمَ الأول لتحقيقِ طموحاتي ....

إلى من هي ملجأي ويديَ اليمنى في دراستي ....

إلى من أبصرتُ بها طريقَ حياتي واعتزازي بذاتي ....

إلى من كانت دعواتها تحيطني ....

....." **إليكِ وحدكِ أمي الحبيبة** "....

إلى أعظمِ رجلٍ عرفتُهُ ....

إلى رجلٍ لن يتكررَ في حياتي مثل خوفهِ واهتمامه ....

إلى رجلٍ مثّلَ الحبَ والصداقةِ والعلمَ والكبرياء والأمانَ والسند والقوة ....

إلى من أعطى دونَ انتظار مقابل ....

إلى من رحلَ باكراً تاركاً في قلبي غصّةً لا تزولُ لآخرِ العُمر....

..... " **والدي العزيز رحمهُ الله**" .....

{ سَنَشُدُّ عَضُدَكَ بِأَخِيكَ} صدق الله العظيم

إلى أحبائي **أخواني وأخواتي** لن أنسى مساندتكم ووقوفكم الى جانبي وتشجيعكم المستمر لي .

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The Effect of Dynamic Capabilities of Business Intelligence on Decision-Making Quality: A Field Study on Jordanian Hypermarkets

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Abstract

Purpose: Dynamic Capabilities of Business Intelligence have emerged as a key concept for business intelligence systems for companies, which attempt to visualize and control Dynamic Capabilities of Business Intelligence activities to achieve Decision-Making Quality (Decision-Making Effectiveness, Decision-Making Efficiency, and Decision-Making Satisfaction). Therefore, this study aims to investigate the impact of Dynamic Capabilities of Business Intelligence on Decision-Making Quality in Hypermarkets in Amman, Jordan.

Methodology / Design / Approach: This study is quantitative, descriptive, and cause-effect cross sectional and to actualize this study the data was collected from (203) managers and employees who have managerial roles and are working at Hypermarkets in Amman, Jordan organizations by using a questionnaire. After confirming the tool's validity, reliability, and normality were assessed; a descriptive analysis was done; and the association between the variables was examined. Finally, multiple regressions were used to test the impact.

Findings: The result shows that the Hypermarkets in Amman, Jordan organizations implement both Dynamic Capabilities of Business Intelligence sub-variables and Decision-Making Quality dimensions, it also shows there is a strong correlation between the Dynamic Capabilities of Business Intelligence sub-variables and Decision-Making Quality dimensions. Finally, it shows a significant and positive impact of Dynamic Capabilities of Business Intelligence on Decision-Making Quality in Hypermarkets in Amman, Jordan, where Transforming Capabilities have rated the highest impact on Decision-Making Quality, then Seizing Capabilities, finely Sensing Capabilities.

Practical and Managerial Implications: Implementing the Dynamic Capabilities of Business Intelligence in Hypermarket Organizations is not an option. Therefore,

including Dynamic Capabilities of Business Intelligence within their mission, vision, and strategies will direct plans and daily activities toward Decision-Making Quality.

Social Implications: According to this study, businesses should incorporate Dynamic Capabilities of Business Intelligence into their strategic plans and practices. They should also have procedures, instruments, and key performance indicators (KPIs) in place to monitor the development of dynamic capabilities by assessing, comparing, and contrasting its various components with those of other hypermarket organizations.

Limitations / Recommendations: The current study was conducted on Hypermarkets in Amman, Jordan organizations. As a result, it is advised that to verify the validity of the current model and measurement tool, future researchers gather more data over a longer duration. To test the generalizability of its findings, it also suggests conducting comparable studies on other industries in Jordan and the same generalizability beyond Jordan.

Originality / Value: This study could be one of the few that addresses the problem of Dynamic Capabilities of Business Intelligence, and investigates its effect on Decision-Making Quality in Hypermarkets in Amman, Jordan organizations.

Keywords: Business Intelligence, Dynamic Capabilities of Business Intelligence, Decision-Making Quality, Hypermarkets in Amman, Jordan Organizations.

أثر القدرات الديناميكية لذكاء الأعمال على جودة صنع القرار: دراسة ميدانية على الأسواق الكبيرة الأردنية.

إعداد

محمد عبدالكريم الفارس

إشراف

الأستاذ الدكتور عبد العزيز أحمد الشرباتي

الملخّص

الغرض: ظهرت القدرات الديناميكية لذكاء الأعمال كأداة رئيسية لأنظمة ذكاء الأعمال للشركات، والتي تحاول تصور والتحكم في القدرات الديناميكية لأنشطة ذكاء الأعمال لتحقيق جودة صنع القرار (فاعلية صنع القرار، وكفاءة صنع القرار، والرضا عن صنع القرار). ولذلك تهدف هذه الدراسة إلى معرفة أثر القدرات الديناميكية لذكاء الأعمال على جودة صنع القرار في الأسواق الكبيرة في عمان، الأردن.

المنهجية / التصميم / النهج: هذه الدراسة كمية، وصفية، علاقاتية، سببية ومقطعية ولتحقيق هذه الدراسة تم جمع البيانات من (203) من المديرين والموظفين الذين لديهم أدوار إدارية ويعملون في شركات الأسواق الكبيرة في عمان، الأردن عن طريق الاستبيان. وبعد التأكد من طبيعية وصلاحية وثبات الأداة، تم إجراء التحليل الوصفي والتحقق من الارتباط بين المتغيرات. وأخيراً، تم اختبار التأثير من خلال الانحدارات المتعددة.

النتائج: وأظهرت النتائج أن شركات الأسواق الكبيرة في عمان, الأردن, تطبق كلاً من القدرات الديناميكية للمتغيرات الفرعية لذكاء الأعمال وأبعاد جودة صنع القرار. كما يوضح أن هناك علاقة قوية بين القدرات الديناميكية للمتغيرات الفرعية لذكاء الأعمال وأبعاد جودة صنع القرار. وأخيراً تبين أن هناك تأثيراً معنوياً وإيجابياً للقدرات الديناميكية لذكاء الأعمال على جودة صنع القرار في الأسواق الكبيرة في عمان, الأردن، حيث كانت قدرات التحول هي الأعلى تأثيراً على جودة صنع القرار، ثم قدرات الاستغلال، وأخيراً قدرات الاستشعار.

التطبيقات العملية والإدارية: يعد تنفيذ القدرات الديناميكية لذكاء الأعمال في شركات الأسواق الكبيرة أمرًا إلزاميًا وليس خيارًا. ولذلك، فإن تضمين القدرات الديناميكية لذكاء الأعمال ضمن الرؤية والرسالة والاستراتيجيات سيوجه الخطط والأنشطة اليومية نحو جودة صنع القرار.

التطبيقات المجتمعية: توصي هذه الدراسة الشركات بدمج القدرات الديناميكية لذكاء الأعمال ضمن خططها وممارساتها الإستراتيجية، ويجب أن يكون لديها أساليب وأدوات ومؤشرات أداء رئيسية للتحقق من تطوير القدرات الديناميكية من خلال تقييم وقياس ومقارنة مكوناتها مع المنظمات الأخرى داخل شركات الأسواق الكبيرة.

المحددات / التوصيات: أجريت الدراسة الحالية على شركات الأسواق الكبيرة في عمان, الأردن. ولذلك، فمن المستحسن أن يقوم الباحثون المستقبليون بجمع المزيد من البيانات على فترة أطول للتأكد من صلاحية النموذج الحالي وأداة القياس. كما توصي بإجراء دراسات مماثلة على صناعات اخرى في الأردن ونفس قابلية التعميم خارج الأردن لاختبار قابلية تعميم نتائجها.

الأصالة / القيمة: تعتبر هذه الدراسة من الدراسات القليلة التي تتناول موضوع القدرات الديناميكية لذكاء الأعمال، وتبحث في تأثيرها على جودة صنع القرار في شركات الأسواق الكبيرة في عمان, الأردن.

الكلمات المفتاحية: ذكاء الأعمال، القدرات الديناميكية لذكاء الأعمال، جودة صنع القرار، شركات الأسواق الكبيرة في عمان, الأردن.

CHAPTER ONE
Background of the Study

1.1. Introduction

One of the fundamental elements of corporate success in the digital age is Decision-Making Quality. Dynamic Capabilities of Business Intelligence are now necessary to utilize this data successfully due to the growing volume and variety of data available online. Through the analysis of data and signals to enhance Decision-Making Quality, this study intends to investigate how the Dynamic Capabilities of Business Intelligence affect Decision-Making Quality.

Since the invention of computers, the rapid advancement of technology has led to the production of massive volumes of data. This situation is the primary impetus for the frontiers of current and future research. Thanks to advancements in digital sensors, computers, networking, mobile devices, storage, and data, the collection is now feasible (Tushman and Anderson, 2018). Organizations recommend obtaining, comprehending, and using data because managers require it at the appropriate time and place to assist decision-making and enhance business operations (Sharda, Delen, and Turban, 2021). The most efficient way to use big data to understand potential future events is through predictive analytics. It involves applying statistical techniques, machine learning, artificial intelligence, and data mining to identify significant trends in data (Jeble, et al., 2018).

This study aims to investigate the Dynamic Capabilities of Business Intelligence, which might influence Decision-Making Quality in the context of the Hypermarkets in Amman, Jordan. These capabilities can used to increase the Effectiveness, Efficiency, and Satisfaction of Decision-Making Quality. These variables influence capabilities use

and incorporation into Decision-Making Quality. This study attempts to investigate and analyze the interdependence of Dynamic Capabilities of Business Intelligence and Decision-Making Quality.

Online reviews, also known as an important type of user-generated content (UGC), are typically seen by consumers as being more reliable and helpful than the information provided by service providers (Mauri, et al., 2018).

Whereas numerous research studies have established that one of these factors is the Dynamic Capabilities of Business Intelligence, one such study from Kuilboer, Ashrafi, and Lee (2016) demonstrated how business intelligence capabilities increase organizational agility and thereby raise the performance levels of enterprises. According to Calderon, Rozo, and Sandoval's (2017) research, agile business intelligence delivers the best effects for firms. Through the data analysis of 62 executive directors, IT teams, and business intelligence teams, the study discovered that business intelligence skills have a significant, beneficial impact on organizational agility (AL-Hanandeh, 2020).

Recent advances in MIS and technology have given rise to business intelligence (BI) systems (Gurcan, et al., 2023). BI gathers data and converts it into trends and graphics so that consumers can act promptly on insights (Orji, et al., 2023). The ability of a business to provide decision-makers with high-quality information is hence what makes BI a special class of information technology (IT) capabilities (Kulkarni, et al., 2017). Managers must have access to the appropriate information at the appropriate time and location to make choices and enhance business operations, which is why organizations are advised to collect, analyze, and use data (Khder and Abu-AlSondos, 2021). Meanwhile, management is always pressuring employees to explain their contributions to BI.

The usage of BI could enhance decision-making for any firm (Niu, et al., 2021). Because it provides expertise to work effectively, naturally access the information, analyze it intuitively and effectively. Business intelligence (BI) delivers high-quality business information that is essential in the decision-making process (Al Okaily, Teoh, and Al-Okaily, 2023). According to the study by Arnott, et al. (2019), Because BI systems inputs assist lower management staff in carrying out their daily responsibilities and assist senior management in making strategic decisions, there are usage patterns throughout the organization that should be investigated.

Finally, Mortezaei, Jamshidi, and Hosseinpour (2022) demonstrated that business intelligence-using firms have high levels of adaptability, which are represented in their capacity to adapt to environmental changes and turn environmental threats into opportunities. Because businesses can express their needs, justify the change, and develop and describe solutions that allow them to create value for others through their operations (Ghasemaghaei, Hassanein, and Turel, 2017). Organizations may adapt swiftly to a changing environment and satisfy client expectations using systematic business analysis. Whereas Khan, et al. (2022), explained that business analysis improves the quality of information and creative energy reflected in the morals. Ashrafi, et al. (2019) confirmed through a survey that included (154) companies with two participants (CEO and Chief Information Officer) from each company that business analysis, strongly affects the agility of the organization by increasing the quality of information and creativity. This demonstrates that the association between business analysis and organizational agility is favorable (Li, et al., 2022).

Based on the foregoing, the current study aims to determine the effect of Dynamic Capabilities of Business Intelligence on Decision-Making Quality in Jordanian Hypermarkets in Amman, Jordan.

1.2. Problem Statement

After interviewing several managers and employees with managerial roles, there is a critical and urgent need for modern ideas that help businesses, notably Hypermarkets in Amman, Jordan, to achieve Decision-Making Quality.

Making decisions that assure the long-term profitability and sustainability of their businesses presents substantial challenges to decision-makers in Jordan's quickly changing retail sector, which characterized by fierce rivalry among hypermarkets and other retail establishments. It is commonly acknowledged that having access to business intelligence tools, such as information management systems, reporting tools, and data analytics, may improve the effectiveness of decision-making processes. However, a dearth of thorough empirical study that precisely examines how Dynamic Business Intelligence skills affect the caliber of Decision-Making in Jordanian Hypermarkets.

The implementation of Dynamic Capabilities of Business Intelligence would result in better resource management for Hypermarkets in Amman, Jordan. Consistent with the foregoing, numerous studies have established a relationship of influence between the Dynamic Capabilities of Business Intelligence and Decision-Making Quality, including (Kuilboer, Ashrafi, and Lee, 2016; Calderon, Rozo, and Sandoval, 2017; Aly, et al., 2021). Many studies also confirmed that there is a close relationship between business analytics and agility, including the study of (Ashrafi, et al., 2019; Li, et al., 2022).

The study investigation into websites, periodicals, and scientific journals revealed that there is a clear theoretical and field knowledge gap due to the lack of a study linking Dynamic Capabilities of Business Intelligence and Decision-Making Quality on the one hand, and the lack of a link study between the main variables of the current study on the other. Focusing on the limited interest in and comprehension of the Decision-Making

Quality is necessary for study and research, as is the missed chance to take advantage of its interaction with the Dynamic Capabilities of Business Intelligence.

This study primary goal is to provide an answer to the question what is the effect of Dynamic Capabilities of Business Intelligence on Decision-Making Quality in Hypermarkets in Amman, Jordan.

1.3. Study Purpose and Objectives

The main purpose is to investigate the effect of Dynamic Capabilities of Business Intelligence on Decision-Making Quality in Hypermarkets in Amman, Jordan.

To research purposes are:

1. To identify the level of Dynamic Capabilities of Business Intelligence implementation in Hypermarkets in Amman, Jordan.
2. To identify the level of Decision-Making Quality implementation in Hypermarkets in Amman, Jordan.
3. To identify the relationship between Dynamic Capabilities of Business Intelligence and Decision-Making Quality in Hypermarkets in Amman, Jordan.
4. To identify the effect of Dynamic Capabilities of Business Intelligence on Decision-Making Quality in Hypermarkets in Amman, Jordan.

1.4. Study Questions

The following has been developed as the primary question based on the problem statement:

Do Dynamic Capabilities of Business Intelligence (Sensing Capabilities, Seizing Capabilities, and Transforming Capabilities) Affect Decision-Making Quality in Hypermarkets in Amman, Jordan?

This main question sub-divided into the following sub-questions:

1. What is the level of Dynamic Capabilities of Business Intelligence implementation in Hypermarkets in Amman, Jordan?
2. What is the level of Decision-Making Quality implementation in Hypermarkets in Amman, Jordan?
3. What is the relationship between Dynamic Capabilities of Business Intelligence and Decision-Making Quality in Hypermarkets in Amman, Jordan?
4. What is the effect of Dynamic Capabilities of Business Intelligence on Decision-Making Quality in Hypermarkets in Amman, Jordan?

1.5. Study Significance and Importance

This study might be the first study that investigates the effect of Dynamic Capabilities of Business Intelligence on Decision-Making Quality in Jordanian Hypermarkets. The importance of the study comes from theoretical and applied aspects.

The study significance can be seen in two ways:

A. Theoretical Importance

It is symbolized by looking up information and learning more about the study variables (Dynamic Capabilities of Business Intelligence and Decision-Making Quality) to close the knowledge gap by delineating the concepts and sub-dimensions of each of them and offering findings that can be applied to earlier research. This represented in the widening of perspectives toward more future studies and research in the analysis of the current study's issues and the tying of them to other factors that have an impact on the growth of the Hypermarkets in Jordan generally.

B. Applied Importance

The current study's contribution is to inform managers and decision-makers in Hypermarkets in Jordan on how to take advantage of the potential benefits of Dynamic Capabilities of Business Intelligence skills to create the right Decision-Making Quality for their business. Due to the importance of Decision-Making Quality in expanding and growing businesses and achieving sovereignty in specialized industries, it is also possible that the current study's findings will help provide a greater and deeper understanding of the Dynamic Capabilities of Business Intelligence for Hypermarkets in Amman, Jordan, and how to achieve Decision-Making Quality. The recommendations that will be made to decision-makers and trainers in Hypermarkets in Jordan on how to use business intelligence to create Decision-Making Quality through business analysis, which helps to achieve Effectiveness, Efficiency, and Satisfaction results over the long term, are another important aspect of the current study.

1.6. Study Hypotheses

To determine the relationships among the study variables, the following hypotheses can be proposed:

H01: There is no statistically significant impact of Dynamic Capabilities of Business Intelligence (Sensing Capabilities, Seizing Capabilities, and Transforming Capabilities) on Decision-Making Quality in Hypermarkets in Amman, Jordan, at the level ($\alpha \geq 0.05$).

This main hypothesis divided into the following sub-hypotheses:

H01.1: There is no statistically significant impact of Sensing Capabilities on Decision-Making Quality in Hypermarkets in Amman, Jordan, at the level ($\alpha \geq 0.05$).

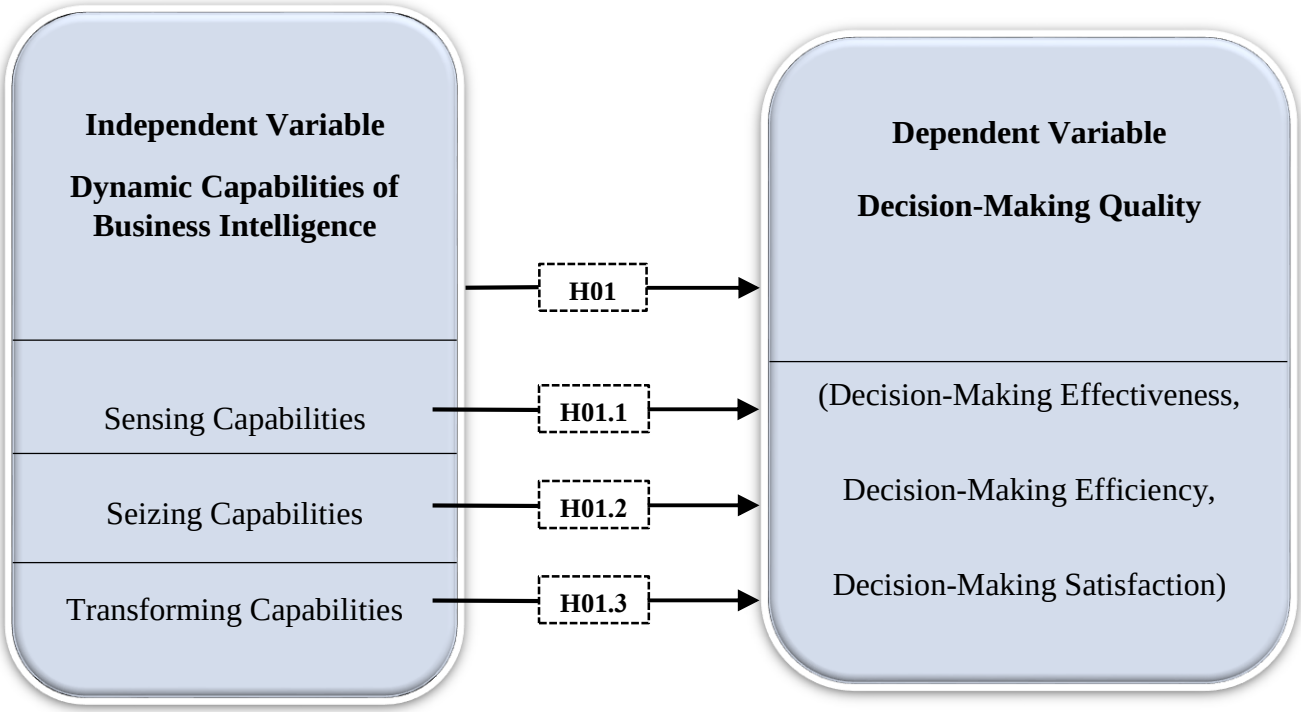
H01.2: There is no statistically significant impact of Seizing Capabilities on Decision-Making Quality in Hypermarkets in Amman, Jordan, at the level ($\alpha \geq 0.05$).

H01.3: There is no statistically significant impact of Transforming Capabilities on Decision-Making Quality in Hypermarkets in Amman, Jordan, at the level ($\alpha \geq 0.05$).

1.7. Study Model

This study seeks to achieve its main objective of verifying the impact of Dynamic Capabilities of Business Intelligence on Decision-Making Quality in Hypermarkets in Amman, Jordan.

The independent variable is Dynamic Capabilities of Business Intelligence (Sensing Capabilities, Seizing Capabilities, and Transforming Capabilities). The dependent variable is Decision-Making Quality (Decision-Making Effectiveness, Decision-Making Efficiency, and Decision-Making Satisfaction).



Source: For Independent Variable: (Chen and Lin. 2021; Torres, Sidorova, and Jones, 2018). **For Dependent Variable:** (Shamim, et al., 2019; Spetzler et al., 2016; Das, Mazumder, and Gupta, 2012).

Model (1.1): Study Model

1.8. Conceptual and Operational Definitions of Variables

Dynamic Capability of Business Intelligence: These involve utilizing company resources and business intelligence tools to improve business operations. They stand for a subset of IT skills aimed at transforming data into useful information in business intelligence systems. For a company to achieve long-term commercial objectives, it is essential that it can sense, seize, and transform data into insightful information that can used in strategic decision-making.

Sensing Capabilities: A company's capacity to establish data gathering techniques, manage unstructured data, adhere to data collection protocols, and use KPI-driven data collection processes, as well as to manage data sensing compliance successfully.

Seizing Capabilities: The ability of the company to efficiently convert unstructured data into standardized formats, uphold data consistency through cleaning processes, quickly adapt to new data sources, prioritize data quality checks during conversion, and use a business intelligence (BI) system to automate data transformation tasks.

Transforming Capabilities: the Company’s ability to use a Business Intelligence (BI) system to automate the production of reports and summaries, provide data exploration tools and dashboards, promote collaboration and information sharing, create specialized reports for analysis, and assist users in utilizing advanced BI features.

Decision-Making Quality: The capacity of a decision to affect the accomplishment of company goals, this requires Utilizing trustworthy information, wise resource management, effective leadership, and other crucial components are required, In essence, decision-making quality refers to a decision's ability to support company goals, increase the company effectiveness, efficiency, and satisfaction.

Decision-Making Effectiveness: The ability of a business to routinely make informed decisions that provide the desired results, react swiftly to information delays, and use the knowledge at hand to align decisions with anticipated results.

Decision-Making Efficiency: a company's capacity to respond fast, and frequently, with a small staff, and actively invest time in developing long-term service initiatives.

Decision-Making Satisfaction: how satisfied employees are when the company offers them professional advancement, employment commitment, skill utilization, job security, and empowerment.

Hypermarkets : is a type of retail establishment that offers a comprehensive shopping experience by fusing elements of traditional stores and markets. It provides a large variety of goods and products under one roof, saving clients from having to visit various stores to suit their needs.

1.9. Study Limitation and Delimitation

Human limitation: This study was carried out on managers and employees who have a managerial role in Hypermarkets in Amman, Jordan.

Place limitation: This study was carried out in Hypermarkets in Amman, Jordan.

Time limitation: This study was completed between the summer semester and the first semester of the 2023–2024 academic year.

Study Delimitation: Its ability to generalize to other industries is limited when it is applied to one business. Since the study was conducted in Amman, Jordan, it may be dubious to extrapolate findings from one business or Jordanian context to other countries, industries, or settings.

By adding more industries and nations to the analysis, future research opportunities can be represented. This can be accomplished by running more tests in the same industry

with bigger sample sizes. It also be easier to generalize results to other organizations and businesses if other industries are included. Jordan lacks comparable research, which could have an impact on the quantity and quality of data collected. Furthermore, more empirical study is required, with a focus on gathering data from Arab nations in particular.

CHAPTER TWO
Theoretical and Conceptual Framework and Previous Studies

2.1. Theoretical and Conceptual Framework

The conceptual and theoretical foundation of Decision-Making Quality and Dynamic Capabilities of Business Intelligence covered in this chapter. The first step is to go over the various definitions of each element. Subsequently, the chapter's constituents for each element highlight the indicators and measurements of Decision-Making Quality. These followed by the impact of Dynamic Capabilities of Business Intelligence on Decision-Making Quality, as well as the implications of previous models and previous studies, the relationships between these variables, and what differentiates this study apart from others.

2.2. Definitions of Variables

The following section includes definitions of the Dynamic Capabilities of Business Intelligence, its sub-variables, Decision-Making Quality, and its dimensions.

2.2.1 Dynamic Capabilities of Business Intelligence

Dynamic Capabilities: To implement their market orientation, businesses rely on their dynamic capabilities (Morgan, et al., 2009). In contrast to standard skills that facilitate the day-to-day functioning of a business model, dynamic capabilities that is, sensing, seizing, and transforming allow organizations to adapt and change in response to shifting market demands (Fischer, et al., 2010). A company needs to recognize when there are fresh chances to enhance, supplement, or replace the elements that make up its business model (Achtenhagen, et al., 2013; Gelhard, et al., 2016). Using seizing, companies assess the architecture of their current business model Teece (2007), encompassing value creation, delivery, and/or capture activities. If a company chooses to innovate its business model, it must reorganize its resource base. This includes acquiring,

repurposing, and releasing regular resources and capabilities to support the innovative business model (Wollersheim and Heimeriks, 2016). Furthermore, Kurtmollaiev, et al. (2018) define dynamic capabilities as a set of behaviors that can create and modify organizational resources and explain the competitive advantage source in a dynamic environment. The concept of dynamic skills has drawn a lot of attention from researchers since it may affect important outcome factors (Schilke, Hu, and Helfat, 2018). According to Fainshmidt, et al. (2016), dynamic capabilities enable renewed operational capacities and increased flexibility in response to market shifts, which affect systematic change.

Business Intelligence: is a generic term that includes databases, analytical tools, applications, systems, and procedures that enable business managers and analysts to conduct pertinent research in addition to enabling interactive data access and modification. The core of business intelligence is the transformation of data into information, which is subsequently used to make decisions and, ultimately, take actions (Sharda, et. al., 2021). It is a more specialized kind of IT capability in the context of business intelligence systems (Neirotti and Raguseo, 2017). In the 1970s, data reporting systems and management information systems (MIS) laid the foundation for the idea of business intelligence (Sharda, et al., 2021). Transforming data into meaningful and relevant information for businesses and decision-makers is the primary goal of business intelligence (Grandhi and Chugh, 2013). This information enables the successful examination of a business and its competitive environment. The capability of Hypermarkets in Jordan to utilize programs, methods, and procedures to transform data into useful insights that enhance their decisions and support their long-term business goals. The Dynamic Capabilities of Business Intelligence for Sensing Capabilities, Seizing Capabilities, and Transforming Capabilities will used to gauge it.

2.2.1.1 Sensing Capabilities

According to the study of Teece (2007, p.1322), Sensing is a scanning, creating, learning, and interpreting process that finds entrepreneurial chances to access information that currently exists or to generate new information. This done often to promote efforts to research the industry, forecast market developments, and respond to shifting client wants (Gebauer, 2011). This is consistent with the deliberate learning advocated by resource-based theory by Zollo and Winter (2002) to find chances for competitive exploitation in organizational activities or outside of organizations (Barney, 1991). According to Teece (2007, p.1322) "scanning creation, learning, and interpretive activities both within and outside the firm" is a requirement for identifying opportunities and risks. Sensing works well with value stream mapping or digital technologies' business visibility, which can significantly increase exploitation efficiency by enabling the early detection of irregularities. In addition, thorough scanning and systematic vulnerability detection can increase a company's robustness and responsiveness (Belhadi, et al., 2020). The operator's capacity to accurately examine and filter potential opportunities known as sensing capability. The ability of the operator to evaluate the business's assets and operations, anticipate impending changes in the external environment and respond quickly (Eikelenboom and de Jong, 2019). The utility acquired will show how adaptable businesses are in terms of value creation (Hernández, et al., 2019). According to Wang and Ahmed (2007), a corporation needs three capabilities adaptive capability, absorptive capability, and inventive capability to be able to have dynamic capabilities.

2.2.1.2 Seizing Capabilities

Seizing actions allow you to choose which sensed chances to invest in growth and profitability (Teece, 2007). Effective decision-making and the development and adoption of new business models are required for this difficult and dangerous process. Since not

all possibilities taken advantage of, seizing occurs less frequently than sensing (Gebauer, 2011). According to Hendry, et al. (2019), the ability to take advantage of sensed opportunities depends on the ability to act swiftly and accurately. According to Aslam, (2018), the ability of the supply chain quickly adapt to the changing market conditions depends on its ability to seize opportunities. Speed and agility in the supply chain positively correlated with supply chain exploitative behaviors because of their capacity to minimize inventory, remove supply and demand irregularities, and react quickly and efficiently to customer demand (Lee and Rha, 2016). Additionally, as a seizing dynamic capability, supply chain agility enables businesses to identify opportunities and threats in their industry and quickly plan a response (Aslam, 2018). This improves supply chain exploratory activities (Belhadi, et al., 2020; Hendry, et al., 2019; Kamalahmadi and Parast, 2016). Out of the three concepts of dynamic capabilities, it is evident that market-sensing capability alone is insufficient to address the threats of a volatile environment. Instead, firms will be able to deal with a volatile environment effectively by seizing new opportunities and reallocating resources (Schoemaker, et. al., 2018). In another way, for an operator to develop an adaptive strategy, they need to be able to recognize the state of the market, reassign internal resources, and seize fresh possibilities.

2.2.1.3 Transforming Capabilities

By rearranging resources to improve, combine, or safeguard skills, transformative actions propel organizational change along a path-dependent trajectory (Teece, 2007). As a result, resources are renewed and extended to remain viable and competitive in changing marketplaces. Internal learning and capability development are ongoing requirements for this (Gebauer, 2011). This motivates organizational learning in a supply chain context Yang, et al. (2018) to create more responsive and agile supply networks (Miemczyk, et al., 2016). According to Schoemaker, et al. (2018), The Company may rebuild or modify

its structure to better fit in the environment after sensing and capturing it. Once the business has identified and seized the opportunities, it should realign its resources to deal with the shifts. According to Wu (2006), one strategy to deal with the quick changes in the corporate environment is to reconfigure the resources. In a quickly changing environment, though, it is effective to change the current resource base and internalize external resources in the right order (Wu, 2006). This is in line with earlier studies on the function of organizational structures as a crucial micro foundation of dynamic capability that facilitates the enactment of a commercial market opportunity (Day and Schoemaker, 2016) and as a significant component of BMI (George and Bock, 2011; Foss and Saebi, 2017).

2.2.2 Decision-Making Quality

Decision-Making Quality determined by how a decision helps the organization achieve its objectives (wills, 2022). Koontz and Weihrich (2010) state that the process of making quality decisions comprises premising, recognizing alternatives, evaluating those options about the intended objective, and choosing the option that will contribute most to the goal's achievement. It is the process of deciding between two or more options for a course of action, according to Sousa, et al. (2015) assert that the process of determining, characterizing, and selecting the optimal solutions to deal with a problem and its repercussions makes up the decision-making process quality. According to Shamim, et al. (2019), the big data process may be broken down into five steps: problem description, data searching, data transformation, data resolution, and problem solving. The process starts with data collecting and finishes with decision-making. Businesses are attempting to ascertain the most effective ways to use data for decision-making in the big data era (Visinescu, Jones, and Sidorova, 2017). Decision quality can raised by combining management expertise with business information tools (Seddon, et al., 2017). Decision-

Making Efficiency takes into account the available resources, even though decision-making effectiveness assessed based on the decision-maker's satisfaction with the accomplishment of intended goals (Kaltoft, et al., 2014). Time, cost, expertise in business, etc. Big data gives managers the knowledge, information, and data they need to solve issues and make choices at the organizational and individual levels (Clark, et al., 2007; Visinescu, et al., 2017).

2.2.2.1 Decision-Making Effectiveness

Decision-Making Effectiveness it's the degree to which a data-driven decision enables a company to make judgments instantly, respond to change more rapidly, and effectively understand its customers (Cao and Duan, 2014). Effective decision-making helps a business to better understand its customers, which enhances customer satisfaction and loyalty. When businesses possess a comprehensive and precise understanding of the anticipated correlation between choices and results, they make more effectively strategic decisions (Cao, et al., 2019). To support high-quality decision-making, organizations should develop their mechanisms, business procedures, and organizational structure concurrently with data analysis techniques that may lessen the ambiguity and uncertainty of the problem context. The effectiveness of decision-making positively impacted by improving information-processing capacity using a data-driven environment (Wang and Byrd, 2017). On the other hand, analytical and intuitive decision-making differ greatly from one another. Analytical decision-making entails locating and assessing pertinent evidence, weighing benefits, drawbacks, and reaching a decision only after giving it considerable thought (Dane, et al., 2012).

2.2.2.2 Decision-Making Efficiency

Decision-Making Efficiency is the capacity to make excellent decisions by effectively allocating resources including time, money, and other resources during the decision-making process (Shamim, et al., 2019). At the end of any decision-making process comes a final choice. The outcome may be a choice of action or opinion. In a production scenario, decision-makers have to weigh a contradictory set of factors to choose which modern manufacturing process is the best after examining a wide range of different alternatives (Sarkar, et al., 2015). To assess the decision-making quality process, trade-offs are made between the decisions' efficiency comprehensiveness and the related costs. Due to the extensive data analysis involved in making global judgments, they may be more effective. They are the most time- and money-intensive, though, because they require a huge team to complete the intricate tasks. Local decisions, on the other hand, depend on a smaller amount of data but require simpler decision-making processes and are substantially less expensive. Efficiency measures the difference between the qualities of decisions made automatically during operation (online) and decisions made offline (offline) without access to all pertinent state information. In real-world applications, high efficiency is crucial (Doboli, et al., 2018).

2.2.2.3 Decision-Making Satisfaction

Decision-Making Satisfaction it’s the tendency to select "good enough" solutions rather than looking for and weighing each one to get the greatest results is known as satisficing (Luan, Fu, and Li, 2017; Miceli, et al., 2018). When making a decision, satisfiers frequently establish their minimal acceptance threshold and then determine when an alternative is thought to yield a satisfactory result or beyond the threshold (Miceli, et al., 2018). The public and the scientific community have become more interested in subjects related to happiness and life satisfaction in recent decades (Gori,

Topino, and Di Fabio, 2020). The increasing amount of pieces regarding life satisfaction in best-selling books and popular magazines indicates this tendency. Numerous studies have been carried out to look at previous experiences with life satisfaction (Park, Joshanloo, and Scheifinger, 2019; Sujarwoto, Tampubolon, and Pierewan, 2018). Prior research has demonstrated that the actions made in the past have resulted in the current state of affairs (Siebert, Kunz, and Rolf, 2020). Furthermore, several studies found that the decision-making process itself might affect the result (Bruine de Bruin, Parker, and Fischhoff, 2020; Calabretta, Gemser, and Wijnberg, 2017; Gati and Kulcsár, 2021). In addition to varying in their capacity for making decisions, prior studies have shown that people react differently to situations requiring them to make decisions. According to Parker, Bruine de Bruin, and Fischhoff (2007), people who overuse the decision-making process also tend to make inferior decisions and are less satisfied with their choices. Similar findings also obtained in Slovakia Bavol'ar and Bacikova-Sleskova (2020) and Spain Páez-Gallego, et al. (2020) in Europe in addition to the United States. According to research by Sari, (2022), which involved students from four universities in Slovakia, Decision-making styles have a significant influence on measures of psychological health, including depression, stress, and mental health. The results show that whereas logical and intuitive decision-making styles are linked to lower levels of stress and depression and higher levels of mental well-being, avoidant decision-making styles are linked to lower levels of mental well-being and greater levels of stress and depression. Adapting more adaptable decision-making styles enhances psychological well-being, per current Spanish research on the impact of decision-making during adolescence (Páez-Gallego, et al., 2020). According to recent studies, maximizers are more negatively impacted by a high variance of possibilities than satisfiers are (Beja, 2019; Cheek and Goebel, 2020).

2.2.3 Jordanian Hypermarkets

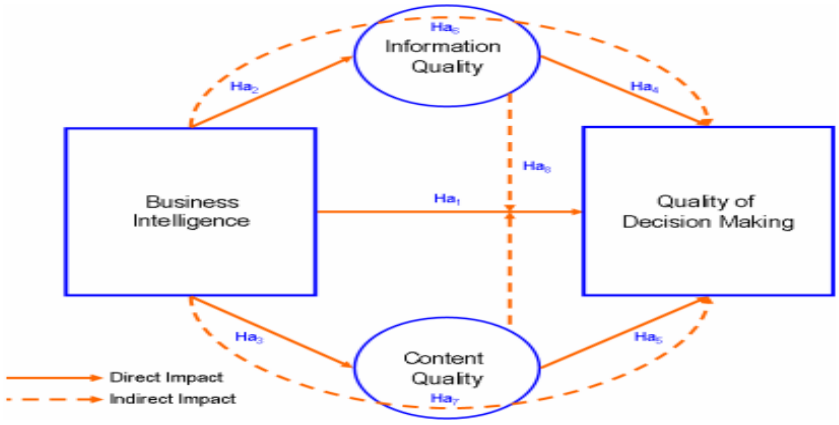
A Hypermarket is a large retail establishment that combines a department store with a supermarket (Ferreira and Ferreira, 2018). Hypermarkets found in many nations, particularly in developing nations where the middle class and urbanization are expanding. The competition from traditional merchants, high operation expenses, cultural preferences, and restrictions are some of the problems Jordan's hypermarkets must overcome (Elasrag, 2016). Hypermarkets offer a number of opportunities in addition to raising customer demand, updating the retail industry, expanding into new areas, and diversifying goods and services (Stanciu, Vîrlănuţă, Vochin, Ionescu, and Antohi, 2019).

The majority of retail stores and mom-and-pop shops are categorized as hypermarkets; hypermarkets and mom-and-pop shops are important components of well-known and popular malls with ATMs, food, and entertainment options (The Star Online, 2018; Ogiemwonyi, Rahman and Connie, 2015; Hassan, Sade and Rahman, 2013). When compared to other economic sectors, Jordan's hypermarket has experienced significant growth. However, because consumers have more options for purchasing, some hypermarkets are also experiencing weak sales due to the rise of non-specialized retail establishments. Despite its shortcomings, Hypermarket appears to please customers who value its distinctive level of service.

2.3. Previous Models

Only relevant models were chosen after hundreds of research were screened, including:

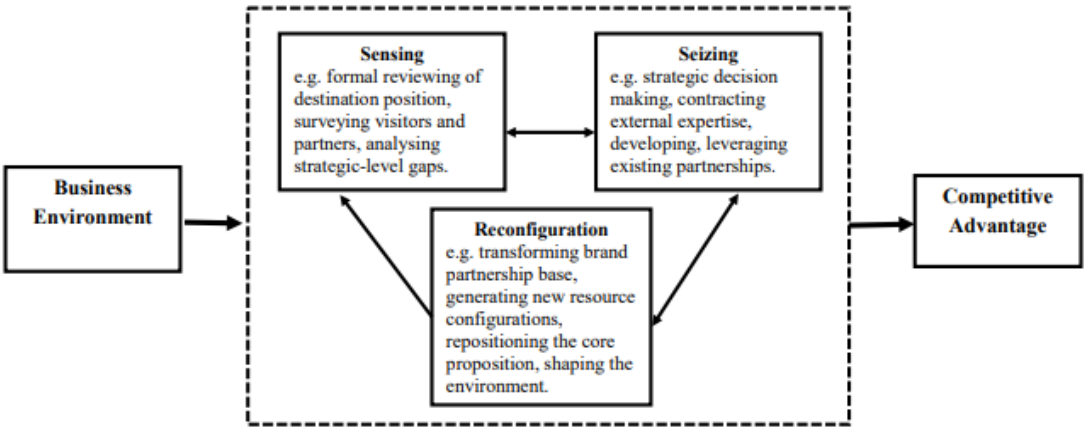
Mohammad, (2012) Model: This model examines how decision-making quality impacted by business intelligence and decision support systems (information and content quality).



Model (2.1): Mohammad, (2012) Model

This model (2.1) studies The Impact of Business Intelligence and Decision Support on the Quality of Decision Making

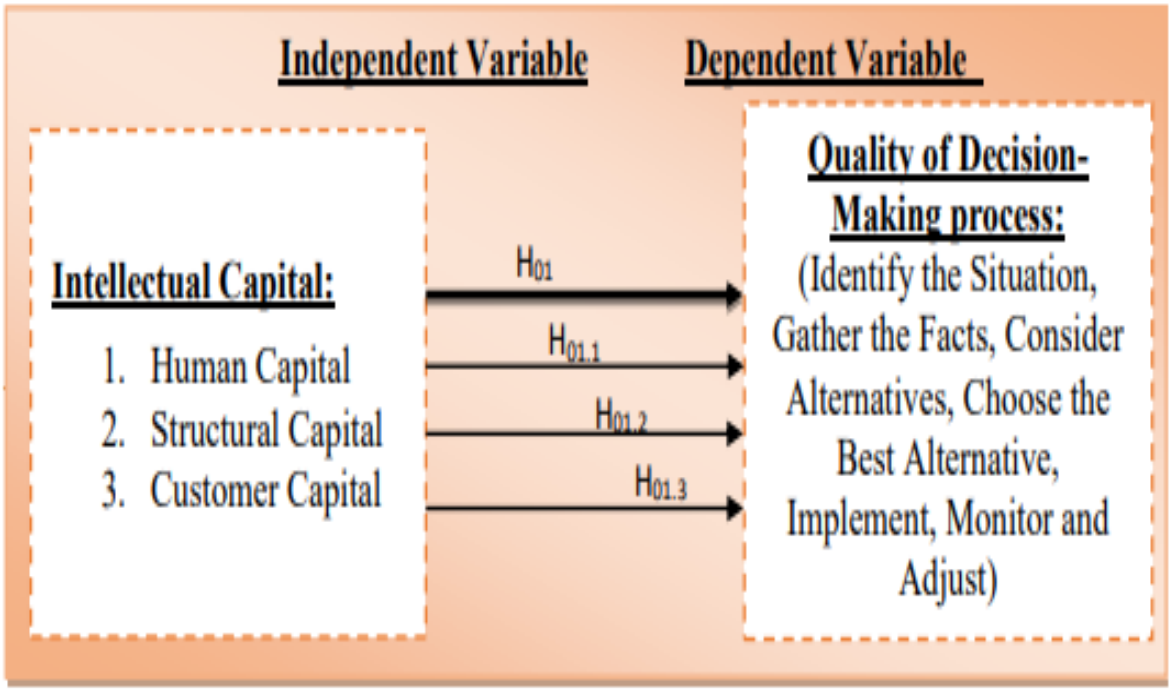
Alford and Duan, (2018) Model: This model studies the effect of the business environment on the dynamic capabilities (sensing, seizing, and transformation) of the competitive advantage.



Model (2.2): Alford and Duan, (2018) Model

This model (2.2) was quoted to study collaborative innovation from a dynamic capabilities perspective.

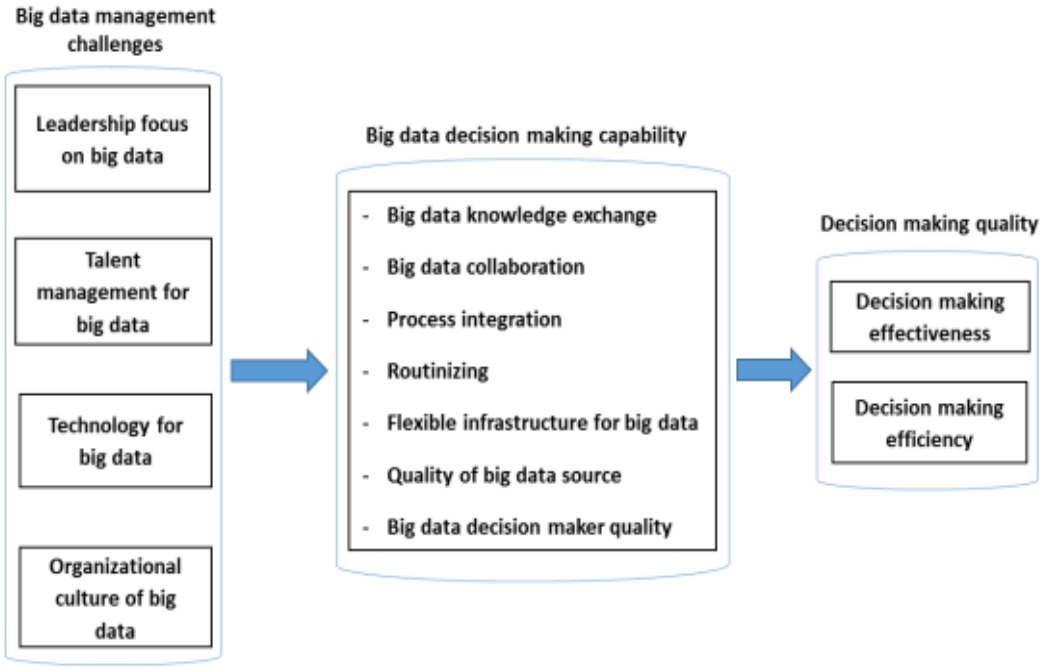
Al-Sharaya and Makhaled, (2019) Model: This model aims to assess the quality of the decision-making process concerning intellectual capital, encompassing customer, structural, and human capital, using identifying the situation, obtaining information, weighing options, choosing the best course of action, implementing it, and then monitoring and making necessary adjustments.



Model (2.3): Al-Sharaya and Makhaled, (2019) Model

This model (2.3) was used in a study that looked at how Jordanian Commercial Banks' decision-making processes were affected by intellectual capital.

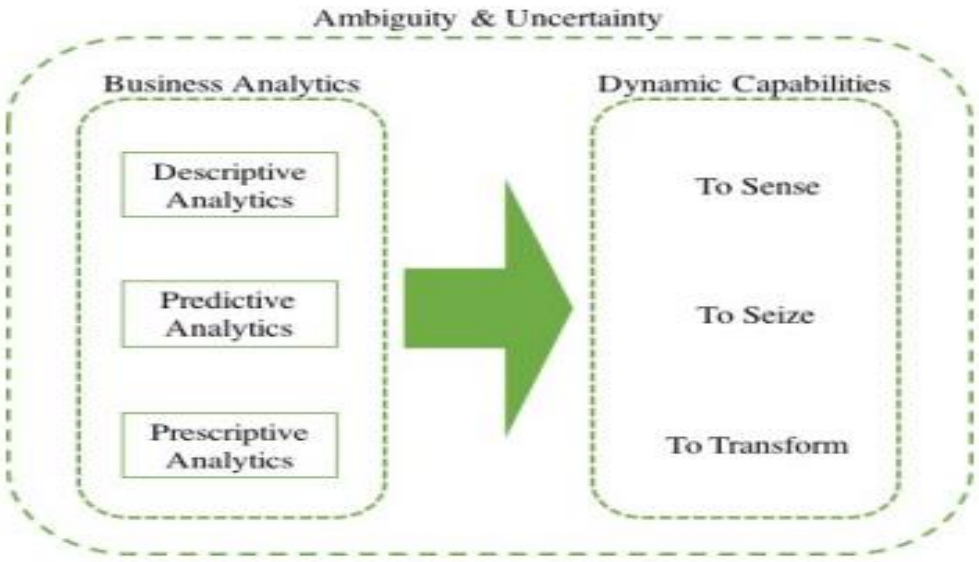
Shamim et al., (2019) Model: The purpose of this study was to determine how big data management issues affect decision-making capacity and how those factors affect decision-making quality (effectiveness and efficiency).



Model (2.4): Shamim et al., (2019) Model

This model (2.4) has been included because it examined how large data management can improve both the efficiency and effectiveness of decision-making.

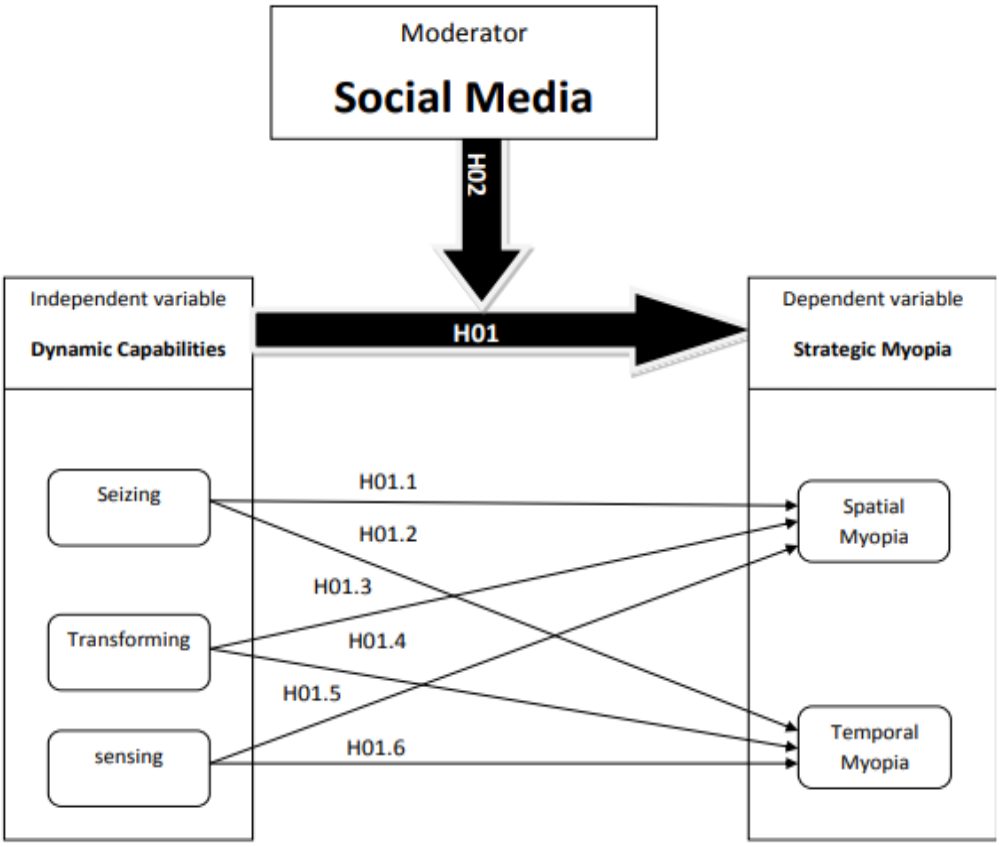
Van Rijmenam, et al., (2019) Model: In particular, the study sought to examine the relationship between these kinds of business analytics and the micro-foundations of sensing, seizing, and transforming as well as dynamic capabilities more broadly.



Model (2.5): Van Rijmenam, et al., (2019) Model

This model (2.5) was quoted to study how the application of big data analytics changes the strategic game under ambiguous and unpredictable times.

Alsarayreh, (2020) Model: This model tries to examine the relationship between the dynamic capabilities of strategic myopia (spatial myopia and temporal myopia) and social media as a moderator.

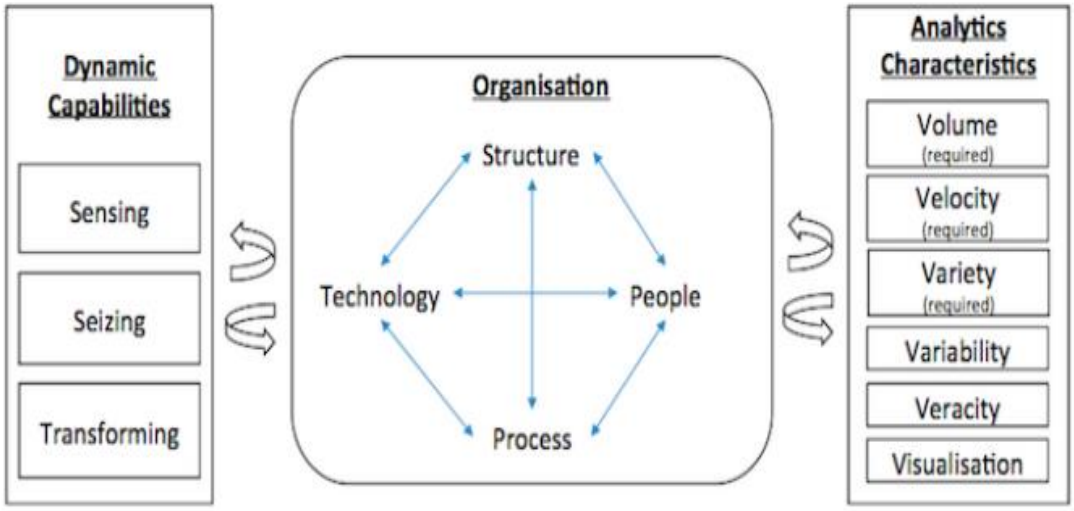


Model (2.6): Alsarayreh, (2020) Model

This model (2.6) was quoted to study Examine the Effects of Dynamic Capabilities on Strategic Myopia An assessment of social media's moderating influence.

Conboy et al., (2020) Model: They attempted to investigate the connection between the dynamic capabilities of (sensing capabilities, seizing capabilities, and transforming capabilities) with the (organization structure, technology, people, and process) and the

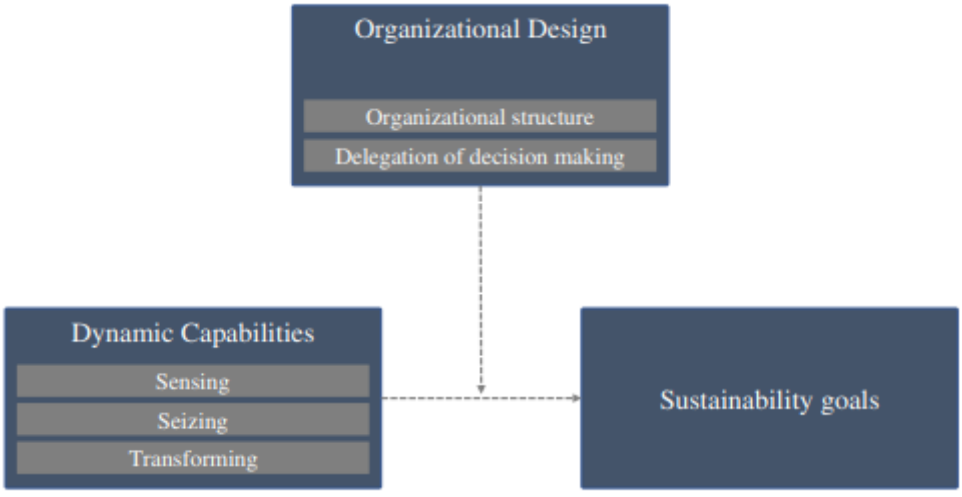
relationship with analytics characteristics (volume, velocity, variety, variability, veracity, and visualization).



Model (2.7): Conboy et al., (2020) Model

This model (2.7) was cited in a study on enhancing operations research's dynamic capabilities through the use of business analytics.

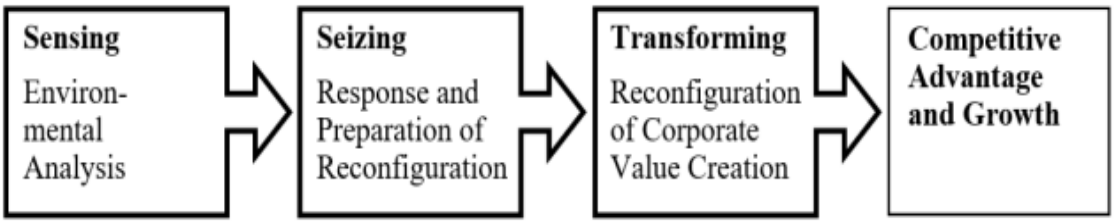
Da Giau, et al., (2020) Model: This model examined the effect of dynamic capabilities (sensing, seizing, and transformation) on sustainability, goals, and the effect of organizational design (organizational structure and delegation of decision-making) on this relationship.



Model (2.8): Da Giau, et al., (2020) Model

This model (2.8) is included because it examines how dynamic capabilities affect sustainability objectives and organizational design, including organizational structure and decision-making delegation.

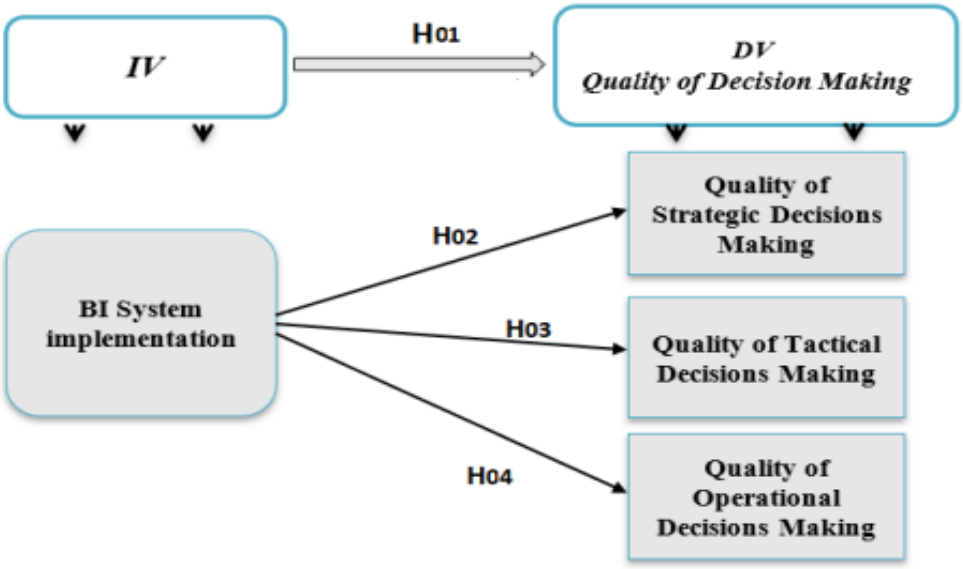
Semke and Tiberius, (2020) Model: This model examined the effect of dynamic capabilities (sensing, seizing, and transformation) on competitive advantage and growth.



Model (2.9): Semke and Tiberius, (2020) Model

This model (2.9) showed the importance of dynamic capabilities (sensing, seizing, and transformation) on competitive advantage and growth.

Salameh, (2022) Model: This model looked at how the deployment of BI systems affected the quality of decisions (strategic, tactical, and operational).



Model (2.10): Salameh, (2022) Model

This model (2.10) examines how implementing a business intelligence system affects the decision-making process's quality.

2.4. Previous Studies

The current section discusses earlier research on the topic of the current study. From the oldest to the newest, it has been presented and then discussed as follows:

Woodside, (2010) study titled **"Business Intelligence and Learning, Drivers of Quality and Competitive Performance".** This study looked at how BIS affected end users' perceptions of competitive performance and quality from a learning perspective, as well as the linkages it had with learning, quality organization, and competitive performance. Quality management, competitive performance, learning models of mental model construction and maintenance, and BIS are measured using mixed-methods approaches that include qualitative and quantitative elements, such as surveys, interviews, and case study tools. Individual, organizational, system, information, and service factors examined to quantify the relationship between variables. A new model offered to expand the theoretical, practical, and policy implications of the prior model in the context of healthcare while also increasing its capacity for explanation. The results demonstrate a high correlation between learning, quality, and competitive performance when employing BIS. Learning impacted by the caliber of systems and information as well. The model has a stronger explanatory power than previous learning models and information support systems, and it significantly advances healthcare practice and research.

Isik, et al., (2011) study titled **"Business Intelligence Success and the Role of Business Intelligence Capabilities".** This study aimed to suggest that one of the reasons for the failure of business intelligence (BI) applications is a lack of understanding of the critical components that affect their performance, among which BI skills include. We offer the results of a study we conducted among 116 BI experts, which gives us an idea of how satisfied users are with different BI capabilities and how these capabilities relate

to their overall satisfaction with BI. Results indicated that users are usually happy with business intelligence (BI) in general and with its capabilities. Nevertheless, the BI capabilities that customers are most content with might not be the ones that have the strongest correlation with BI success. Only one of the five capabilities that showed the strongest correlation with overall BI satisfaction had a direct connection to data. An additional intriguing discovery suggests that, despite users' lack of satisfaction with BI's degree of system engagement, this feature is strongly associated with BI success.

GU, (2014) study titled **"The Use of Business Intelligence Techniques in Supply Chain Performance".** This study looked at the effects of BIS on end-user perceptions of competitive performance and quality from a learning perspective, as well as the links between BIS, learning, quality organization, and competitive performance. Employing methodologies that combine qualitative and quantitative aspects, like surveys. The Supply Chain Council's member list selected several industry experts and practitioners, who were interviewed, discussed their perspectives, and validated the poll. The replies from businesses in the manufacturing and information technology sectors represented in the study's results. The outcomes also demonstrated that an organization's entire supply chain performance might be improved by combining the application of business intelligence strategies with information systems from various vendors.

Negulescu and Doval, (2014) study titled **"The Quality of Decision-Making Process Related to Organizations Effectiveness".** This study analyzed how well decisions are linked to organizational goals and efficiency, this study examined the perspectives of managers and workers in Romania. The study sample was surveyed to gather data. The findings showed that there was consensus among respondents regarding the link between superior decision-making and successful organizational performance.

The study recommends more research on the organization's decision-making process standards.

Donelan, et al., (2015) Study titled **"Factors Influencing Quality Decision-Making: Regulatory and Pharmaceutical Industry Perspectives".** The objective was to consider the elements necessary for making wise decisions. Top decision-makers and regulatory agencies participated in semi-structured interviews. The validity and quality of the data, time consideration, experience, qualification, and subjective and personal considerations were a few of the decision-making-related topics that were examined in this study. The findings showed that connections between the various topics had been found. The paper recommends that further research be done on the decision-making framework's quality.

Mohammed and Westbury, (2015) study titled **''Business Intelligence and Analytics Evolution, Applications, and Emerging Research Areas".** The study aims to map significant aspects of the current business intelligence and research landscape, an area of significant intrinsic merit. This will enable the application of the proposed Business Intelligence and A research framework to a range of high-impact applications, including Improving E-Commerce and Market Intelligence, Improving E-Government, Improving Research in Science and Technology, and Optimizing Business Processes. In light of developing and maturing BI & A technologies, the anticipated shortage of data-savvy managers and business professionals with deep analytical skills, and other factors, research is meant to function, at least in part, as a platform and conversation guide for investigating how the Information Systems (IS) discipline can better serve the needs of business decision-makers.

Vaz, et al., (2015) study titled **"Measurement Models of Intellectual Capital for The Decision Making and Performance Variables".** The purpose of this research was to create models for measuring decision-making performance characteristics and intellectual capital. Using quantitative techniques and questionnaires, they discovered that some pieces of intellectual capital result in better decision-making. The study suggested evaluating evolution, similarities, and differences, among other things, and analyzing longitudinal indicators of a given method in public and private contexts. Additionally, the study recommends carrying out the technique implementation in the context that considered for decision-making.

Wieder and Ossimitz, (2015) study titled **"The Impact of Business Intelligence on The Quality of Decision Making–A Mediation Model".** The purpose of this study is to investigate, through quantitative analysis of data gathered from an Australian sample of IT managers, how business intelligence (BI) management affects the caliber of managerial decisions while taking into account the mediating roles of data quality, information quality, and BI scope. Using data and information quality as mediators, this study found a strong indirect effect of BI management on the caliber of managerial decision-making. The influence of BI scope on decision-making, however, was not as great as expected. "First-time evidence of direct and indirect determinants of managerial decision support improvements related to BI solutions scope and active management of BI" is what sets this study apart, according to the researcher.

Denic et al., (2016) study titled **"Analysis of Key Success Factors for Business Intelligence Systems Implementation".** This study looks at the analysis of important implementation success criteria for business intelligence systems. This inquiry is predicated on a thorough review of relevant literature as well as the analysis of

information gathered from multiple company interviews. A great deal of information technology research has been done to categorize important elements to enhance informatics systems. The study demonstrated the relationship's existence and the relevance of several important ERP system components to business intelligence systems. Numerous important success factors that were not found in any of the earlier investigations have been found.

Ibrahim, (2016) study titled **"Participation in Decision-Making, Social Capital and Sustainability of Watershed Usage among Peri-Urban Agricultural Farmers of Kwadon, Gombe State, Nigeria".** This study looked at social capital and the degree of decision-making involved in peri-urban agriculture PUA and how they relate to the sustainability of watershed resources. A survey with a structured questionnaire was used to gather data. The findings showed that having social capital among farmers and taking part in ten decision-making processes related to peri-urban agriculture PUA considerably contributed to the sustainability of watershed utilization at a moderate level. Nonetheless, the study emphasized how critical it is to devise strategies for enhancing social capital and engagement to ensure the longevity of organizations.

Rosedahl, (2016) study titled **"Business Intelligence: Strategies for Improving BI Adoption".** This study aims to categorize the critical elements that might help organizations guarantee that their business intelligence (BI) systems are well received by both individual users and the organization as a whole. The study aims to show how organizations can incorporate these success factors into a business model that will help to improve the overall BI adoption rate and increase the effectiveness of BI solutions by using empirical research that identified critical success factors in BI implementations. The model emphasizes the concepts of process, people, and technologies and shows how

each component contributes significantly to improving BI utilization. Using important people with a solid foundation in business and information technology, the classification of a crucial business necessity, iterative development, and a business-driven methodology. This article presents a quick prototype system that addresses the key business requirements through an iterative process. A methodical approach will be used to design a business solution while offering business leadership feedback. Demonstrating the worth of business intelligence to others can be facilitated by resolving an issue by creating a solution for a crucial business requirement.

Bujar, et al., (2017) study titled **"Assessing the Quality of Decision-making in the Development and Regulatory Review of Medicines: Identifying Biases and Best Practices".** The study sought to determine the best practices impacting organizations and individuals, pharmaceutical and regulatory agencies on decision-making behaviors between pharmaceutical companies and regulatory agencies, by evaluating the variations in quality decision-making using a developed instrument such as the quality of decision-making orientation scheme. The findings indicated that, in contrast to the organization's (38%), individuals (72%) were more in favor of a methodical, structured approach to assist in decision-making. The study recommended more research be done on the standard of decision-making in organizational contexts.

Gauzelin and Bentz, (2017) study titled **"An Examination of The Impact of Business Intelligence Systems on Organization Decision Making and Performance: The Case of France".** The purpose of this study is to investigate how business intelligence (BI) affects performance and decision-making within organizations, with a focus on how BI affects small and medium-sized enterprises. This research used a qualitative descriptive methodology, utilizing semi-structured interviews to gather data

from a sample of twenty employees, including managers and junior staff members, from ten selected SMEs. The study found that the functional, operational, and overall effectiveness of SMEs is significantly improved by BI implementation; nevertheless, there are always worries about the cost of implementing BI systems, which most SMEs cannot afford. This study stands out from others since it concentrates on SMEs' adoption of BI, even though large organizations typically use the majority of BI systems.

Grušovnik and Kavkler, (2017) study titled **"Dimensions of Decision-Making Process Quality and Company Performance: A Study of Top Managers in Slovenia".** The purpose of this study was to look into the connection between Slovenian top managers' company success and the quality of their decision-making process. A survey with a quantitative approach was used in the research with 500 managers. The findings indicated that there was little relationship between the number of people in a company and the quality of the decision-making process in terms of effort dimensions. The study recommends giving the characteristics of decision-making quality more weight.

Kulkarni, et al., (2017) study titled **"Business Intelligence Capability: The Effect of Top Management and Mediating Roles of User Participation and Analytical Decision-Making Orientation".** This study uses multiple mediator models to investigate how senior management influences the growth of business BI capabilities. The present study elucidated the functions of user involvement and analytical decision-making orientation that transmit a beneficial impact of top management sponsorship on the development of BI capabilities. This study stands out from others since it focuses on top management relationships and their impact on BI systems, and it takes into account a sizable and diverse sample.

Park et al., (2017) study titled **"The Role of Business Intelligence and Communication Technologies in Organizational Agility: A Configurational Approach".** The study investigates the role that communication technologies and business intelligence play in helping organizations become more agile in their ability to sense, act, and make decisions in a variety of organizational and environmental circumstances. A survey and questionnaires with business school professors, industry managers, and Ph.D. students in business were undertaken to assess the face 34 and content validity of the survey, which was based on dynamic capability theory and the information-processing view of businesses. The study hypothesis is that business intelligence and communication technologies enable businesses, particularly large ones, to attain sensing and acting agility in fast-paced, dynamic contexts. The results of the study also point to particular boundary requirements for our middle-range theory that specify the role that BI and communication technologies play in helping firms achieve organizational agility, as well as equational pathways to organizational agility. The study explored potential directions for future research as well as the consequences for theory and practice.

Bhardwaj and Singh, (2018) study titled **"The Effect of Intellectual Capital on Decision Making – A Study of Interaction Moderation with Knowledge Management Process".** The purpose of this study was to determine how decision-making in the Indian public sector's e-governance system relates to intellectual capital. The relationship between intellectual capital and decision-making was found to exist, and the effect of knowledge management on this relationship was found to be greatly attenuated. The outcome also demonstrated that for optimal decision-making, intellectual capital, and its components human and structural capital should be combined with the

knowledge management phases. Further research on the connection between intellectual capital and decision-making is recommended by the study.

Kurtmollaiev, et al., (2018) study titled **"Developing Managerial Dynamic Capabilities: A Quasi-Experimental Field Study of the Effects of Design Thinking Training".** The purpose of this study is to investigate how team leaders can enhance their managerial sensing, seizing, and transforming capabilities; encourage innovation in their teams; and impact team operational capability by combining the practical application of design thinking with the theoretical advancements of the dynamic capabilities framework. The training participants and an additional control group made up the sample. The training participants included 318 team leaders with roles in marketing, customer interface management, and product/service development, as well as 319 team leaders (referred to as "additional controls") who were part of the same business units and carried out comparable tasks involving technology or customers. But who weren't working on the same projects as the teams of participants.

Pedron, et al., (2018) study titled **"CRM System: The Role of Dynamic Capabilities in Creating Innovation Capability".** The main question of this research is "What is the function of dynamic capabilities in the development of innovation capabilities via CRM utilization?" To make sure we had enough pertinent articles on the topic between 2000 and 2014, we searched the three major digital libraries using the terms customer relationship management, innovative capability, and dynamic capability. Experts chosen for this study based on their expertise and work history in CRM were interviewed as part of the methodology. The study's conclusions: Given its importance in the global market and the complicated environment that confronts firms, innovation may have a significant impact on corporate strategy.

Sincorá, et al., (2018) study titled **"Business Analytics Leveraging Resilience in Organizational Processes".** This study aimed to investigate the connection between business analysis skills and performance outcomes in managing organizational resilience and business operations. In addition to applying the path analysis methodology, the descriptive analytical strategy was used to accomplish the study's goals. The study arrived at several conclusions after conducting the necessary statistical analyses, most notably that business process management and business analysis capabilities positively affect organizational flexibility and that business analysis capabilities play a modulating role in the relationship between the study's variables.

Torres, Sidorova, and Jones, (2018) study titled **"Enabling Firm Performance through Business Intelligence and Analytics: A Dynamic Capabilities Perspective".** The purpose of this study is to investigate the relationship between business intelligence and analytics (BI&A) and firm performance. BI&A management ability, BI and personal expertise, and the quality of the BI&A technical infrastructure are all factors that affect the dynamic capabilities of BI&A, which in turn affect functional performance and firm performance. Data from a sample of MBA students with BI&A-related work experience were analyzed quantitatively for this 29 study. The study found that BI and A had a favorable effect on business success. Because it takes into account, the importance of BI&A grasping capabilities and the degree of business process change required to translate BI&A output into enhanced performance, this study stands out from others in the field.

Ashrafi, et al., (2019) study titled **"The Role of Business Analytics Capabilities in Bolstering Firms' Agility and Performance".** The purpose of this study was to illustrate, via the quality of information and inventiveness, how business analysis affects

an organization's ability to be flexible and agile. Not only did the study population consist of 500 Iranian enterprises with high financial returns, but it also explained the moderating influence of market and technological turbulence. The CEO and head of the information systems department of the study sample companies made up the sampling unit, and the study sample comprised 154 companies from the study population. The descriptive analytical approach was chosen to meet the study's objectives. After conducting the required statistical analyses, the study produced several findings, the most notable of which being that business analysis skills have a significant impact on companies' agility through information quality and creative ability, and that technological and Soviet turmoil negatively affects companies' agility in terms of overall performance.

O'Neill and Brabazon, (2019) study titled **"Business Analytics Capability, Organizational Value, and Competitive Advantage".** This study sought to demonstrate the link between competitive advantage and the capacity to assess organizational and commercial value. The study's sample and population included 64 senior business analysts who were chosen from 17 different industries and the top 100 institutions in Ireland. The descriptive analytical approach was used to carry out the study's goals. After doing the appropriate statistical analyses, the study came to several conclusions, the most important of which was that, from the perspective of the study sample in the institutions under study, there is a positive association between the capacity to evaluate the business, organizational value, and competitive advantage.

Richards, et al., (2019) study titled **"Business Intelligence Effectiveness and Corporate Performance Management: An Empirical Analysis".** This study examined the relative importance of business analytics (BA) and business intelligence (BI) on corporate performance management (CPM) in partnership with major consulting firms,

PWC and CATA. Data was gathered from a survey sample of 337 respondents from various nations, including top management personnel from 331 companies. According to the study's findings, there is a substantial positive correlation between the use of BI systems and corporate performance, with BI having a greater impact than BA activities. Being the first to take CPM into account, as well as the large sample size and extensive worldwide coverage, set this study apart from others.

Shamim, et al., (2019) study titled **"Role of Big Data Management in Enhancing Big Data Decision-Making Capability and Quality among Chinese Firms: A Dynamic Capabilities View".** This study looks at how big data decision-making capabilities affect the quality of decisions made by Chinese businesses. It makes the case that big data management issues such as leadership; talent management, technology, and organizational culture influence these capabilities. They evaluated the antecedents of big data decision-making capability and its impact on decision-making quality using primary data from 108 Chinese companies and partial least squares. The findings imply that big data management issues are the main predictors of big data decision-making capability. Furthermore, the latter is essential for the accuracy of big data decision-making.

Urumsah and Ramadhansyah, (2019) study titled **"Investigating The Influence of Business Intelligence on The Quality of Decision Making in an Indonesian Fertilizer Company".** This study examines the fertilizer industry in Indonesia as a case study to investigate and assess the variables that affect the quality of decision-making. By taking into account BI Management, BI scope, data quality, content quality, and information quality as investigating elements, the researcher concentrated on researching the aspects influencing the quality of decision-making. For this study, data gathered from a sample of workers in the Indonesian fertilizer industry were subjected to quantitative analysis.

According to the study's findings, BI management is the primary element influencing decision-making quality. This study stands out from others since it gives managers in fertilizer production firms useful information about how BI may improve their process for making strategic decisions.

Wang, et al., (2019) study titled **"The Role of Social Capital and Culture on Social Decision-Making Constraints: A Multilevel Investigation".** The purpose of this study was to investigate the social decision-making construct as it relates to the social capital construct. Structural equation modeling (SEM) at multiple levels was used to assess the data from Chinese companies. The study looked at how social capital and culture affect social decision-making and discovered that social capital and culture elements such as reciprocity norms and power 13 distance have boosted social decision-making at the corporate level.

Alkatheeri, et al., (2020) study titled **"The Effect of Big Data on The Quality of Decision-Making in Abu Dhabi Government Organizations".** This study reviewed the literature on the subject of big data quality and how it affects decision-making. A descriptive methodology approach was used to gather the views and opinions of participants from Abu Dhabi Police Agencies by studying the literature of published and unpublished scientific studies and using a questionnaire. According to the quantitative and numerical technique, the findings lead to the proposal of a theoretical, conceptual model. The research also showed that the quality of big data predicts the quality of decision-making and substantially affects that quality in Abu Dhabi Governmental Organizations.

Aziz, (2020) study titled **"The Impact and Power of Business Intelligence (BI) on The Decision-Making Process in Uppsala University: A Case Study".** The purpose of this study is to look into the potential effects of BI system adoption on educational institutions' decision-making processes. Qualitative analysis was employed as a case study for Uppsala University. According to the study's findings, Uppsala University's decision-making process benefits from the BI system since it takes less time to make decisions that are of higher quality. The emphasis on the educational sector, which was overlooked in the majority of previous research, sets this study apart.

Chen and Lin, (2021) study titled **"Business Intelligence Capabilities and Firm Performance: A Study in China".** The purpose of this study was to explain how business capabilities affect performance and to create a multidimensional scale to assess business capabilities based on the theories of dynamic capabilities and organizational growth. Chinese businesses were sampled and included in the study population to examine pertinent research from 2001 to 2019. Along with convergent validity and reliability, exploratory and confirmatory factor analysis was employed to confirm the generated scale's validity. To quantify business intelligence capabilities, the study's conclusion included the development of a scale with three primary dimensions: sensing capabilities, transformation capabilities, and directing capabilities. The outcomes also proved the validity and reliability of the tool. The tool's validity and reliability were also demonstrated by the results. This makes them useful for research in the future and demonstrates that enhanced business intelligence capabilities improve overall corporate performance.

Phillips-Wren, et al., (2021) study titled **"Reconciling Business Intelligence, Analytics (BI&A) and Decision Support Systems (DSS): More Data, Deeper Insight".** This study aims to explore the relationship between DSS and BI&A where interviews were conducted with senior-level BI&A Provisionals and leaders from several industries. The study's conclusions are summed up as a collection of new BI&A research opportunities that make use of underutilized DSS foundational material, as well as an assessment of the relationship between BI&A and DSS research. This study stands out from others because it provides a means of bridging the knowledge gap in BI&A and DSS through more research.

Al Eid and Yavuz, (2022) study titled **"The Effect of Using Decision Support Systems Applications and Business Intelligence Systems in Making Strategic Decisions: A Field Study in the City of Gaziantep".** This research uses quantitative analysis of data collected from a sample of employees working for civil society organizations to investigate the degree of importance that business intelligence (BI) and decision support systems (DSS) have for Syrian civil society organizations, as well as the influence that these systems' dimensions have on strategic decision-making. This study concluded that DSS and BI rank among the most crucial instruments utilized by Syrian civil society organizations in Gaziantep as well as by business companies overall. Additionally, a strong positive correlation between strategic decision-making and BI & DSS was found in this study. The focus on BI effect in the non-profit sector, where the goal of decision-making is to enhance people's lives rather than make money, sets this study apart from others.

Wibiayu and Siallagan, (2022) study titled **“The Influence of Business Intelligence Dashboard in Decision-Making Process: A Case Study in Government Agency”.** This research intends to investigate how the Indonesian Food and Drug Authority (FDA) employees view its data visualization capabilities and provide a list of ways to enhance it based on a single quantitative analysis of survey data. According to the study's findings, BI dashboards that give workers a summary of real-time data can assist them in making decisions more quickly and precisely. The most crucial feature included in BI dashboards for the Indonesian FDA, according to this study's findings, is data filtration. For the benefit of the BI system's end user, this study concentrated on the dashboard-based BI visualization capability. This study stands out due to its concentration on the public service sector, where BI influence would indirectly affect people's lives.

Qaffas, et al., (2023) study titled **“The Impact of Big Data Analytics Talent Capability on Business Intelligence Infrastructure to Achieve Firm Performance”.** The purpose of this research is to investigate how business intelligence infrastructure is impacted by big data talent capability to improve company performance. They used structural equation modeling and partial least squares to examine primary survey data from 272 IT managers and big data analysts from Chinese companies. The results showed that the talent capability for big data analytics has a favorable effect on the infrastructure for business intelligence, which in turn leads to the achievement of firm financial and marketing performance. Additionally, they advised the managers and fifteen practitioners in the sector to cultivate talent in big data analytics for the sake of developing business intelligence infrastructure skills.

2.5. Relationships between Variables

Many researchers have discussed the relationship between the Dynamic Capabilities of Business Intelligence and the Decision-Making Quality and its processes or elements. It is important to study the components of Dynamic Capabilities of Business Intelligence (Sensing Capabilities, Seizing Capabilities, and Transforming Capabilities). Decision-Making Quality considered one of the key factors, especially when carefully implemented in the workplace. This, in turn, contributes to the growth and competitive advantage of companies in the markets. The Dynamic Capabilities of Business Intelligence are crucial factors in the success of businesses, leading to prosperity and growth in the markets. The relationship between independent and dependent variables is not constant and varies from one case to another. For example, Kulkarni, et al. (2017) mention the importance of business intelligence capabilities on analytical decision-making orientation. Richards, et al. (2019) the study examined the relative importance of business analytics (BA) and business intelligence (BI) on corporate performance management (CPM) in partnership with major consulting firms. Bhardwaj and Singh (2018) study was to determine how decision-making in the Indian public sector's e-governance system relates to intellectual capital. Kurtmollaiev, et al. (2018) The study is to investigate how team leaders can enhance their managerial Sensing Capabilities, Seizing Capabilities, and Transforming Capabilities; encourage innovation in their teams; and affect team operational capability by combining the practical application of design thinking with the theoretical advancements of the dynamic capabilities framework. Pedron, et al. (2018) study determines the importance in the global market and the complicated environment that confronts firms, innovation may have a significant impact on corporate strategy. Sincorá, et al. (2018) the study aimed to investigate the connection between business analysis skills and performance outcomes in managing organizational resilience and business

operations. Torres, Sidorova, and Jones (2018) the study aimed to investigate the relationship between business intelligence and analytics (BI&A) and firm performance. Ashrafi, et al. (2019) the quality of information and inventiveness, and how business analysis affects an organization's ability to be flexible and agile. O'Neill and Brabazon (2019) this study sought to demonstrate the link between competitive advantage and the capacity to assess organizational and commercial value. Shamim, et al. (2019) the study looks at how big data decision-making capabilities affect the quality of decisions made by Chinese businesses. Urumsah and Ramadhansyah (2019) the study examine the fertilizer industry in Indonesia as a case study to investigate and assess the variables that affect the quality of decision-making. Alkatheeri, et al. (2020) the study reviewed the literature on the subject of big data quality and how it affects decision-making. Aziz (2020) the purpose of this study is to look into the potential effects of BI system adoption on educational institutions' decision-making processes. Chen and Lin (2020) the purpose of this study was to explain how business capabilities affect performance and to create a multidimensional scale to assess business capabilities based on the theories of dynamic capabilities and organizational growth. Phillips-Wren, et al., (2021) the study aim to explore the relationship between DSS and BI&A where interviews were conducted with senior-level BI&A Provisionals and leaders from several industries. Al Eid and Yavuz (2022) the study concluded that DSS and BI rank among the most crucial instruments utilized by Syrian civil society organizations in Gaziantep as well as by business companies overall. Qaffas, et al. (2022) the research is to investigate how business intelligence infrastructure is impacted by big data talent capability to improve company performance. Wibiayu and Siallagan (2022) to the study's findings, BI dashboards that give workers a summary of real-time data can assist them in making decisions more quickly and precisely.

All the mentioned studies above found a positive impact of applying Dynamic Capabilities of Business Intelligence (Sensing Capabilities, Seizing Capabilities, and Transforming Capabilities) on Decision-Making Quality (Decision-Making Effectiveness, Decision-Making Efficiency, and Decision-Making Satisfaction).

2.6. Expected Contributions of the Current Study as Compared with Previous Studies

This study considered the first study to research the effect of Dynamic Capabilities of Business Intelligence on Decision-Making Quality in Hypermarkets in Amman, Jordan.

1. **Purpose:** most of the previous studies were conducted to measure and manage the Dynamic Capabilities of Business Intelligence. Few studies carried out to study the effect of dynamic capabilities in decision-making.
2. **Environment:** Most previous studies were carried out in different countries outside the Arab region. The current study was carried out in Jordan, one of the Arab region countries.
3. **Industry:** A few types of research about Dynamic Capabilities of Business Intelligence are carried out in Hypermarkets companies.
4. **Methodology:** Most previous studies based on annual reports of different organizations and industries. The current study based on perception.
5. **Variables:** Most previous studies and researchers take two or three elements of Dynamic Capabilities of Business Intelligence, but in this study, three elements were taken (Sensing Capabilities, Seizing Capabilities, and Transformation Capabilities), and the three elements of Decision-Making Quality (Decision-Making Effectiveness, Decision-Making Efficiency, and Decision-Making Satisfaction).

6. **Population:** Most previous research took samples from the population, but in this study, the population of the study is the Hypermarkets in Amman, Jordan, and all the biggest companies targeted.
7. **Comparison:** The current study contrast the outcomes of this study with the outcomes of previous research mentioned earlier to highlight similarities and differences that probably might be there.

CHAPTER THREE
Study Methodology (Methods and Procedures)

3.1. Introduction

This chapter includes study design, population and sampling, data collection methods, data collection analysis, study tool, and validity and reliability test. In addition to the respondent demographic description.

3.2. Study Design

This study considered a quantitative, descriptive, cause-effect cross sectional study. To investigate the effect of Dynamic Capabilities of Business Intelligence on Decision-Making Quality in Hypermarkets in Amman, Jordan. The study used a questionnaire, which was developed for this aim. Then the questionnaire was distributed online to managers of Hypermarkets in Amman, Jordan. The collected answers were checked and coded against SPSS. The validity, reliability, correlation test, and then multiple regressions were used to test the hypothesis.

3.3. Study Population and Sample

The study population is the Hypermarkets in Amman Jordan, and the sample made up of several Hypermarkets in Amman, Jordan the population of the study is the managers and employees that have a managerial role.

3.4. Unit of Analysis

The sample is managers and employees who have a managerial role in Hypermarkets in Jordan in the capital of Amman, to reach the goals and objectives of this study. The sample size is managed according to (Sekaran and Bougie, 2016), and the sample follows the convenience sampling method.

3.5. Data Sources

The data that used to achieve the purposes of the study can be divided into two groups: secondary data and primary data. **Secondary** data was collected from journals, books, research, theses, dissertations, articles, working papers, annual reports, and the Worldwide Web. **Primary** data was collected from the questionnaire.

The Questionnaire (Tool)

The questionnaire was designed to match the purpose of the study, and then validated through expert interviews and a referees committee (panel of judges), as shown in Appendix (1).

Demographic Dimensions

Gender, Age, Experience, Education, Position, Division.

Independent Variable (Dynamic Capabilities of Business Intelligence):

It contains the following sub-variables Sensing Capabilities, Seizing Capabilities, and Transforming Capabilities. Five items were used to measure each sub-variable.

Dependent Variable (Decision-Making Quality)

Contains the following dimensions: Decision-Making Effectiveness, Decision-Making Efficiency, and Decision-Making Satisfaction. Five items were used to measure each dimension.

All items were measured by a five-point Likert-type scale to rate respondents' actual perceptions regarding each item as follows: 1 (strongly unimplemented) to 5 (strongly implemented).

3.6. Data Collection

The researcher phoned the targeted hypermarket companies, and then the questionnaires were distributed online to the managers and employees who have managerial roles working in these Hypermarket companies, due to the difficulty of reaching the massive number of Hypermarkets found in Amman. Which, resulted in receiving (209) questionnaires, only accepted for the analysis (203) questionnaires, while six questionnaires were excluded because of their incompleteness.

3.7. Data Analysis

To actualize these study data questionnaires, which collected from the managers working in Hypermarkets, and after checking the responses, the data coded against SPSS to analyze the impact of Dynamic Capabilities of Business Intelligence on Decision-Making Quality. Then the following statistical methods are used.

3.7.1 Validity Test

The tool`s validity was confirmed by using three methods: content validity, face validity, and construct validity. The content validity confirmed by collecting the data from multiple literature resources such as books, journals, working papers, research, thesis, dissertations, articles, and worldwide Web. Moreover, the face validity confirmed through the board of judges, which judged the questionnaire (see Appendix 1). Finally, construct validity confirmed by Principal Component Factor Analysis with Kaiser Meyer Olkin (KMO).

Construct Validity (Factor Analysis)

The construct validity was confirmed using Principal Component Factor Analysis with Kaiser Meyer Olkin (KMO). The data explanation and conformity were examined using Principal Factor Analysis. Factor loading more than (0.50) is good and accepted if

it exceeds (0.40) (Hair, et. al., 2014). However, Kaiser Meyer Olkin (KMO) used to measure sampling adequacy, harmony, and inter-correlations, KMO values between (0.8 and 1) indicate that a high sampling is adequacy, and accepted if it exceeds (0.6). Another indicator is Bartlett's of Sphericity used for the determination of the suitability of data and correlation, where if the significant value of data is less than (0.05 at a 95%) confidence level that indicates a useful factor analysis. Variance percentage shows the explanation power of factors (Cerny and Kaiser, 1977).

Sensing Capabilities

Table (3.1) shows that the loading factor of Sensing Capabilities items scored between (0.803 and 0.890). Therefore, the construct validity assumed. KMO has rated (85.6%), which indicates good adequacy, and the Chi^2 is (676.765), which indicates the fitness of the model. Moreover, the variance percentage is (73.33), so it can explain (73.3%) of the variation. Finally, the significance of Bartlett's Sphericity is less than (0.05), which indicates the factor analysis is useful.

Table (3.1): Principal Component Analysis Sensing Capabilities

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	The company develops data collection methods.	0.803	0.856	676.765	10	73.333	0.001
2	The company uses a system that handles unstructured data.	0.876					
3	The company follows data collection procedures.	0.834					
4	The company commits to collecting data based on key performance indicators.	0.890					
5	The company manages compliance with data sensing operations.	0.875					

Principal Component Analysis.

Seizing Capabilities

Table (3.2) shows that the loading factor of Seizing Capabilities items scored between (0.810 and 0.868). Therefore, the construct validity assumed. KMO has rated (87.8%), which indicates good adequacy, and the Chi^2 is (553.743), which indicates the fitness of the model. Moreover, the variance percentage is (70.303), so it can explain (70.3%) of the variation. Finally, the significance of Bartlett's Sphericity is less than (0.05), which indicates the factor analysis is useful.

Table (3.2): Principal Component Analysis Seizing Capabilities

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	The company organizes unstructured data in a standardized format.	0.810	0.878	553.743	10	70.303	0.001
2	The company ensures data consistency.	0.847					
3	The company uses new data sources.	0.868					
4	The company checks the quality of the data.	0.826					
5	The company develops a system for automatic data conversion.	0.841					

Principal Component Analysis.

Transforming Capabilities

Table (3.3) shows that the loading factor of Transforming Capabilities items scored between (0.750 and 0.906). Therefore, the construct validity assumed. KMO has rated (86.9%), which indicates good adequacy, and the Chi^2 is (621.684), which indicates the fitness of the model. Moreover, the variance percentage is (71.282), so it can explain (71.2%) of the variation. Finally, the significance of Bartlett's Sphericity is less than (0.05), which indicates the factor analysis is useful.

Table (3.3): Principal Component Analysis Transforming Capabilities

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	The company develops a system to simplify report production.	0.750	0. 869	621.684	10	71.282	0.001
2	The company develops data exploration tools.	0.906					
3	The company fosters information sharing.	0.876					
4	The company generates specialized reports for analysis.	0.797					
5	The company provides users with advanced business intelligence features.	0.881					

Principal Component Analysis.

Decision-Making Effectiveness

Table (3.4): Principal Component Analysis Decision-Making Effectiveness

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	The company makes good decisions.	0.872	0.857	672.528	10	73.903	0.001
2	The company achieves the set goals and desired results.	0.884					
3	The company works to reduce information delays.	0.859					
4	The company evaluates what is planned and what is implemented.	0.838					
5	The company updates information to make decisions.	0.844					

Principal Component Analysis.

Table (3.4) shows that the loading factor of Decision-Making Effectiveness items scored between (0.838 and 0.884). Therefore, the construct validity assumed. KMO has rated (85.7%), which indicates good adequacy, and the Chi^2 is (672.528), which indicates the fitness of the model. Moreover, the variance percentage is (73.903), so it can explain (73.9%) of the variation. Finally, the significance of Bartlett's Sphericity is less than (0.05), which indicates the factor analysis is useful.

Decision-Making Efficiency

Table (3.5): Principal Component Analysis Decision-Making Efficiency

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	The company makes a decision to reduce costs.	0.774	0.858	588.975	10	70.560	0.001
2	The company reduces the time for decision-making.	0.873					
3	The company selects suitable teamwork for decision-making.	0.817					
4	The company makes timely decisions.	0.883					
5	The company developing future service strategies.	0.849					

Principal Component Analysis.

Table (3.5) shows that the loading factor of Decision-Making Efficiency items scored between (0.774 and 0.883). Therefore, the construct validity assumed. KMO has rated (85.8%), which indicates good adequacy, and the Chi^2 is (588.975), which indicates the fitness of the model. Moreover, the variance percentage is (70.560), so it can explain (70.5%) of the variation. Finally, the significance of Bartlett's Sphericity is less than (0.05), which indicates the factor analysis is useful.

Decision-Making Satisfaction

Table (3.6): Principal Component Analysis Decision-Making Satisfaction

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	The company provides career development opportunities.	0.789	0.874	702.739	10	74.640	0.001
2	The company values employees' commitment.	0.900					
3	The company develops employees' skills.	0.863					
4	The company insures job security.	0.900					
5	The company empowers its employees.	0.863					

Principal Component Analysis.

Table (3.6) shows that the loading factor of Decision-Making Satisfaction items scored between (0.789 and 0.900). Therefore, the construct validity assumed. KMO has rated (87.4%), which indicates good adequacy, and the Chi^2 is (702.739), which indicates the fitness of the model. Moreover, the variance percentage is (74.640), so it can explain (74.6%) of the variation. Finally, the significance of Bartlett's Sphericity is less than (0.05), which indicates the factor analysis is useful.

Dynamic Capabilities of Business Intelligence

Table (3.7) shows that the loading factor of Dynamic Capabilities of Business Intelligence variables scored between (0.913 and 0.951). Therefore, the construct validity assumed. KMO has rated (74.8%), which indicates good adequacy, and the Chi^2 is (512.387), which indicates the fitness of the model. Moreover, the variance percentage is (87.880), so it can explain (87.8%) of the variation. Finally, the significance of Bartlett's Sphericity is less than (0.05), which indicates the factor analysis is useful.

Table (3.7): Principal Component Analysis Dynamic Capabilities of Business Intelligence

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	Sensing Capabilities	0.913	0.748	512.387	3	87.880	0.001
2	Seizing Capabilities	0.947					
3	Transforming Capabilities	0.951					

Principal Component Analysis.

Decision-Making Quality

Table (3.8) shows that the loading factor of Decision-Making Quality dimensions scored between (0.907 and 0.944). Therefore, the construct validity assumed. KMO has rated (50.2%), which indicates good adequacy, and the Chi^2 is (201.255), which indicates the fitness of the model. Moreover, the variance percentage is (60.434), so it can explain (60.4%) of the variation. Finally, the significance of Bartlett's Sphericity is less than (0.05), which indicates the factor analysis is useful.

Table (3.8): Principal Component Analysis Decision-Making Quality

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	Decision-Making Effectiveness	0.944	0.502	201.255	3	60.434	0.001
2	Decision-Making Efficiency	0.937					
3	Decision-Making Satisfaction	0.907					

Principal Component Analysis.

3.7.2 Reliability Test

According to Hair et al. (2014), Cronbach's alpha is used to assess the reliability of data. Reliable instruments are considered to be valid if their alpha is greater than (0.70 and less than 0.60). The reliability coefficient for the Dynamic Capabilities of Business Intelligence sub-variables ranges from (0.89 to 0.91), while the reliability coefficient for the Decision-Making Quality dimensions is between (0.89 and 0.91), as Table (3.9) details.

Table (3.9): Reliability Test for all variables

Variables	Items / Sub - Variables	*Cronbach's Alpha*
Sensing Capabilities	5	0.91
Seizing Capabilities	5	0.89
Transforming Capabilities	5	0.90
Dynamic Capabilities of Business Intelligence	**3 Sub-Variables**	**0.930**
Decision-Making Effectiveness	5	0.91
Decision-Making Efficiency	5	0.89
Decision-Making Satisfaction	5	0.91
Decision-Making Quality	**3 Dimensions**	**0.855**

3.7.3 Demographic Analysis

Based on the features of the valid responder, or the Frequency and Percentage of participation, such as gender, age, experience, education, position, and division, the demographic analysis shown in the sections below is offered.

Gender: Table (3.10) reveals that just 39 (19.2%) of the respondents are female, whereas 164 (80.8%) of the respondents are men. This is understandable given that the ratio of women is substantially larger in other divisions and is low in the tested divisions.

Table (3.10): Respondents Gender

		Frequency	Percent
Gender	Male	164	80.8
	Female	39	19.2
	Total	**203**	**100.0**

Age: Table (3.11) reveals that, of the entire sample, the plurality of respondents 132 (65.0%) are under 30 years old. Next in line are those who are between 30 and 40 years old, 31 (15.3%), followed by those who are between 41 and 50 years old, 28 (13.8%), and those who are above 50 years old, 12 (5.9%).

Table (3.11): Respondents Age

		Frequency	Percent
Age	Less than 30	132	65.0
	30-40	31	15.3
	41-50	28	13.8
	More than 50	12	5.9
	Total	**203**	**100.0**

Experience: Table (3.12) reveals that 145 (71.4%) of respondents have 10 or less years of experience, which is consistent with the study sample that focuses on managerial employees who hold managerial role levels. Next, 34 (16.7%) of respondents have between 11 and 20 years of experience, and 14 (6.9%) have between 21 and 30 years of experience. Finally, just 10 (4.9%) of the respondents had experience spanning thirty years or more.

Table (3.12): Respondents Experience

		Frequency	Percent
Experience	10 or less	145	71.4
	11-20	34	16.7
	21-30	14	6.9
	30 and more	10	4.9
	Total	**203**	**100.0**

Education: Table (3.13) demonstrates the plurality of respondents have a high level of education. This is due in part to the pharmaceutical industry's emphasis on ongoing learning and development; of those with degrees, 132 (65.0%) hold a bachelor's degree, 51 (25.1%) hold a master's degree, and 20 (9.9%) hold a Ph.D.

Table (3.13): Respondents Education

		Frequency	Percent
Education	Bachelor's	132	65.0
	Master	51	25.1
	Ph.D.	20	9.9
	Total	**203**	**100.0**

Position: Table (3.14) reveals that, of all respondents, 121 (59.6%) are employees, 35 (17.2%) are supervisors, 30 (14.8%) are head of department, and 17 (8.4%) are director positions. Therefore, the majority of respondents are employees.

Table (3.14): Respondents Position

		Frequency	Percent
Position	Employee	121	59.6
	Supervisor	35	17.2
	Head of Department	30	14.8
	Director	17	8.4
	Total	**203**	**100.0**

Division: Table (3.15) reveals that the plurality of respondents are employed by the Operations division, which employs 62 people (30.5%), followed by the Finance/Accounting division, which employs 51 people (25.1%), the Administration division, which employs 46 people (22.7%), and the Commercial/Marketing division, which employs 44 people (21.7%).

Table (3.15): Respondents Division

		Frequency	Percent
Division	Administration	46	22.7
	Operations	62	30.5
	Commercial/Marketing	44	21.7
	Finance/Accounting	51	25.1
	Total	**203**	**100.0**

CHAPTER FOUR
Data Analysis

4.1. Introduction

This chapter includes a descriptive statistical analysis of the respondents' perceptions. It does this by looking at the relationships between the Dynamic Capabilities of Business Intelligence sub-variables and the Decision-Making Quality dimensions, as well as the correlations between the sub-variables and the dimensions. The Pearson Bivariate Correlation matrix was utilized for this purpose. The last hypothesis to be investigated with multiple linear regressions was the effect of Dynamic Capabilities of Business Intelligence on Decision-Making Quality.

4.2. Descriptive Statistical Analysis

The respondents' perceptions of each variable, dimension, and item's degree of implementation are described using the following metrics: mean, standard deviation, t-value, ranking, and implementation level.

The following formula is used to divide the implementation level into three categories: $\frac{5-1}{3} = 1.33$

Therefore, implementation is categorized as low if it is between (1.00 and 2.33), medium if it is between (2.34 and 3.66), and high if it is between (3.67 and 5.00).

Independent Variable (Dynamic Capabilities of Business Intelligence)

Table (4.1) shows the range of mean values (4.00 to 4.37) for the sub-variables that represent Dynamic Capabilities of Business Intelligence, with a standard deviation that ranges between (0.41 and 0.79). The respondents agree with this, as seen by the high t-value relative to the T-tabulated, which rates and supports the high implementation of the

Dynamic Capabilities of Business Intelligence sub-variables. As can be seen from the mean average of (4.13) and standard deviation of (0.56), the respondents are highly conscious of and concerned about the Dynamic Capabilities of Business Intelligence where t - value is (104.87 > T - tabulated = 1.960).

Table (4.1): Mean, Standard Deviation, t - Value, Ranking, and Implementation Level of Dynamic Capabilities of Business Intelligence

No.		M.	S.D.	t	Sig.	Rank	Impl.
1	Sensing Capabilities	4.37	0.41	153.15	0.001	1	High
2	Seizing Capabilities	4.00	0.77	73.735	0.001	3	High
3	Transforming Capabilities	4.03	0.79	72.521	0.001	2	High
	Dynamic Capabilities of Business Intelligence	**4.13**	**0.56**	**104.87**	**0.001**		**High**

T – Tabulated = 1.960

Sensing Capabilities

Table (4.2) shows the range of mean values (4.24 to 4.50) for the Sensing Capabilities items that represent Dynamic Capabilities of Business Intelligence, with a standard deviation that ranges between (0.50 and 0.71). The respondents agree with this, as seen by the high t-value relative to the T-tabulated, which rates and supports the high implementation of the Sensing Capabilities. As can be seen from the mean average of (4.37) and standard deviation of (0.41), the respondents are highly conscious of and concerned about the Sensing Capabilities where t-value is (153.150 > T - tabulated = 1.960).

Table (4.2): Mean, Standard Deviation, t - Value, Ranking, and Implementation Level of Sensing Capabilities

No.		M.	S.D.	t	Sig.	Rank	Impl.
1	The company develops data collection methods.	4.40	0.53	118.32	0.001	2	High
2	The company uses a system that handles unstructured data.	4.36	0.54	115.18	0.001	3	High
3	The company follows data collection procedures.	4.34	0.63	98.63	0.001	4	High

No.		M.	S.D.	t	Sig.	Rank	Impl.
4	The company commits to collecting data based on key performance indicators.	4.50	0.50	127.85	0.001	1	High
5	The company manages compliance with data sensing operations.	4.24	0.71	84.67	0.001	5	High
	Sensing Capabilities	**4.37**	**0.41**	**153.150**	**0.001**		**High**

T – Tabulated = 1.960

Seizing Capabilities

Table (4.3) shows the range of mean values (3.95 to 4.07) for the Seizing Capabilities items that represent Dynamic Capabilities of Business Intelligence, with a standard deviation that ranges between (0.85 and 0.99). The respondents agree with this, as seen by the high t-value relative to the T-tabulated, which rates and supports the high implementation of the Seizing Capabilities. As can be seen from the mean average of (4.00) and standard deviation of (0.77), the respondents are highly conscious of and concerned about the Seizing Capabilities where t - value is (73.735 > T - tabulated = 1.960).

Table (4.3): Mean, Standard Deviation, t - Value, Ranking, and Implementation Level of Seizing Capabilities

No.		M.	S.D.	t	Sig.	Rank	Impl.
1	The company organizes unstructured data in a standardized format.	4.00	0.93	61.306	0.001	3	High
2	The company ensures data consistency.	3.97	0.93	60.399	0.001	4	High
3	The company uses new data sources.	4.04	0.85	67.309	0.001	2	High
4	The company checks the quality of the data.	4.07	0.90	64.050	0.001	1	High
5	The company develops a system for automatic data conversion.	3.95	0.99	56.726	0.001	5	High
	Seizing Capabilities	**4.00**	**0. 77**	**73.735**	**0.001**		**High**

T – Tabulated = 1.960

Transforming Capabilities

Table (4.4) shows the range of mean values (3.93 to 4.13) for the Transforming Capabilities items that represent Dynamic Capabilities of Business Intelligence, with a standard deviation that ranges between (0.90 and 0.96). The respondents agree with this, as seen by the high t-value relative to the T-tabulated, which rates and supports the high implementation of the Transforming Capabilities. As can be seen from the mean average of (4.03) and standard deviation of (0.79), the respondents are highly conscious of and concerned about the Transforming Capabilities where t - value is (72.521 > T - tabulated = 1.960).

Table (4.4): Mean, Standard Deviation, t - Value, Ranking, and Implementation Level of Transforming Capabilities

No.		M.	S.D.	t	Sig.	Rank	Impl.
1	The company develops a system to simplify report production.	3.93	0.96	57.898	0.001	5	High
2	The company develops data exploration tools.	4.03	0.90	63.366	0.001	3	High
3	The company fosters information sharing.	3.99	0.95	59.663	0.001	4	High
4	The company generates specialized reports for analysis.	4.13	0.92	63.616	0.001	1	High
5	The company provides users with advanced business intelligence features.	4.09	0.95	60.971	0.001	2	High
	Transforming Capabilities	**4.03**	**0. 79**	**72.521**	**0.001**		**High**

T – Tabulated = 1.960

Dependent Variable (Decision-Making Quality)

Table (4.5) shows the range of mean values (3.96 to 4.11) for the dimensions that represent Decision-Making Quality, with a standard deviation that ranges between (0.76 and 0.86). The respondents agree with this, as seen by the high t-value relative to the T-tabulated, which rates and supports the high implementation of the Decision-Making Quality dimensions. As can be seen from the mean average of (4.06) and standard

deviation of (0.53), the respondents are highly conscious of and concerned about the Decision-Making Quality dimensions where t - value is (107.374 > T - tabulated = 1.960).

Table (4.5): Mean, Standard Deviation, t - Value, Ranking, and Implementation Level of Decision-Making Quality

No.		M.	S.D.	t	Sig.	Rank	Impl.
1	Decision-Making Effectiveness	4.11	0.76	76.762	0.001	1	High
2	Decision-Making Efficiency	4.10	0.77	75.896	0.001	2	High
3	Decision-Making Satisfaction	3.96	0.86	65.507	0.001	3	High
	Decision-Making Quality	**4.06**	**0.53**	**107.374**	**0.001**		**High**

T – Tabulated = 1.960

Decision-Making Effectiveness

Table (4.6) shows the range of mean values (4.00 to 4.22) for the Decision-Making Effectiveness dimensions that represent Decision-Making Quality, with a standard deviation that ranges between (0.80 and 0.98). The respondents agree with this, as seen by the high t-value relative to the T-tabulated, which rates and supports the high implementation of the Decision-Making Effectiveness. As can be seen from the mean average of (4.11) and standard deviation of (0.76), the respondents are highly conscious of and concerned about the Decision-Making Effectiveness where t - value is (76.762 > T - tabulated = 1.960).

Table (4.6): Mean, Standard Deviation, t - Value, Ranking, and Implementation Level of Decision-Making Effectiveness

No.		M.	S.D.	t	Sig.	Rank	Impl.
1	The company makes good decisions.	4.00	0.98	58.077	0.001	5	High
2	The company achieves the set goals and desired results.	4.14	0.92	63.809	0.001	2	High
3	The company works to reduce information delays.	4.11	0.84	68.943	0.001	4	High
4	The company evaluates what is planned and what is implemented.	4.22	0.80	74.758	0.001	1	High
5	The company updates information to make decisions.	4.11	0.88	66.605	0.001	3	High
	Decision-Making Effectiveness	**4.11**	**0.76**	**76.762**	**0.001**		**High**

T – Tabulated = 1.960

Decision-Making Efficiency

Table (4.7) shows the range of mean values (4.06 to 4.18) for the Decision-Making Efficiency dimensions that represent Decision-Making Quality, with a standard deviation that ranges between (0.90 and 0.94). The respondents agree with this, as seen by the high t-value relative to the T-tabulated, which rates and supports the high implementation of the Decision-Making Efficiency. As can be seen from the mean average of (4.10) and standard deviation of (0.77), the respondents are highly conscious of and concerned about the Decision-Making Efficiency where t - value is (75.896 > T - tabulated = 1.960).

Table (4.7): Mean, Standard Deviation, t - Value, Ranking, and Implementation Level of Decision-Making Efficiency

No.		M.	S.D.	t	Sig.	Rank	Impl.
1	The company makes a decision to reduce costs.	4.11	0.94	62.016	0.001	2	High
2	The company reduces the time for decision-making.	4.08	0.90	64.352	0.001	4	High
3	The company selects suitable teamwork for decision-making.	4.06	0.91	63.174	0.001	5	High
4	The company makes timely decisions.	4.11	0.92	63.139	0.001	3	High
5	The company developing future service strategies.	4.18	0.90	65.731	0.001	1	High
	Decision-Making Efficiency	**4.10**	**0.77**	**75.896**	**0.001**		**High**

T – Tabulated = 1.960

Decision-Making Satisfaction

Table (4.8) shows the range of mean values (3.95 to 4.00) for the Decision-Making Satisfaction dimensions that represent Decision-Making Quality, with a standard deviation that ranges between (0.98 and 1.02). The respondents agree with this, as seen by the high t-value relative to the T-tabulated, which rates and supports the high implementation of Decision-Making Satisfaction. As can be seen from the mean average of (3.96) and standard deviation of (0.86), the respondents are highly conscious of and concerned about Decision-Making Satisfaction where t - value is (65.507 > T - tabulated = 1.960).

Table (4.8): Mean, Standard Deviation, t - Value, Ranking, and Implementation Level of Decision-Making Satisfaction

No.		M.	S.D.	t	Sig.	Rank	Impl.
1	The company provides career development opportunities.	3.94	1.02	54.901	0.001	5	High
2	The company values employees' commitment.	3.98	0.99	57.005	0.001	3	High
3	The company develops employees' skills.	3.95	1.00	55.888	0.001	4	High
4	The company insures job security.	4.00	1.00	56.991	0.001	1	High
5	The company empowers its employees.	3.98	0.98	57.880	0.001	2	High
	Decision-Making Satisfaction	**3.96**	**0.86**	**65.507**	**0.001**		**High**

T – Tabulated = 1.960

Relationship between Independent and Dependent Variables

The link between the variables has been examined by the bivariate Pearson Correlation Test. Table (4.9) demonstrates the high correlations between the Dynamic Capabilities of Business Intelligence sub-variables, with r ranging from (0.307 to 0.949). Furthermore, there are also substantial correlations between the Decision-Making Quality dimensions, with r ranging from (0.466 to 0.793). At (r = 0.736), the link between the variables that are independent and dependent is, at last, quite strong.

Table (4.9): Independent and Dependent Variables' Relationship

No.		1	2	3	4	5	6	7	8
1	**Sensing Capabilities**								
2	**Seizing Capabilities**	.307**							
3	**Transforming Capabilities**	.276**	.879**						
4	**Dynamic Capabilities of Business Intelligence**	.511**	.945**	.949**					
5	**Decision-Making Effectiveness**	.357**	.580**	.612**	.629**				
6	**Decision-Making Efficiency**	.406**	.653**	.647**	.675**	.793**			
7	**Decision-Making Satisfaction**	.410**	.222**	.227**	.219**	.415**	.466**		
8	**Decision-Making Quality**	.341**	.704**	.719**	**.736****	.788**	.816**	.448**	

**** . Correlation is significant at the (0.01) level (2 - tailed). * . Correlation is significant at the (0.05) level (2 - tailed).**

4. 3. Hypothesis Testing

Following the validation of reliability, validity, and correlation between independent and dependent variables, the following tests should be conducted to verify the validity of regression analysis (Sekaran, 2003):

Normality Test: As seen in Figure (4.1), the shape is consistent with the normal distribution, meaning that the model does not deviate from this presumption.

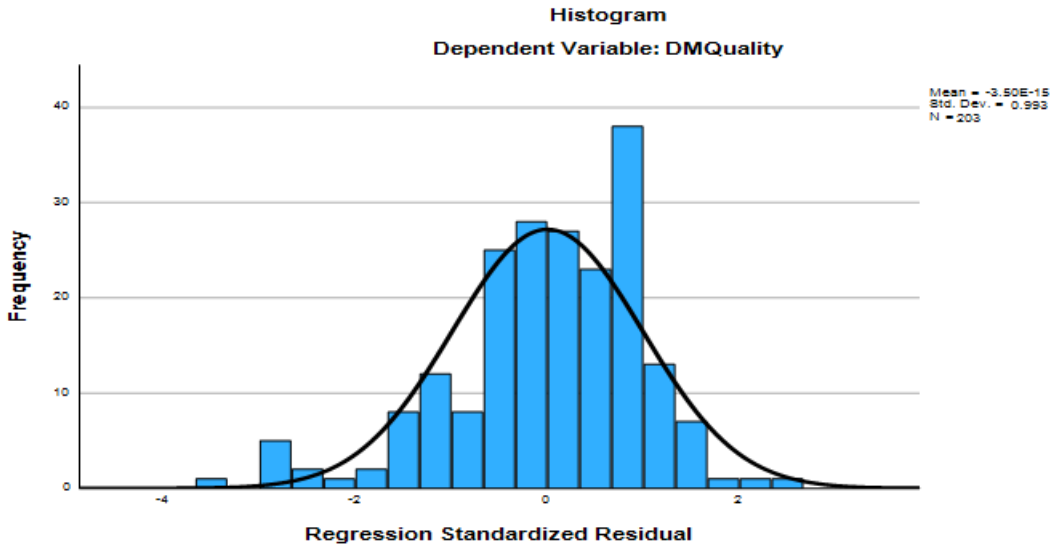


Figure (4.1): Normality Test

Linearity Test: The independent and dependent variables have a linear relationship. as seen in Figure (4.2). The model does not go against this presumption in the scenario**.**

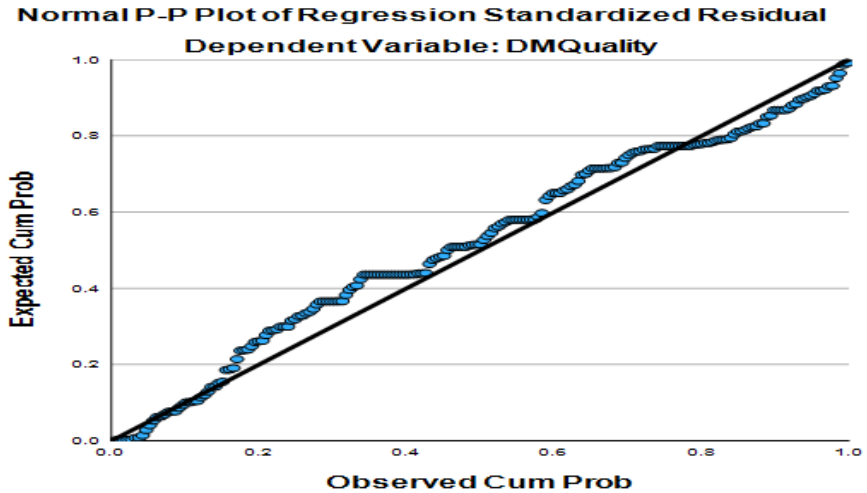


Figure (4.2): Linearity Test

Equal Variance (Homoscedasticity): Figure (4.3) shows how the errors are distributed around the mean, suggesting that there is no relationship between the errors and the expected values. The model does not contradict the assumption in this case.

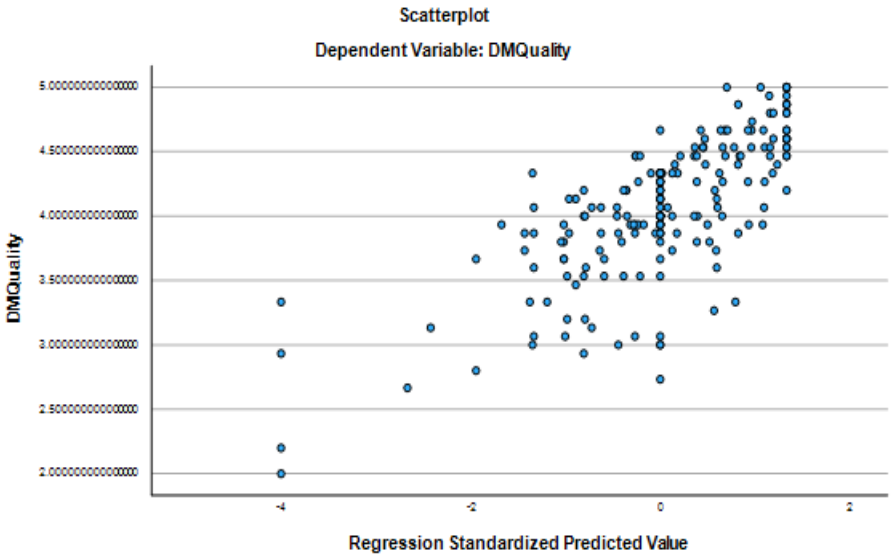


Figure (4.3): Equal Variance (Homoscedasticity)

Multi-Collinearity: The Collinearity model does not violate this condition if the tolerance is more than 10% and the VIF (Variance Inflation Factor) value is less than 10.

Table (4.10): Tolerance and Variance Inflation Factor

Sub-Variables	Collinearity Statistics	
	Tolerance	VIF
Sensing Capabilities	0.906	1.104
Seizing Capabilities	0.223	4.486
Transforming Capabilities	0.227	4.397

Main Hypothesis

H01: There is no statistically significant impact of Dynamic Capabilities of Business Intelligence (Sensing Capabilities, Seizing Capabilities, and Transforming Capabilities) on Decision-Making Quality in Hypermarkets in Amman, Jordan, at the level ($\alpha \geq 0.05$).

Table (4.11) shows that when regressing the three sub-variables of Dynamic Capabilities of Business Intelligence against the total Decision-Making Quality, the model shows that Dynamic Capabilities of Business Intelligence can explain (55.6%) of the variation of Decision-Making Quality, where ($R^2 = 0.556$, F = 83.103, Sig. = 0.00). Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted, which states that Dynamic Capabilities of Business Intelligence sub-variables (Sensing Capabilities, Seizing Capabilities, and Transforming Capabilities) impact Decision-Making Quality in Hypermarkets in Amman, Jordan, at the significant level of ($\alpha \leq 0.05$).

Table (4.11): Multiple Regressions of Dynamic Capabilities of Business Intelligence Sub-Variables on Decision-Making Quality.

Model	R	R^2	Adjusted R^2	F	Sig.
1	0.746	0.556	0.549	83.103	0.00

a. Predictors: (Constant), Sensing Capabilities, Seizing Capabilities, and Transforming Capabilities.
b. Dependent Variable: Decision-Making Quality.

Based on the components of Dynamic Capabilities of Business Intelligence, table (4.12) shows the impact of each sub-variable on Decision-Making Quality, where impacted Decision-Making Quality, the highest impact was Transforming Capabilities with (43.5%) of the total impact, followed by Seizing Capabilities with an impact of (28.0%) on Decision-Making Quality and finally Sensing Capabilities rated (13.6%).

Table (4.12): Multiple Regressions of Dynamic Capabilities of Business Intelligence Sub-Variables on Decision-Making Quality (ANOVA).

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.302	0.281		4.639	0.00
	Sensing Capabilities	0.180	0.066	0.136	2.733	0.007
	Seizing Capabilities	0.195	0.070	0.280	2.799	0.006
	Transforming Capabilities	0.889	0.202	0.435	4.394	0.000

a. Dependent Variable: Decision-Making Quality, T – tabulated = 1.960

H01.1: There is no statistically significant impact of Sensing Capabilities on Decision-Making Quality in Hypermarkets in Amman, Jordan, at the level ($\alpha \geq 0.05$).

Table (4.12) shows that there is an impact of Dynamic Capabilities of Business Intelligence (Sensing Capabilities) on Decision-Making Quality, where (Beta = 0.136, t= 2.733, sig. = 0.007, $p < 0.05$). Therefore, the null hypothesis is rejected, and the alternative hypothesis states that Sensing Capabilities affect Decision-Making Quality in Hypermarkets in Amman, Jordan, at the significant level of ($\alpha \leq 0.05$).

H01.2: There is no statistically significant impact of Seizing Capabilities on Decision-Making Quality in Hypermarkets in Amman, Jordan, at the level ($\alpha \geq 0.05$).

Table (4.12) shows that there is an impact of Dynamic Capabilities of Business Intelligence (Seizing Capabilities) on Decision-Making Quality, where (Beta = 0.280, t=2.799, sig. = 0.006, $p < 0.05$). Therefore, the null hypothesis is rejected, and the alternative hypothesis states that Seizing Capabilities affect Decision-Making Quality in Hypermarkets in Amman, Jordan, at the significant level of ($\alpha \leq 0.05$).

H01.3: There is no statistically significant impact of Transforming Capabilities on Decision-Making Quality in Hypermarkets in Amman, Jordan, at the level ($\alpha \geq 0.05$).

Table (4.12) shows that there is an impact of Dynamic Capabilities of Business Intelligence (Transforming Capabilities) on Decision-Making Quality, where (Beta=0.435, t = 4.394, sig. = 0.000, $p < 0.05$). Therefore, the null hypothesis is rejected, and the alternative hypothesis states that Transforming Capabilities affect Decision-Making Quality in Hypermarkets in Amman, Jordan, at the significant level of ($\alpha \leq 0.05$).

In conclusion, the findings indicate that participants concur on the critical necessity of the Dynamic Capabilities of Business Intelligence sub-variable Sensing Capabilities, followed by Transforming Capabilities and Seizing Capabilities, finally, the respondent's results show that Dynamic Capabilities of Business Intelligence affect Decision-Making Quality.

Additionally, the results demonstrate the strength of the relationships between the Decision-Making Quality dimensions and the Dynamic Capabilities of Business Intelligence sub-variables. In conclusion, the results demonstrate the strength of the relationships between the Decision-Making Quality dimensions and the Dynamic Capabilities of Business Intelligence as well as the sub-variables.

Lastly, multiple regression analysis results revealed that the Dynamic Capabilities of Business Intelligence and its sub-variables affect Decision-Making Quality, where Transforming Capabilities had the highest impact, followed by Seizing Capabilities, and Sensing Capabilities.

CHAPTER FIVE
Results' Discussion, Conclusion, and Recommendations

5.1. Results' Discussion

The study findings show that The Jordanian Hypermarket has a high implementation rate for the Dynamic Capabilities of Business Intelligence sub-variables. Among the sub-variables, Sensing Capabilities have the highest implementation rate, followed by Transforming Capabilities and Seizing Capabilities. The Jordanian Hypermarket, aside from its poor partner relationships, was the source of the last rate for adopting Seizing Capabilities since it did not employ methods for sensing or forecasting the market indications that were converted for strategy and long-term demand.

Second, the results demonstrate that, among the Decision-Making Quality dimensions, it is not surprising that the Jordanian Hypermarket has a high implementation level for Decision-Making Effectiveness, which is followed by Decision-Making Efficiency, and Decision-Making Satisfaction, which has the lowest implementation level. The Decision-Making Satisfaction implementation rate is low because staff members do not participate in creativity programs, continuous training on business intelligence topics is not offered, staff complaints and ideas are not included in process improvement, new technologies are not adopted, there are not enough opportunities for career development, and staff members' skills are not being developed. Not utilizing Dynamic Capabilities of Business Intelligence from the perspective of the workforce, and not empowering them in their jobs.

Table (5.1) summarizes the impact matrix among the Dynamic Capabilities of Business Intelligence sub-variables (Sensing Capabilities, Seizing Capabilities, and Transforming Capabilities) on Decision-Making Quality dimensions (Decision-Making

Effectiveness, Decision-Making Efficiency, and Decision-Making Satisfaction) via ANOVA analysis, the results are as follows:

Table (5.1) Presents The Results of Multiple Regressions Analyzing the Dynamic Capabilities of Business Intelligence Sub-Variables on Decision-Making Quality (Decision-Making Effectiveness, Decision-Making Efficiency, and Decision-Making Satisfaction) (ANOVA).

	Decision-Making Quality	Decision-Making Effectiveness	Decision-Making Efficiency	Decision-Making Satisfaction
Dynamic Capabilities of Business Intelligence	+	+	+	+
Sensing Capabilities	+	+	+	+
Seizing Capabilities	+	+	+	+
Transforming Capabilities	+	+	+	+

Significant Impact: +

1. The significant impact of the total Dynamic Capabilities of Business Intelligence on the total Decision-Making Quality is confirmed by previous studies by (Denic et al, 2016; Gauzelin and Bentz, 2017; Urumsah and Ramadhansyah, 2019; Aziz, 2020; Wibiayu and Siallagan, 2022).
2. The significant impact of Dynamic Capabilities of Business Intelligence sub-variables for most of the Decision-Making quality dimensions.
3. The significant impact of Dynamic Capabilities of Business Intelligence sub-variables on the total Decision-Making Quality for Decision-Making Satisfaction that has the lowest implementation, which resulted from the lack of implementation of the business intelligence system and dynamic capabilities and what will give the employees advantages.
4. Transforming Capabilities has a significant impact on Decision-Making Effectiveness, Decision-Making Efficiency, and Decision-Making Satisfaction, which is confirmed by a previous study (Park et al, 2017; Bujar, et al. 2017; Kulkarni, et al, 2017; Kurtmollaiev, et al, 2018; O'Neill and Brabazon, 2019; Wibiayu and

Siallagan, 2022). The results meet the functional requirements of Transforming Capabilities to advance report creation, convert data into information, and adjust staff members to impart knowledge.

5. Seizing Capabilities have a significant impact on Decision-Making Effectiveness, Decision-Making Efficiency, and Decision-Making Satisfaction, which is confirmed by previous studies by (Gauzelin and Bentz, 2017; Grušovnik and Kavkler, 2017; Richards, et al, 2019; Torres, Sidorova, and Jones 2018; Ashrafi, et al. 2019; Aziz, 2020). The results meet the functional requirements of Seizing Capabilities for organizing the unstructured data to increase the company BI systems capabilities and to decide on time.
6. Sensing Capabilities have a significant impact on Decision-Making Effectiveness, and Decision-Making Efficiency, Decision-Making Satisfaction, which is supported by a previous study (Woodside, 2010; Negulescu and Doval, 2014; Rosedahl, 2016; Pedron, et al, 2018; Urumsah and Ramadhansyah, 2019; Alkatheeri, et al, 2020; Qaffas, et al. 2023). The outcomes are complying with the functional duties of Sensing Capabilities for developing the collecting of the data and the commitment to data collection procedures to determine the opportunities and threats.

5.2. Conclusion

This study is dedicated to answering the study main question: Do Dynamic Capabilities of Business Intelligence (Sensing Capabilities, Seizing Capabilities, and Transforming Capabilities) affect Decision-Making Quality in Hypermarkets in Amman, Jordan.

The results of this study confirm the high implementation of Dynamic Capabilities of Business Intelligence sub-variables in the Hypermarkets in Amman, Jordan. The

Sensing Capabilities have the highest implementation rate among the sub-variables, then Transforming Capabilities, followed by Seizing Capabilities. Moreover, the results demonstrate the high implementation of the Decision-Making Quality aspects, with Decision-Making Effectiveness receiving the highest implementation rating, succeeded by Decision-Making Efficiency and finally Decision-Making Satisfaction.

Finally, results indicate that there is a significant impact of the Dynamic Capabilities of Business Intelligence on the total Decision-Making Quality of Hypermarkets in Amman, Jordan. Moreover, Transforming Capabilities have the highest impact on Decision-Making Quality, then Seizing Capabilities, and finally Sensing Capabilities.

5.3. Recommendations

5.3.1 Recommendations for Jordanian Hypermarkets

- The study recommends that Dynamic Capabilities of Business Intelligence be included in strategic plans and practices of Jordanian Hypermarkets companies.
- Because the components of business intelligence have an impact on each other, the study recommends that Jordanian Hypermarkets firms adopt the components of dynamic capabilities together.
- According to the report, Jordanian Hypermarkets firms should establish techniques, instruments, and KPIs to monitor the development of their dynamic capabilities by assessing, contrasting, and comparing their constituent parts with those of other Hypermarket organizations.
- The study recommends that to streamline report manufacturing, Jordanian Hypermarkets companies should create a system.
- The study recommends that to streamline report manufacturing, Jordanian Hypermarkets companies should implement a system.

- The study recommends that Jordanian Hypermarkets companies concentrate more on putting in place a system that manages unstructured data, adheres to Sensing Capabilities data collection protocols, and commits to gathering data using KPIs and creating data collection techniques.
- The study recommends that Jordanian Hypermarkets companies should prioritize career development, skill enhancement, and employee empowerment. Additionally, the company should recognize and appreciate the dedication of its workforce.
- The study recommends that Jordanian Hypermarkets companies reassess their Sensing Capabilities and how they affect the quality of their decision-making.
- The study recommends creating educational initiatives targeted at improving these adaptable skills in market-based decision-making groups.
- The study recommends Improving decision-making policies by improving internal processes or clarifying policies related to decision-making.
- The study recommends Enhancing internal communication and interaction by improving the information exchange process or enhancing interaction between different departments.
- The study recommends focusing on improving weak points if there are areas of dynamic capabilities that show weakness in their impact on the quality of decision-making.

5.3.2 Recommendations for Academics and Future Research

- The study recommends integrating different levels of employees because it is focused on managers and employees with managerial positions who work in Jordanian Hypermarkets.
- The Jordanian Hypermarkets in Amman, Jordan, are the subject of this investigation. It is recommended to perform similar research on the same industry in other nations, particularly Arab nations, as they share comparable social and cultural habits, to enable the results of the current study to be broadly used. The subject of this study is Hypermarkets. Therefore suggested that other businesses use the same variables.
- Due to the short time frame in which this study conducted, it is recommended that it be repeated to monitor industry development later on.
- Including different industries will lessen the issue of extrapolating results to other businesses and sectors. Future research potential can be represented by expanding the analyses to other industries and nations, which can be accomplished by conducting additional tests with larger samples within the same industry.

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Appendices

Appendix (1): Panel of Referees Committee

No.	Name	Qualification	Organization
1	Prof. Ahmad Ali Salih	Professor	Middle East University
2	Prof. Azzam Aboumoghli	Professor	Middle East University
3	Prof. Ali Eladaileh	Professor	Middle East University
4	Prof. Ahmad Ghandour	Professor	Middle East University
5	Dr. Abdelaziz Salih	Associate Professor	Middle East University
6	Dr. Hussam Yassen	Associate Professor	Middle East University
7	Dr. Sameer Mousa Aljabali	Associate Professor	Middle East University
8	Dr. Oday Samir Al-Nimri	Associate Professor	The University of Jordan
9	Dr. Khalid Alshaikh Theeb	Associate Professor	Hashemite University
10	Dr. Mohammad Atwah Almaaitah	Associate Professor	Al-Balqa' Applied University
11	Dr. Aktham Albqour	Associate Professor	Al-Balqa' Applied University
12	Ms. Lara Adnan Maayah	PR and Extracurricular	Amman Baptist School
13	Mr. Bshara Jouny	Procurement Coordinator	Amman Baptist School
14	Mr. Yazeed Haddadin	Medical Representative	Abbott Nutrition International

Appendix (2): Letter and Questionnaire of Respondents

جـــامـعـــة الـــشـرق الأوسـط
MIDDLE EAST UNIVERSITY
Amman - Jordan

Dear Participant:

The purpose of this master thesis is to study "The Effect of Dynamic Capabilities of Business Intelligence on Decision-Making Quality in Jordanian Hypermarkets".

This research contains 36 questions, which may take 10 minutes to answer; therefore, we will be thankful to you for devoting your valuable time to answering them.

Your answers will be highly confidential and used for research purposes only.

Again, we appreciate your participation in this research if you have any questions or comments, call (00962786105292).

Thank you for your fruitful cooperation.

Researcher: Mohammad Abdul Kareem Alfaris
Supervisor: Prof. Dr. Abdel Aziz Ahmad Sharabati

جـــامـعـة الـــشـرق الأوسـط
MIDDLE EAST UNIVERSITY
Amman - Jordan

The Effect of Dynamic Capabilities of Business Intelligence on Decision-Making Quality:

A Field Study on Jordanian Hypermarkets.

Part (1): Demographic Information:

Gender: ☐ Male ☐ Female

Age (years): ☐ Less than 30 ☐ 30-40 ☐ 41-50 ☐ More than 50

Experience (years): ☐ 10 or less ☐ 11-20 ☐ 21-30 ☐ 30 and more

Education: ☐ Bachelor ☐ Master ☐ Ph.D.

Position: ☐ Director ☐ Head of Department ☐ Supervisor ☐ Employee

Division: ☐ Administration ☐ Operations ☐ Commercial/Marketing ☐Finance/Accounting

Parts two and three contain 30 questions that tap into your perception of the actual implementation of these items in your organization. Where, [1 = strongly unimplemented, 2 = unimplemented, 3 = normal, 4 = implemented, 5 = strongly implemented].

Part (2): Dynamic Capabilities of Business Intelligence:

1. Sensing Capabilities						
1.	The company develops data collection methods.	1	2	3	4	5
2.	The company uses a system that handles unstructured data.	1	2	3	4	5
3.	The company follows data collection procedures.	1	2	3	4	5
4.	The company commits to collecting data based on key performance indicators.	1	2	3	4	5
5.	The company manages compliance with data sensing operations.	1	2	3	4	5
2. Seizing Capabilities						
6.	The company organizes unstructured data in a standardized format.	1	2	3	4	5
7.	The company ensures data consistency.	1	2	3	4	5
8.	The company uses new data sources.	1	2	3	4	5
9.	The company checks the quality of the data.	1	2	3	4	5
10.	The company develops a system for automatic data conversion.	1	2	3	4	5
3. Transforming Capabilities						
11.	The company develops a system to simplify report production.	1	2	3	4	5
12.	The company develops data exploration tools.	1	2	3	4	5
13.	The company fosters information sharing.	1	2	3	4	5
14.	The company generates specialized reports for analysis.	1	2	3	4	5
15.	The company provides users with advanced business intelligence features.	1	2	3	4	5

Part (3): Decision-Making Quality:

4. Decision-Making Effectiveness						
16.	The company makes good decisions.	1	2	3	4	5
17.	The company achieves the set goals and desired results.	1	2	3	4	5
18.	The company works to reduce information delays.	1	2	3	4	5
19.	The company evaluates what is planned and what is implemented.	1	2	3	4	5
20.	The company updates information to make decisions.	1	2	3	4	5
5. Decision-Making Efficiency						
21.	The company makes a decision to reduce costs.	1	2	3	4	5
22.	The company reduces the time for decision-making.	1	2	3	4	5
23.	The company selects suitable teamwork for decision-making.	1	2	3	4	5
24.	The company makes timely decisions.	1	2	3	4	5
25.	The company developing future service strategies.	1	2	3	4	5

6. Decision-Making Satisfaction						
26.	The company provides career development opportunities.	1	2	3	4	5
27.	The company values employees' commitment.	1	2	3	4	5
28.	The company develops employees' skills.	1	2	3	4	5
29.	The company insures job security.	1	2	3	4	5
30.	The company empowers its employees.	1	2	3	4	5

Appendix (3): Letter and Questionnaire of Respondents (Arabic version)

جـــامـعـــة الـــشـرق الأوسـط
MIDDLE EAST UNIVERSITY
Amman - Jordan

استبانة

حضـرة المشـارك الـعزيـز:

ان الغـرض مـن رسـالـة الـماجستـير هـذه هـو معـرفـة **"أثر القدرات الديناميكية لذكاء الأعمال على جودة صنع القرارعلى الأسواق الكبيرة الأردنية".**

يحتوي هذا البحث على 36 سؤالاً قد تستغرق الإجابة عليها 10 دقائق؛ ولذلك فإننا سنكون شاكرين لك على تخصيص وقتك الثمين للإجابة عليها.

ستكون إجاباتك سرية للغاية وستستخدم لأغـراض البـحث فقـط.

مرة أخـرى، نـحن نقـدر مشاركتـك في هذا البـحث. من فضـلك، إذا كـان لـديك أي أسئـلة أو تعليقـات، الاتصال على **(00962786105292).**

أشكركم على تعاونكم المثمر.

الباحث : محمد عبد الكريم الفارس

المشرف : الأستاذ الدكتور عبد العزيز أحمد الشرباتي

الاستبانة

الجنس: □ ذكر □ أنثى

العمر : □ أقل من 30 عامًا □ 31-40 عامًا □ 41-50 عامًا □ أكثر من 50 عامًا

الخبرة: □ 10سنوات أو أقل □ 11-20 سنة □ 21- 30 سنة □ 30 سنة فأكثر

التعليم: □ بكالوريوس □ ماجستير □ دكتوراه

المنصب: □ مدير □ رئيس القسم □ مشرف □ الموظفين

القسم: □ الإدارة □ العمليات □ التجارية/التسويق □ المالية/المحاسبة

يحتوي الجزءان الثاني والثالث على 30 سؤالًا تستفيد من تصورك للتنفيذ الفعلي لهذه العناصر في شركتك. حيث [1 = غير مطبق بقوة، 2 = غير مطبق، 3 = محايد، 4 = مطبق، 5 = مطبق بقوة].

رقم	السؤال	غير مطبق بشدة	غير مطبق	محايد	مطبق	مطبق بشدة
		1	2	3	4	5
1. قدرات الاستشعار						
.1	تعمل الشركة على تطوير أساليب جمع البيانات.	1	2	3	4	5
.2	تستخدم الشركة نظامًا يتعامل مع البيانات غير المهيكلة.	1	2	3	4	5
.3	تتبع الشركة إجراءات جمع البيانات.	1	2	3	4	5
.4	تلتزم الشركة بجمع البيانات بناءً على مؤشرات الأداء الرئيسية.	1	2	3	4	5
.5	تدير الشركة أمتثال عمليات الأستشعار للبيانات.	1	2	3	4	5
2. قدرات الأستغلال						
.6	تنظم الشركة البيانات غيرالمنظمة بتنسيق موحد.	1	2	3	4	5
.7	تضمن الشركة اتساق البيانات.	1	2	3	4	5
.8	تستخدم الشركة مصادر بيانات جديدة.	1	2	3	4	5
.9	تقوم الشركة بفحص جودة البيانات.	1	2	3	4	5
.10	تقوم الشركة بتطوير نظام لتحويل البيانات تلقائيًا.	1	2	3	4	5

3. قدرات التحول						
.11	تقوم الشركة بتطوير نظام لتبسيط إنتاج التقارير.	1	2	3	4	5
.12	تقوم الشركة بتطوير أدوات أستكشاف البيانات.	1	2	3	4	5
.13	تعزز الشركة مشاركة المعلومات.	1	2	3	4	5
.14	تقوم الشركة بإنتاج تقارير متخصصة للتحليل.	1	2	3	4	5
.15	توفر الشركة للمستخدمين ميزات متقدمة في ذكاء الأعمال.	1	2	3	4	5
4. فاعلية صنع القرار						
.16	تتخذ الشركة قرارات جيدة.	1	2	3	4	5
.17	تحقق الشركة ما بين الأهداف الموضوعة والنتائج المرغوبة.	1	2	3	4	5
.18	تعمل الشركة على تقليل تأخير المعلومات.	1	2	3	4	5
.19	تقوم الشركة بتقييم ما هو مخطط له وما تم تنفيذه.	1	2	3	4	5
.20	تحدث الشركة المعلومات لصنع القرارات.	1	2	3	4	5
5. كفاءة صنع القرار						
.21	تتخذ الشركة قرارات لخفض التكاليف.	1	2	3	4	5
.22	تقلل الشركة من وقت صنع القرارات.	1	2	3	4	5
.23	تختار الشركة فريق عمل مناسب لصنع القرار.	1	2	3	4	5
.24	تتخذ الشركة قرارات في الوقت المناسب.	1	2	3	4	5
.25	تقوم الشركة بتطوير استراتيجيات خدمة مستقبلية.	1	2	3	4	5
6. الرضا عن صنع القرار						
.26	توفر الشركة فرص التطويرالوظيفي.	1	2	3	4	5
.27	تقدر الشركة الألتزام الوظيفي للموظفين.	1	2	3	4	5
.28	تطوِّر الشركة مهارات الموظفين.	1	2	3	4	5
.29	تضمن الشركة الأمان الوظيفي.	1	2	3	4	5
.30	تقوم الشركة بتمكين موظفيها.	1	2	3	4	5

Appendix (4): Book for Facilitating the Task for Amman Chamber of Commerce

جـامـعـة الـشـرق الأوسـط
MIDDLE EAST UNIVERSITY
Amman - Jordan

مكتب رئيس الجامعة
Office of the President

الرقم، د ر/خ/557
التاريخ، 2023/11/28

السادة غرفة تجارة عمان المحترمون

تحية طيبة وبعد،

فتهديكم جامعة الشـرق الأوسـط أطيب وأصـدق الأمنيات، لغايات توفير وربط أسـس التعاون مع خدمة المجتمع المحلي؛ نرجو التكرم بالموافقة على تقديم التسـهيلات الممكنة لطالب الماجستير **محمد عبد الكريم الفارس**، ورقمه الجامعي (402210085)، المسـجل في تخصـص ماجسـتير الاعمال الالكترونية / كلية الأعمال في جامعة الشرق الأوسط، والذي يتولى القيام بإعداد دراسة بحثية أكاديمية في رسالته المعنونه بـ " أثر القدرات الديناميكية لذكاء الأعمال على جودة اتخاذ القرار : دراسة ميدانية على الهايبر ماركت الأردنية)"، علماً بأن المعلومات سيتم استخدامها لأغراض البحث العلمي وبصورة سرية.

وتفضلوا بقبول فائق الاحترام والتقدير...

رئيسة الجامعة

أ.د. سلام خالد المحادين

Tel. (+9626) 4790222 Fax: (+9626) 4129613 P.O.Box. 383 Amman 11831 Jordan e-mail: dir-presdepart@meu.edu.jo
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Appendix (5): Book for Facilitating the Task for Whom It Concerns

جـامـعـة الـشـرق الأوسـط
MEU MIDDLE EAST UNIVERSITY
Amman - Jordan

مكتب رئيس الجامعة
Office of the President

الرقم: د ر/خ/558
التاريخ: 2023/11/28

لمن يهمه الأمر

تحية طيبة وبعد،

فتهديكم جامعة الشرق الأوسط أطيب وأصدق الأمنيات لغايات توفير وربط أسس التعاون مع خدمة المجتمع المحلي؛ نرجو التكرم بالموافقة على تقديم التسهيلات الممكنة لطالب الماجستير **محمد عبد الكريم الفارس**، ورقمه الجامعي (402210085)، المسجل في تخصص ماجستير الاعمال الالكترونية / كلية الأعمال في جامعة الشرق الأوسط، والذي يتولى القيام بإعداد دراسة بحثية أكاديمية في رسالته المعنونه بـ أثر القدرات الديناميكية لذكاء الأعمال على جودة اتخاذ القرار: دراسة ميدانية على الهايبر ماركت الأردنية)"، علماً بأن المعلومات سيتم استخدامها لأغراض البحث العلمي وبصورة سرية.

وتفضلوا بقبول فائق الاحترام والتقدير...

رئيسة الجامعة

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