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Azman Hashim  
International Business School



# CONFERENCE PROCEEDINGS

Volume I

## AHIBS INTERNATIONAL ACTION CONFERENCE

**AHIBS-ACT 2023 KUALA LUMPUR**  
ACTION RESEARCH & ISLAMIC FINANCE CONFERENCE  
27-29 OCTOBER 2023

**“Empowering Change, Elevating Impacts”**

AHIBS-ACT 2023  
The 1<sup>st</sup> AHIBS International Action Conference  
Universiti Teknologi Malaysia  
27-29 October 2023

**INTERNATIONAL ACTION RESEARCH CONFERENCE (IARC)  
CONFERENCE PROCEEDINGS**

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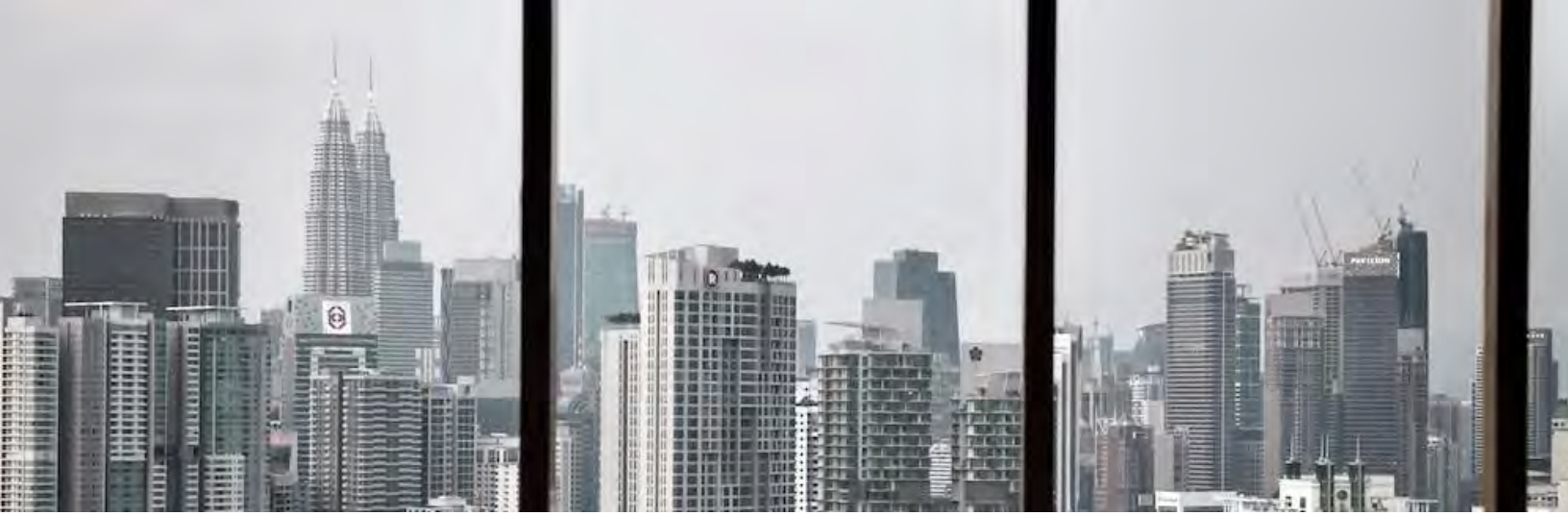


## PREFACE

As we reflect on the enriching experience of the INTERNATIONAL ACTION RESEARCH CONFERENCE (IARC) 2023, a key component of the AHIBS International Action Conference 2023 (AHIBS-ACT-2023), our attention now shifts to the publication of its proceedings. This compilation is not merely a record of the event; it stands as a beacon of scholarly excellence, capturing the essence of the innovative discussions and cutting-edge research that characterized the conference. The proceedings encapsulate a wealth of knowledge across a spectrum of disciplines, including Information Systems, Strategic Management, Accounting, Finance, Economics, Marketing, and Human Resources. They weave together the diverse threads of thought and research presented by our esteemed participants, offering a rich tapestry of insights that contribute profoundly to the academic discourse in business and economics.

We extend our deepest appreciation to all contributors, whose exemplary scholarship and insightful contributions have been instrumental in shaping these proceedings into a repository of wisdom. Their unwavering dedication to advancing their fields is not only commendable but also inspirational. As this publication marks the culmination of IARC 2023, it underscores the transformative power of academic collaboration and intellectual exchange. We trust that these proceedings will inspire continued research and dialogue, amplifying the impact of AHIBS-ACT-2023 within the global academic and industry communities.





## INTRODUCTION

As we publish the proceedings of the AHIBS International Action Conference 2023 (AHIBS-ACT-2023), we reflect upon the vibrant and intellectually stimulating environment that defined the INTERNATIONAL ACTION RESEARCH CONFERENCE (IARC) 2023. This inaugural conference, a cornerstone of AHIBS' commitment to academic and research excellence, has not only met but exceeded our expectations, drawing an impressive array of local and international academicians, students, and industry experts. Their participation and contributions have been key in forging a successful platform for knowledge exchange and innovative exploration.

The proceedings presented here capture the essence of this collaborative spirit and intellectual rigor. Organized into four distinct themes, they reflect the diverse and multifaceted nature of business and economics research in the contemporary world:

- **Theme 1: Information System** – Here, we delve into the rapidly evolving world of technology and data, exploring its profound impact on business processes and decision-making.
- **Theme 2: Strategic Management** – This theme focuses on the critical aspects of leadership and organizational strategy, offering insights into navigating the complexities of the modern business landscape.
- **Theme 3: Accounting, Finance, Economics** – Addressing a broad spectrum of financial and economic topics, this section explores the latest trends and challenges in these crucial domains.
- **Theme 4: Marketing, Human Resources** – Concentrating on the human element of business, this part discusses innovative approaches in marketing and the vital role of human resources in shaping organizational success.

The richness of these proceedings lies not just in the range of topics covered but also in the depth and quality of the research presented. We are grateful to all contributors for their exceptional scholarship and insightful perspectives. Their dedication to advancing their respective fields is both admirable and inspiring. As we present this compilation, we are reminded of the transformative impact of academic collaboration and the exchange of ideas. We are confident that these proceedings will not only enrich the academic discourse but also inspire ongoing research and dialogue, thereby extending the legacy of AHIBS-ACT-2023 into the broader academic and industry communities globally.



# Theme 1: Information System

In the age where digital solutions are at the forefront of innovation, the Information Systems theme within the AHIBS International Action Conference 2023 Proceedings showcases a compendium of research that bridges technology and operational efficacy. This theme embodies the spirit of transformation and the pursuit of efficiency through the lens of advanced systems and applications. From enhancing the user experience with intelligent chatbots to leveraging internal audit tools for customer satisfaction, the papers presented here address the critical role of digital tools in optimizing business processes. They explore the implementation of comprehensive systems that streamline maintenance management, thus boosting productivity within engineering frameworks. Furthermore, these works extend into the realm of cybersecurity, highlighting strategies to empower organizations and individuals against digital threats—an ever-present concern in our interconnected world.

The theme also delves into the impact of digital platforms on commercial property management, emphasizing the need for centralized access to information as a cornerstone for strategic decision-making. Additionally, the evolution of mobile payment services is scrutinized, recognizing the balance between convenience and security. These collective works demonstrate a convergence of academic research and practical application, offering insights that are as actionable as they are innovative. They not only contribute to the discourse within the Information Systems field but also provide a knowledge base for those seeking to implement or refine technological solutions in their organizations. The research under this theme is a testament to the power of information systems in driving change and creating value in the modern business environment. It is an invitation to readers to explore the synergy between technology and business efficacy, and to harness this knowledge for the advancement of their practices and operations.





## **CHATBOT IMPLEMENTATION IN MANAGING EXPENDITURE ENQUIRY OF A GLOBAL SERVICE CENTRE**

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**ABSTRACT** - Enquiry management is a vital aspect of global service centre management, aimed at assisting worldwide employees with their questions and operational challenges. Over time, this process has transitioned from manual methods to digital tools and from guided service to self-service channels. Today, employees prefer to find answers themselves using tools like knowledge-based inquiries and chatbots. Company X's Travel and Expenses department has adopted knowledge-based inquiry for simple questions and a service desk for complex ones. However, users still resort to guided services for simple queries, creating efficiency gaps. To address this, implementing a chatbot can enhance self-service adoption and improve efficiency, leading to reduced headcount, quick query resolution, and increased employee satisfaction. This action research investigates how chatbot implementation can enhance the efficiency of inquiry management. It employs a mixed-method research approach, combining qualitative and quantitative data collection methods. The study assesses the percentage of queries that could have been handled through self-service channels before and after chatbot implementation, analyses chatbot usage data post-implementation, and gauges user experience improvements through interviews. Ultimately, the goal is to decrease the number of query tickets raised through guided-service channels for queries that could have been resolved through self-service, thereby streamlining the inquiry management process.

**Keywords:** *Chatbot, inquiry management, process improvement, self-service resolution adoption*

### **1.0 INTRODUCTION**

Travel and expenses (T&E) are an integral aspect of corporate work within any organization. The process of filing expense claims has evolved significantly, transitioning from manual submissions to nearly automated procedures, wherein employees are now required to provide supporting evidence, such as photographs or scanned documents when submitting their expense reports. Regardless of the specific system implemented within a corporation to oversee T&E, it is imperative that employees have easy access to information on how to submit claims and what expenses are eligible for reimbursement. The introduction of a conversational chatbot represents a significant advancement in addressing these challenges. This chatbot is designed to provide end users with instant access to relevant articles tailored to their specific queries, delivering much faster responses compared to traditional human support through service tickets. If the top three suggestions provided by the chatbot do not align with the employee's question, the bot will prompt the employee to rephrase their inquiry, ensuring more accurate results. The chatbot aims to replicate human interaction, enabling employees to obtain support for their T&E-related questions as if they were engaging with the T&E department in a conversation.



The case company of this research is a global multinational enterprise with a substantial workforce. Company X (a chosen name to remain anonymous) operates on a model built around business service centres, which encompass various departments providing essential services to other divisions within the organization. Company X has already integrated service desk support and ticketing tools as the primary means for end users to raise inquiries and seek assistance. Furthermore, it has implemented a Knowledge Management (KM) system and Knowledge Articles (KA), offering a knowledge-based search portal accessible to all employees across the company. These resources have been instrumental in streamlining information retrieval and problem-solving. However, this process poses certain challenges. It inundates end users with potentially overwhelming information, risking information overload. It also relies on users' natural responses and reaction times to search results, which can vary significantly among users with different demographics and behaviours. In an era where rapid and precise information retrieval is critical to a positive user experience, the current process falls short, potentially discouraging users from conducting fact-finding missions and resorting to guided ticket submissions instead of self-servicing. This issue leads to the opportunity to intervene with a Chatbot with the capacity to provide instant, accurate information in a simplified manner, and avoid unnecessary service requests that could have been self-service.

## **2.0 MATERIALS AND METHODS**

Chatbots have garnered significant attention as a potential game-changer in how people interact with data and online services (Brandtzaeg & Folstad, 2017). These AI-driven entities act as digital agents, serving as intuitive interfaces between users and data/service providers (Dale, 2016). Previous studies have indicated that end users highly value the swift responses offered by chatbots, particularly when compared to waiting for a human service desk response, especially during off-hours (Folstad & Skjuve, 2019). The primary motivation for users to engage with chatbots for customer service lies in their ability to effectively address simple queries, contributing to an overall positive user experience. Even occasional inaccuracies or inadequate responses from chatbots may not be detrimental to the user experience, provided an exit path to connect with human representatives is available. Users are primarily attracted to chatbots for their ability to provide easily understandable answers and assistance in locating online self-service resources. This aligns with other studies on chatbot user experience (Telner, 2021), emphasizing the importance of factors such as response time, ease of navigation, visual appeal, vocabulary, guided conversation, content quality, knowledge base, and error handling in determining overall satisfaction.

To optimize user experience, it's essential to ensure that chatbot responses are specific, relevant, accurate, well-structured, concise, and employ understandable language and terminology. In a systematic review of service chatbots (Mohamad Suhaili et al., 2021), two critical components emerge as vital for chatbot success: Natural Language Processing (NLP) and Natural Language Generation (NLG). NLP facilitates the comprehension of end-user feedback, while NLG is responsible for generating appropriate responses in human-understandable language. Additionally, research on designing high-quality chatbots (Johari & Nohuddin, 2021) highlights six pre-development features, including functionality, efficiency, humanity, effectiveness, technical satisfaction, and ethics, as essential considerations.

The research questions, objectives, methods, instruments, and source of data are explained in the following Table 1.



**Table 1: Research Questions, Objectives, Methods, Instruments**

Research Questions	Research Objectives	Research Method	Research Instrument	Source of Data
<b>RQ1:</b> What is the current rate of guided service adopters that could be converted to chatbot self-service user	<b>RO1:</b> To assess the percentage of current users of guided service that could be converted to a self-service chatbot channel.	Quantitative	Secondary Data Analysis	<b>Primary Data:</b>  <b>Focus Group Discussion:</b> T&E Enquiry Management Challenges & How Chatbot can Improve End User Experience in Enquiry Management.  <b>Interview Session:</b> Chatbot experience, usability & continuous improvement.  <b>Secondary Data:</b>  <b>The percentage of query tickets raised by end users</b> through the guided-service support channels which could have been addressed by self-service support channels.
<b>RQ2:</b> What can chatbot improve in end-user experience?	<b>RO2:</b> To assess the opportunity to improve end-user experience through the chatbot.	Qualitative	Focus Group Discussion	
<b>RQ3:</b> Can chatbot improve the adoption of self-service experience in managing T&E queries?	<b>RO3:</b> To assess the new adoption rate of the end user in the self-service chatbot channel successfully converted from the guided service channel	Quantitative	Secondary Data Analysis	
<b>RQ4:</b> What is the impact of chatbot in improving end-user experience in T&E queries?	<b>RO4:</b> To assess the impact of the chatbot in improving end- user experience in the self-service channel.	Qualitative	Interview	

The action research implementations are shown below in Figure 1 on the process flow and description of action research implementation. It comprises of business research proposal, data collection and analysis, development plan for intervention, action (chatbot implementation), and post-implementation data.



# Action Research Implementation



Figure 1: Action Research Implementation



### **3.0 RESULTS AND DISCUSSION**

**a. RO1 - To assess the percentage of current users of guided service that could be converted to a self-service chatbot channel.**

From the secondary data analysis, the study found that 22.50% of tickets raised by end users could have been self-addressed or serviced via the Chatbot channel. This is basically a reflection of the potential gaining 15% of early adopters and another 7.5% of the early majority signally there is a strong opportunity to cross the possible chasm between early adopters and the early majority.

**b. RO2 - To assess the opportunity to improve end-user experience through the chatbot.**

From the Focus Group Discussion and subsequent interviews with the management group or critical decision maker and the company's IT implementors, there are a few salient points on the opportunity to improve end- user experience through the chatbot:

- i. To have 24/7 availability, user-friendliness, accessibility, instant responses, multilingual support, and cognitive abilities to comprehend and accurately respond.
- ii. To ensure Interoperability from self-service articles to ticket creation for assisted service.
- iii. The need to adhere to the company's policies on ethics & compliance while delivering standard customer service.

**c. RO3- To assess the new adoption rate of the end user in the self-service channel successfully converted from the guided service channel after chatbot implementation.**

The project requires more months to assess the effect of the chatbot implementation and the researcher is still measuring the effect as the research is still ongoing. The research would be able to finalize the data in December. The current gauge figure based on the gathered feedback is at around 18%. It is quite promising for the first cycle effort.

**d. RO4 -To assess the impact of chatbot in improving end-user experience in self-service channels.**

Basically, there are several major impacts of the chatbot in improving end-user experience in self-service channels. It may be summarized as follows:

- i. Pleasant experience from end users due to the chatbot's ability in resembling a natural conversation with a person. They also reflect satisfaction with the quantity of information in the response as well as helpfulness in resolving simple questions.
- ii. Other comments include positive adaptability, and easier to use compared to the existing search portal.
- iii. End users are willing to switch to chatbots for their self-service channel.

- iv. There is room for improvement to resolve complex questions. Due to the short timeframe of implementation, chatbot machine learning was still insufficient and needed upgrading.

## 4.0 CONCLUSION

In summary, this research has made substantial progress in achieving all the pivotal research objectives. Firstly, it effectively assessed the baseline adoption rates among end users, scrutinizing both the self-service and guided service channels before and after chatbot implementation. The study also meticulously evaluated the potential for enhancing the end-user experience through the integration of a chatbot. Lastly, the research rigorously examined the impact of the chatbot on elevating the end-user experience within the self-service channel. These findings signify remarkable advancements in comprehending the details of the support system and highlight the promising advantages of integrating chatbot technology to streamline end-user interactions. Equipped with these accomplishments, the research is ready to embark on further investigations, leveraging the insights garnered thus far to enhance support services and more adeptly cater to the diverse needs of end users. As a research methodology, action research holds substantial promise for technology implementation researchers who are eager to investigate and resolve organizational problems effectively while concurrently contributing relevant scholarly knowledge.

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## **IMPROVEMENT OF INTERNAL CUSTOMER SATISFACTION THROUGH Highbond Survey Application Tool**

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**ABSTRACT** - This paper informs transformation initiatives to improve internal customer satisfaction for the ISO9001 participants in Dell. The team that required to participate in ISO9001 audit may have challenges during the preparation and audit execution that need attention from the Global ISO team. Using action research approach, this study helps to improve the internal customer satisfaction by gathering the feedback through internal survey from the new HighBond audit tracking tool. The research is influenced by insights from interviews with the Global Quality Management Representatives, System/Tool Manager and Customer Experience Managers across APJ, America and Europe regions that confirmed the existence of challenges when preparing and undergoing the audit. In action research cycle 1, the employees provided feedback using Microsoft survey about HighBond new survey contents and usability. In action research cycle 2, information on the external Customer Satisfaction Survey content and format were gathered from the interview sessions with Customer Experience organisation and with the enhancement on the HighBond survey, a new group of employees has received the survey to check for consistency. This research would make a positive impact in promoting employee inclusiveness and sense of belonging while motivating the employee to improve their performances while promoting teamwork.

**Keywords:** *ISO9001; Audit Preparation; HighBond; Internal Customer Satisfaction.*

### **1.0 INTRODUCTION**

Today's businesses must deal with a variety of evolving risks. By measuring the appropriate risks, the company may gain the strategic insights needed to manage and reduce the dangers to the company. Developing quality management system (QMS) is one of the strategies to allow improvement to the organization while ensuring the health of the businesses are monitored (Barbosa et al., 2021). ISO9001 audit would be one of the key activities within the QMS implementation. An effective implementation of ISO9001 audit, can be made possible when the planning and preparation done efficiently. The audit process cannot be a box-ticking exercise in a world where governance, risk, and compliance requirements are constantly expanding. During the audit preparation stage, retrieving the information from the employees about their challenges and concerns will help to drive a better audit planning and preparation in the future. These will enable the company to realize the goal of providing value to management and stakeholders through the audit process (Lenning J et al., 2022). The outcome of an audit can determine the next action plan to prevent recurrence of negative findings and implementation of positive opportunity to the business. With an effective audit preparation will ensure the auditee able to complete the audit process smoothly and efficiently. This in turn will improve the auditee's satisfaction (Lenning J et al., 2022). In order to get complete information about audit preparation and audit execution opinions from the employees, survey can be one of the mechanisms for data gathering (Lin B et al., 1997). This research aims to understand: -



1. The challenges Services team encountered when preparing for ISO9001 external audit,
2. To gather feedback by generating and retrieving the survey questionnaires from the participants of ISO9001 external audit and
3. To understand the benefit when internal customer satisfaction (CSAT) information is obtained.

The challenges faced by the Dell Services ISO team has motivated the researcher to improve and explore the internal CSAT survey capability in HighBond tool. Providing a channel for the employees/auditees to share their concerns, issues, feedback, and suggestions are crucial to allow improvement to the audit preparation. The suggestions received may enhance the way the preparation be done in the future, at the same time helps to listen to ‘Voice of employee (VoE)’ that would motivates the employee to improve their performances (Aggarwal, A., 2021). HighBond tool is used to track all the ISO9001 audit activities and information across Dell Technologies and by exploring other application within the tool would provide additional benefit to the organisation as a whole.

## **2.0 MATERIALS AND METHODS**

The mixed-method approach was used to collect the data from both qualitative and quantitative techniques. In both action research cycles, semi-structured interviews were done, and Microsoft survey were submitted to gather feedback from the employees. In summary, the cycle 1 qualitative study aimed to understand, describe, and explain the element being studied; in this case, the challenges in ISO audit preparation activities (Ab Wahid, R., 2019; Barbosa et al., 2021). The cycle 2 qualitative study aimed to gain beneficial information about external customers’ CSAT survey. In both cycles, the quantitative study aimed to validate the use of the internal CSAT survey in the new HighBond tool to track the satisfaction level and feedback from the employees/auditees.

### **2.1 Qualitative – Interview**

In action research cycle 1, the semi-structured interviews are done at individual level towards the team members that involved directly with ISO9001 activities. These allowed specific information about the ISO9001 can be gathered and obtained. The interviews covered the understanding of management representative roles and responsibilities, challenges & limitation during the ISO9001 preparation as well as the benefits of an established preparation process and also how to measure the internal customers’ satisfaction (Aamer et al.,2020; Barbosa et al., 2021; Chiarini, 2017). During the cycle 2 of action research, another interview protocol was designed to support the interview with the Global Customer Experience Managers. These Global Customer Experiences Managers are the program managers responsible to design, gather, maintain, and report the external customer satisfaction survey data to the businesses to allow effective action in addressing any issues or concerns reported by the customers. The semi-structured interview covered the objective on how they prepare and establish the Customer Experience (CE) or Customer Satisfaction (CSAT) survey for their organization to allow the researcher to replicate and improve the intervention for this research (internal CSAT survey process). The summary of the interviews methods is shown as per Table 1.





Table 1. Qualitative Semi-Structured Interview

<b>Purpose</b>	<b>Unit of Analysis</b>	<b>Data Collection</b>	<b>Population</b>	<b>Technique</b>
In cycle 1, confirming the problem statement and confirming the challenges existence during the preparation and execution of ISO9001 external audit.	Individual Level	semi-structured interviews	Global Quality Management Representatives, System Manager and Functional QMR	Judgmental sampling method
In cycle 2, learning & understanding how the external customer satisfaction process to leverage the use of CSAT Survey process	Individual Level	semi-structured interviews	Global Customer Experience Program Managers	Judgmental sampling method

## 2.2 Quantitative – Microsoft Survey

For the quantitative data collections, the semi-structured Microsoft surveys were sent to the employees/auditees as shown in Table 2. The collection was done pre and post to ensure the feedback before the changes and after the changes were captured and analysis can be done to the results.

There were four areas of interest to ensure sufficient information obtained from the respondents. The first one related to the general information of the survey participants. It covers the questions about the respondents’ regions, understanding the respondents’ roles during the audit session, their job titles and whether they participated remotely or onsite. The second area of interest was the accessibility and ease of use of the internal CSAT survey application by utilising the technology acceptance model (TAM) to understand the user acceptance (Suarez-Torrente et al., 2016). The third area of interest was the content of the survey questions whether the questions provide the option for them to share their experiences from preparation until audit completion. This part also included an option to add any additional questions that could be suggested to the internal CSAT survey in HighBond. As mentioned by Aggarwal, A. (2021), sending survey was one of the reasons to retrieve the customers’ experience feedback regarding their expectation and their unfulfilled needs from the services they received. The fourth area of interest was the overall experience in using the new survey application in HighBond. The intention would be to gauge the respondents’ satisfaction level when using the new survey application tool.

Table 2. Quantitative Semi-Structured Survey

<b>Purpose</b>	<b>Unit of Analysis</b>	<b>Data Collection</b>	<b>Population</b>	<b>Technique</b>
To study the Acceptance Model Perceived Ease-of-use and Content of Survey questions in HighBond survey application	Group Level	Microsoft form Online Survey	Cycle 1: India Cycle 2: Singapore (Sampling done only to those participated in ISO9001 audit)	Quota sampling non-probability sampling



towards employees that participate in the ISO9001 external audit.				
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### 3.0 RESULTS AND DISCUSSION

In this study, the need to ensure the data organisation, summarization and categorization of the results are done effectively to ensure reliable information. These were done using the systematic method and approach such as thematic analysis, triangulation process and SPSS analysis. Being open-minded and impartial toward unexpected patterns, expressions, and results is one of the key qualities to be applied when examining the data. In a research, triangulation refers to the use of various datasets, methodologies, theories, and/or investigators to answer a topic. It is a research technique that can help to increase the reliability and credibility of the conclusions. From the thematic analysis, the themes identified will be the reliable indicator when the data converge or agree with one another to a greater extent (Massey A, 1999). Furthermore, the themes will be referencing the earlier literature write up to confirm its finding and to support the research statement and objectives.

The results from the mixed-method approach were discussed in this section. The interviews were recorded and transcribed before the thematic analysis was done. The quantitative data obtained from the Microsoft surveys were analysed using the statistical analysis tool, SPSS.

#### 3.1 Thematic

A technique for assessing the qualitative data such as interview result is called thematic analysis. The interviews transcripts were analysed to find common themes, topics, concepts, and patterns of meaning that recur during the analysis.

##### 3.1.1 Cycle 1

With the reference to the word challenges, the codes and themes were listed from the concerns and issues faced or will face when preparing for ISO9001 external audit. These were elaborated by a few feedback received, such as: when the employees have different perception of how the preparation should be, the fears of changes in the process or related roles, the lack of commitment from the employees and leaders, concern on limited resources and lack of knowledge on audit requirement (Ab Wahid R, 2019; Barbosa et al., 2021; Castka et al., 2015). Additionally, from the analysis, surveys were suggested to be used to retrieve feedbacks from the employees to understand the employees concerns. Surveys are one of the most popular ways to gauge customer satisfaction (Chiarini, A., 2017). Multiple-choice questions, rating questions, open-ended questions, etc. are used to collect feedback from respondents. Online survey or web survey has been an excellent technique to connect with and engage target audience because it is quick to reach the target participants and increase the chance to enhance response rates (Barbosa et al, 2021; Lenning J et al., 2022; Lin B et al., 1997). Another area of interest from the analysis was effective preparation by the employees before the audit will makes certain that every aspect of the procedures, documents, reports, records, etc. were covered and given



the proper consideration when sharing the business information with the auditor. It can also assist in managing the audit workflow, planning activities so that they are completed on time, and able to identify any potential issues before the actual audit process is performed (Ab Wahid R, 2019; Lenning J et al., 2022).

### 3.1.2 Cycle 2

In order to understand the external customer experience, surveys were sent to those customers that bought the company’s products. Through the surveys, customers would share their opinions and provide their feedback on the services provided by the sales or the services team. Using survey was one way to retrieve not only external customer but also internal customer (employee) satisfaction feedback. Net Promoter Score (NPS) CSAT survey format used by the Customer Experience Team was a direct example and reference to be used as the survey format when sending survey to the employees to understand their satisfaction level. According to Cazzaro, M. and Chiodini, P.M. (2023), there are a few models and methods to measure customer satisfaction and NPS is one of the methods. The type of scale was also identified from the thematic analysis. Taherdoost, H. (2019) identified two scale methods to be explored, that are rating scales and attitude scales. The attitude scale (Likert Scale) was commonly used to retrieve responses where the respondents shall provide their degree of agreement or disagreement. Using the attitude scales would gauge a person's disposition toward a certain person, thing, or phenomenon. Respondents would rate their level of agreement and disagreement with a range of assertions about a certain attitude, object, person, or event using a Likert scale. From the analysis, the Customer experience team used the response scale of 11 points, from 0 to 10. Designing the CSAT related survey using the approach of NPS survey can provide sufficient information to understand the customer experience for the services provided (Zakaria, I et al., 2014).

### 3.2 SPSS

The quantitative questionnaires were distributed to the team from India during cycle 1 action research and the team from Singapore during cycle 2 action research who participated in the ISO9001 external audit. The results from the survey have help the researcher to verify whether the internal CSAT survey would be sufficient to gauge the auditees’ experience from the preparation phase until they completed their audit execution. Once the quantitative survey was sent and data were gathered and analysed, the result was tested using SPSS tool to ensure the reliability and the validity of the data. It was statistically proven that the variables and questions were reliable and significant. Table 3 summarised the SPSS finding.

**Table 3. SPSS Analysis Finding**

<b>Parametric T-Test</b>	<ul style="list-style-type: none"> <li>• Mean value post intervention &gt; pre intervention.</li> <li>• T-value &gt; critical values</li> <li>• P-Value &lt; 0.05</li> </ul> <p>Conclusion: Statistically significant</p>
<b>Wilcoxon Test</b>	<p>Obtained value &lt; critical value (N sample)</p> <p>Conclusion: Statistically effective</p>
<b>Reliability Test (Cronbach’s Alpha) – ≥ 0.7 Acceptable</b>	<p>Cycle 1: Before 0.865 &amp; After 0.850</p> <p>Cycle 2: Before 0.729 &amp; After 0.847</p>



<b>≥ 0.8 Very Good</b>	<b>Conclusion: Statistically Reliable</b>
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The data analysis showed that the internal CSAT Survey used was statically proven effective after the changes were made. The limitation would be to ensure the respondent provides their valued feedback based on the real experience versus the expectation (Aggarwal A, 2021). Additionally, in cycle 2 of action research was found that half of the respondents that supported the audit sessions were from the leadership team which shown the importance of support from the leadership. Having the support from the leaders encouraged the involvement and ownership from the team members that participated in the audit. The increase in the leadership participation in the survey would provide a positive message across the organisation especially to the employees that directly involved in the ISO9001 audit.

#### **4.0 CONCLUSION**

The research was able to determine the mechanism to understand and gather feedback from the internal customer (auditee) by utilizing the survey application through the new ISO tracking tool. At the same time able to determine the internal CSAT format to obtain internal customer satisfaction level and help to gather feedbacks. Understanding and analyzing the feedbacks would help to decide the next course of actions to improve the approach in the preparation and execution of the audit. This in turn will help to enhance the internal customer satisfaction level. It was realized that the researcher addressed a significant impact towards the social and wellbeing area when the involvement is done across different countries. By understanding the challenges in the preparation of ISO9001 audit faced by the ISO team through the internal CSAT survey process have allowed the organisation to utilise the information for continuous improvement opportunity. The team involvement provides the researcher the ability to understand their needs that allow inclusiveness and promote the sense of belonging when gathering their ISO journey and experiences information. Enabling the use of survey tool allowed the team members to share their opinion and feedback that would be the sources of information to improve the business (Qualitative semi-structured interview with Global CE Manager stated that “But when we send them that survey, they’re more likely to tell you stuff or feedback that will help with the improvement of the business”). At the same time, being empathy towards the auditees has encouraged a positive behavior that able to influence an effective collaboration between auditees and auditors.

Another area of positive impact would be on the economy with the development of the new survey process in the HighBond tool that improves the efficiency of preparation by understanding the customers’ ISO9001 audit journey. When the team members’ concerns and challenges were heard, it has motivated them to improve their performance thus providing a positive increment to the external customer satisfaction KPIs and experience (Aggarwal, A., 2021). This will improve productivity while ensuring the quality of the business is certified with ISO9001 requirements. This is also in line with the concept of service-profit chain where employees’ satisfaction would impact the company’s profitability (Hesket, Sasser, & Schlesinger, 1997).

There was also a positive impact to the policy area after implementation of the internal CSAT Survey process. When the intervention is embedded in the ISO9001 audit cycle, the results from the survey will lead to a continuous improvement process in the organisation’s business. The ability to quickly adapt any changes required by the business has improved the business agility and will help to sustain the business (Cazzaro, M. and Chiodini, P.M., 2023). By being flexible to meet customers’ needs and expectations, the company would be more likely to thrive and able to maintain the customers.



The research provides the opportunity and avenue to enhance the training process within the Quality and sustainability for the business. Establishing the customer satisfaction and customer experience tracking process provides the new survey process that requires enhancement within the training and self-development for the employees. According to Aggarwal, A. (2021), the employee's feedback is part of the 'Voices' that the company needs to listen to understand what motivations, aspirations and training needed for them to excel in the company. This will be a continuous process while the business continues to improve the survey process for the business.

Lastly, there are regional and global business impacts within the Dell Technologies Services organisation with the engagement with the team across America, Europe and Asia Pacific Japan & China (APJC). This allows effective teamwork within the organisations. The innovation by utilising the new tracking HighBond tool allows the global improvement opportunity within the organisation. By listening to different opinions, perceptions, ideas, and feedback across multiple sites allowed a diversity and collective decision making globally. The partnership with the team spread across geographic and responsibilities offers multiple expertise to develop a new tracking process (Earley, C. and Mosakowski, E., 2000).

In summary, the intervention from this research would make a positive impact to social and wellbeing area in promoting employee sense of belonging. The new survey would motivate the employee to improve their performances when their voices were heard. Not to mention, as part of the continuous improvement process, the organisation would improve their ability to adapt with changes thus able to improve the business agility and sustain the customers. The engagement with the global team, would promote teamwork and allow diversity in the decision-making process. In the future, there will be a need to expend the collaboration by establishing the survey process across America and Europe Dell team members. At the same time, the continuous improvement is needed to explore the tool's capability to trigger automatic survey process and to standardize the audit tracking activities, including reporting, results update, related corrective actions and future improvement in one tool.

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## **TO IMPROVE THE EFFICIENCY AND PRODUCTIVITY OF ENGINEERING DEPARTMENT BY IMPLEMENTING COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM**

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**ABSTRACT** - This study aims to enhance efficiency and productivity in the engineering department at ECO Special Waste Management PTE LTD through the implementation of a Computerized Maintenance Management System (CMMS), addressing issues of inefficiency caused by manual work order management. The CMMS resolves breakdowns, increased downtime, asset and inventory management challenges, preventive and predictive maintenance, and communication issues. Data supports CMMS's significant impact on productivity. However, successful implementation requires proper training, techniques, and consistent follow-up. The study focuses on three key elements: work order management, downtime analysis, and daily job planning, highlighting CMMS's role in enhancing efficiency and productivity.

**Keywords:** *CMMS implementation, efficiency enhancement, productivity improvement, engineering department, maintenance.*

### **1.0 INTRODUCTION**

The overview of the Computerized Maintenance Management System (CMMS) highlights its role in centralizing maintenance data and streamlining processes for enhanced productivity and equipment performance across industries. The study focuses on implementing CMMS in ECO Special Waste Management PTE. LTD., a Singaporean waste management company, particularly in its engineering department, which oversees multiple sectors to ensure overall operational efficiency. The problem diagnosis involved diverse analysis methods like SWOT, PESTEL, Ishikawa, Risk Assessment, and McKinsey 7 Model, with the latter aligning with research goals. These goals encompass identifying efficiency factors, proposing interventions, and offering recommendations for optimization. The research employs theoretical and practical approaches to achieve these objectives.

### **2.0 MATERIALS AND METHODS**

#### **2.1 Research Philosophy**

This research explores epistemology and its application in understanding the challenges faced by an engineering team using a manual work order system at ECO Special Waste Management PTE LTD. Through a mixed-methods approach, combining qualitative and quantitative data analysis, the study aims to comprehensively address the complexities of the manual system and offer effective solutions. The integration



of subjective insights from interviews and tangible observations from the manual work order system contributes to a holistic knowledge acquisition process.

**Table 2.1: Research Philosophy**

Research		
Data Collection	Instrument	Data Analysis
Interview - Qualitative	Interview protocol	Thematic Analysis
Survey - Quantitative	Questionnaires	Descriptive Parametric Comparative Cost – Benefit
Observations – Quantitative (Secondary data)	Observation Protocol	

**2.2 Research Design**

**Table 2.2: Research Design**

Type of data	Unit of Analysis	Degree of Involvement	Population	Sampling
Qualitative	Individuals (Middle managers, Engineers, Technicians, Procurement executives and Operation Managers)	Medium level	ECO SWM Employees	Purposive Sampling n=7
Quantitative				Purposive Sampling n=30

This section outlines the study's approach to data collection and analysis, utilizing mixed-methods with a focus on enhanced efficiency from a CMMS implementation in the engineering department. SPSS software and tests like T-tests and P-tests will guide data analysis, preceding conclusions and recommendations. The following chapter details data collection procedures for assessing intervention effectiveness

**3.0 RESULTS AND DISCUSSION**

**3.1 Findings**

During the fieldwork of both intervention cycles, crucial steps ensured successful Computerized Maintenance Management System (CMMS) implementation in engineering. This process involved planning, stakeholder involvement, software selection, integration, customization, training, assessment, and feedback collection. Cycle 1 introduced CMMS, while cycle 2 integrated a Preventive Maintenance module for higher efficiency. The researcher meticulously executed data collection, observation, analysis, and evaluation, leading to improved work order completion, downtime reduction, and job planning, enhancing operational effectiveness.



**Table 3.1: Thematic and descriptive analysis comparison**

Type of data	Content	Findings
Qualitative	Problem Identification	1) Inefficient workflow 2) Lack of automation 3) Inadequate resource allocation 4) Communication challenges 5) Redundant data entry
	Idea for intervention	1) Training 2) Centralized system
Quantitative	Assessment of the effectiveness of the intervention.	Descriptive - Overall quality is good
		Parametric analysis
		Normality test
		T-test
		Comparative analysis - secondary data
		Cost-Benefit analysis

**Table 3.2 : T-outcomes with different variables**

Variables	Pre vs cycle 1	Cycle 1 vs Cycle 2
	Intervention	Intervention
<b>Work Order Analysis (V1)</b>	0.000	0.000
<b>Downtime Analysis (V2)</b>	0.000	0.000
<b>Job Planning Analysis (V3)</b>	0.000	0.000

This table provides a concise overview of the t-test outcomes, encompassing work order, downtime, and job planning analyses. The analysis examines the mean values during pre-intervention, cycle 1, and cycle 2, revealing noticeable increases from pre-intervention to cycle 1, and cycle 1 to cycle 2. The color coding highlights different phases: green represents pre-intervention, blue denotes cycle 1 intervention, and yellow signifies cycle 2 interventions. Hypotheses were established, where the Null hypothesis (H0) suggests no impact from the intervention, while the alternative hypothesis (H1) proposes an intervention impact on efficiency and productivity in the engineering department. The sigma results indicate significance (below 0.05) across all variables in pre-intervention vs. cycle 1 and cycle 1 vs. cycle 2 interventions, leading to the rejection of the Null hypothesis. This underscores the statistical significance and proven impact of both cycle 1 and cycle 2 interventions on efficiency and productivity enhancement.





### 3.2 Result Comparison

**Table 3.3 : Non- Financial Impact**

NO	Interventions variable	Pre - Intervention (Jan 2022 - May 2022)	Cycle 1 (June 2022 - Nov 2022)	Cycle 2 (Dec 2022 - May 2023)	Remark
1	Number of work order completion	62.5	100.67	112.83	Productivity
2	Average work order completion time	16.63	10.38	9.1	Efficiency
3	Breakdown hours	547	417	332	Productivity

**Table 3.4 : Financial Impact**

Cost and Benefits	Pre - Intervention (Jan 2022 - May 2022)	Cycle 1 (June 2022 - Nov 2022)	Cycle 2 (Dec 2022 - May 2023)
OPEX	\$376,336.00	\$286,896.00	\$228,416.00
Opportunity Cost	\$89,440.00	\$58,480.00	NA
Total Net Benefit / year	\$82,683.00		
Return of Investment (ROI)	5 Months		

The tables presented offer a comprehensive assessment of both non-financial and financial impacts. Notably, the non-financial analysis reveals an upward trajectory in work order completions, indicative of increased productivity across cycles. Concurrently, the average work order completion time consistently decreases, reflecting improved operational efficiency, and breakdown hours exhibit a decline, underlining heightened productivity. Transitioning to the financial aspect, Operational Expenditure (OPEX) sees a steady reduction from pre-intervention to cycle 1 and cycle 2, indicating substantial cost savings. Opportunity costs calculations demonstrate potential savings with strategic implementation. The cumulative net benefit and commendable Return on Investment (ROI) achieved within a short period further underscore the advantageous outcomes of the CMMS system implementation in enhancing both productivity and financial efficiency.

### 4.0 CONCLUSION

In essence, introducing a Computerized Maintenance Management System (CMMS) in an engineering department offers substantial potential to enhance productivity, efficiency, and maintenance practices. Embracing CMMS for streamlined tasks, optimized resource allocation, and improved decision-making through features like automated scheduling and real-time data access can lead to workflow optimization, reduced downtime, prolonged asset lifecycles, and cost savings. However, successful implementation demands careful planning, user engagement, data accuracy, and ongoing evaluation. Future research should prioritize integrating emerging technologies, improving user experience, advancing data analytics, exploring sustainability implications, and creating industry-specific applications, as CMMS integration stands to revolutionize maintenance management and drive continuous improvement towards operational excellence.



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## **IMPROVING SUBSCRIBER AWARENESS ABOUT OLA (CHATBOT) BY XOX BERHAD FOR WEBSITE AND APPS TO IMPROVE CUSTOMER ENGAGEMENT AND PROVIDE NEW REVENUE STREAM**

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**ABSTRACT** - As part of mass targeting and to cater for new norm, XOX is targeting to enhance their existing chatbot. The objective of this study is to find the loophole and issue of this problem as XOX has been spent huge amount of cost into the development of chatbot which is known as Ola and to propose the awareness about Ola to the XOX subscriber. Qualitative method through literature review will take place and quantitative method to measure the customer expectation and the effectiveness of the chatbot. The study managed to state clearly on the problems arising and propose new ways, the unmanaged growth of subscriber enquiries, poor written chatbot knowledge, lack of information, and undefined communication methods are the problems arise. This research was done in two cycles which the first cycle requires for literature review, run content analysis of conversational AI among the telcos in Malaysia, collect survey from XOX's subscriber, staffs and dealers and finally run intervention cycle 1 where to prepare a new knowledge library into Ola with well defined communication style and more topics covered into the conversation. Move to intervention cycle 2, the knowledge library was further refined by adding up more topics and rich context of emotions to mimic bot as the real human agent. A total of 20 respondents were collected in Cycle 1 and 118 respondents in Cycle 2. As the result had shown the average performance of Ola had improved from 83% to 89% by pinpoint what were the issues & revise it knowledge library to tackle subscriber through its improved communication behaviour. When more subscribers or visitors started to use Ola, XOX can help to reduce the workload of the call agents and customer service.

**Keywords:** *Chatbot, telecommunication, e-commerce, Artificial Intelligent, Neural Language Processing, 5G, conversational agents.*

### **1.0 INTRODUCTION**

In today's rapidly evolving digital landscape, businesses are constantly seeking innovative ways to engage with their customers and adapt to new norms. As part of this pursuit, XOX has directed its efforts towards enhancing its existing chatbot, named Ola. While the current iteration of the chatbot provides basic information about XOX's products and services, it falls short of offering direct product purchases, integrated payment gateways, and user database recognition. This study seeks to identify the limitations and challenges associated with the current chatbot setup, particularly focusing on the missed opportunities and potential for enhanced customer interaction.



## 2.0 OBJECTIVE AND METHODS

The primary objective of this study is to identify the existing loopholes within XOX's chatbot infrastructure and propose strategies for leveraging its potential. The study aims to pinpoint the issues that have arisen despite the substantial investment in Ola's development and raise awareness about Ola among XOX subscribers. By utilizing both qualitative and quantitative research methods, the study seeks to provide a comprehensive understanding of the challenges and opportunities surrounding the chatbot.

The study employs a mixed-method approach, combining qualitative literature reviews and quantitative measurements of customer expectations and chatbot effectiveness. Qualitative reviews delve into the perspectives of past research involved in the development and deployment of the chatbot. Meanwhile, quantitative analysis focuses on gauging customer expectations and evaluating the chatbot's performance through quantitative metrics. This action research study is choosing the approach of pragmatism research philosophy to support its relevancy of the concepts. The main reason is because of the data collection method using mixed method of quantitative and qualitative for a small number of samplings.

Basically, there are three groups of sampling that was taken for this research which were internal XOX staff, existing XOX subscriber & others which simplify for dealers. A total of 20 respondents collected in Cycle 1 while 118 respondents in Cycle 2. Below define the unit of analysis of these three groups.

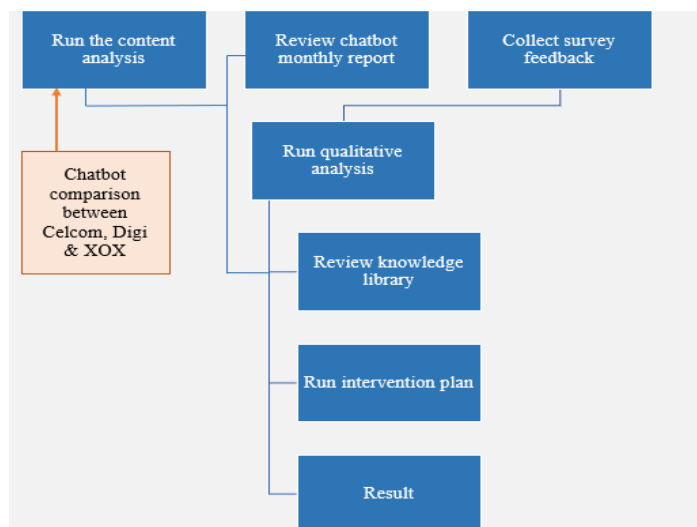
**Table 2.1 : Units of analysis:**

<b>Participants</b>	<b>Total respondent</b>	<b>Sampling category</b>	<b>Sampling method</b>	<b>Data collection</b>
<b>XOX staff – combined range</b>	Cycle 1: 20 Cycle 2: 118	Non-probability	Voluntary response	<ul style="list-style-type: none"> <li>• Online pre-survey usage</li> <li>• Online post-survey usage</li> </ul>
<b>XOX subscriber</b>	Cycle 1: 20 Cycle 2: 118	Non-probability	Voluntary response	<ul style="list-style-type: none"> <li>• Online pre-survey usage</li> <li>• Online post-survey usage</li> </ul>
<b>XOX Dealer</b>	Cycle 1: 20 Cycle 2: 118	Non-probability	Voluntary response	<ul style="list-style-type: none"> <li>• Online pre-survey usage</li> <li>• Online post-survey usage</li> </ul>



Below is the intervention plan process to provide new results. Basically, the plan is to increase the chatbot’s conversation success rate from an average of 83% to the higher rate of 90%.

**Figure 2.1 : Intervention Plan Process**



### **3.0 RESULTS AND DISCUSSION**

#### **3.1 FINDINGS**

Preliminary findings reveal significant gaps in the current chatbot functionality, inhibiting its ability to fully engage users and facilitate seamless transactions. Customer expectations exceed the current capabilities of the chatbot, particularly in terms of direct product purchasing and integrated payment processing. However, the study also highlights the potential for Ola to evolve into a powerful "super bot" with the capacity to enhance subscriber conversion rates and establish a new revenue stream for XOX.

A content analysis has been done in Intervention Cycle 1 in comparison with other competitors.

**Table 3.1 : Celcom is leading as the highest rank at 2.60 followed by XOX at 2.10, and Digi at 1.30.**



Code	Relational Analysis Factors	Weightage	Celcom		Digi		XOX	
			Rating	Score	Rating	Score	Rating	Score
RA1	Greeting by the bot	0.15	3	0.45	2	0.30	1	0.15
RA2	Enquire for latest Prepaid plan	0.20	2	0.40	1	0.20	3	0.60
RA3	Enquire for latest Postpaid plan	0.20	2	0.40	1	0.20	3	0.60
RA4	Enquire for network issue	0.20	3	0.60	1	0.20	2	0.40
RA5	Upload features	0.10	3	0.30	1	0.10	2	0.20
RA6	Connect to live chat/agent	0.15	3	0.45	2	0.30	1	0.15
	<b>TOTAL</b>			<b>2.60</b>		<b>1.30</b>		<b>2.10</b>

### 3.2 DISCUSSIONS

The study argues that addressing the identified shortcomings in the chatbot's capabilities holds the key to transforming Ola into a dynamic conversational agent. This transformation, coupled with a seamless integration of e-commerce functionalities, has the potential to significantly boost XOX's subscriber conversion rates. Furthermore, Ola's evolution into a powerful chatbot could contribute to a substantial reduction in the workload of call agents and customer service representatives.

Below is the comparison of (1) average monthly performance on Ola's performance, (2) Intervention cycle 1 result, and (3) Intervention cycle 2 result.

**Table 3.2 : Average monthly performance:**

Monthly Unique user	Jan-22			Feb-22			Mar-22		
	16,016			16,723			19,270		
Average Conversation Duration	2m 42s			2m 41s			2m 42s		
Success Rate %	83.06%			82.83%			83.68%		
Language breakdown	BM	5,535	44.00%	BM	5,629	42.9%	BM	6,459	44.00%
	ENG	7,174	56.00%	ENG	7,486	57.1%	ENG	8,312	56.00%
Platform	Web	6,209 (38.77%)		Web	6,386 (38.11%)		Web	6,871 (35.59%)	
	Android	9804 (61.21%)		Android	8,608 (51.37%)		Android	9,534 (49.48%)	
	IOS	-----		IOS	1,764 (10.53%)		IOS	2,899 (15.02%)	
Top Questions	1. Live agent			1. Plan Prepaid			1. Live Agent		
	2. Apa itu validity 28?			2. Apa itu validity 28?			2. E-sim		
	3. Port out			3. Esim			3. Redeem rewards		
	4. XOX Ada pelan data unlimited tak?			4. XOX Ada pelan data unlimited tak?			4. Validity 28		
	5. Kenapa internet saya slow			5. I want to terminate my line					
				6. Live agent					
Keyword Topic update	Black App & ADX			Termination			B54DB Plan		



**Table 3.3 : Intervention cycle 1 result:**

Monthly Unique user	Apr-22			May-22			Jun-22		
		21,055			22,767			22,497	
Average Conversation Duration	2m 52s			2m 48s			2m 48s		
Success Rate %	84.42%			85.05%			86.55%		
Language breakdown	BM	6,073	41.00%	BM	5,430	40.00%	BM	5,217	41.00%
	ENG	8,920	59.00%	ENG	8,162	60.00%	ENG	7,476	59.00%
Platform	Web	7,410 (35.11%)		Web	7,410 (35.67%)		Web	6,261 (35.70%)	
	Android	10,187 (48.26%)		Android	10,187 (47.43%)		Android	8,272 (47.17%)	
	IOS	3,510 (16.63%)		IOS	3,510 (16.9%)		IOS	3,004 (17.13%)	
Top Questions	1. Live Agent			1. Live Agent			1. Live Agent		
	2. E-sim			2. E-sim			2. Status Data roaming		
	3. Data			3. Plan Prepaid			3. Plan Prepaid		
	4. Bill Payment			4. Data			4. eSIM		
	5. XOX ada pelan data unlimited tak?			5. Season Pass			5. Port out		
Keyword Topic update	1. eSIM			1. eSIM			1. eSIM		
	2. Termination			2. Data			2. Data		
	3. B54DB			3. Prepaid			3. Prepaid		

**Table 3.4 : Intervention cycle 2 result:**

Monthly Unique user	Apr-23			May-23			Jun-23		
		23,044			23,351			23,520 (based on daily rinrate as of 5 <sup>th</sup> June)	
Average Conversation Duration	2m 33s			2m 42s			2m 37s		
Success Rate %	82.12%			89.03%			88.25%		
Language breakdown	BM	9,218	40.00%	BM	9,107	39.00%	BM	9,643	41.00%
	ENG	13,826	60.00%	ENG	14,244	61.00%	ENG	13,877	59.00%
Platform	Web	7,840 (34.02%)		Web	9,614 (41.17%)		Web	9,697 (41.23%)	
	Android	11,294 (49.01%)		Android	10,569 (45.26%)		Android	10,455 (44.45%)	
	IOS	3,911 (16.97%)		IOS	3,169 (13.57%)		IOS	3,368 (14.32%)	
Top Questions	1. Live Agent			1. Plan Prepaid			1. Cheap Data Roaming		
	2. Data plan			2. E-sim			2. Data add on		
	3. Prepaid			3. Live Agent			3. Plan Prepaid		
	4. Bill Payment			4. Data			4. Football Club special plan		
	5. Perak FC			5. Validity			5. Port out		
Keyword Topic update	1. Blackmarket delivery			1. Validity 36 months			1. FC new SIMcard		
	2. Prepaid WAWA plan			2. Ultimate 35 plan			2. Blackmarket		
	3. B39DB			3. Prepaid			3. BLACK Data Buffet plan		

## 4.0 CONCLUSION AND SUGGESTIONS

A well-maintained knowledge library allows the chatbot to handle subscriber's enquiries more efficiently. Traditional customer service is via human agent from call center or service center while now users can easily reach out just by clicking the chat box and start the conversation with the chatbot. Now manual intervention or human support is reduced allowing the chatbot to autonomously provide prompt responses. It saves time and resources for businesses to entertain their customers which are available directly from the websites or mobile application. Chatbot also can streamline customer interactions where all the conversation is recorded for analytics purposes. This can derive into a better conversation flow where chatbot trainer can tailor the knowledge library.

Here is the reported conversational AI by telcos provided by Twimbit (2022):

Telcos	Score
Yoodo	3.0
Hotlink	2.8
ONE XOX	2.5
Digi	2.5
Celcom	2.5
U Mobile	2.3
Yes 4G	2.0
Unifi Mobile	1.5

A crucial component for future research involves comprehending user acceptability and confidence of chatbots. Investigating factors that influence user perceptions, attitudes, and trust towards chatbots can provide valuable insights into how to design and improve chatbot interfaces, conversational experiences, and overall user satisfaction. Researchers can investigate user preferences, worries, and expectations when engaging with chatbots, enabling the creation of more dependable and user-centric chatbot systems.

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**A STUDY ON THE EFFECT OF USE CONTINUOUS CREDIT  
MANAGEMENT COMPETENCY OF MOBILE PAYMENT SERVICE  
-FOCUSING ON THE COMPARISON OF WECHAT PAY AND ANT  
CHECK LATER**

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**ABSTRACT** - This study confirms convenience, economical efficiency and social influence as factors influencing the use of traditional mobile payment service and emerging credit loan settlement service in China. The effect of continuous use of mobile payment service on credit management ability was confirmed. The questionnaire was distributed to users of Wechat pay and Ant check later in China, and 238 data were collected and analyzed using Smart-PLS.

**Keywords:** *Traditional financial transaction, new credit lending products, Wechat pay, Ant check later, credit management.*

## **1.0 GENERAL BACKGROUND INFORMATION**

In 2014, the Chinese government issued the "2014-2020 Social Credit System Construction Plan Outline" in order to establish a credit society [1]. In October 2014, Alibaba established an Ant Financial subsidiary to support the construction of China's credit society system [2]. In April 2015, Ant Financial launched Ant check later, a consumer credit product similar to a virtual credit card. Now the number of users of Ant check later has exceeded 100 million. Ant check later i uses big data analysis in Alipay and a comprehensive evaluation of the five major elements of Sesame Credit to provide individual users with consumer credit lines. Use consumer credit lines to experience spending first and repaying later. The nature of the service.based on comparing traditional mobile payment services (WeChat Pay) and emerging credit loan payment services (Ant check later), what are the influencing factors on the use of mobile payment services. We looked at plausibility, economic feasibility and social impact [3].

Verify whether continued use of mobile payment services has a positive impact on credit management capabilities.

Compare traditional mobile payment services (WeChat Pay) and emerging credit loan payment services (Ant check later) to verify the impact on the construction of my country's credit society system[1].

## **2.0 METHODS**

This study attempted to establish a theoretical concept through prior research and literature review of mobile payment services on the existing mobile payment service WeChat Pay and the emerging credit loan service Ant check later. The service characteristics and social characteristics of WeChat Pay and Ant check later were conducted by establishing this research model and hypotheses and conducting empirical



analysis by writing questionnaires by referring to the operational definition of variables. For empirical research, China's mobile payment service collected 238 data by distributing surveys to experienced people who have used both WeChat Pay and Ant check later services, and analyzed using Smart-PLS 2.0. Reliability, validity, and hypothesis were verified.

### 3.0 RESEARCH MODEL

The purpose of this study is to investigate the impact of convenience, economy and social impact on the continuous use intention of mobile payment services, focusing on users who have used the traditional payment service WeChat Payment and the emerging credit payment service Maihuabei. It also measures the impact of continuing to use mobile payment services on credit management ability.

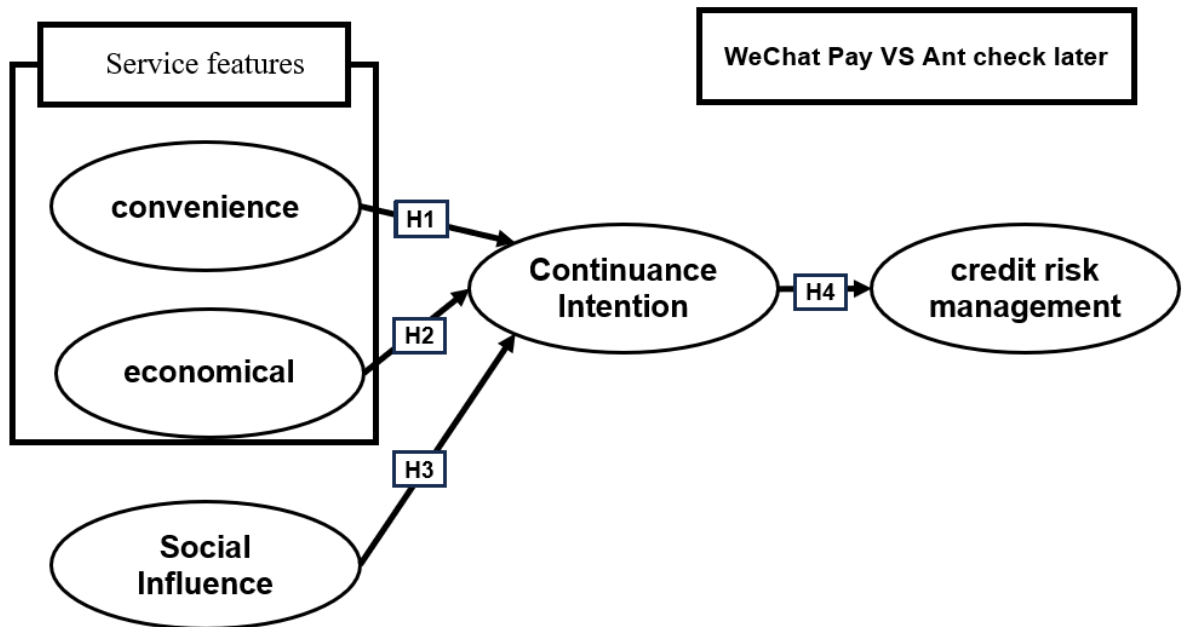


Figure 1. : Research Model

### 3.1 Hypothesis

Hypothesis 1: The convenience of mobile payment service will have a positive (+) effect on the intention to continue using.

Hypothesis 2: The economics of mobile payment services will have a positive (+) effect on the intention to continue using.

Hypothesis 3: The social impact of mobile payment services will have a positive (+) effect on the intention to continue using.

Hypothesis 4: The intention to continue to use mobile payment services will have a positive (+) effect on credit management capabilities.

Hypothesis 5: The impact of the convenience of mobile payment services on the intention to continue using will be stronger in WeChat Pay than in Ant check later.

Hypothesis 6: The impact of the economic feasibility of mobile payment services on the intention to continue use will be greater in Ant check later than in WeChat Pay.

Hypothesis 7: The social impact of mobile payment services will be stronger in WeChat Pay than in Ant check later.

Hypothesis 8: The credit management capabilities of mobile payment services will be stronger in Ant check later than in WeChat Pay.

#### **4.0 DISCUSSION OF RESEARCH RESULTS**

This study examined how it affects the continued use of WeChat Pay in three aspects: convenience, economy, and social impact of WeChat Pay, a traditional payment method, for those who have used Chinese mobile payment services. In addition, we looked into how continuing to use WeChat Pay affects credit management capabilities. In addition, we examined how the convenience, economic feasibility, and social impact of the new credit loan payment service Ant check later affect the intention to continue using credit loan payment services. Based on the results of the empirical analysis, it was found that convenience, economic feasibility, and social impact affect the intention to continue using the payment method service[2]. A comparative analysis of the difference between traditional payment methods (WeChat Pay) and emerging credit loan payment methods (Ant check later) showed significant results. The effect of three variables of convenience, economy, and continuous use intention on the continuous use of the payment method service rather than the above WeChat Pay according to the significance verification comparison of the path coefficient.

It turned out to be highly powerful. As for the social impact, it was found that WeChat Pay had a higher influence on the intention to continue using payment methods than Ant check later. In terms of credit management capabilities, it was confirmed that Ant check later had a higher impact than WeChat Pay. The meaning of the results of this research analysis is as follows.

Hypothesis 1: The convenience of mobile payment methods affects the intention to continue using. ( $\beta=0.366$ ,  $T=3.145$ )

Hypothesis 2: The economic feasibility of mobile payment methods affects the intention to continue using. ( $\beta= 0.177$ ,  $T=2.170$ )

Hypothesis 3: The social impact of mobile payment methods affects the intention to continue using. ( $\beta=0.298$ ,  $T=3.305$ )

Hypothesis 4: The intention to continue using mobile payment methods affects credit management capabilities. ( $\beta=0.403$ ,  $T=5.792$ )

Hypothesis 5: It was found that the effect of the convenience of mobile payment services on the intention to continue use differs depending on WeChat Pay and Ant check later, but there was no significant difference.

Hypothesis 6: Based on the comparison of the difference analysis between WeChat Pay and Ant check later on economic feasibility, the influence on the economic feasibility of mobile payment methods was higher than WeChat Pay ( $\beta=0.290$ ).

Hypothesis 7: Based on the comparison of the difference analysis between WeChat Pay and Ant check later of social impact, WeChat Pay ( $\beta=0.372$ ) showed higher influence on social impact of mobile payment methods than Ant check later ( $\beta=0.233$ ).

**Table 4. 1.: Intensive Feasibility Test for WeChat Pay**

	Original Sample (O)	T Statistics ( O/STERR )	AVE	Composite Reliability	Cronbachs Alpha
convenience	0.788	13.875	0.600	0.857	0.782
convenience	0.745	12.535			
convenience	0.748	11.109			
convenience	0.816	15.171			
economical	0.885	39.050	0.787	0.917	0.865
economical	0.867	28.979			
economical	0.909	53.560			
creditmanagement	0.878	13.130	0.611	0.824	0.696
creditmanagement	0.716	6.753			
creditmanagement	0.741	7.365			
social influence	0.811	19.469	0.636	0.875	0.810
social influence	0.762	14.119			
social influence	0.846	27.413			
social influence	0.768	14.983			
continuance intention	0.828	16.397	0.714	0.882	0.800
continuance intention	0.861	33.391			
continuance intention	0.845	28.693			

**Table 4.2.: Confirmatory Factors Analysis of WeChat Pay**

	convenience	economical	credit management	social influence	continuance intention
v2_1_1	0.7876	0.2866	0.381	0.3788	0.3877
v2_1_2	0.7449	0.2556	0.4101	0.3574	0.3598
v2_1_3	0.7478	0.4922	0.1776	0.4733	0.5514
v2_1_4	0.8159	0.4039	0.3339	0.4844	0.4929
v2_2_1	0.3913	0.8848	0.1644	0.5425	0.4667
v2_2_2	0.4863	0.867	0.2721	0.5225	0.4372
v2_2_3	0.4185	0.9093	0.0693	0.6283	0.4754
v3_2_1	0.3538	0.1062	0.8781	0.2503	0.3247
v3_2_2	0.3378	0.2678	0.7158	0.3506	0.2323
v3_2_3	0.2068	0.044	0.7414	0.1913	0.1309
v5_1	0.4531	0.4894	0.2347	0.8112	0.5485
v5_2	0.3546	0.3575	0.29	0.7624	0.4279
v5_3	0.4988	0.5648	0.3766	0.8461	0.5603
v5_4	0.4627	0.608	0.1837	0.7684	0.4716
v6_1	0.4338	0.4796	0.2069	0.5475	0.828
v6_3	0.5568	0.443	0.3501	0.5364	0.8608
v6_4	0.5115	0.3942	0.2477	0.5265	0.8454

**Table 4.3.: Intensive Feasibility Test for Ant check later**

	Original Sample (O)	T Statistics (O/STERR)	AVE	Composite Reliability	Cronbachs Alpha
convenience	0.821	21.036	0.695	0.901	0.854
convenience	0.809	17.581			
convenience	0.815	18.414			
convenience	0.888	35.380			
economical	0.771	13.266	0.660	0.853	0.742
economical	0.786	17.405			
economical	0.876	39.515			
creditmanagement	0.882	27.592	0.651	0.844	0.718
creditmanagement	0.588	5.531			
creditmanagement	0.911	34.734			
social influence	0.828	23.928	0.587	0.847	0.765
social influence	0.835	21.661			
social influence	0.820	26.307			
social influence	0.540	4.955			
continuance intention	0.876	32.574	0.752	0.901	0.835
continuance intention	0.845	18.246			
continuance intention	0.880	36.090			

**Table 4.4.: Confirmatory Factors Analysis of Ant check later**

	convenience	economical	credit management	social influence	continuance intention
v2_1_1	<b>0.821</b>	0.386	0.489	0.430	0.468
v2_1_2	<b>0.809</b>	0.455	0.519	0.440	0.470
v2_1_3	<b>0.815</b>	0.455	0.361	0.378	0.488
v2_1_4	<b>0.888</b>	0.472	0.471	0.423	0.599
v2_2_1	0.358	<b>0.771</b>	0.344	0.343	0.407
v2_2_2	0.436	<b>0.786</b>	0.481	0.459	0.477
v2_2_3	0.486	<b>0.876</b>	0.532	0.490	0.548
v3_2_1	0.450	0.416	<b>0.882</b>	0.346	0.437
v3_2_2	0.314	0.433	<b>0.588</b>	0.409	0.296
v3_2_3	0.536	0.528	<b>0.911</b>	0.436	0.493
v5_1	0.395	0.363	0.411	<b>0.828</b>	0.482
v5_2	0.459	0.467	0.400	<b>0.835</b>	0.495
v5_3	0.456	0.454	0.429	<b>0.820</b>	0.429
v5_4	0.116	0.410	0.175	<b>0.540</b>	0.204
v6_1	0.540	0.485	0.485	0.485	<b>0.876</b>
v6_3	0.508	0.522	0.403	0.444	<b>0.845</b>
v6_4	0.5424	0.5375	0.4549	0.5044	<b>0.880</b>

## **5.0 CONCLUSION**

Compared with traditional mobile payment services (WeChat Pay), new consumer credit products (Ant check later) can better improve personal credit management capabilities. Although people who use credit cards in China have negative emotions, compared with negative emotions, they have been verified to be positive. When users continue to use Ant check later, which has the same function as a credit card, users can consume reasonably. Daily life expenses can improve personal credit management capabilities, and from a policy perspective, mobile payment services such as Ant check later and WeChat Pay are not suitable. It can more intuitively grasp personal consumption expenditures and prevent excessive consumption. At the same time, the birth of Ant check later is in line with the country's concept of establishing a credit society system. Use Ant check later to understand personal credit expenditures and credit history, as well as the ability to fulfill commitments and their consumption. The payment model can adapt to the goals of China's credit society system construction.

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**FORTIFYING DIGITAL RESILIENCE BY PROMOTING  
CYBERSECURITY AWARENESS AMONG MALAYSIAN ARMED  
FORCES (MAF) PERSONNEL**

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**ABSTRACT-** This action research focuses on fortifying digital resilience by promoting cybersecurity and cybercrime awareness among personnel of the Malaysian Armed Forces (MAF) to ensure the confidentiality and protection of sensitive data. The objective is to implement effective co-created awareness strategies using appropriate cyber platforms and campaign interventions. The research methodology employed a mixed-methods approach, combining quantitative surveys and qualitative semi-structured interviews. The online survey, administered to 108 selected MAF personnel, aimed to gather opinions and feedback before and after the intervention. The survey data were analysed using SPSS software. Additionally, qualitative insights were obtained through semi-structured interviews with the Director of Cyber and Staff Officer 1 Cyber at the Defence Cyber and Electromagnetic Division (DCED) of MAF. The findings indicate the need for improved cyber security awareness among MAF personnel. Based on the action, collaborations, and transformation (ACT) agenda and the MAF management feedback. Two cycles of interventions are executed to promote safe and controlled internet usage, empowering individuals and their superiors to effectively mitigate cyber threats. The analysis of survey data and qualitative observations provides valuable insights into the current level of cyber security awareness and identifies areas for improvement. Based on the research findings, it is concluded that the implementation of the social media platform referred to as SiberRead (Cycle 1) and the cyber awareness campaign (Cycle 2) has effectively increased cyber security awareness and resilience among MAF personnel. The research highlights the importance of continuous efforts to educate and empower individuals in practicing safe online behaviour. Future recommendations include conducting further research with a larger sample size, continuous monitoring and evaluation of interventions, and the development of comprehensive cybersecurity training programs. The research emphasizes the significance of continued collaboration between the MAF and relevant stakeholders to address evolving cyber threats effectively

**Keywords:** *Cybersecurity Awareness; Cybercrime Awareness; Cyber Campaign Strategy; Malaysia Armed Forces.*

## **1.0 INTRODUCTION**

In the era of information, Asia's technological advancements, including investments in AI and 5G, are reshaping conventional security and threats. Frequent Cyberattacks and Cybercrime, emphasize the growing need for enhanced cybersecurity measures, as demonstrated by initiatives like ASEAN's cybersecurity summit and Singapore's Cybersecurity Centre of Excellence. Safeguarding digital markets and interests is a priority for many ASEAN countries (Segal, A. et al.,2020)

The establishment of the Defence Cyber and Electromagnetic Division (DCED) within the Malaysian Armed Forces (MAF) signifies a proactive and forward-thinking approach to national security in the face of the emerging cyber warfare threat. DCED's responsibility is to defend MAF systems and networks from potential cyber-attacks and safeguard sensitive information. By creating a dedicated division for cybersecurity, the MAF is better equipped to stay ahead of evolving threats and respond effectively to any cyber-attack. The collaboration between DCED and the three branches of the MAF emphasizes the importance of a comprehensive defence strategy.

Cybersecurity breaches in military organizations pose significant threats to national security, potentially compromising classified information, disrupting military operations, sabotaging equipment, and stealing intellectual property. Additionally, cyber-attacks can cause destruction in supply chains, damage the reputation of military organizations, and strain diplomatic relations. The need for strong cybersecurity measures and a comprehensive cyber-defence strategy is paramount to ensuring the safety and effectiveness of military operations in the digital age covering not just the organization level but the personnel level as well. While there are strong cybersecurity strategies at the organizational level, all staff of MAF are also exposed to cybersecurity and cybercrime challenges at the personnel level.

The rise of social media platforms has brought both benefits and dangers. While social media itself is not the cause of cybercrime, it has become a tool for criminals to commit various types of scams and fraud, leading to significant financial losses for victims. Cybercrime presents unique challenges as it often involves anonymous perpetrators operating across international borders, making detection and prosecution difficult. The growing dependence on technology and the internet has made individuals and nations vulnerable to cyber threats, underscoring the urgency of addressing cybercrime as a critical challenge of the 21st century. The issue of cybercrime resulting from the disclosure of personal information highlights the inadequate level of awareness among social media users. Social engineering and fraudulent cybercrimes find their preferred platform in social media (Pitchan, 2019; Umeugo, 2023; Tiwari S. et. al. 2023). Users also need to be aware of related cyber threats to avoid falling victim to cybercrime scams. Previous studies suggest that although many understands personal information should not be overly displayed on social media, the fear of missing out and social anxiety may drive the social media users to compromise revealing more personal information online (Lyngdoh T, et. al. 2023). The knowledge factor is closely related to cybersecurity awareness, as it is vital for social media users to know how to operate on available applications and platforms.

Several research questions need to be considered. Firstly, what is the level of awareness of cyber security among the personnel of the MAF? Secondly, which platforms and mechanisms can be used to educate and increase the cybersecurity awareness among MAF, and thirdly, what is the impact of the platforms in reducing cybercrime? These questions lead to the following objectives of the research.

- 
- a. To find out the level of awareness of cybersecurity among the personnel of the MAF.
  - b. To co-create and establish intervention strategies comprises of a cybercommunity media and a campaign cum training platforms as a dual-purpose channel to increase cybersecurity awareness for MAF personnel.
  - c. To measure the effectiveness of the identified platforms in reducing cybercrime incidents among MAF personnel.

## 2.0 MATERIALS AND METHODS

The action research was divided into two cycles: Cycle 1 and Cycle 2. The process for both cycles is depicted in Figure 2.1 below. Several measures were taken to ensure the achievement of the research goals and to guarantee the success of the research. Cycle 1 was the first conducted in this regard. The initial step in Cycle 1 was to plan intervention based on data inputs from management and staff involved. The same procedure as in Cycle 1 was used for Cycle 2. In the subsequent steps, the implementation plan was explained.

In Cycle 1, the researcher carefully observed the cyber security landscape in the DCED by engaging staff officers from the Army, Navy, and Air Force. Interviews were conducted with experts to gain deeper insights. Surveys were distributed through online surveys involving DCED's staff from all three services to collect responses from the participants. Additionally, through co-creation and collaborators' approval, the researcher developed an online platform that could be easily accessed and downloaded via smartphones. Announcements were made through email and shared within the working group to ensure wide dissemination. By combining quantitative and qualitative data, the researcher aimed to gain a comprehensive understanding of the effectiveness of the intervention in enhancing cyber security awareness among MAF personnel. The quantitative data provided statistical evidence of the impact of the intervention, while the interview data added depth and nuance to the findings.

In Cycle 2, the researchers aimed to increase awareness of cyber threats among the Armed Forces through specific activities. The plan included organizing a cybersecurity talk, where experts in the field of cybersecurity and cybercrime were invited to share their knowledge. The researchers engaged in discussions with relevant staff to identify effective methods for raising awareness of cyber threats. A seminar was organized, featuring speakers from MAF and security agencies responsible for cybercrime, who provided valuable knowledge and information about cyber threats to the Armed Forces. A pre- and post-program assessment was conducted to assess the level of understanding among participants.



**Figure 2.1 Action Research Cycle 1 and Cycle 2**

### **3.0 RESULTS AND DISCUSSION**

The results and discussions based on the research and intervention activities are divided into two cycles namely Cycle 1 and Cycle 2 as follows.

#### **3.1 Findings on Cycle 1**

**Qualitative Research Findings** - In this research, the researcher conducted interviews with officers from the Cyber Branch and those responsible for cyber security operations in the MAF. The participants' background in cyber security ensured their deep understanding of the importance of cyber security awareness for the armed forces. The interviews revealed experts' concerns about potential risks due to insufficient knowledge among military personnel, which could compromise the MAF's security. The experts strongly recommended a centralized cyber platform to provide comprehensive and up-to-date information on cyber threats to military personnel. Implementing such a platform could significantly enhance the MAF's cyber security awareness and readiness, enabling effective mitigation of cyber threats.

**Quantitative Research Findings** - The questionnaire predominantly answered by male respondents, accounting for 88.9% of the 108 useable surveys, while female respondents represented only 11.1%. The majority of respondents were 30 years old or younger (44.4%), with 31 to 40-year-olds comprising 41.7% of the sample. The Army had the highest representation among the services, with 91.1% of respondents, followed by the Navy (4.6%) and the Air Force (3.7%). A significant number of respondents (49.1%) had never attended a cyber course, indicating a lack of formal cyber security training among non-officer armed forces personnel. Around 53.7% of respondents reported having read the cyber security policy, highlighting the need for improved policy awareness within the armed forces. Approximately 57.41% of respondents had first-hand experience with cyber threats, underlining the importance of robust cyber security measures. Most respondents (88.69%) showed strong support for awareness programs, while 11.2% expressed a lack of interest or awareness in participating in such initiatives. Further exploration is needed to understand the gender disparity and service-wise distribution of respondents and their implications on response rates and engagement.

**Intervention and Impact** – Based on the research input, SiberRead is created as a platform aimed at enhancing cybersecurity knowledge and awareness among personnel in the MAF. The platform uses logo as depicted in Figure 3.1 and functions as a comprehensive resource hub offering a wide range of cybersecurity information, resources, and educational materials. The platform, using the Telegram application, addresses the need for continuous cyber security education and information dissemination within the MAF. By providing a centralized repository of content, SiberRead allows personnel to access valuable resources at their convenience, staying up-to-date with the latest cyber threats, best practices, and preventive measures. The Telegram-based SiberRead delivers the latest information, threat alerts, current activity updates, and cyber quiz competitions. It has been distributed for free to ensure widespread access to up-to-date cyber information among all MAF personnel, including civilians working in MINDEF. The researchers chose Telegram for its useful and attractive features, including security measures, extended data storage, and compatibility with both Android and iPhone mobile devices. Even after deleting the app, users with access to the SiberRead channel can still refer to outdated information.



**Figure 3.1: SiberRead – Channel/Platform logo**

The overall feedback by the participants (MAF Personnel) is good. Participants demonstrated unanimous agreement on the necessity of the SiberRead platform that delivers cyber security information through social media in an easy and fast manner. An overwhelming 98.33% of responses supported and benefitted from this intervention, while a negligible percentage expressed no intention to utilize it. Overall, Cycle 1's utilization of social media platforms for cyber security awareness in the MAF proved promising. It fostered wider reach, active engagement, and facilitated the dissemination of relevant information. However, ongoing evaluation and adaptation are essential to address challenges and optimize the approach in subsequent cycles. The insights gained from this reflection will guide the refinement of strategies and interventions in Cycle 2 to further enhance cyber security awareness among MAF.

### **3.2 Findings on Cycle 2**

Based on the input from Cycle 1, the researcher realized the need to provide targeted training, education, and resources, particularly to 32.38% of MAF personnel with low cybersecurity awareness. Through interactive workshops, seminars, and informative materials, MAF personnel would gain a deeper understanding of Cybersecurity and Cybercrime, preventive measures, and best practices to mitigate risks. Thus, the Cycle 2 intervention introduced Cybersecurity Awareness Talk which is basically an event where training on issues, preventive measures, and best practices related to Cybersecurity and mitigations on Cybercrime were conducted. The training event is a collaborative effort of the DCED, RMP, and the researcher to empower MAF personnel with the necessary knowledge and skills to build their defence capacity against cyber threats. The researcher conducted a dual assessment of both pre and post-event to measure the impact of the program

**Intervention and Impact:** The researcher held a Cyber Security Program intervention that involved lectures from Cyber Staff from DCED and Cyber Crime Awareness briefings from Polis Di Raja Malaysia (PDRM). The program which was held for the first time was presented by the PDRM representative Supt. Nur Asrul bin Hj Ariff, Head of Property Crime Investigation Unit. The program was implemented on 24 May 2023 at the Sany Auditorium, PESAMA. This program was attended by 50 and above officers and members of other ranks from MAF. While the DCED Cyber Staff is represented by Lt. Abdul Halim bin Abdul Jamil TLDM. The program has the goals to equip participants with the knowledge and skills needed to protect themselves and their organizations from cyber threats. The program included the following components:



- a) **Introduction to Cyber Security:** Definition and importance of cyber security an overview of cyber threats and their impact. The individual's role in maintaining cyber security.
- b) **Common Types of Cybercrime:** A detailed explanation of the various categories of cybercrime discussed in the briefing Case studies and real-life examples that illustrate the consequences of cybercrime.
- c) **Recognizing and Preventing Cybercrime:** Identifying phishing attempts and fraud best practices for secure online communications and transactions. Tips for creating strong passwords and protecting personal information.
- d) **Reporting Cyber Crime:** Guide to reporting cybercrime incidents to relevant authorities, including RMP and cyber security agencies Procedures for preserving digital evidence and assisting in investigations.

The findings reveal that the cyber awareness program was successful in significantly improving participants' understanding of cyber security concepts and preventive measures. The program's interactive and engaging methodology, along with cooperation between relevant authorities and the military, contributed to its effectiveness. The research emphasizes the importance of continued efforts to promote cyber awareness in the military community due to the constantly evolving cyber threats. The Cycle 2 intervention also resulted in Rapid surge of MAF personnel in following the SiberRead Platform channel introduced earlier in Cycle 1. The analysis of the SiberRead platform graph of Figure 3.2 indicates a substantial increase in engagement, highlighting its effectiveness in delivering valuable content to military personnel and contributing to their knowledge and awareness of cyber security. The positive response from military personnel underscores the platform's ability to meet their information needs and enhance their cyber resilience.



**Figure 3.2: Rapid Surge in MAF personnel in following the SiberRead Platform channel**

## **4.0 CONCLUSION**

This action research focused on enhancing cybersecurity awareness among MAF personnel to mitigate cyber threats. Employing targeted interventions and collaborations, the study bridged knowledge gaps and highlighted practical implications for improved practices. The SiberRead platform's implementation effectively delivered cyber security knowledge, with user-friendly features increasing engagement. Collaborations with DCED and RMP showcased the partnership's importance. Future research should explore diverse interventions and expand to all three MAF branches for broader impact.

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## **THE IMPLEMENTATION OF A CENTRALIZED DIGITAL PLATFORM ON COMMERCIAL PROPERTIES AT FELDA**

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**ABSTRACT** - The digital transformation in Malaysia is being propelled by the Fourth Industrial Revolution (IR4.0), as businesses leverage technology to improve efficiency, productivity, and competitiveness. While certain industries have fully embraced digitalization, others are progressing at their own pace. The advancement of technology in Malaysia is supported by government initiatives and increased awareness of the benefits of digitalization. However, the Asset Management Department of FELDA faces a significant challenge due to the lack of a centralized platform for accessing crucial information on commercial properties. To address this obstacle and enhance productivity, efficiency, and decision-making, immediate action is required. Therefore, this action research aims to carry out two (2) intervention cycles aimed at resolving the main problem identified in the Asset Management Department of FELDA. In the first cycle, a centralized digital platform will be implemented to provide internal users with access to information memorandums. The second cycle focuses on disseminating the information memorandum on FELDA's website to attract strategic partners. The research design incorporates both quantitative and qualitative methods by adopting a pragmatic research philosophy in data collection. Questionnaires will be distributed to 21 officers that are involved in property management in FELDA, while semi-structured interviews will be conducted with the Head of Department and Commercial Assets Officers. Pre- and post-intervention data will be collected to comprehensively evaluate the acceptance of technology, impact on productivity, work efficacy, and decision-making. The quantitative data will be analyzed descriptively, while thematic analysis will be applied to the qualitative data. Furthermore, the underpinning theory and model for this action research are the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT). These approaches aim to explore individuals' attitudes towards technology adoption and utilization, as well as strategic resource deployment for gaining a competitive advantage. The expected outcomes are an increase in productivity, work efficacy, and decision-making, thereby providing a competitive edge. The results of this research are anticipated to contribute to theory, practice, and methodology in the field.

**Keywords:** *Information Memorandum; Commercial Properties; Productivity; Work Efficacy; Informed Decision Making*

### **1.0 INTRODUCTION**

The fourth industrial revolution (IR4.0) has sparked a dynamic digital transformation in Malaysia, propelling the country into a new era of technological advancement. As Malaysia embraces this digital revolution, it becomes increasingly crucial to explore innovative solutions that optimize productivity, enhance work efficacy, and enable informed decision-making (Attaran et.al, 2019). While some sectors have successfully embraced digitalization, others continue to navigate the digital landscape at their own pace, encountering challenges while seizing opportunities. Supported by government initiatives and an

evolving appreciation of the benefits of digitalization, companies in Malaysia are marching forward, unlocking the vast potential offered by the digital landscape.

Productivity refers to the efficient and effective use of resources to achieve desired outcomes (Drunker, 1989). In the context of knowledge work, productivity improvement requires the elimination of any activities that do not contribute to the desired outcomes. In this action research, productivity involves optimizing property management processes, streamlining workflows, and completing tasks efficiently. By adopting a centralized digital platform for accessing commercial property information, organizations aim to enhance productivity by reducing manual activities, automating routine tasks, and facilitating smooth information flow. Information technology is associated not only with improvement in productivity, but also in intermediate measures, consumer surplus, and economic growth (Brynjolfsson & Yang, 1996)

Enhancing work efficacy within organizations involves achieving effective outcomes aligned with organizational objectives and stakeholder expectations (Monje-Amor et al., 2022). In this action research, the adoption of a centralized digital platform for accessing commercial property information emerges as a crucial factor. This digital transformation empowers employees by providing efficient access to relevant data, enabling informed decision-making, effective collaboration, and confident execution of responsibilities. The significance of work efficacy in driving individual and team performance, as emphasized by the job demands-resources model, underscores the need for organizations to embrace technology and align with the digital landscape to enhance productivity and work efficacy (Antonopoulou et al., 2023; Yagil et al., 2023).

Generally, the Asset Management Department of FELDA encompasses various functions, including the management of commercial properties, mineral exploration, and project development initiatives. With a portfolio of commercial properties worth over RM2.3 billion, the department is responsible for effectively overseeing the acquisition, maintenance, and strategic utilization of these assets.

However, the absence of a centralized platform for accessing information about commercial properties within FELDA's Asset Management Department presents significant challenges, resulting in reduced productivity and efficiency. This lack of a centralized platform also hampers the awareness of top management involved in decision-making, as they remain uninformed about the commercial properties and lack a comprehensive understanding of how to develop strategic plans for FELDA.

Currently, valuable data and crucial documents, such as physical copies of land titles, drawings, floor plans, valuation report, fire certificates, and Certificates of Completion and Compliance (CCC) related to properties, are scattered across various departments. As a result, officers are burdened with the task of carrying numerous physical documents and must flip through them during meetings, adding further complexity to their workflow. This fragmented system not only results in delays and inconveniences but also hinders the department's ability to make informed decisions.

Preliminary interviews with officers in the department have shed light on their daily struggles and frustrations. They have expressed their dissatisfaction with the cumbersome processes they have to go through to obtain vital information. The officers recount the difficulties they face in navigating different departments, such as the Legal Department, Land Management Department, and Finance Department, to gather the necessary data. These challenges not only consume valuable time but also create frustration and hinder their ability to fulfill their duties efficiently.

To exacerbate the situation, it has been discovered that some assets are not properly registered on the balance sheet, resulting in an inaccurate representation of FELDA's true financial position. This lack of visibility and transparency further compounds the challenges faced by the department. The inability to accurately assess and account for all commercial properties, including those without proper registration, prevents the department from fully leveraging their potential and strategically managing their portfolio.

Furthermore, it is important to note that historically, FELDA's focus has been primarily directed towards palm oil plantation and community development, which has resulted in less attention being given to effectively managing their commercial properties. This lack of emphasis has led to reduced productivity and efficiency within the Asset Management Department. However, the management at FELDA has recently acknowledged the untapped potential income that can be generated from these commercial properties. This realization has prompted a shift in perspective and a recognition of the need for a more centralized and efficient approach to property management. The aim is to capitalize on the value inherent in these assets and maximize their potential contribution to FELDA's overall financial performance.

The current situation within the Asset Management Department at FELDA can be described as struggling, unproductive, and inefficient. Delays in decision-making, caused by the fragmented information system, the burden of physical document management, and incomplete asset registration, impede the department's ability to seize opportunities, address issues promptly, and optimize the value of their commercial properties. It is evident that a transformative intervention is necessary to streamline processes, enhance productivity, and unlock the true potential of FELDA's commercial properties.

Previous research investigating the implementation of digital information systems in enhancing productivity and work efficacy has identified two (2) significant themes. The first theme focuses on the benefits of streamlined workflow and task management facilitated by digital systems. By automating processes, providing easy access to information, and optimizing task allocation, digital systems contribute to more efficient and organized work processes. This streamlining of workflow and task management ultimately improves productivity and work efficacy.

The second theme centers around the influence of self-efficacy and the opportunities for knowledge sharing provided by digitalization. Studies have shown that individuals who possess a strong belief in their own abilities and knowledge are more likely to engage in knowledge sharing behaviors within digital platforms. Digitalization enables the easy dissemination and sharing of knowledge, fostering collaboration and collective problem-solving. This knowledge sharing, driven by self-efficacy, has been found to positively impact productivity and work efficacy (Teichert, 2019).

Collectively, these themes highlight the favorable impacts of digitalization on both productivity and work efficacy. Streamlined workflow and task management, coupled with the facilitation of knowledge sharing driven by self-efficacy, contribute to improved work processes, enhanced productivity, and overall work efficacy.

This action research aims to evaluate the acceptance level of the Centralized Digital Platform, which will be developed using the Technology Acceptance Model (TAM). The assessment will focus on the perceived ease of use and perceived usefulness of the document. Additionally, the researcher will adopt the Unified Theory of Acceptance and Use of Technology (UTAUT) framework to explore broader dimensions. This framework will consider factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions. The reason for this is that TAM and UTAUT, which have been widely studied, are the most utilized models for technology acceptance (Permana & Kustiawan, 2022). This choice is in line with the objective of this action research, which aims to assess the notable effects of the Centralized Digital Platform on productivity and work efficiency. Furthermore, the researcher intends to assess the practical application of the Centralized Digital Platform to contribute to a competitive advantage for the Asset Management Department.

This action research holds tremendous potential for advancing theory, building on past studies, and enhancing the management practices of FELDA. The researcher aims to delve into the impact of digital platforms on the management of commercial properties, shedding light on the factors that influence their acceptance and effectiveness. The insights gained from this research will contribute to the broader field



of information management and technology adoption, enriching our understanding of how organizations can leverage digital tools to improve productivity and work efficacy.

Furthermore, this research stands out by specifically focusing on FELDA's commercial properties, providing a unique and valuable contribution to the existing body of knowledge. By tailoring the investigation to FELDA's context, the study will offer context-specific insights and practical recommendations for informed decision-making. This tailored approach recognizes the specific needs, challenges, and opportunities faced by FELDA in managing their commercial properties worth over RM2.3 billion. The outcomes of this research will guide FELDA's management in streamlining workflow processes, enhancing productivity, and unlocking the potential value of their property assets.

The potential impact of this research on FELDA is significant. By implementing the recommended interventions, FELDA can optimize their decision-making processes, generate income from their commercial properties, and unlock untapped potential for growth. These insights have the power to transform the management practices of FELDA, enabling them to make informed decisions and leverage their commercial properties to generate sustainable income and drive organizational success.

## **2.0 MATERIALS AND METHODS**

The research methodology employed in this study embraces a pragmatic research philosophy, which focuses on practical application and problem-solving. A mixed methods approach will be utilized to comprehensively explore the gaps in accessing the information memorandum on commercial properties and provide actionable insights.

To gather data, questionnaires will be distributed to the entire population of this study, which comprises ten (10) officers from various departments at the headquarters, including the Asset Management Department, Legal Department, Land Management Department, and Finance Department. Additionally, eleven (11) officers from regional offices will also participate in the survey. These officers have been selected based on their expertise and involvement in property management at FELDA. The questionnaires will be designed based on the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) framework, ensuring that they capture the relevant constructs and address the research objectives.

Before the actual distribution of the questionnaires, a validity test will be conducted by subject-matter experts. Their input and feedback will help refine the questionnaires, ensuring they effectively measure the intended constructs. To assess the reliability of the questionnaires, a pilot study will be conducted with a smaller sample of participants. Subsequently, the survey will be conducted with a sample size consisting of 21 respondents. The quantitative data will be analyzed using descriptive and inferential statistics to provide comprehensive understanding of the respondents' perspectives and experiences. Meanwhile, qualitative data will be analyzed using thematic analysis. For instance, this study leverages the triangulation effect to enhance the validity and reliability of the findings. The integration of quantitative and qualitative data provides a more comprehensive understanding of the research questions, enabling a holistic view of the gaps in accessing the information memorandum and the impact of the proposed interventions.

The pragmatic research philosophy aligns with the aims of this study, as it seeks to bridge the gap between theory and practice. By considering real-world contexts and stakeholders' perspectives, the research findings can be applied directly to address the challenges faced by the Asset Management Department. The outcomes of this study will not only contribute to academic knowledge but also provide practical recommendations for improving the accessibility and effectiveness of the information memorandum system of commercial properties at Asset Management Department, FELDA.

### **3.0 RESULTS AND DISCUSSION**

This action research holds significant importance for the management of FELDA in making informed decisions regarding their commercial properties, which have a substantial value of over RM2.3 billion. The implementation of a digital information memorandum and the publication of property information on a website, guided by the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) framework, are expected to yield valuable insights and drive improvements in productivity and work efficacy.

By adapting TAM questions in the questionnaires, this research aims to assess the acceptance and perceived usefulness of the digital information memorandum among participants. Positive responses to these questions would indicate that the officers recognize the value and benefits of the digital platform, which is anticipated to enhance productivity and work efficacy within the organization. Besides that, by employing UTAUT, this research can delve deeper into the factors that drive or hinder the adoption of the digital platform for accessing information on commercial properties. It provides a holistic perspective on the various influences that impact technology acceptance, allowing for a comprehensive understanding of the adoption process within the Asset Management Department.

Through the implementation of a digital information memorandum, officers will have easy and efficient access to comprehensive property data. This streamlined information retrieval process is expected to reduce the time spent on manual searches, enabling officers to allocate their time and resources more effectively. By optimizing workflow and saving valuable time, the intervention will improve productivity and enhance work efficacy, allowing officers to focus on other critical tasks and make informed decisions based on reliable and accessible information.

Furthermore, the publication of the information memorandum on a website will enhance decision-making processes and foster strategic partnerships. Potential partners seeking information about FELDA's commercial properties will have convenient access to the website, enabling them to evaluate opportunities and make well-informed decisions. This increased transparency and accessibility will attract potential investors and stakeholders, ultimately unlocking the potential value of FELDA's commercial properties and generating income for the organization.

### **4.0 CONCLUSION**

In a nutshell, this action research will provide valuable insights into the gaps in accessing the information memorandum of commercial properties in the Asset Management Department and proposing interventions to enhance accessibility. The findings will have significant implications for the future management of FELDA's commercial properties. Through the identification of specific gaps, proposed interventions such as a digital information memorandum and website publication will be implemented to streamline workflow processes and improve accessibility. Evaluating the impact of these interventions will demonstrate improvements in productivity, work efficacy, and decision-making processes. This research will contribute to the field of information management and provide practical recommendations for FELDA to maximize property value and generate income in the future.

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## Theme 2: Strategic Management

Within the panorama of the AHIBS International Action Conference 2023 Proceedings, the Strategic Management theme emerges as a testament to the resilience and adaptability of modern enterprises. The curated selection of papers under this theme provides a synthesis of strategic responses enacted by organizations to surmount challenges and seize opportunities in a rapidly evolving business landscape. This theme explores strategic transformations in various contexts—from Durio’s agile pivot in the face of a global pandemic, to the intricate decisions involved in medical equipment maintenance, and the adoption of agile frameworks in construction project management. It delves into the resilience of supply chains amidst global disruptions, offering insights into alternative sourcing strategies that reinforce business continuity.

Central to this theme is the investigation into the role of ownership structures in innovation and the performance of SMEs, a critical aspect of strategic management in the context of Malaysian enterprises. Additionally, the theme highlights the integral adoption of Environmental, Social, and Governance (ESG) principles, demonstrating how these factors are woven into the strategic fabric of businesses and their impact on firm value. From the bibliometric analysis of ESG disclosure to the organizational capabilities that influence social enterprises' impact, the articles collectively emphasize the importance of strategic foresight and the implementation of sustainable practices. These studies not only reflect upon strategic pivots and policy implications but also offer a blueprint for navigating and excelling in the complex terrain of business management. The insights derived from these contributions aim to equip leaders, policymakers, and academics with strategic perspectives that foster innovation, sustainability, and impactful growth, securing a competitive edge in the global market.

## **FROM CONSTRUCTION TO PROTECTION: DURIO'S JOURNEY OF TRANSFORMATION IN THE FACE OF COVID-19**

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**ABSTRACT** - This case study explores the journey of Durio, a company that pivoted its business operations during the COVID-19 pandemic to produce face masks. Founded by a successful entrepreneur in the construction materials industry, Durio shifted its focus to address the urgent need for personal protective equipment (PPE) and give back to society. This case study examines Durio's marketing strategies, including product innovation, distribution channels, and price bundling, as well as the company's transition from a B2B to B2C focus. As the demand for masks decreased post-pandemic, Durio ventured into new product lines and R&D initiatives to ensure its continued growth and success.

**Keywords:** *Durio, Case, COVID-19, Face Mask, Malaysia, Entrepreneurship*

### **1.0 INTRODUCTION**

Pneumonia of unknown cause shook Wuhan, China in December 2019, spreading across Asia and the world, and was declared a public health emergency of international concern by the World Health Organization (WHO) by the end of January 2020. The WHO identified a new coronavirus (severe acute respiratory syndrome coronavirus 2 or SARS-CoV-2) as the cause of this disease and named as COVID-19. COVID-19 symptoms include fever, cough, and breathing difficulties, and it can lead to death. These symptoms resemble typical influenza, but the transmission is much faster (Umair *et al.*, 2020). The first COVID-19 case in Malaysia was identified on January 25 in Chinese travellers travelling into Malaysia via Singapore. Malaysian reported cases were very low till the first wave in late February, and the country recorded the highest cumulative number of confirmed COVID-19 cases in Southeast Asia with 4817 confirmed infections and 77 deaths by 13 April 2020. The objective of this case study is to explore the transformation journey of Durio in embracing the face masks business during the COVID-19 pandemic.

### **2.0 SHORTAGE OF PPE**

The COVID-19 pandemic has posed significant challenges in the provision of personal protective equipment (PPE) in numerous countries, including Malaysia. The demand for PPE experienced a significant rise in response to disruptions in its supply chain (Shaharuddin *et al.*, 2021). The shortage of PPE can be attributed to various factors which includes disruptions in the supply chain, increased demand due to panic buying and stockpiling, the reliance on single-use PPE, and a shortage of hand sanitizer supplies. During the most severe phase of the COVID-19 pandemic in Malaysia, the shortage of PPE was mostly attributed to the jump in demand for PPE along with a decrease in its supply.

The price of PPE experienced a three to fourfold increase, resulting in an inflation of the expenses associated with handling the outbreak. The introduction of Movement Control Order (MCO) in Malaysia



posed a significant risk of Covid-19 transmission. This period witnessed a boom in demand for PPE, particularly masks, face shields, gowns, and goggles, reaching a critical level. Consequently, there was a substantial escalation in attempts to replenish PPE supplies. The retail top price of three-layer masks increased from 80 cents to RM2, according to an announcement made in March 2020 by the Malaysian Pharmacists Society (MPS) (Sin Chew Daily, 2020). The wholesale top price also increased, from RM30 to RM75 per box. Some merchants were found to increase the price during this period, which a piece of a standard surgical mask costs RM5 (Oriental Daily, 2020).

### **3.0 FROM SEALANTS AND ADHESIVES TO FACE MASK**

Quek See Kui, the founder of Durio PPE Sdn Bhd, was born in 1967. He graduated from Foon Yew High School in 1985. He then furthered his studies in chemical engineering at National Taiwan University. After graduating from the university, he stayed in Taiwan and worked for a container sealant company. After a few years, he decided to move back to Malaysia and start his first company, MOHM Chemical in 1993. He first started the business in a small shop lot, and now he owns a total of seven (7) manufacturing plants and offices in Johor Bahru, Selangor, and Penang. The company is the first sealant manufacturer in Malaysia and is one of the "pioneer" formulators and compounders of sealants and adhesives in Southeast Asia. There are 12 mixer and kneader machineries with a total output of 2,000 metric tonnes per annum. Over the years, the company's in-house brand has been exported globally to more than 40 countries. The company currently has about 250 employees.

Face masks are the most difficult product to find on the market during MCO time, and they are also incredibly expensive. Mr. Quek seeks help from Dr Hsuan-Liang Liu, who is one of his university course mates as he did a research on face masks after Severe Acute Respiratory Syndrome (SARS) outbreak in 2002. Dr Liu is willing to guide them on the technical part with one condition, which is to obtain the facility for melt-blown equipment. Therefore, he started venturing into the processes of mask-making and melt-blown fabric. As a result, the largest melt-blown fabric and face mask manufacturer in Malaysia, Durio PPE Sdn Bhd, was founded in April 2020 and began production in July. Mr. Quek invested over RM 30 million to establish the business and factory (Malaysiakini, 2020).

Durio stands out with four 1.6m advanced melt-blown manufacturing facilities capable of achieving 240 metric tonnes of monthly capacity and producing 240 million face masks. Durio delivers high-quality electrostatically charged melt-blown material for long-lasting and high filtering efficiency by collaborating with a prominent worldwide company and employing the best quality of 100% polypropylene. Durio achieves daily production of 2 million units of face masks with 30 completely automated mask production lines, delivering a wide range of products including 3-ply and 4-ply surgical face masks, KF94, and N95-rated respirator face masks. Every Durio product is manufactured in an ISO-13485-compliant controlled room environment, preventing the possibility of quality defects or contamination. Durio PPE Sdn Bhd holds the European CE certificate, as well as registration with the US FDA (Food & Drug Administration). Durio prioritises quality assurance, so a particle filter effectiveness tester is also purchased to assure a consistent filtration efficiency rating.

### **4.0 MARKET EXPANSION**

During the pandemic, Durio faced supply chain disruptions like many other companies. To ensure a smooth flow of materials and products, they implemented several strategies. Firstly, they diversified their supplier base to reduce reliance on a single source. Durio continuously further develop and broaden its core technology to create a reliable mask supply chain by collaborating with other high-quality raw material manufacturers in Malaysia. Secondly, they collaborated closely with their suppliers to anticipate and address any potential disruptions. This is to deliver economical and high-quality masks that are sufficient for Malaysia's demands. These proactive measures helped them maintain a consistent supply of

materials and products. Besides, Durio also offers personalised mask designs and brand Original Equipment Manufacturers (OEM) mask services (Malaysiakini, 2021).

The severity of the third wave of COVID-19 in Malaysia is increasing in November 2020. There is an urgent need for funding for the protective equipment of frontline medical staff from various sources. Durio launched the "One for One" Mask Relief Campaign with the aim of encouraging nationwide participation in providing masks for NGO MERCY Malaysia (Malaysiakini, 2020b). The items were distributed to different areas with high infection rates, known as red zones, to provide assistance to vulnerable communities in diverse regions.

Durio has also adopted a bundle pricing strategy to offer customers cost-effective alternatives. Durio's strategy involves providing discounted bundles of face masks to encourage customers to make bulk purchases, thereby ensuring they have an adequate stock of masks. This strategy benefits customers by saving money and allows Durio to increase sales volume and strengthen its market position in the face mask industry. By focusing on business to business (B2B), Durio establishes strong partnerships with businesses and taps into their existing networks. This approach allows them to reach a wider customer base and increase their market presence. Additionally, leveraging agents enables Durio to expand its reach geographically, as these agents can represent the company in different regions and facilitate sales on its behalf. The application of digital marketing and social media platforms has become imperative in the promotion of Durio's products due to their extensive outreach and cost-efficiency.

## **5.0 CONCLUSION**

Durio has demonstrated commendable resilience and adaptability throughout and after the pandemic. Durio overcame challenges by leveraging technology and establishing collaborations with reputable raw material manufacturers in Malaysia to ensure smooth operations. Besides that, the company adapted its business model to align with changing consumer demands, enabling it to not only survive but also thrive in the post-pandemic. The importance of marketing and distribution strategies in navigating changing market conditions cannot be overstated. Durio recognized the need to reach customers in new and innovative ways, leading them to invest in digital marketing campaigns and strengthen their online presence. Durio's success in navigating changing market conditions highlights the need for businesses to continuously assess their strategies and make necessary adjustments.

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## **TOWARDS DEVELOPING A FRAMEWORK FOR MEDICAL EQUIPMENT MAINTENANCE IN PRIVATE HOSPITALS**

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**ABSTRACT** - Medical equipment maintenance is a challenging procedure, especially for high-end equipment. Hospitals always have difficulty deciding whether to maintain or dispose of the equipment especially when the equipment reaches its end of life and has high repair costs. Although most hospitals have established replacement guidelines or have used asset monitoring systems for this purpose, the effectiveness of these systems has not yet been systematically evaluated. Several studies have been conducted on the same research topic, but most of the findings emphasize replacement methods rather than the criteria contributing to the decision-making. Thus, this research aims to identify important criteria that need to be considered for medical equipment maintenance and replacement focused on private hospitals. This research has three phases: (1) the exploring phase using a systematic literature review; (2) the qualitative phase using semi-structured interviews; and (3) the quantitative phase using a pairwise comparison survey. However, this paper will focus only on qualitative findings. Qualitative data collection was conducted with six experts from the healthcare industry. The findings suggest a list of criteria that influence decision-making to replace medical equipment. This study will give significant benefits to society as well as hospitals as the findings will give a better understanding of important criteria that need to be considered during the decision-making process of medical equipment maintenance in private hospitals.

**Keywords:** *decision-making; maintenance; medical equipment; multi-criteria; private hospitals.*

### **1.0 INTRODUCTION**

The healthcare industry is one of the world's fastest-growing industries, comprising over 10% of the gross domestic product of most developed countries (Karim & Haque, 2020). Healthcare is an aggregation of sectors in the economic systems that provide goods and services to treat patients with curative, preventive, rehabilitative, and palliative treatment (Salim & Mazlan, 2019). High-risk medical equipment and malfunctions in the operation can affect user safety (Munsayac et al., 2021). Thus, a systematic mechanism for managing assets is essential to make sure the medical equipment is well-maintained (Khumpang & Arunyanart, 2019). The multi-criteria decision-making (MCDM) approach has been used to prioritize maintenance requirements for medical equipment and establish guidelines for choosing the right maintenance strategy (Bragazzi & Mansour, 2020). MCDM is commonly used to decide involving multi-objective or multi-criteria (Pamučar & Puška, 2021).

### **1.1. Problem Statement**

In Malaysia, medical equipment maintenance has normally been made based on the age and functionality of the equipment instead of having appropriate mechanisms; to decide whether to maintain or replace the medical equipment (Cai et al., 2019). In the healthcare industry, poor decision-making can lead to negative effects such as premature replacement or over-maintenance of medical equipment (Jamshidi & Parker, 2020). Frequent maintenance and servicing lead to over-use even when it has reached the end of its life and sometimes malfunctions or is disabled (Javaid & Haleem, 2019). According to Malaysian Medical Association (MMA), the current situation of healthcare services in private hospitals is not up to the standard of the Malaysian Society for Quality in Health (MSQH). One of the serious issues identified is having not organized mechanisms for managing medical equipment that can affect the sustainability of medical equipment (Medical Association of Malaysia, 2020). Further, the lack of coordination between several departments and poor agreement between top decision-makers has made it difficult for the management team to monitor the quality of medical equipment and its performance (Moons & Waeyenbergh, 2019).

### **1.2. Research objectives**

*ROI:* To identify the important criteria that needs to be considered while making decisions for medical equipment maintenance.

*RO2:* To classify and rank the criteria that needs to be considered while making decisions for medical equipment maintenance.

## **2.0 MATERIALS AND METHODS**

### **2.1 Data Collection Phases**

There are three phases involved in conducting this research. Phase 1 involved secondary data to identify the criteria for decision-making collected from exploring the existing scientific sources. Phase 2 involved qualitative data by conducting semi-structured interviews with six biomedical experts from the healthcare industry. Phase 3 involved quantitative data by conducting pairwise comparison surveys with 25 biomedical engineers. Analytical Hierarchy Process (AHP) was used to analyse the data collected.

#### **2.1.1 Systematic Literature Review (SLR) Phase**

SLR has been conducted to explore the preliminary set of criteria in the decision-making process for medical equipment maintenance. In this research, the keywords that have been used were a mix of “medical equipment”, “medical device”, and “equipment” on different variations and combined with the “OR” and “AND” operators followed (decision OR selection) AND (maintenance OR maintain OR replacement OR disposal OR condemn) AND (factor OR attribute OR criteria OR criterion).



### **2.1.2 Qualitative Phase: Semi-structured Interview**

A semi-structured interview was developed based on the systematic literature review (SLR) and preliminary framework. Respondents are experts from the healthcare industry who has experience working in hospitals for more than five years. One of the objectives of conducting qualitative research is to confirm the findings from the previous phase which is SLR. This objective was achieved because the results of the expert interviews confirmed the findings from the SLR. A semi-structured interview is an in-depth interview where respondents must answer predetermined open-ended questions that are widely used (Ahlin, 2019). In this research, the interview was conducted to make a confirmation with the experts on the criteria gathered from the SLR and to explore if there are any issues or criteria that are not found in the SLR phase. By using this approach, respondents can give their opinions in addition to answering questions from the interviewer. Respondents are allowed to suggest and elaborate on additional criteria that may not be on the list but are especially important to the decision-making process. For each round of interviews, after receiving expert feedback, the researcher needs to convert the collected information into clear and improved interview questions for the next round of data collection. The next round allows the respondents to elaborate on both the information and their judgments about the relative importance of the items. The results of the interviews will then be analysed in the next phase.

### **2.1.3 Quantitative Phase: Questionnaire Surveys**

For the quantitative approach, the researcher has used a survey as a tool to collect data. Questionnaire surveys allow data to be collected in a standard way so that the data is internally coherent and consistent for analysis (Castleberry & Nolen, 2018). The survey questions will be constructed based on the evaluation index from the interview results in a pairwise comparison. Quantitative research will be used in this study to confirm the results of the semi-structured expert interviews. This approach aims to collect numerical data to support the results obtained from qualitative research methods. Pairwise comparison questionnaires will be used to apply the Analytical Hierarchy Process (AHP) approach that will be selected later. The results of the analysis prioritize decision-making criteria also to determine consensus and consistency in the final findings.

## **3.0 RESULTS AND DISCUSSION**

### **3.1 Phase 1: Systematic Literature Review**

Taxonomy was utilized to classify the papers with highlight comments. This process was followed by another process of characterization, description, tabulation, and conclusion of the essential findings. The initial numbers of articles from three databases are as follows: 9 articles from Web of Science, 701 articles from ScienceDirect, and 14 articles from Scopus. From these three databases, 58 were duplicates which brought down to 666 articles. After conducting a full reading and scanning process, only 60 articles remained, and all these articles are related to medical equipment in healthcare services in hospitals. There are 15 criteria identified through the SLR phase after the grouping process has been made to categorize all the similar criteria.

### **3.2 Phase 2: Qualitative Interviews**

Qualitative research consisting of semi-structured interviews to validate the criteria obtained in Phase 1 of the SLR and to develop a decision-making framework for medical equipment maintenance. Semi-structured interviews were conducted to gather expert knowledge and experience as a preliminary design to develop a decision-making framework for medical equipment maintenance. The selected participants are experts in the healthcare industry; most of them work in hospitals with more than five years of experience. Six semi-structured interviews were conducted with selected participants. Most of the interviews were on an online platform and were recorded for subsequent analysis. Additional information was also considered during the interview session for further findings. Interview data were analysed using framework methods that have been widely used to manage and analyse qualitative data, especially in medical and health research. The objective of qualitative interviews is to confirm the decision-making criteria identified through SLR.

### **3.3 Phase 2 Result**

All of the respondents in qualitative interviews had answered the questions asked by the interviewer and depth elaboration on the topics chosen has been noted for further phases. As an example, the opening questions asked by the interviewer to the experts were to emphasize the importance of the Medical Equipment Management Plan (MEMP) implemented in hospitals. Expert 1 stated, “*MEMP is necessary for every hospital, especially for future operations, management, and cost savings to avoid loss of results, poor performance, and frequent failures of medical equipment*”. According to Expert 2, “*A plan that involves prevention and maintenance in the management of medical equipment is important to prevent safety issues from occurring*”.

Experts were also asked about the medical equipment replacement process practiced in hospitals. Expert 3 explained, “*Considerations to be taken and decisions must be made on a case-by-case basis including, but not limited to equipment service history, performance, and reliability, overall condition of equipment, functional importance, any critical risks the equipment may cause to be out of use, likely ongoing operating costs, impact on productivity or quality, unscheduled downtime costs, decommissioning or disposal costs, costs related to research and purchase of replacements, capital costs of replacement equipment, and any training costs for replacement equipment*”. On the other hand, expert 4 have mentioned: “*the decision to repair or replace is not always easy. However, by working with a qualified specialist, it is possible to make an informed decision*”.

An identification of criteria for decision-making to replace medical equipment has been made in which there was a similar list between what had been mentioned by the experts with the ones that has been taken through the SLR. This phase focuses on identifying whether the decision-making criteria extracted in the interviews have the same probability as any of the criteria identified through the SLR. A comparison of the decision-making criteria identified through SLR, and the qualitative phase is shown in Table 1.

**Table 1:** Comparison Decision-Making Criteria

No.	Through SLR	No	Through Qualitative Phase
1	Beyond economical repair (BER)	1	Life cycle cost (LCC)
2	Condition	2	Downtime
3	Downtime	3	Beyond economical repair (BER)
4	Hardware & software obsolete	4	Condition
5	Health, safety & environment (HSE)	5	Regulatory compliance
6	Lifespan	6	Failure risk
7	Maintaining & operational cost	7	Health, safety and environment (HSE)
8	Purchase cost	8	Hardware & software obsolete
9	Regulatory compliance	9	Support
10	Replacement cost		
11	Failure risk		
12	Salvage value		
13	Support		
14	Technology		
15	Utilization		

#### **4.0 CONCLUSION**

The objective of this paper is to identify criteria that need to be considered during decision-making in medical equipment maintenance at private hospitals. A well-maintained and systematic mechanism for managing medical equipment has become one of the crucial elements in controlling the sustainability of medical equipment. Thus, a proper decision-making framework is necessary to overcome any issues regarding the decision-making in medical equipment replacement.

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## **IMPLEMENTING THE SCRUM AGILE MANAGEMENT FRAMEWORK TO IMPROVE THE CHALLENGES AND PROSPECTS OF PROJECT MANAGEMENT FOR SME CONSTRUCTION FIRMS**

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**ABSTRACT-** Management methods are in line with the changing times for a business to remain profitable and sustainable. Paradoxically, however, traditional industries usually do not try new management methods. As a result of outdated management methods, traditional companies become more competitive in the market. At YXFF, managers are still using traditional management methods and the lack of innovation has led to many problems. The aim of this study is to identify effective management methods to improve the productivity of YXFF. In the initial phase, to determine the causes of inefficiency, the researchers interviewed several people from YXFF's randomized project team and did a thematic analysis. The intervention used an agile management approach in place of the traditional management approach, the waterfall management approach. The theories and models used to solve similar problems were taken from previous studies by other researchers. This study designed agile groups to intervene in the management of YXFF and to improve the efficiency and people management of the company by evaluating the intervention plan. Surveys will be administered before and after the intervention, and the questionnaires will be analyzed using SPSS to assess the effectiveness of the intervention. The objectives of the study need to be built on the supporting data provided by YXFF. These supporting data include researcher-calculated commitment achievement and iteration rates, company-recorded employee status sheets, order data, Gantt charts and sprint backlog sheets from the intervention process, among others. Through the analysis of the first cycle of interventions, three points including ensuring risk management, focusing on the role of the product owner, and improving self-organization were improved in the second cycle. The purpose of this study is to examine the challenges and prospects of agile management approaches in traditional industries, with the ultimate objective of improving business efficiency. The whole process demonstrated that the SCRUM framework can provide an effective solution for small and medium-sized engineering and construction companies to improve management efficiency and productivity. However, there were some challenges encountered during implementation, although these may be surmountable with appropriate intervention and training. The researcher therefore hopes that future researchers can explore this and follow up with improved services.

**Keywords:** *Agile management approach; SCRUM framework; productivity; traditional industries.*



## **1.0 INTRODUCTION**

Traditionally, each phase requires input and output as the project progresses. However, with the advancement of technology and the market environment, clients' requirements for project delivery cycles are shrinking. SME Construction is still using traditional project management methods, but small companies also have project teams that demand quick response. Therefore, organizations are exploring and researching methods that are suitable for SM construction companies.

In the 1970s, Winston Royce proposed the waterfall model which is a typical product of the traditional project management approach. Its core idea is to simplify the problem by process and separate the implementation of functionality from design to facilitate the division of labor and collaboration. A typical project under the traditional project management approach, where the risk rises over time, and where negating the initial work later in the project would result in significant loss and waste. Starting in the 1990s, as the drawbacks of traditional project management methods became apparent, many lightweight software development methods focused on continuous delivery began to emerge. In February 2001, 17 people from around the world with different perspectives on agile thinking gathered in Utah, USA, and after several days of intense discussion, they developed what we see today as the Agile Manifesto. The comparison between traditional project management methods and agile project management, from which we can see that the biggest difference between the two is the driving model, the two project management methods in which the deterministic and variable elements are reversed. The SCURM management framework is a project management method that advocates rapid iteration, advocates periodic iterative planning and follow-up, and requires collaboration among various stakeholders (Gandomani et al., 2020). More emphasis is placed on the periodicity of work and delivery in SCRUM.

## **2.0 MATERIALS AND METHODS**

The principle of this study is to adopt a mixed methods approach to research, which includes both qualitative and quantitative methods.

### **2.1 Population and sampling**

The group is made up of experienced (3+ years of experience and no major faults) senior staff from different functions. There are four roles in the Agile team, namely the ScrumMaster (SM), Product Owner (PO) and Dev Team (DT) and other relationships. A ScrumMaster is a rotating group of team members who are the most knowledgeable about the product. The Product Owner needs to define the vision for the product. The role can be filled by a former Product Manager or Quality Assurance Manager. In addition to the PO and SM, another very important role in agile development is the Dev Team, which is our manufacturing center. This role is filled by professionals. Other relevant personnel are selected from other departments.

### **2.2 Qualitative Procedure**

In this study, qualitative analysis was conducted using thematic analysis. The researcher will categorize and organize the themes to form more specific and comprehensive themes and describe and explain each theme. During the thematic analysis process, the researcher will continually return to the data, repeatedly summarizing and analyzing to ensure accuracy and credibility in the understanding and interpretation of the data.



### 2.3 Quantitative Procedure

Statistical analysis of the questionnaire data will be carried out using SPSS software. Descriptive statistics will be used to calculate basic statistics. Reliability analyses will be used to test whether the respondents have answered the questionnaire truthfully and whether the data collected are true and reliable. Non- parametric analyses will use the Wilcoxon test to determine whether the intervention conducted by the researcher was effective.

The supporting data provided by the research company will be analysed using both data to calculate the rate of fulfilment of commitments and the speed of iteration. These analyses will provide a better understanding of the impact of the SCRUM framework on YXFF's productivity and provide a scientific basis for subsequent improvements.

#### 2.3.1 The rate of commitment achievement

$$CA = \frac{T}{S} \quad \begin{array}{l} CA = \text{the rate of commitment achievement} \\ T = \text{Time task hours (story points)} \\ S = \text{Scheduled task hours (story points)} \end{array} \quad (1.1)$$

#### 2.3.2 The speed of iteration

$$SP = \frac{\text{This month's task hours}}{\text{Work hours in January} * 28} \quad (1.2)$$

$$\frac{\text{The speed of iteration} = \frac{(\text{Converted SP} + \text{additional SP}) * N}{IW}}{\text{per day}} \quad \begin{array}{l} \text{The speed of iteration} = SP \text{ for single person} \\ IW = \text{iteration workdays} \\ N = \text{number of people} \end{array} \quad (1.3)$$

## 3.0 RESULTS AND DISCUSSION

### 3.1 Questionnaire Analysis

For quantitative, The SPSS analysis together with the supporting data in this study, including technical production data and organizational production data, as well as the observations after the interventions, the findings showed that the implementation of the SCRUM framework led to a significant improvement in the efficiency and quality of project management. The Wilcoxon Signed-Rank Test showed that the POST means for most factors were higher than the PRE means, and the differences were statistically significant. Respondents felt that the SCRUM framework made projects more transparent and manageable, facilitated teamwork, allowed for continuous improvement and optimization of project management processes, and provided better control of project schedules and budgets. The questionnaire used had good reliability, and descriptive analysis showed that most respondents were between the ages of 31 and 40, had a bachelor's degree or higher, and had some experience in project management.

### **3.2 Thematic Analysis**

The qualitative analysis method adopts thematic analysis, which highlights several key issues, including delayed project delivery, frequent requirement updates leading to increased costs, complex and cumbersome processes, and ineffective communication. These challenges hinder effective project management and impede the overall success of the company. Additionally, resistance from employees, conflicts between processes, lack of necessary skills among staff, and limited client involvement further exacerbate the problem.

### **3.3 Discussion**

By introducing the SCRUM framework and implementing a series of management improvement measures, there was a significant improvement in the commitment fulfillment rate and iteration rate in both cycles, indicating better results in project management and delivery. Secondly, through the records of the employee status table, we gained a more comprehensive understanding of the employees' work status, emotions, and needs, and we noticed that the composition of the production team became more stable. The reflection section involves analyzing the study's design and implementation process. During Cycle 1, the researcher made theoretical and practical contributions to the study. However, limitations were encountered. Risk management was not adequately considered, leading to unexpected issues in project development. And the product owner's role was not fully utilized, resulting in unclear requirements. It needs to optimize the product owner's role through improved communication with the development team. Another is the self-organization of the development team needs improvement to handle project challenges effectively. These aim to enhance project management practices and overall efficiency.

### **4.0 CONCLUSION**

According to the entire research, it is shown that the SCRUM framework can provide an effective solution for small and medium-sized engineering and construction companies to improve management efficiency and productivity. This research project is important both in theoretical and practical aspects. Theoretically, it fills the gap in the literature by combining agile management methods with the engineering industry. From another perspective, the findings of this study have practical implications for traditional engineering companies. But, the limitation includes the small sample size, which limits the generalizability of the findings to other companies in different industries or countries. Additionally, the study was conducted over a short period, preventing an assessment of the long-term impacts of implementing SCRUM. Furthermore, the absence of comparator companies using traditional project management methods makes it difficult to compare the effects of SCRUM implementation. These limitations highlight the need for future research to address these aspects and provide a more comprehensive understanding of SCRUM's effectiveness in different contexts.

### **ACKNOWLEDGEMENT**

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## **ALTERNATIVE SOURCING STRATEGY IN SOLVING SUPPLY CHAIN DISRUPTION BY HAMMAM COMPANY**

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**ABSTRACT** Hammam's company struggled to balance the market supply and demand of its consumers due to the disruption of the supply chain as a result of the pandemic. The company used to import and design products from China, but the events of the pandemic led to challenges in the import process leading to reduce the orders arriving from China. The research aimed to solve the problem of Hammam company by designing a supply chain re-engineering strategy that aims to achieve flexibility in the company's supply chain. The research used a qualitative action research approach. The research included 4 of Hammam company's officials, including the general manager, financial manager, marketing manager, and procurement manager, selected using judgment sampling. The qualitative data was collected through interviews. The action research was done in two cycles. The major finding of the first cycle indicated that the company faced difficulties during the covid 19 pandemic as they did not consider changing the long-term relations with their suppliers. An intervention was planned through supply chain re-engineering, which entailed flexibility or resilience in the supply chain allowing the company to use alternative sourcing to import from Turkey. Turkey was chosen based on geographical proximity and cultural similarity. Additionally, the company chained its strategy from just in time to increased warehouse storage. The proposed intervention was effective and was welcomed by the company's managers, who also recommended using the same strategy with other countries, including Bangladesh and India, to diversify their sourcing.

**Keywords:** *Supply chain re-engineering, alternative sourcing, resilience, fashion industry.*

### **1.0 INTRODUCTION**

The fashion industry is one of the most advanced industries worldwide. Many companies have entered this industry because it is highly profitable. The industry is among the most attractive, employing many of the country's population, especially in the private sector. Bags and footwear were among the products that garnered much attention. Hammam is a medium-sized wholesale company of New Fashion specializing in footwear, shoes and bags. Hammam representatives have established relationships with China and import their required designs and the style of shoes and bags from the China manufacturers to Libya.

The company it's headquartered at Benghazi, with senior management, four directors and the general manager of the company. Directors are responsible for Finance, Human Resource, Client Service and



Retail Outlet. It operates a large number of warehouses and shops throughout the country in Libya, specifically in eastern Libya. In addition, it controls several retail shops in Libya's third largest city "Misrata".

All four units are working very closely altogether to make sure that the company is successful in this increasingly competitive market, especially in light of the recent global environment. This firm has been in existence for a long period as it began its business in the 90th, it is able to predict market forces easily and how this would affect the industry, hence the firm. In addition, it knows the measures to be taken when problems arise. Factory closures and general limitations caused substantial disruptions in global supply chains as a result of the Covid-19 pandemic's fast spread to wide regions of the world (Sarma et al., 2021). Since much of the world's clothing and accessories are produced in China, any disruptions in the country's production would have an immediate impact on the global fashion sector (McMaster et al., 2020). Which arised the supply Chain disruption in the Hammam company as its products come from China.

## **2.0 MATERIALS AND METHODS**

The primary data was collected through qualitative semi-structured interviews with 4 of Hammad company's officials. Semi-structured interviews mean that the interviewer is given a certain amount of flexibility in conducting the interviews. However, the flexibility is balanced with a structure to ensure good quality data. The format means that the same questions are asked to all interviewees based on predetermined themes. But the interviewer has the opportunity to ask follow-up questions to ensure that an equal amount of information is collected from all interviews (Hamilton and Finley, 2019). The method was considered suitable for the study as it allowed us to get answers to how and why the companies acted in a certain way, including the factors influencing the supply chain management in Hammam company. The more open-ended form of questions allowed the interviewee to contribute knowledge about what he considered relevant to the subject, which resulted in more detailed answers than in interview forms with closed questions (Hamilton and Finley, 2019). In order to the flexibility to explore those topics in more depth and ask follow-up questions based on the interviewee's responses. These questions typically begin with phrases such as "how" or "why" to prompt the interviewee to elaborate on their responses. By using open-ended questions, the interviewer can gain a deeper understanding of the interviewee's perspectives, motivations, and reasoning behind certain actions or decisions. Therefore, the use of open-ended questions is a characteristic of semi-structured interviews.

The interview guide was designed according to the themes presented, including the factors influencing the supply chain management in Hammam company to cover the research area. Each interview began by giving a background to the study and by asking general questions related to the interviewee's role at the company. It is important to highlight that the order of the questions has been adapted to the interviewee's answers in order to keep the conversation flowing.

### **2.1 Research Instrument:**

The research instrument is divided into two major sections, and the first section includes general information about the participants. Each participant is asked to give a brief background of his experience in working in the company, including the position, general responsibilities, years of experience and years of working for the company. The second section contains information related to factors influencing the supply chain during Covid 19. The interview is divided into sections related to the variables of the study, which are the supplier-buyer relationship, the power of the supplier and the implementation of flexibility in the supply chain.

## **2.2 Qualitative Data Analysis:**

Qualitative material is by its nature unsorted and open to interpretation; even if an interview guide has been used, the qualitative method is designed in a way that leads to coordination in information (Samuel et al., 2017). Samuel et al. (2017) refer to this phenomenon as the chaos problem, where they state that everything qualitative material is characterized by a certain degree of untidiness. Therefore, the material needs to be sorted before it can start to analyse. The most common way to sort your material is to divide it into different themes; with defined themes, it is possible to start categorizing the information for future analysis.

## **2.3 Thematic Analysis:**

After the interviews, the transcriptions were analysed, and the collected material was sorted into different themes depending on the nature of the answers. The theoretical frame of reference presented the study's main topics: Supplier-buyer collaboration, power of supplier, and implementation flexibility in the supply chain. The answers were further divided into themes in order to more clearly ascertain similarities, differences, repetitions and transitions in the interviewees' answers. The analysis method also made it possible to identify similarities and differences between different themes (Castleberry and Nolen, 2018). After the thematization, the material was analysed against previous research. The thematic analysis facilitated the application of previous research in the theoretical frame of reference to the collected material, as there needed to be sufficient support to answer the research questions.

## **3.0 RESULTS AND DISCUSSION**

### **3.1 Cycle 1 Finding and Discussion**

In this section, the thematic analysis of elements is discussed in connection with the literature review. The purpose of this study was to identify the current supply chain and the issue of the company. The results of the thematic analysis of the factors influencing the supply chain were demonstrated during the interview with the company officials. The first major finding of the thematic analysis shows that two frequent connection elements that might affect the relationship between suppliers and buyers are adaptability and collaboration. Both of these were shown to be significant contributors to disruption with the goal of altering the connection. Yet, these elements may be found in an SC even in the absence of a disturbance. Together, adaptability and cooperation opened up a wealth of options that may significantly alter the dynamics of the partnership. The result also emphasized the relationship-altering elements during COVID-19, including the shift in supplier-customer dynamics that occurred during the crisis.

#### **3.1.1 Collaboration between buyer and supplier**

An exhaustive range of potential elements that might alter the character of the connection is covered. The shift in the relationship between the supplier and the buyer as a result of the epidemic. These shifts have an overall favourable or bad impact on the connection. It will also review the similarities and differences between the literature and the interviews. In addition, five frequent sub-categories of the relationship element cooperation were found during COVID-19 as having the potential to alter the nature of the relationship. These sub-categories were trust, information sharing,

communication, long-term connection, and disruption. Despite the chaos caused by COVID-19, trust, communication, and the ability to maintain long-term relationships all improved.

Cooperation amongst SC actors is crucial to the connection and has been linked to adaptability. Collaboration was shown to have an effect on the relationship between SC actors and might result in a shift in that relationship, according to the aforementioned literature (Talay et al., 2020). According to Scholten and Schilder (2015), an organization's ability to adapt to changing circumstances hinges on the quality of the connection between the SC provider and the organisation that will be using the SC, as well as the flexibility with which the contract may be amended. Despite the fact that the pandemic has caused delays, order cancellations, and postponements in the textile industry (Zhao and Kim, 2021), it was clear from the interviews that the collaboration between the representatives during COVID-19 has resulted in an understanding between the actors in the supply chain regarding delays and relocation of resources. The results of the interview emphasize the opportunities as well as the challenges that the COVID-19 pandemic has presented to the representatives. There is a need to maintain a degree of adaptability thanks to the nature of their engagement with their suppliers and customers.

### **3.1.2 Trust**

Trust and commitment are seen as crucial for forming mutually beneficial connections (Talay et al., 2020). Trust also helped the company in other ways, such as when dealing with uncertainties and disagreements. In addition, the trust may convert apprehension into acceptance and boost confidence for all parties engaged in the cooperation, allowing the customer and supplier to feel secure in their working relationship. The participants mentioned the benefits of having a long-term relationship with their suppliers during COVID-19, further establishing the importance of trust in the capacity to make changes to the partnership. Furthermore, the results emphasized the significance of establishing trust in supplier-buyer partnerships through open and honest dialogue, which is consistent with the findings (Seyedghorban et al., 2021). In addition, Pazirandeh and Norrman (2014) noted that an increase in information sharing in cooperation is a method to generate trust and commitment, while Su (2013) characterises information sharing, communication, and trust as the most crucial components for building a successful partnership.

### **3.1.3 Long-term relationship**

It was the long-term relationships with just a few suppliers that allowed the COVID-19 crisis to be managed. It was observed that the elements of long-term partnerships influence the connection, although in various ways, in both the interviews and the literature research. In their review of the literature, Hingley et al. (2015) stress the importance of mutual development with one's suppliers. Findings from the interviews indicate that a long-term commitment can improve a relationship's resilience in the face of adversity. According to the research, having a successful buyer-supplier connection is more important than having a long-term one during disruptions (Cannon et al., 2010).

### **3.1.4 Disruption**

A major catastrophe, like the recent COVID-19, has been prevented and handled by the worldwide fashion SC. In addition, the globalisation of the fashion sector makes the interaction and interactions between stakeholders crucial to the complexity of the fashion SC (Zhao and Kim, 2021). Disruptions to orders were seen across the SC as a result of the COVID-19 pandemic (Zhao and Kim, 2021). The participants mentioned that the COVID-19 pandemic led to postponed deliveries, rescheduled meetings, a lack of in-person meetings, and the relocation of productions. In addition, the company encountered cancelled orders, late delivery, logistical issues, and the time and effort required to shift gears and find solutions that worked best and were ethical for both the company and their suppliers. Yet the

collaboration in the SC is susceptible to interruptions and other unanticipated crises, and the COVID-19 disruption is responsible for being damaged due to the speed with which the disease spreads regionally.

### **3.1.5 Power of supplier**

According to the research, power is a determinant in the dynamic between vendors and retailers that work together. Talay et al. (2020) argue that comprehending the SC actors and the SC system requires an appreciation of power. Therefore, the authors draw the conclusion that excessive buyer or seller power might be counterproductive. Schleper et al. (2021) point out that an imbalance of power between a customer and a supplier can define the SC network and give rise to control over many aspects of the relationship. To paraphrase the arguments of Habib et al. (2015), the connection is contingent on the availability of resources to exert control. However, there is no guarantee that a negative relationship will arise from a power imbalance. On the other hand, if both parties are willing to invest time and effort, power may be a helpful tool for maintaining a healthy relationship (Habib et al., 2015).

This may be linked to how well the actors' relationship was handled during the COVID-19 issue or to how well the company values their cooperation and plans for the future. This may have something to do with the relative strengths of the parties involved, but the participants claim that the increased mutual understanding among them meant that the event had no negative impact on their relationship. The question of whether or not the vendors would have had a different experience is, however, open to debate.

Nevertheless, Hingley et al. (2015) suggest that power is utilised to influence the decisions of another actor, while Pazirandeh and Norrman (2014) assert that power exists in a supplier and buyer relationship. Who holds the most influence and how dependent the organisation is on each other are two factors that might affect the distribution of power (Pazirandeh and Norrman, 2014). According to Talay et al. (2020), a power imbalance occurs in a relationship when one party abuses their position of authority to the detriment of the other. This can hinder the success of a joint venture between the two parties. Power dynamics in the relationships were not highlighted in the interviews. On the other hand, the literature evaluation suggests that it is one of the most influential aspects that might alter the dynamic between fashion SC providers and customers.

The SC's frequent presence of power distribution between sellers and purchasers is indicative of the substantial influence one actor has over the others (Pazirandeh and Norrman, 2014). All firms want to increase or decrease their amount of dependence on one another, as described by the resource dependency notion (Pazirandeh and Norrman, 2014). The resource dependence notion, as described by Pazirandeh and Norrman (2014), suggests that all actors in an SC want to increase their own power by decreasing the other actors' dependencies.

The participants indicated the ability to manipulate power to reposition resources to satisfy the necessary demand. Yet, the concept of power is not employed to describe the method by which significant relationship choices are made. During the COVID-19 crisis, the company was able to redeploy its resources swiftly.

Companies did not cite power as a reason for the possibility of repositioning resources but rather emphasised the need for strong teamwork, open lines of communication, and the willingness to adapt quickly to new circumstances.

The literature, in contrast to the interviews, shows that the buyer frequently utilises power to influence the supplier's decision (Liu et al., 2022). Even power distribution across SC actors is desirable, as noted by Hingley et al. (2015); this might be achieved through communication and financial investment. Participants did not address whether SC actors shared power equitably; nonetheless, it was

clear that participants placed a premium on building long-lasting, trustworthy connections and that both the provider and the consumer reaped benefits from the partnership.

### **3.1.6 Flexibility**

The research and interviews revealed the importance of adaptability for organisations facing the challenge of managing the disruptions and uncertainties inherent in the SC in the present and the future. Fewer suppliers and better knowledge are two sub-categories of the relationship factor flexibility, although none of these features stood out throughout the research study. By comparing the literature with the interviews, there was a discrepancy between the sub-factors. Flexibility is described as an asset that should be included in the SC (Manders et al., 2017). Organizational agility allows for rapid response to new circumstances, as detailed by (Remko, 2020). In addition, the participants stressed the significance of SC flexibility and how it has helped firms adapt to the pandemic.

Moreover, adaptability and multiple sources were not new additions to the SC after the COVID-19 pandemic but rather were already present in the SC as pre-existing connection characteristics (S. Kim and Woo, 2021). Whether or not the couple's dynamic evolved may have been affected by this. Figure 4 shows how participants interviewed during COVID-19 said that the quality of their relationships with their suppliers improved when they had a better grasp of their needs.

The capacity to swiftly and efficiently shift resources in reaction to change is central to the concept of flexibility, and this idea is closely related to flexible sourcing and resource migration. It is possible to deal with interruptions and unforeseen difficulties by relocating resources and employing a flexible sourcing strategy. The results of the interview showed how the adaptability helped the organisation deal with the uncertainties of switching to a new supplier.

Everyone at COVID-19 was adaptable, and that was key to resolving the inevitable problems that always sprang up. The participants claim that the improved nature of the partnership is due to the fact that there are fewer suppliers and a greater level of mutual understanding. Nevertheless, the participants did not unanimously agree on the degree to which their relationships had altered as a result of their greater familiarity with the topic and the resulting reduced number of vendors in order to illustrate how collaboration and collaborative decision-making were handled during COVID-19.

The participants' comments suggest that the company need to reach a mutual agreement to shift the production after coming to a more in-depth understanding of the need to relocate the resources. This ties into the fact that the supplier and the buyer must work together. Without one another, neither the SC nor the SC with the COVID-19 disruption would be manageable.

A further literature-based aspect that might impact the relationship's evolution is the use of a multi-source approach. Lin et al. (2021) state that to boost adaptability, businesses employ various SCs and source from numerous vendors. According to Nelson et al. (2018), multiple sourcing is used in the textile sector, which features players from all over the world who are linked together through intricate networks (S. Kim and Woo, 2021). According to Dohale et al. (2021), communication is crucial due to the globalised and complicated SC, which places stress on the connection and link between the SC players. According to Kim and Woo (2021), a shift in the relationship might occur if the parties' cooperation and communication are mismanaged. Due to the fragility of the complex fashion SC structure, this becomes more apparent at times of crisis. (Dohale et al. (2021) claim that because the SC is interconnected, a disruption at one provider can have far-reaching effects on another actor.

During the interviews, the participants described the intricate nature of the fashion industry's network as a source of logistical challenges. The responsiveness of an organisation may be linked to its adaptability and its capacity to meet the challenges posed by a shifting marketplace (Gurnani, Ray &

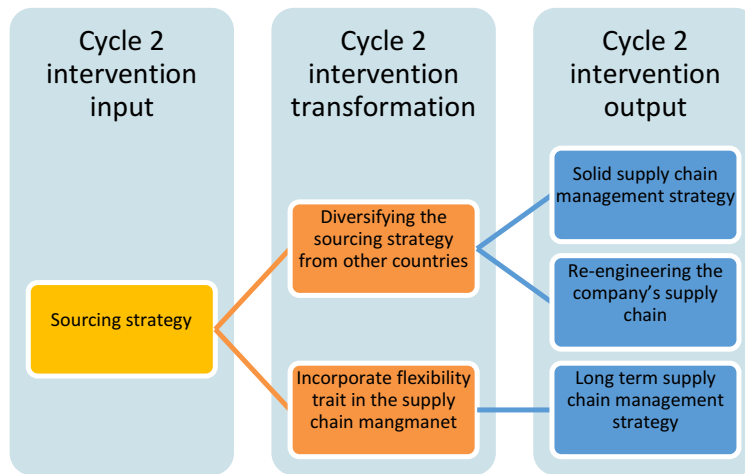


Mehrotra 2012). As a lack of appropriate coordination can lead to a decline in responsiveness, it is crucial to manage the coordination and communication amongst the SC actors in order to adapt to the changes quickly.

Throughout the interviews, it was obvious how flexibility is needed to be integrated into the SC and how it is good for the SC actors. As flexibility cannot originate from just one source, all SC actors need to be receptive and agree to choices before flexibility can be implemented. Flexibility may have positive and bad effects on performance, costs, customer impression, and assessment, which is why Manders et al. (2017) question whether or not greater flexibility is always preferable. Although adaptability is praised in SR 1, it might be a hindrance to swift decision-making.

### 3.2 Cycle 2 intervention output

The goal of the second intervention is to provide a solid supply chain management strategy that helps the company in case of crisis. The process of re-engineering the company’s supply chain is required for a long-term supply chain management strategy. The proposed intervention is demonstrated in Figure 1.



**Figure 1. Cycle 2 proposed intervention**

#### 3.2.1 Findings and Discussion of Cycle 2

All respondents have mentioned that their logistical arrangements have meant that they belong to global supply chains. According to McMaster et al. (2020), long supply chains are inherently vulnerable concepts because consequences of disruptions easily spread like rings on the water and affect all parties involved. It is in this context that all the respondents' business has existed. Furthermore, in P1, P2 and P4 that JIT as a system has occurred in their operations to varying extents; for P4, it has been more out of necessity and in the case of P2, it seems to be more of a cost issue. Hohenstein (2022) believes that there has been a great focus on efficiency in logistics before the pandemic, where principles like JIT pushed to introduce risks that did not handle properly. P1 and P2 indicated that they had some crisis

preparedness and risk management before the pandemic. P4 believes, for example, that there were no delivery problems they needed to think, the same applies to the transports and supplier relations that floated without remark. P2 believes similarly that in the years before the pandemic could the delays can be counted on one hand. Thus, the risk perspective was missing to a greater extent among all of the company.

The lack of risk management is also similar to what is described in Shekarian & Mellat Parast (2021) based on environmental factors. Shekarian & Mellat Parast (2021) argue that the benefits of using global supply chains also come with a price tag in the form of increased risks and that companies must take these risks into account when calculating costs. This approach seems to be lacking in the private companies that have had an unproblematic approach to arrangements with global supply chains. There is a certain awareness of the problem where, for example, P1 stated that they built some storage before the pandemic. There seems to have been some awareness of risk management, although it did not extend to the level that they practised Supply Chain Risk Management to some significant extent.

When the pandemic broke out, the supply chains broke down quickly, according to the P1 and the P2. The public activities do not obtain equipment from the contracted parties or the suppliers and are forced to act quickly and to the best of their ability. Schleper et al. (2021) describe this breakdown and derive it to shutdowns in combination with capacity shortages within global supply chains to handle the increased demand for certain products. P2 believes instead that those who hit them hardest during the pandemic are that transport prices have increased and there have been extensive delays.

According to P1, the stocking is built up during the pandemic; according to Raj et al. (2022) may be a necessary risk-minimizing measure, but point out that this entails costs. At the same time, P1 underlines that warehousing includes the right things and is properly done, and efficiency can be maintained, or at least waste kept to a minimum. Zhao & Kim (2021) have raised this perspective and mean, unlike Raj et al. (2022), that safety stock should not be seen as a waste or expense as there is value in preventing stoppages in the business. This also applies to storage for the other organizations in the study.

One measure that all respondents have taken during the pandemic is to look for alternative suppliers. This is called by various names in theory, with the concept described by several authors (Ivanov & Das, 2020; Remko, 2020; Sarma et al., 2021; Shekarian & Mellat Parast, 2021). El Fadil & St-Pierre (2016) specifically put this in the context of companies becoming too dependent on China. It is reflected in P1's statements, where manufacturing in China is raised as a big problem from one risk perspective. Remko (2020) have seen that companies also choose alternative suppliers that are in their geographical vicinity, something that both P1 and P2 describe that they did with protective equipment. Alternative suppliers also have been a risk management tool that P3 used for certain types of components, as well as for P4. The arrangement with alternative suppliers thus has been popular among the surveyed companies and further in the studies cited. However, there is one action taken first during the pandemic and not anything which has been around since before.

All respondents have stated that they want to store more in the future, be that as it may, buffers of high-risk products or extensive contingency stocks, which is a clear trend. Several authors (Dohale et al., 2021; Fahimnia et al., 2015; Hohenstein, 2022; McMaster et al., 2020; Um & Han, 2021) believe that this will be an important part of risk management in the future. Um, & Han (2021) caution, however, the costs associated with this, while McMaster et al. (2020) believe on the contrary that the pursuit of efficiency contributed to organizations not taking into account the costs that come from not managing risks. (Dohale et al., 2021; Hohenstein, 2022; McMaster et al., 2020) believe that efficiency and risk management must be seen together, as costs for managing risks are included in an efficient operation. This can be compared to El-Baz & Ruel (2021), who believe that the goal of Supply Chain Risk Management is continuous profitability. The risk perspective can therefore be seen as necessary to ensure

continuity. The respondents' thoughts about the future can be understood in this context, where they express a desire for security going forward with the help of more storage than before. The respondents are reasonably aware that stocking involves costs, but they have experienced what happens when continuity breaks down due to disrupted supply chains.

P2 further calls for greater domestic production in the future in order to have safer supply chains. Christopher et al. (2011) have highlighted that modern supply chains are long and complex and thus difficult to manage risk. To have access to significantly shorter supply chains can therefore be very attractive for some players. According to Arrigo (2020), organizations need to take measures to secure the supply chains, and this can be done by production taking place in a closer geographical area, as well as by finding several alternative suppliers. P2, therefore, calls for agreements to be made with domestic producers already in advance. P3 and P4 mean that they will work on this in the future.

#### **4.0 CONCLUSION**

The company depends on importing high-quality products from China. The process was disrupted due to restrictions imposed during the pandemic. The company's officials identified the need for a solution to the problem. In order to provide the company with a sustainable solution that involved the implementation of the intervention. The intervention proposed Flexibility (Resilience) of the supply chain as part of re-engineering. The process was the outcome of a risk assessment process done with the company's managers. The risk evaluation led to the need to change the company's supply chain strategy from "Just In Time" to increase warehouse storage of the products along with alternative sourcing from Turkey. The interview was done following the intervention to evaluate its effectiveness and identify the recommendations for supply chain management in Hammam's company. Generally, the managers viewed the intervention as effective and emphasized the major changes made to the supply chain process in the company. They also recommended for further diversification of the sources and to include local suppliers to benefit from taxation and import cost.

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## **THE ROLE OF OWNERSHIP STRUCTURES AND INNOVATION IN ASSESSMENT OF FIRM PERFORMANCE IN MALAYSIAN SME'S**

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**ABSTRACT** -Researchers in developed countries have realized that innovation is a critical success factor for firms to survive in the long-run. Similarly, the researchers in developing countries are now paying substantial attention to innovation. In Malaysia, the innovation practices are still at a poor level. Recently, the Global Innovation Index reported that Malaysia has declined in terms of innovation in these past few years. However, the Malaysian government is determined to strengthen innovation among SMEs. Despite, SMEs facing huge failure rate and very low survival rate in the country. The SMEs are considered as the financial backbone of the country, and it is critical to strengthen the SME sector to achieve higher economic goals. Thus, it is important for policymakers and SME owners/manager to identify the importance of innovation for the manufacturing firms. This paper proposes a conceptual framework and validation of the framework for the assessment of firm performance based on ownership structures mediating the role of innovation in Malaysian SME's.

**Keywords:** *Keywords regarding the work are stated in this section. Said section should contain maximum 5 words that are written with 10 font size and separated with semi-colon.*

### **1.0 INTRODUCTION**

Small and medium enterprises (SMEs) are the financial backbone for most of the countries ([Massaro et al., 2018](#)). They are the critical success factors for economic growth and job creation ([Hogeforster, 2014](#); [Martins et al., 2015](#)). SMEs are one of the most common type of businesses in the world, and they represent more than ninety percent (90%) of the businesses globally ([Raoul et al., 2012](#)). In the European Union (EU), ninety-nine (99%) percent of the businesses are SMEs, and only less than one percent (1%) firms are categorized as large enterprises ([Massaro et al., 2018](#)). SMEs account sixty-six percent (66%) of the total employment in the region. Similarly, the Australian and Asian region SMEs are the primary source of employment in the countries ([Blackburn et al., 2011](#)). They contribute more than fifty percent (50%) of jobs in the workforce market ([Asia-Pacific Economic Cooperation, 2019](#)). Similarly, the SMEs are a critical success factor for the Malaysian economy. Although Malaysian SMEs are flourishing but there are Certain problems while establishing SME's and majority of the problems are related to different ownership structures and innovation.

Different ownership structures and outside directors have an impact on innovation and firm performance. Previous studies have produced mixed results where they vary between positive and negative findings. Therefore, this study investigates the missing link between family ownership, foreign ownership, outside directors, innovation and firm performance in the Malaysian context. In addition, this study will investigate the mediating role of innovation on the relationship between ownership structures, outside directors and firm performance.



## 2.0 MATERIALS AND METHODS

Several survey instruments were used to measure firms' innovativeness and firm performance, such as; Community Innovation Survey (CIS), Innovation Excellence Survey, Survey of Innovation and Business Strategy and Productivity and Climate Survey. However, these survey instruments were developed and tested in developed countries. The Malaysian business and regulatory systems are different from those in developed countries. Thus, a comprehensive survey instrument is required to investigate the innovativeness of the Malaysian SMEs. Therefore, this study used a mixed method approach in this study. Initially, a qualitative approach will be used to identify industry issues and innovation dimensions to develop the survey instrument. Later, a quantitative approach was used to investigate firms' innovativeness and the relationships between ownership structures, outside directors and firm performance. Sample size depicted in Table 1

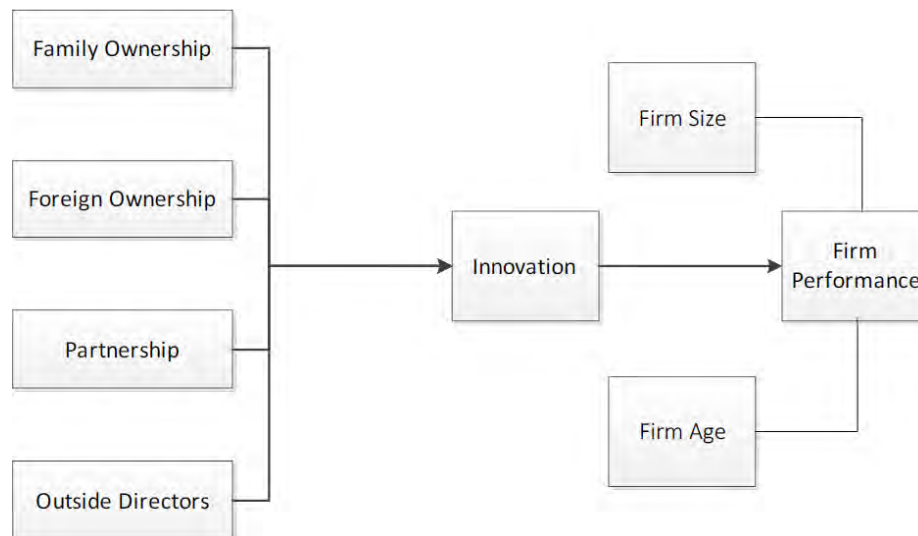
**Table 1: Board of Directors**

Ownership Structures				Board Members		
Family	Friends	Outside board members		Business partners	Foreign nationals	Total
<b>Family Ownership</b>	93	50	11	3	0	157
<b>Foreign Ownership</b>	1	0	22	33	32	88
<b>Partnership</b>	0	0	16	18	14	48
<b>Total</b>	94	50	49	54	46	293

## 3.0 RESULTS AND DISCUSSION

Quantitative data was analyzed to answer the three research questions: 1) Do the ownership structures have a significant relationship with innovation and firm performance? 2) Do the outside directors have a significant relationship with innovation and firm performance? 3) Does the innovation mediate the relationship between ownership structures, outside directors, and firm performance? Statistical Package for Social Sciences (SPSS) was used for statistical data analysis.

### 3.1 Conceptual Framework



**Figure 1.** Conceptual Framework

The data was collected from business owners, BoDs, and senior management personnel of manufacturing SMEs. The questionnaire was adapted and modified according to the Malaysian context.

### 4.0 CONCLUSION

The finding of current study will elaborate that how innovation is a critical success factor for firms to sustain in the marketplace. The policy makers and SMEs need to realize the importance of innovation and embark on it for a sustainable SME sector and a healthy economy.

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## **DURIO: ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) IN ACTION**

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**ABSTRACT** - This paper explores the pioneering journey of Durio PPE Sdn Bhd, a Malaysian homegrown company, in its commitment to Environmental, Social, and Governance (ESG) principles during and after the COVID-19 pandemic. As a case study, Durio serves as an exemplar in demonstrating the feasibility and benefits of integrating ESG goals into business strategy, particularly for new startups. Despite the challenging economic landscape, Durio's steadfast focus on ESG has not only boosted its brand reputation but also contributed to its rapid financial viability. In alignment with select United Nations' Sustainable Development Goals, Durio's initiatives signify the potential for businesses to be agents of positive social, environmental, and economic change. This paper examines five key initiatives undertaken by the company to illustrate its ESG commitments, linking these efforts to broader trends and challenges discussed in the existing literature on ESG in business.

**Keywords:** *Environmental, Social and Governance (ESG), Corporate Social Responsibility, Durio, Face Mask, Malaysia*

### **1.0 INTRODUCTION**

The landscape of modern business has evolved far beyond simple profit generation to encompass a broader set of responsibilities that significantly impact social and environmental well-being. This comprehensive approach is encapsulated by the principles of Environmental, Social, and Governance (ESG), which have increasingly become a cornerstone for corporate operations and investment strategies (Neri, 2021). In today's dynamic and ethically conscious marketplace, companies are assessed not only on their financial performance but also on their ability to operate sustainably, ethically, and with a positive impact on society (Ndidiyama et al., 2023). The urgency of integrating ESG considerations into business practice has been further underscored by global challenges such as climate change, social inequalities, and the recent COVID-19 pandemic (Chaudhry et al., 2023).

Against this backdrop, this paper aims to offer an in-depth case study of Durio PPE Sdn Bhd, a Malaysian company founded amidst the challenges of the COVID-19 era. The central objective is to explore how a newly established enterprise can successfully integrate, and indeed benefit from, a robust ESG framework. This examination aims to illuminate both the complexities and advantages associated with such an approach, with Durio serving as a compelling model for how ESG efforts can contribute to both financial and brand sustainability. By offering practical insights into the implementation of ESG principles in a real-world business setting, this study aspires to serve as a valuable reference for other organizations, policymakers, and academics interested in the effective operationalization of ESG criteria.

## **2.0 LITERATURE REVIEW**

### **Realisation Environmental, Social and Governance**

The concept of Environmental, Social, and Governance (ESG) has gained considerable traction over the past few years, fundamentally transforming the way organizations and their stakeholders perceive long-term success and impact (Eccles et al., 2014). As its core, ESG offers a tripartite framework that combines environmental responsibility, social consciousness, and governance ethics to evaluate an organization's sustainability and ethical impact. While the initial adoption of ESG often centered around risk mitigation and moral responsibility, there is growing evidence that strong ESG performance can also enhance financial returns, brand reputation, and customer loyalty (Alsayegn et al., 2020; Maaloul et al., 2023).

An aspect of ESG that is often underexplored but equally significant is its role in branding and marketing (Bae et al., 2023). Organizations with strong ESG credentials can leverage these attributes to differentiate themselves in the market, attract a more loyal consumer base, and add value to their brand. ESG initiatives have increasingly become touchpoints that can be effectively communicated to consumers, thereby enhancing an organization's brand equity and market positioning. Moreover, these ESG-related communication strategies can foster more substantial and engaging relationships with consumers, who are becoming increasingly conscious of the societal and environmental impacts of their purchases (Puriwat et al., 2023).

However, incorporating ESG into an organization's operational fabric is not without challenges. The costs of implementing ESG initiatives can be high, especially for smaller companies with limited resources (Shalhoob & Hussainey, 2022). Furthermore, the lack of specialized knowledge and expertise in ESG can be an impediment to the successful integration of these principles. Companies also face the complex task of aligning diverse stakeholder expectations while transitioning towards a more sustainable and responsible business model (Lokuwaduge & Heenetigala, 2016).

### **Background of Durio PPE Sdn Bhd: A Beacon of Sustainable Innovation in Challenging Times**

Durio PPE Sdn Bhd stands as a hallmark of innovative entrepreneurship and social responsibility in the Malaysian business landscape. Established amidst the upheaval of the COVID-19 pandemic in 2020, the company chose a path less travelled by embracing a fully localized production line. Unlike its competitors, who predominantly import from lower-cost countries, Durio has opted to provide much-needed employment opportunities by setting up its manufacturing operations solely in Malaysia. This commitment to local resourcing is not just a business strategy but a dedicated expression of Durio's commitment to Environmental, Social, and Governance (ESG) principles. The company's diverse product portfolio, which has grown to include more than just face masks, demonstrates its agility in meeting the evolving needs of both corporate and individual customers. Durio PPE Sdn Bhd represents not just a commercial enterprise but a socially and environmentally responsible entity that contributes to public health and economic resilience in Malaysia.

#### ***Aspiration 1: "Local Jobs, Global Impact"***

In an era where outsourcing has become the norm for reducing costs, Durio's choice to keep its entire production line local is not just commendable, but revolutionary. This decision was not merely for economic gain; it was a calculated strategy aimed at mitigating the unemployment crisis that came with the pandemic. By creating jobs in a beleaguered economy, Durio has made a resounding statement about the role businesses can play in social stability and welfare.

***Aspiration 2: “Frontline First”***

At the height of the pandemic, when PPE was in critically short supply, Durio voluntarily earmarked 20% of its production capacity for the country's frontline workers. This initiative underscores Durio's dedication to social welfare, revealing a company that places human life and safety above sheer profit. Their commitment extended to working in close coordination with healthcare providers to ensure that the needs of frontline workers were not just met but exceeded.

***Aspiration 3: “Made in Malaysia, For Malaysia”***

Self-sufficiency is a long-term vision for Durio. Recognizing the nation's dependency on international suppliers for key raw materials, Durio undertook the manufacturing of melt-blown fabric, a crucial component in mask production. By doing so and supplying it to other domestic companies, including prominent companies like Top Glove, Durio aims to nurture a more resilient and self-sufficient PPE manufacturing ecosystem in Malaysia.

***Aspiration 4: “Education Empowerment”***

Understanding the importance of education and the need to ensure a safe learning environment, Durio has shown exemplary corporate citizenship by actively donating its products to educational institutions, spanning from primary schools to universities. Beyond the act of donation, this initiative reflects the company's larger goal of fostering a culture of health and safety within community settings, starting with the nation's youth.

***Aspiration 5: “Art for Advocacy: A Symbiotic Circle of Social Good”***

Durio's collaboration with artist Danial Kushairi transcends the conventional boundaries of corporate social responsibility and elevates it into a realm where business, art, and social advocacy coalesce. This initiative is revolutionary not just for its creative outlook but for the multi-dimensional benefits it reaps.

Danial Kushairi, an artist with autism, finds a platform to share his artwork with a broader audience through this collaboration. His colorful designs, imprinted on Durio's hand sanitizers and antibacterial wipes, serve as a powerful medium to break down stereotypes and stigmas associated with autism. They prove that autism is not a limiting condition but rather a different lens through which to see the world, one that can offer a rich tapestry of thoughts and emotions expressed through art.

For the National Autism Society of Malaysia (NASOM), this partnership serves as a fundraising catalyst. The sale of these limited-edition products generates funds that NASOM can use to expand its outreach and support services. In a society where public funding for special needs programs is often limited, this fundraising venture becomes an essential lifeline. From Durio's perspective, the collaboration aligns seamlessly with its ESG goals, particularly in the 'Social' and 'Governance' aspects. By actively participating in fundraising activities and championing the inclusion of marginalized communities, Durio not only builds its brand but also sets a gold standard for corporate ethics and social responsibility. The beauty of this initiative is its cyclical impact. The artwork boosts Durio's product appeal, the increased sales generate more funds for NASOM, and the enriched financial capacity of NASOM, in turn, enables them to serve more families affected by autism. It's a symbiotic circle where every stakeholder benefits, underlining the transformative power of art and advocacy when combined with thoughtful business practices.



### **3.0 IMPLICATION**

The journey of Durio PPE Sdn Bhd serves as an exemplary case of how Environmental, Social, and Governance (ESG) principles can be effectively integrated into business models to foster long-term sustainability and resilience. Despite the challenging business landscape created by the COVID-19 pandemic, Durio's unwavering commitment to ESG principles has resulted in more than just good public relations; it has led to tangible, positive impacts on society and has enhanced the company's financial viability. Aligned with the United Nations' Sustainable Development Goals (SDGs), specifically SDG 8 (Decent Work and Economic Growth) and SDG 12 (Responsible Consumption and Production), Durio's efforts exemplify how private sector involvement can accelerate progress toward global sustainability targets. Through initiatives like "Local Jobs, Global Impact" and "Frontline First," Durio embodies the very essence of responsible production and inclusive economic growth.

It is worth noting that Durio's robust ESG commitments required significant financial investment, a nontrivial decision for a fledgling company. However, the gamble has paid off in various ways. From a brand perspective, Durio has successfully carved out a strong reputation as a responsible, socially conscious homegrown brand in the minds of Malaysians. The ESG efforts have, quantitatively speaking, contributed to the company's rapid break-even time and have enabled the business to sustain its operations even as the acute need for PPE has lessened in the post-COVID era. Most impressively, Durio's commitment to ESG has not waned even as the pandemic's immediate threat has diminished. The company continues to engage in Corporate Social Responsibility (CSR) initiatives that drive impactful change within local communities. This enduring dedication to ESG principles positions Durio as not just a business entity, but as a valuable social asset that continuously adds value to society.

### **4.0 CONCLUSION**

In conclusion, Durio PPE Sdn Bhd offers an inspiring case study that illustrates the synergistic benefits of incorporating ESG principles into business operations. By demonstrating how a business can achieve financial sustainability while contributing positively to social and environmental goals, Durio sets an example for other organizations to emulate in their journey toward long-term sustainability and ethical business practice.

### **ACKNOWLEDGEMENT**

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## **STRATEGIC PLAN IN NEWLY ESTABLISHED ORGANIZATION: PLATFORM CENTER OF SUSTAINABLE DEVELOPMENT IRAQ**

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**ABSTRACT** - The purpose of this study is to emphasize and increase the role of strategic planning in shaping and enhancing the organization. Early interventions and scanning environments to figure out weaknesses and promote an organization's ability to grow and thrive. Strategic Planning is the streamlining of performing tasks, providing services, and gaining stakeholders' satisfaction. In addition, stabilize financial position by running and managing resources efficiently. In terms of theory, applying the strategic planning model and Resource-Based view based on previous studies assisted organizations in tracking and understanding different variables to improve performance. The methodology used is a qualitative and quantitative approach to support the hypotheses in determining the weaknesses and measure the intervention's effectiveness. 10 stakeholders were interviewed and 20 staff participated in questionnaires for both cycles in a year and half. The first cycle intervention enhances administrative policies and procedures to support employee learning and awareness. The finding showed improvement in employee performance and managing business effectively. The second cycle of the intervention will focus on the financial performance regarding cost structure and partnership. The findings significantly improve financial stability and productivity. The interventions successfully implemented with the excellent cooperation with the organization regarding improving performance and financial position that aims to ensure sustainable growth of the organization.

**Keywords:** *Strategic Planning, Strategic management, Human resources practices, Financial stability, Cost structure.*

### **1.0 INTRODUCTION**

Strategic Planning is rarely conducted in Iraq, and even when completed, it rarely materializes, as it is driven by international assistance rather than developed internally in state institutions. This paper analyses the impact of adopting strategic planning in newly founded non-governmental organizations on its functioning and attaining its objectives. According to Cambridge Dictionary, strategy is the methodology for fulfilling goals in different scenarios. Strategy is the selection of an organization's essential long-term goals and the readiness to take a series of actions depending on the resources available and require to achieve these goals. In addition, Developing strategic objectives must be relevant to organization sector and achievable through engaging all parties and deliberating involved in the processes to get a spirit of commitment and intention for change and improvement (Phina, 2020). Strategic Planning is about designing a plan for the long term that concludes many activities within the time frame. Strategic management is the designing, executing, assessing, and evaluating plans. Furthermore, to remain competitive in today's severe global environment and succeed in the market, an organization must prepare well and agile by developing a strategy to help it achieve its goals that will influence its future. In addition, organizations should examine all the variables, make asserted decisions about their priorities, and adhere

and commitment to achieve their outcomes (Sumiati, 2020). This study will highlight different theories and practices to find out which model fits better in the context of Iraq regarding strategic planning model and Resources Based View. Mixed method utilized to analyze the impact of the external and internal environment on the success of implementing strategic planning. Hence, interviews and surveys are conducted in the format of pre- and post-intervention assessments to measure the impact on performance in achieving the objectives of the NGO.

## **2.0 MATERIAL AND METHOD**

Several methods have been used to identify internal issues and problems. The study counts on literature reviews and past studies to develop several interventions to improve performance, productivity and the organization growth.

### **2.1 Problem diagnosis:**

The researcher utilized internal table analysis to highlight case fact opportunities and threat that faced the organization. In addition, apply SWOT analysis, to identify strength, weaknesses, opportunities, threat. Furthermore, Fish-bone diagram regarding people, processes, promotion, programs, polices, and price. And finally, PESTLE analysis regarding Political, Economic, Sociocultural, Technologies, Environment, Legal, Demographic, and Physical.

### **2.2 Support of past studies**

Many researchers and scholars emphasized the role of strategic planning to improve organization performance, productivity, and increase satisfaction (Kabeyi, M. J. B., 2019). Other asserted that it supports managing resources effectively (Al-Dhaafri & Alosani, 2021). Furthermore, improve human resources practices and staff performance through build trust and innovative culture (Kabeyi, M. J. B., 2019), Engage stakeholder to ensure good planning and implementation (Amrollahi et al., 2019), quality management and performance assessment (Al-Qudah et al., 2020), updated policies and procedures to fit organization needs and thrive (Al-Dhaafri & Alosani, 2021) In addition, it improve financial positions in terms of use advance technologies (Otieno et al., 2017) to cut unnecessary costs (Galvao et al. 2017), find new fundraising programs or activities (Kyari, 2020), build great network (Elongue et al., 2019).

### **2.3 Data Collecting and Analysis**

Based on literature review several questions are develop regarding interview sessions and a questionnaire to figure out the problems and measure their negative impact on business performance. The questionnaire focused on ten variables (Financial stability, performance, growth, human resources, structure, leadership, vision and mission, culture, monitoring and evaluating system, and innovation and technology. On the other hand, the interview questions were fifteen questions focused on the organization goals, the effectiveness of its programs, polices, technologies quality, performance assessment, financial position, fundraising activities, expenses vs income, and programs impact. The interviews and survey conducted before and after the intervention through two cycles. Thematic analysis and SPSS program utilized to analysis the data. The sample 20 persons consist of 14 male which is 70% and 6 female which is 30%. their age groups distributed 35% from 23-30 years old, 45% from 31-35 years old, 10% for each 36-40 years and 41-45 years. Their education level 65% Bachelor's degree and 30% Master's degree. The majority has 1-4 years' experience and the rest from 5-7 years' experience. The marital status 50% married which is 100% male and 50% single.

## 2.4 Developed 5-year plans

Developing Ten Objectives to implement in 5 years that focus on enhancing administrative and financial performance, organization reputation and brand name, communication, and staff and customer satisfaction. In addition, upgrade infrastructure, increase productivity and innovation, and promote networks and partnerships.

## 2.5 Interventions

Based on data analysis and developed objectives the researcher focusses on improve some of human resources practices regarding update Job Description, programs procedures, communication platform, and appraisal system. Furthermore, promote financial stability by cost structure through cutting unnecessary cost and applying advance technologies to reduce cost and increase productivity. In addition, cooperate with a strategic partner to support organization performance and increase liquidity.

## 3.0 RESULTS AND DISCUSSION

### 3.1 Cycle One

#### 3.1.1 Thematic Analysis

Thematic analysis identifies first cycle intervention regarding overload tasks, not clear job description, expert availability, updated policies and procedures, high running cost, and limited fund resources.

#### 3.1.2 Questionnaire Analysis

According to Table 1, the descriptive analysis of the first intervention regarding human resources activities impact significantly on the organization performance, growth, structure, leadership, vision and mission, monitoring and evaluation, and innovation and technology. However, there isn't any significant impact on financial aspect. On the other hand, Skewness and Kurtosis of Normality test all the data distributed normal from range ( $\pm 2$ ) and expect financial variables reached to 3.176 which is abnormal data distributed therefore Wilcoxon test utilized to measure T-test while Reliability test before and after first intervention which is significantly impact all variables between range (0.760 - 0.903) expect financial stability (1), monitoring and evaluation(0.6), and innovation and technology (0.5). P value of Wilcoxon test is (0.000) which less than (0.05), and the Mean before and after the intervention increased significantly. In addition the Sum of Ranks is (0.00) for all variables which is less than Critical value (52).

**Table 1: Descriptive Statistics Before and After the Intervention**

	N	Before intervention			After intervention				
		Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation
Financial stability	20	1	3	1.70	.733	1	5	2.85	1.089
Performance	20	1	3	2.20	.696	4	5	4.70	.470
Growth	20	1	3	1.85	.813	4	5	4.65	.470
Human resources	20	1	3	2.05	.686	4	5	4.75	.444
Structure	20	1	3	1.85	.745	3	5	4.55	.510
Leadership	20	1	3	2.40	.754	3	5	3.45	.686
Vision and Mission	20	1	4	2.40	.995	4	5	4.75	.444



Culture	20	1	3	1.55	.605	4	5	4.65	.489
Monitoring	20	1	3	1.55	.605	4	5	4.85	.366
Innovation	20	1	3	1.55	.605	4	5	4.80	.410
Valid N (listwise)	20								

Reference: Al-Rikabi, 2023

According to Terzic-Supic, Al-Qudah (2020) and Al-Dhaafri & Alosani(2021), who emphasized on training staff, developed guidelines, policies and procedures, and staff and management engagement in designing plans will improve organization performance and increase employee satisfaction and productivity.

### 3.2 Cycle Two

#### 3.2.1 Thematic analysis

Examine the financial statements PSDIraq identify the issues regarding limited financial resources regarding donor funds comparing high experiences regarding office rent, staff and management salaries, lecturers, hospitality, transportation, translation, accommodation, electricity, and water bills. Measure the effectiveness of counting on advanced technologies and innovation, and identify tasks that should done in office or at home in order to cut unnecessary costs.

#### 3.2.2 Questionnaire Analysis

According to Table 2, the descriptive analysis of the first intervention regarding financial stability, monitoring and evaluation, and innovation and technology significantly increased. On the other hand, Skewness and Kurtosis of Normality test all the data distributed normal from range (  $\pm 2$  ) therefore Parametric Paired T-test applied to measure the intervention significant while Reliability test before and after first intervention which is significantly impact all variables between range (0.706 - 0.906). P value of Paired T- test is (0.000) which less than (0.05), and the Mean before and after the intervention increased significantly. In addition the t-value for all variables 38.4, 43.3, 39.8 respectively which is larger than Critical value (2.093).

**Table 2: Descriptive Statistics Before and After the Intervention**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Financial stability Before	10.79	20	.827	.185
	Financial stability After	27.95	20	1.891	.423
Pair 2	Monitoring Before	8.06	20	1.168	.261
	Monitoring After	27.05	20	1.851	.414
Pair 3	Innovation and Tech Before	10.74	20	1.369	.306
	Innovation and Tech After	36.91	20	2.579	.577

Reference: Al-Rikabi, 2023

According to Otieno et al., 2017, Donkor et al., 2018, Galvão et al., 2017 and Al Dhaheri & Nobanee, 2020, they emphasized using advanced technologies and promote financial structure in order to get competitive advantage. The results support their statements that utilizing online technologies and techniques efficiently impact on organization performance and strengthen their financial resources effectively. In addition, PuaSchunder (2021) asserted that diversifying funding resources increases an organization's growth and survival ability. Besides, sustaining an excellent network with different partners improves the organization's capacity and readiness to adapt to new situations quickly. On the other hand, capacities, employee skills, and knowledge promote competitive advantage between organizations regarding creativity, innovation, and quality of services.

#### **4.0 CONCLUSION**

The organization improve its financial stability and performance based on first and second interventions the outcome increase staff and customers loyalty and satisfaction. In addition, its promote learning system, lesson learned, appraisal system, information and communication technologies, and organization culture. In addition, increase liquidity regarding increasing net income by 12%, profit and loss income increased by 7% through sustain excellent partnership and utilize available resources efficiently. The future studies on measuring the significant of the partnership on organization growth and thrive.

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## **MAPPING ESG DISCLOSURE AND FIRM VALUE A BIBLIOMETRIC ANALYSIS**

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**ABSTRACT** - The recent boom of Environmental, Social, and Governance (ESG) development has introduced a rising trend in public recognition and business activities with it. The recent boom of Environmental, Social, and Governance (ESG) development has introduced a rising trend in public recognition and business activities with it. However, the most fundamental question of whether ESG disclosure has an impact on firm value is still a subject of debate. In order to clarify ambiguous findings in the existing literature and understand the underlying logical thinking, we conducted a bibliometric analysis of 135 papers from 2013 to 2023, to gain insights into the intellectual evolution, characteristics of the current investigation and future prospect This article presents a range of findings, including the leading authors at both the journal and institution levels, citations, distribution of keywords, highly cited works, co-authorship, and the most influential journals and authors. The bibliometric analysis effectively demonstrates the various stages in this field of study and identifies emerging research areas that warrant further investigation.

**Keywords:** *ESG disclosure, Firm value, Bibliometric analysis, Shareholder theory*

### **1.0 INTRODUCTION**

Originating in the realm of socially responsible investment, ESG is a corporate evaluation criterion that centers on companies' environmental, social, and governance performance. Numerous studies have examined different aspects of ESG disclosure, such as determinants of ESG disclosure, impact of ESG performance on financial performance and capital market <sup>[1]</sup>. Scholars continue to examine the mechanisms by which ESG functions. With the continuous accumulation of research quantity, the introduction of bibliometric can help us depict and analyze the dynamics and progress within a particular research field. A bibliometric analysis can yield results that encompass not only descriptive statistics but also network analysis from different dimensions <sup>[2]</sup>. This research aims to fill this gap by locating, summarizing, and analyzing available studies on ESG disclosure and firm value in order to answer what is the development process and current situation of this issue and what are the phenomena worth paying attention to in the research field.

### **2.0 METHODOLOGY AND DATA SELECTION**

#### **2.1 Methodology**

We opted to employ bibliometric analysis as it aligns with the current literature analysis practices. In research fields with concentrated topics, paradigms, and studies, bibliometric analysis often provides more relevant data than subjective analysis <sup>[3]</sup>.

## 2.2 Data selection

We combine “ESG disclosure” and “firm value” as keywords to search in the Web of Science database for its comprehensive and reliable literature acquisition. Following PRISMA data extraction process, we eventually select 135 studies for this review.

## 3.0 RESULTS AND IMPLICATIONS

### 3.1 Performance analysis

The selected 135 papers were written by 343 authors from 220 organizations in 45 countries, published in 77 journals, and cited 6631 references from 2249 journals.



**Figure 1. Distribution of publications from 2010 to 2022**

From the perspective of time, countries, authors, organizations, and journals we find that the annual publications depict a clear upward trend, especially in 2022 where it showed explosive growth in Figure 1. Through further analysis, we found that research in this field first appeared in developed countries, and it was not until 2021 that China and India became the most important growth points. Meanwhile the collaboration network of countries and organizations appears loosely connected, leaving significant opportunities for potential communications. By classifying and comparing the published journals, Table 1 shows that scholars adopt a multidisciplinary approach to conduct research in two development paths. One approach is based on business and finance and the other is environmental sustainability.

**Table 1. Top journals**

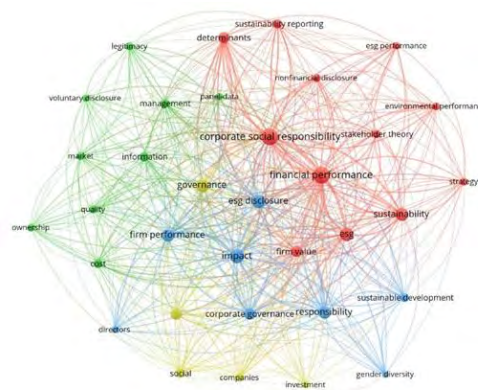


<b>Journals</b>	<b>Documents</b>	<b>Citations</b>	<b>Average citations</b>	<b>Main Category</b>
Sustainability	14	277	19.79	Environmental Science Environmental Studies
Business Strategy and the Environment	8	763	95.38	Business Environmental Studies
Corporate Social Responsibility and Environmental Management	6	116	19.33	Business Environmental Studies
Journal of Sustainable Finance & Investment	6	74	12.33	Business, Finance
Research in International Business and Finance	4	139	34.75	Business, Finance
Environment Development and Sustainability	4	68	17	Environmental Science
British Accounting Review	3	294	98	Business, Finance
Sustainability Accounting Management and Policy Journal	3	205	68.33	Business, Finance Environmental Studies
Journal of Applied Accounting Research	3	162	54	Business, Finance
Asia-Pacific Management Accounting Journal	3	3	1	Business, Finance

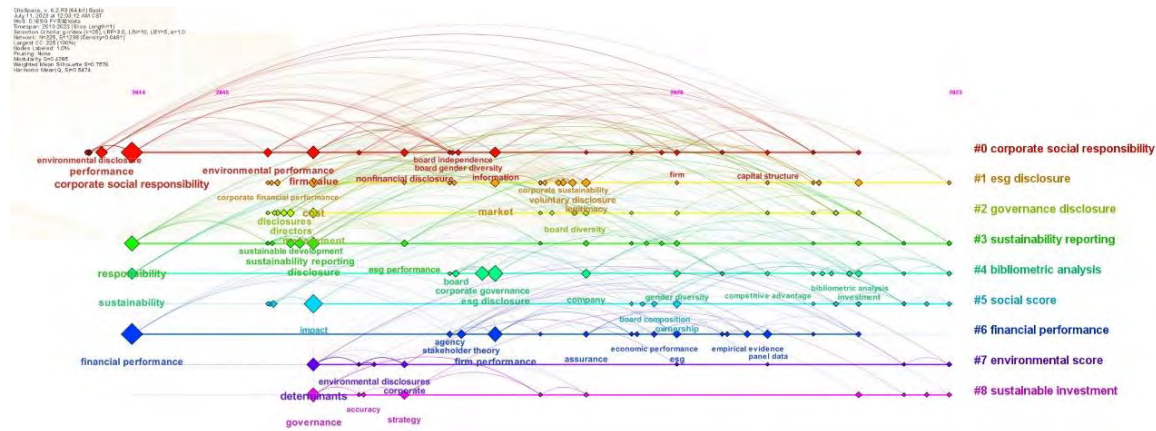
### 3.2 Science mapping analysis

In this part, we conduct bibliographic coupling analysis, keyword co-occurrence analysis, keyword evolution analysis, and cutting-edge research analysis to reveal the thematic areas and research trends of this issue.

As it shown in Figure 2, keyword co-occurrence classifies the keywords into 4 thematic clusters indicating that the research boundary in this field is clear, the fundamental issues are well-defined, and the research direction is focused. Scholars attempt to explore the inner mechanisms of these influences from the perspectives of environmental protection, social responsibility, and other aspects. Based on this, feasible strategies and recommendations for corporate governance are proposed.



**Figure 2. Keyword co-occurrence network**



**Figure 3. Keyword co-occurrence network**

Keyword evolution analysis examining keywords through a cross-sectional analysis year by year. Figure 3 provides us with timeline visualization to deepen the co-occurrence relationships between themes. We classify 9 nine clusters into 4 topics. Cluster #0, #1 and #6 demonstrate the academic foundation on which the research is based [4]. Cluster #2, #5 and #7 defines the three components of ESG, each with its own emphasis [5]. Cluster #3 and #8 explores the sustainability indicator since there are multiple perspectives to evaluate sustainable performance [6]. And Cluster #4 is identified as review methodology in this field.

### 3.3 Implications

By textual analysis of key authors and articles of research in the field, we summarize that there are three comparative relationships worth of attention which is developed and developing countries, mandatory and voluntary disclosure, and centralized and decentralized ownership concentration. We need to focus on the following key factors in future research: (1) Signaling future; (2) Securing reputation; (3) Information transparency; (4) Board traits [7]. Moreover, with ESG-related indicators being incorporated by an increasing number of third-party rating agencies, a new issue arises, which is the divergence of ESG ratings. Finally, ESG disclosure assurance is being called for due to the escalating prevalence of greenwashing.

### 4.0 CONCLUSION

This article elucidates the impact mechanisms and key factors of ESG disclosure on firm value through bibliometric analysis and further explores whether and under what conditions ESG disclosure contribute to value creation for companies. We emphasize that further research should be problem-oriented and highlight industry characteristics.

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## **EFFECT OF ORGANISATIONAL CAPABILITY AND SUSTAINABILITY ON SCALING SOCIAL IMPACT AMONG SOCIAL ENTERPRISE IN MALAYSIA**

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**Abstract** - Social enterprises (SEs) face constant challenges when scaling their social impacts, especially in societies undergoing transformation, such as Malaysia, where SE ecosystems are still nascent. Whereas previous studies have identified various scaling approaches for SEs, empirical investigations of the linkages between organisational scaling social impact and sustainability are lacking. To address this gap, the research conducted a quantitative study of 136 Malaysia SEs to examine the effect of organisational capability and sustainability on scaling social impact. The results revealed that four of these organisational capabilities, namely communication, alliance-building, earning generation and replicating, contributed indirectly and significantly to scaling social impact, whereas staffing had a directly but not statistically significant effect. The findings have important managerial implications for practitioners within the SE community, and especially providing a scientific basis for the managers of SEs to focus on appropriate capabilities in the organisation.

**Keywords:** *Organisational capability, sustainability, scaling social impact, social enterprise*

### **1.0 INTRODUCTION**

Malaysia is susceptible to prevalent misconceptions regarding procedures centred on social impact. The false perception is that social enterprises are viewed similarly to welfare or charitable organisations. Like an alternative, they bridge the gap between society and market need while keeping the well-being of individuals and the community at the forefront of their objectives, just as a regular enterprise would. Social enterprise is a growing development of regenerative culture innovation. This practise is based on creating ideas and inventions that solve current problems and enhance people's lives. Their objective can range from helping poor communities to conserving the environment.

Despite having a lot of potential to help manageable countries, Malaysia's social enterprise sector, Table 1, has numerous obstacles that make it difficult to successfully carry out the programme. In light of the fact that social entrepreneurship happens in a variety of cultures and geographic locations, a variety of social issues are tackled. It entails a multi-dimensional barrier during the organization's genesis and growing phases of lifestyle. According to a report, (British Council Malaysia, ESCAP, & Yayasan Hasanah, 2018), the significant challenges of social enterprise include lack of access to quality human resources, lack of support to grow and scale up, negative public perception and recognition, lack of access to sizeable financial capital, lack of legal recognition and supportive policy structure, and lack of institutional awareness.

**Table 1. SEs across Malaysia**

Percentage	Location	Percentage	Location
0%	Perlis	0%	Malacca
0%	Kedah	2%	Johor
8%	Penang	1%	Pahang
0%	Perak	7%	Kelantan
27%	Selangor	0%	Terengganu
39%	WP: KL	7%	Sarawak
0%	WP: Putrajaya	0%	WP: Labuan
2%	N.Sembilan	7%	Sabah

**Source: (BritishCouncil, 2018)**

The Malaysian Social Enterprise Blueprint 2015-2018 was introduced in 2015 through MaGIC (Malaysian Global Innovation and Creativity Center) in order to create a significant and thriving social entrepreneurial foundation and assure the sector's long-term, sustainable growth. Entrepreneurship Policy 2030 (DKN 2030) and The Shared Prosperity Vision 2030 (WKB 2030) were launched recently, and these two significant policies underlined the importance of social entrepreneurial activities as a method of supporting progress towards the Sustainable Development Goals (SDGs) (Bretos, Díaz-Foncea, & Marcuello, 2020).

Since social enterprise has the potential to raise the income of low-income households in Malaysia, the government is actively searching for the best way to improve and balance the socioeconomic status of its countries, beginning with the New Economic Policy (NEP), moving on to the National Transformational Policy, and the most recent 2019 national budget. Due to the substantial contributions of social enterprise, it is urgent and important to do this research, to better understand the sector and, in turn, help stakeholders and the general public to fully appreciate and utilise the benefits of social enterprise.

SEs may select from a variety of scaling strategies, including strengthening organisational capabilities, developing new organisations, affiliating with other organisations, and spreading information and knowledge tools to other companies (Eiselein & Dentchev, 2021). However, there are very few known empirical studies on scaling strategies, with qualitative case studies being the majority (Zhao & Han, 2019). This qualitative literature on the scaling strategies of SEs addresses a variety of research topics, including the processes for implementing different scaling strategies (Tandon & Nair, 2020), the characteristics of different scaling strategies (Lyon & Fernandez, 2012), the factors influencing the selection and dynamics of scaling strategies (Dahles, Verver, Khieng, Manders, & Schellens, 2020), and the tensions and risks associated with diverse scaling strategies (Zhao & Han, 2020).

Comparatively, quantitative research on the scaling strategies of SEs is scarce (Gramescu, 2016). (Weber, Kroeger, & Lambrich, 2012), for instance, undertook a descriptive analysis of a sample of 358 SEs located in six European nations. They highlighted the main scaling strategies adopted by SEs and



argued about the significance of key success variables from the standpoint of SEs for various scaling strategies. In a further study, (Gramescu, 2016) used data collected from 320 SEs located in 18 different European nations to evaluate the relationship between the organisational characteristics of SEs (such as age, financial success, and size) and their scaling trajectories.

Existing research has yielded a variety of insights regarding the scalability of SEs' social impact, however there are three key study gaps. First, there has been an increase in empirical research on scaling social impact in recent years (Zhao & Han, 2020), as well as research on the factors or barriers that affect scaling performance (Bloom & Smith, 2010a). The majority of published publications, however, focus on qualitative case studies, and the few quantitative studies on scaling social impact are descriptive in nature. Explanatory studies that test hypotheses are also scarce.

Second, most of the prior research on scaling drivers and sustainability has been conducted on SEs from industrialised nations in Western Europe and North America. (Bloom & Smith, 2010; Weber et al., 2012). However, a few have been based on data gathered from developing countries (Bocken, Fil, & Prabhu, 2016). In the past years, Malaysia has witnessed a development of SEs (DNA, 2020). Despite the evident growth of its SE sector, Malaysia has attracted little attention regarding the scaling of the social impact of SEs. The only exception is (Zainol et al., 2019), which looks at the relationship between social enterprise capabilities and scaling up social innovation.

Thirdly, social entrepreneurs create viable and sustained organisations by establishing the competencies and valuable resources necessary to maximise the value of those resources (Renko, 2013). In order to scale up a social enterprise's positive social impact, it is essential to generate earned income, engage stakeholders, raise awareness of the social issues in the community, and win government backing (Thorgren & Omoredede, 2018). Hence, an understanding of the factors that influence social enterprise sustainability is therefore of significance to practitioners and policy makers alike prior exploratory study (Sharir & Lerner, 2006). In Sharir et al.'s (2006) theoretical framework on "survivability" in the context of social enterprise, it is posited that the enduring viability of social ventures is contingent upon their capacity to acquire resources and establish credibility, foster collaboration among institutions, and cultivate internal managerial and organisational capabilities.

## **2.0 METHODOLOGY**

The aim of this study is to determine the effect of organizational capabilities within the state of sustainability in Malaysia to scale social impact among social enterprises. Apart from that, this study is primarily quantitative research using of a survey with fixed choice questions to quantify the data collected for analyses and hypotheses testing. To develop a comprehensive model of organisational capabilities practises and sustainability for scalability of social impact across 136 Malaysian social enterprises, an adopted exploratory method of approach and SCALERS framework (Bloom & Chatterji, 2009; Bloom & Smith, 2010) being used to evaluate the relationship between the variables (staffing, communicating, alliance-building, lobbying, earnings-generation, replicating and stimulating market forces).

The population refers to "the entire group of people events or things of interest for which the research wants to draw inferences based on sample statistics" (Sekaran & Bougie, 2016). Since this study is intended to investigate both financial and non-financial performance of the social enterprise i.e. scaling of social impact, therefore, the social ventures are the most appropriate target population since they can only provide the relevant information. Specifically, the reference population in this study are the key informants from the social ventures in all the states of Malaysia. The rationale for choosing only the key informants like top management leaders (i.e. social entrepreneur, managers or CEOs, etc.) from the social ventures is that they are considered eligible for providing the information.

As it is impossible to investigate every component of the population, data is instead collected from a sample of the population, from which general conclusions about the population as a whole are formed (Sekaran & Bougie, 2016). Due to the lack of a comprehensive database of social enterprise in Malaysia, this research used a non-probability sampling design. Existing research has also shown the difficulties in identifying organisations with acute resource constraints, which makes it extremely challenging to gain access to them (Bloom & Smith, 2010).

Within the non-probability sampling design, the purposive sampling is followed as it is necessary to obtain the desired information from the specific target member of social enterprises, i.e. key informants. The specific technique used here is the judgment sampling which involves the choice of subjects who are most advantageously placed or in the best position to provide the information required (Sekaran & Bougie, 2016). It is also employed when there is a limitation on the number and category of the people who can provide insights on the topic under inquiry. This is the case with the intended respondents of this study as well who are the key informants like top management leaders (i.e. social entrepreneur, managers or CEOs, etc.) from the social enterprises, as they can only provide valuable information on their key strategies for scaling social impact.

However, this sampling technique is paired with another non-probability technique i.e. snowball sampling as also evident from the past researches as (Mehra, 2016). This method involved a nomination of other potential primary data sources, i.e. multiple referrals, by one primary data source used in the research (Dudovskiy, 2018). The absence of any compiled database of SE in Malaysia makes it challenging to approach a large number of social enterprises (Teasdale, Lyon, & Baldock, 2013). Therefore, this additional method of snowball technique has helped us to address this issue and it has generated maximum responses. The identification of the multiple referrals by the approached social ventures has eased the data collection from the relevant respondents and it has also reduced the non-response bias.

### 3.0 FINDINGS

Development of an integrative model (Figure 1), called ObSESS, which includes organisational capability and sustainability on scaling social impact is the primary theoretical contribution of this study. Through this model, the positive link of organisational capability and sustainability on scaling social impact among social enterprise in Malaysia is established. Practitioners, academics, and other sector players may use this model to better understand the factors that affect the scaling of social impact in Malaysia.



**Figure 1. Integrated Model of Scaling Social Impact**

Profit generation is still extremely important to social enterprises, as earnings are important to sustain the livelihood of the venture but the important difference is that instead of using its profit to distribute among shareholders, the profits are used to reinvest in the enterprise to help it achieve its social mission. The absolute leading key factor, main challenge, and reason why many social entrepreneurs fail to scale up, and that is to have a long-term sustainable financial model, because that is what enables scaling. This is connected to the ability to obtain necessary resources and the driver/organizational capability Earnings Generation. The reason why this is significant might be due to the constraint of growth capital in the social sector, as (Bloom & Smith, 2010) point out. A well-developed earning strategy is a significant step for social enterprises (Cannatelli, 2017).

The partners are a significant key factor found in this research. They are extremely important and could even be crucial for the scaling. This is not only a key factor, it is one of the main challenges, and a reason why social entrepreneurs fail to scale up too. Alliance building enables support and help from each other. This key factor, main challenge, and reason why social entrepreneurs fail to scale up is connected to potential effectiveness of scaling social impact with others. These partners are significant for the diffusion of social impact for the SE. The SE need to scale their social impact with help from partners, which obtains necessary resources. These include supporting procedures, good schedules, multiple competencies, and a good trademark. This key factor is in line with the effect alliance building might have. The choice of having partners are probably to maximize the social impact, which is the central focus for a social entrepreneur. The Alliance Building, which refers to the efficacy of creating linkages to include desired social change, is a key goal for SE to effectively establish linkages to achieve their desired social change.

One of the key factors for SE in Malaysia is to work with procedures and routines, which they need to develop, evaluate, and change to make it easier to replicate their work. To be able to increase the social impact, the focus must be on the core factors of the operational model. The importance of being clear about the core business, the principles, and the values in the social enterprise. It might be difficult to replicate if the core factors of the operational model are not identified, which prove the significance of being clear about the core business (Ferguson, 2013). A main challenge for SE in Malaysia is the structure of the social enterprise, especially in the beginning because there were no working structures and no targets. This is connected to the difficulties to replicate if the core factors are not identified. A reduction of complexity simplifies the replication process, which is exactly what SE could do with their development, and their decisions in line with their values (Haugh et al., 2012).

#### **4.0 CONCLUSION**

The primary objective of social enterprise is to ensure the long-term success and continuity of this sector; it is vital for the social enterprise to deliver the impact and financial returns expected by the market. The success of the social enterprise must be based purely on its ability and prospect to deliver results. To achieve this objective, it is important for social enterprise to identify those factors, which influence the scaling of social impact. This study has the following contributions to the ecosystem the social entrepreneurship in Malaysia.

The findings of this study confirmed that organisational capability and sustainability have a strong influence on the scaling social impact in Malaysia. Therefore, social entrepreneurs can utilize the findings of this study to strategise their start-up on which will help them to scale, expand their business, their beneficiary and stimulating market forces.

A new finding of this study, that contrast from adopted studies by (Bloom & Chatterji, 2009; Bloom & Smith, 2010b), is the non-significant organisational capability drivers; lobbying, staffing and stimulating market forces; on the scaling of social impact in Malaysia. Perhaps the most important contribution of this research is the identification and testing of some initial factors that are related to the

organisational capability and scaling social impact, arguably the most important dependent variable in the domain of social entrepreneurship. The results indicate communicating, earning generation, alliance-building and replicating are all important predictors of sustainability on scaling of social impact of social enterprise. Even though lobbying, staffing and stimulating market forces no longer remained significant, this may have reflected the character of the organizations in the sample. On average, these organisations may have operated in situations where there were;

1. Few opportunities for earning from the marketing activities and/or;
2. Supportive public policy that did not leave much room for additional lobbying success.


However, this model represents a significant advancement in comprehending the mechanisms and rationales behind the influence of specific variables on the scaling of social impact within the context of social enterprise in Malaysia.

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## Theme 3: Accounting, Finance, Economics

In the third theme of the AHIBS International Action Conference 2023 Proceedings, we delve into the meticulous world of Accounting, Finance, and Economics, where precision meets strategic foresight. The collection of research within this theme addresses a spectrum of analytical and fiscal challenges and advancements in the contemporary economic environment. From the granular details of inventory control to the broader strokes of economic growth in resource-rich countries, these articles present a multifaceted examination of financial practices and economic phenomena. Researchers navigate through the complexities of cost accounting in non-profit sectors, probe the effects of accounting disclosures on financial instruments, and dissect the interplay between natural resources and institutional quality on economic growth.

Integral to this theme is the exploration of contemporary topics such as integrated reporting and the implications of cryptocurrency on macroeconomic indicators. These discussions transcend traditional boundaries, highlighting innovative approaches and insightful analyses that cater to the evolving demands of the financial and economic sectors. Each paper contributes to a nuanced understanding of how effective management of accounting systems, transparency in financial reporting, and strategic economic planning can lead to enhanced financial performance and economic resilience. The insights offered in this theme are poised to benefit academics, industry professionals, and policymakers, providing a compass for navigating the complexities of modern financial systems and economic structures.



## **FROM BLOATED TO BALANCED: LEVERAGING SYSTEMS THEORY FOR EFFECTIVE INVENTORY CONTROL**

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**ABSTRACT** - Effective inventory management is essential to maintain efficient business operations, meet customer demands, and improve operating cash flow while optimizing financial performance. Despite its stable revenue growth, there is a drastic increase in inventory value at XYZ, and the research aimed to reduce its bloated inventory values from RM 21 million to RM 16 million. Systems theory as theoretical framework and Pull-Demand strategies were applied to formulate action plans for efficient inventory control and supply chain management. The study adopted a mixed-methods approach, with both qualitative and quantitative methods to gather comprehensive insights into the inventory control practices and values. During the research, the total inventory value of XYZ was seen to drop gradually to below RM 16 million levels, validating the effectiveness of the implemented strategies. This success demonstrates the potential of leveraging systems theory as a guiding framework in designing effective inventory management strategies and achieving targeted inventory value reductions.

**Keywords:** *inventory management; systems theory; Pull-Demand; supply chain; manufacturing*

### **1.0 INTRODUCTION**

Inventory management is a critical aspect of operations for businesses across various industries. Effectively managed inventory levels is essential for maintaining smooth operations, meeting customer demands, improving operating cash flow and optimizing financial performance [1,2]. The application of systems theories in inventory management [3-5] provided a holistic perspective, emphasizing the interconnectedness and interdependencies of various components within a system. When applied to inventory management, systems theories offer valuable insights into understanding the complex dynamics and relationships involved in inventory control. Manufacturers face unique challenges due to the intricacies associated with production, supply chain dynamics, and ever-changing market demands. Balancing the need for sufficient inventory to fulfill customer orders with minimizing excess stock that ties up capital and increases holding costs is a constant juggling act [6]. Implementing robust inventory management strategies becomes imperative for manufacturers to remain competitive, optimize operational efficiency, and improve profitability in this dynamic landscape.

XYZ is a Malaysian based manufacturer of synthetic rubber granules and polyurethane binders for sports and recreational surfacing. With customers around the globe, XYZ is currently undergoing an exponential growth in revenue and market share for the past 25 years. Despite its stable revenue growth, there is a drastic increase in inventory value, and the current effort aims to reduce its RM 21 million inventory value to RM 16 million. The primary purpose of this research was to develop action plans based on theoretical frameworks of systems theory to decrease inventory value through optimized inventory management strategies. The insights gained from this study will provide practical recommendations that can be applied not only by the organization involved but also by other businesses operating in similar dynamic manufacturing environments.

## **2.0 METHODOLOGY**

The study adopted a mixed-methods approach to achieve the research objective. The research design includes both qualitative and quantitative methods to gather comprehensive insights into the inventory control practices and values in XYZ.

### **2.1 Data Collection**

Focus group discussions were conducted with key stakeholders, including the General Manager, Operation Manager, Purchasing Executive, Financial Controller, Head of Sales, and Head of Technical. The focus group discussion aims to explore the current inventory management measures, opinions on the status, stakeholder's benefits, and any other relevant information. Monthly inventory data was collected in terms of quantity and value for various inventory categories, including raw materials, semi-finished goods, finished goods and trading goods.

### **2.2. Data Analysis**

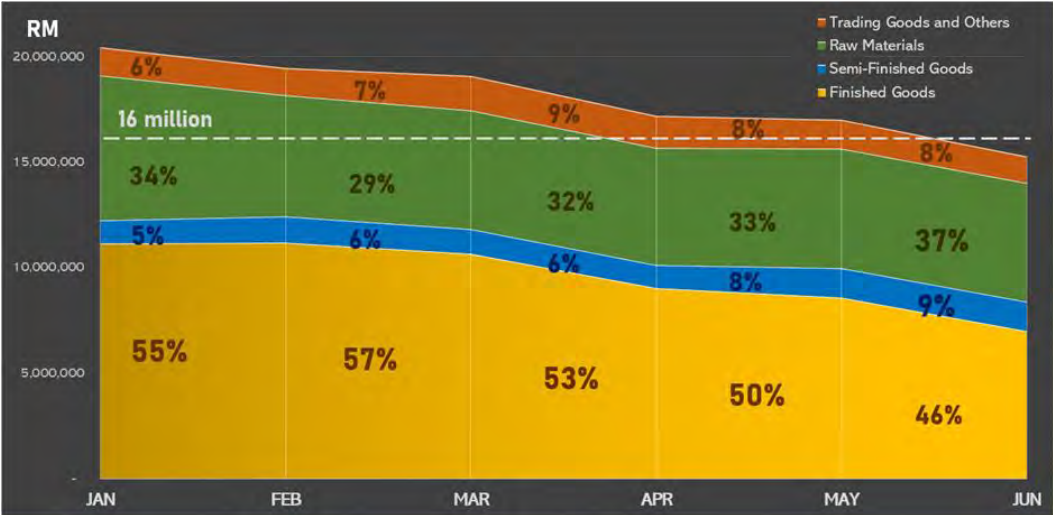
Thematic analysis was used to analyze the qualitative data obtained from the focus group discussion. This approach involves identifying patterns, themes, and insights related to inventory management practices in XYZ. For the quantitative data, monthly inventory data was collected in terms of quantity and value for various inventory categories, including raw materials, semi-finished goods, finished goods and trading goods.

## **3.0 FINDINGS AND DISCUSSION**

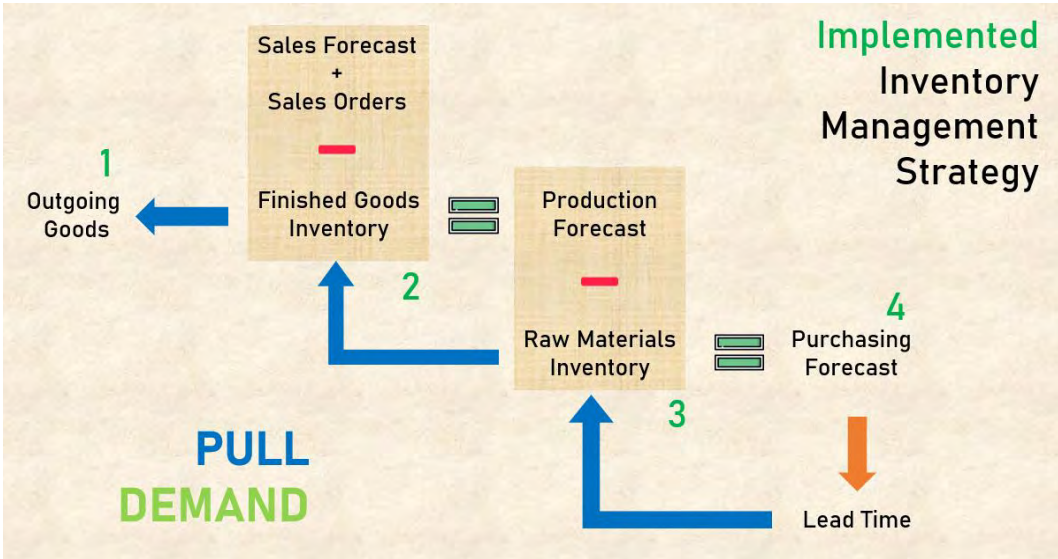
### **3.1 Inventory values and control strategies**

System theory provides a valuable theoretical framework for understanding and managing complex systems, including inventory management. It offers a holistic perspective that considers the interconnectedness and interdependencies of various components within a system. Through the application of system theory, organizations can navigate the complexities of inventory management and drive sustainable success in today's dynamic business environment [4,5]. The changes in the inventory values by category from January 2023 to June 2023 are shown in Figure 1. It can be observed that the overall inventory values reduced from over RM 21 million to below RM 16 million over the span of six months. The trend confirms the effectiveness of the action research intervention with formulation of new inventory management strategies as planned.

Pull-Demand inventory control strategy was implemented for inventory control and supply chain management (Figure 2). First stage involves consolidation of incoming numbers of sales forecast and confirmed orders for related finished goods followed by canceling off with the current finished goods inventory levels to identify excess finished goods that need to be produced. The process moves to the third stage where the numbers transits as production forecast for operation to calculate shortages in raw materials in the inventory and issue purchasing orders. During the fourth stage, the purchasing team will execute purchases with consideration of lead time of each materials involved.



**Figure 1.** Changes in inventory values by category from January 2023 to June 2023

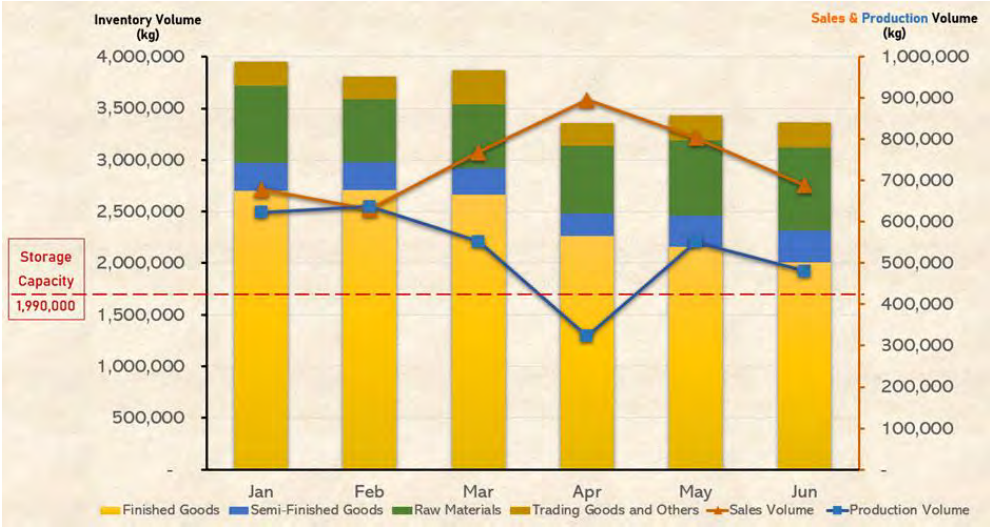


**Figure 2.** Pull-Demand strategy as part of implemented inventory management system

Figure 3 shows the overall changes in inventory volume by category against sales & production volumes from January 2023 to June 2023. The observation is consistent with the on-going efforts to strike a balance between improving sales performance and improvising production output to support the gradual decreasing trend of total inventory values. The practical collective management effort was essential to achieve the common goal of RM 16 million worth of total inventory values. The application of systems theory which



led to the formulation of timely inventory management strategies to tackle various obstacles has contributed to numbers seen [5].



**Figure 3.** Changes in inventory volume by category against sales & production volumes from January 2023 to June 2023

**4.0 CONCLUSION**

The application of systems theory as a theoretical framework in this study has proven to be highly valuable in understanding and managing the complex inventory management system of company XYZ. Over the span of six months, the total inventory values of company XYZ witnessed a substantial reduction from over RM 21 million to below RM 16 million, validating the effectiveness of the implemented Pull-Demand strategy. The practical implications of these results highlight the significant role that inventory management plays in contributing to the financial health and sustainability of company XYZ. This success demonstrates the potential of leveraging systems theory as a guiding framework in designing effective inventory management strategies and achieving targeted inventory value reductions.



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## **A SYSTEMATIC LITERATURE REVIEW: CORPORATE DISCLOSURES IN INTEGRATED REPORTING**

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**ABSTRACT-** This paper aims to systematically review published articles on the types of corporate disclosures in Integrated Reporting (IR). The present study will be reviewing a considerable number of past studies to identify the types of corporate disclosures that will become the themes and characteristics of corporate disclosure as sub-themes of this study. This study will adopt Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) to review published journals by utilizing Scopus and Web of Science as the two primary journal databases. 7 related articles were reviewed. Further review of these articles resulted in 8 main themes which further produced a total of 4 sub-themes. The uniqueness of this research paper is that it presents a thorough review of the current research landscape on types of corporate disclosures and draws attention to several avenues for future research directions. Recommendations for future studies should explore more searching techniques such as citation tracking, reference searching, snowballing, and contacting experts. These findings will assist policymakers, international bodies, and researchers to further extend the current literature.

**Keywords:** *Corporate disclosures; Integrated reporting*

### **1.0 INTRODUCTION**

Integrated reporting is a paradigm that offers a comprehensive view of corporate performance by combining both financial and non-financial dimensions in a report [1]. Typically, the integrated report will consist of information on the financial performance, organization's strategy, corporate governance, the social and environmental context in which it operates and its long-term outlook. Organizations offer voluntary disclosure to increase transparency subsequently meeting the expectation of their stakeholders [2] which will allow their stakeholders to have comprehensive information to make long-term assessments to forecast the organization's direction [3]. To develop further studies on corporate disclosure in integrated reporting, the prerequisite is to understand the extent of the phenomenon. Aiming to produce a systematic literature review, the research questions for this study are:

RQ1: What is the extent of the corporate disclosure in the integrated report?

RQ2: What are the characteristics of corporate disclosure in an integrated report?

Among the benefits for organization to produce integrated reporting are enhancing corporate reputation and legitimize themselves other than becoming a strategic tool in correlating financial with non-financial performances [4]. Findings from previous research emphasizes that integrated reporting provides an acknowledgement of the interconnections between financial and non-financial drivers of performance [5].

Integrated Reporting exhibits a holistic view comprising integration of economic, social and environmental issues in contrast with financial reports that only emphasis on traditional financial statements [6]. Other researchers opined integrated reports aim to demonstrate the interrelation between the financial and non-financial dimensions that create or destroy value for shareholders [7] by providing full picture of the organization [8].

## **2.0 LITERATURE REVIEW**

This systematic review will cover several types of corporate disclosure in integrated reporting.

### **2.1 Forward-looking disclosures**

Two main categories of information published by organizations in their organization reports are “backward-looking information” and “forward-looking information” [9]. Backward-looking information is characterized by disclosing past financial results and their related disclosures, whereas forward-looking information are characterized by ongoing business strategy and future forecasts [10]. Previous researchers revealed integrated reporting is a tool to balance organization performance metrics by means of delivering the value of having medium to long-term outlook conjointly with traditional annual reports that offer short-term outlook [11].

There are interesting debates among academicians over the years on the benefits of organization presenting forward-looking information disclosure. The long outstanding asymmetry of information issue can be mitigated effectively where some information is not made privy to investors and other stakeholders [12]. In predicting a company’s future value and cash flow forecast, information such as future operations, plans, strategies and financial targets are crucial [13] as backward-looking information does not convey sufficient information in opportunities and risks assessment for investor investment decisions. [14 & 15].

In contrast, organization can be reserved in disclosing company-specific risks and future prospects, especially on sharing of proprietary information due to the information might be exposed and used by their competitor [16]. This fear makes company to hold back disclosing forward-looking information that may lead to negative impact to the business and their competitive position in the market [12]. Some organization perceived difficulty in producing accurate forecast on corporate future performance due to future uncertainties [10]. Hence, managers are not motivated to provide forward-looking information due to the risk of litigation costs arising from the potential inaccuracy of disclosure [17 & 18].



## **2.2 Corporate governance and risk disclosures**

The most observed general firm characteristics such as the company's size [19 & 20], leverage [21] and industry [20,21,22] are often contributed to the positive explanatory power of risk disclosure. Financial risk, operational risk and strategic risk are among the most reported category of risks of non-financial listed firms in the UK. Board attributes such as board diversity, board independence, and board size has been discovered to be substantial corporate governance mechanisms in contributing to the level of risk disclosure in a company. Agency theory suggests that the board of directors is the leading actor in keeping track and developing effective risk identification, management and reporting systems. The International Integrated Reporting Council (IIRC) released the International Integrated Reporting Framework (IRF) as a guide in the preparation of integrated reports.

The principle-based approach of the IRF has outlined three broad categories which include fundamental concepts, guiding principles and content elements as the guidance for an organization to illustrate its value-creation story. One item under the 'content elements' category has precisely addressed disclosure of risks and opportunities, where companies need to cover in their integrated report "the key risks and opportunities that are specific to the organization, including those that relate to the organization's effects on, and the continued availability, quality, and affordability of relevant capitals in the short, medium, and long term" [23]. Integrated Reporting is a medium that integrates quantitative and qualitative risk information in corporate strategy, business model and past and future performance settings. Voluntary adoption of the integrated reporting system in the UK (voluntary settings) has contributed to the growth of the level of risk disclosure as compared to South Africa, where there are mandatory textual integrated reporting risk disclosure practices [24].

## **2.3 Corporate social and environmental disclosures**

Social and environmental issues have gained strategic traction for company's strategy development that contribute to long-term performance. Corporate social and environmental behaviors is defined as "discretionary actions undertaken by companies intended to advance social and environmental issues" [25]. Some stakeholders such as customers, employees, social and environmental organizations appreciate corporate social and environmental reporting as it demonstrates legitimacy of the organization.

Decision-usefulness approach, economic theory approach and social and political theory approach are three commonly used approaches in the corporate social and environmental literature to facilitate the organization-society information flows [26]. Decision-usefulness approaches emphasize future cash flows or cost of finance influences share price behaviour. Company that discloses social and environmental information are more profitable as it's portrayed image of voluntary act in participating in social and environmental projects. Customer inclined towards purchasing at higher price should the products are environmentally sensitive and supports a social and environmental cause. A company's portraying their environmental stewardship throughout their business activities and make the disclosure in annual report will significantly affect on demand for company's product and impacting future cash flows and increase firm's profitability.

Organization at the same time can reduce their cost of finance (cost of equity capital or cost of debt) in the case of green fund and ethical investing where investors are willing to accept lower return (return on investment or dividend payout ratio) should the organization has same social or environmental values with

their affinities and expectations. Self-regulation mechanism that offers volunteer disclosure of social and environmental information allow creditors to conclude the organization has adverse effect of future regulatory costs imposed by government and other stakeholders on firm's future cashflows that leads to underestimation of default risk and thereby require lower cost of debt. Organization as well could obtain bank loan at lower interest rate in retrospect of lower future risks.

Economic theory approach accentuate on social and environmental information disclosure will diminish information asymmetry between managers and other stakeholders such as investors. Consequently, organization will benefit from better corporate performance resulting from reduced agency problems and costs.

Social and political theory approach highlight advocacy on society's well-being mainly through stakeholder and legitimacy theory. Organization may close the legitimacy gap with their stakeholder by communicating right social and environmental information and operates under certain value system that may appeal prevailing to their stakeholders. Organization may take some initiative and show effort to address employee specific need, which will result into increased employee motivation and higher employees' productivity, which translate into improved organization performance.

### **3.0 MATERIALS AND METHODS**

#### **3.1 PRISMA**

Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) is the method used in this study to guide authors on process related to systematically conduct a rigorous literature review. PRISMA method outlines a clear approach to identify, evaluate and select relevant research literature based on the formulated research question prior to analyzing the data to be included in the article review [27].

#### **3.2 Resources**

This paper reviews both qualitative and quantitative studies retrieved from two indexed journal databases, namely Web of Science (WoS) and Scopus. The two databases are chosen due to its extensive coverage of study fields.

#### **3.3 Eligibility and Exclusion Criteria**

The following are eligibility criteria adopted by this study. Firstly, this study only covers indexed journal articles. Therefore, this paper excludes journal review, editorial, book series, book, chapter in book, and conference proceedings. Secondly, only English medium journals are included in the study to avoid difficulty in translating the foreign language journals. Thirdly, only studies that compile data exclusively from integrated reports are included in this study. Studies that obtain data other than integrated reporting such as annual reports, sustainability reports, CSR reports and other types of corporate reports are omitted from this study. Finally, only the recently published journals from the year 2019 to 2023 were included in this study. The study period was determined after considering the recent 5 years as an adequate period of time to see the evolution of research and related publications (see Table 1).



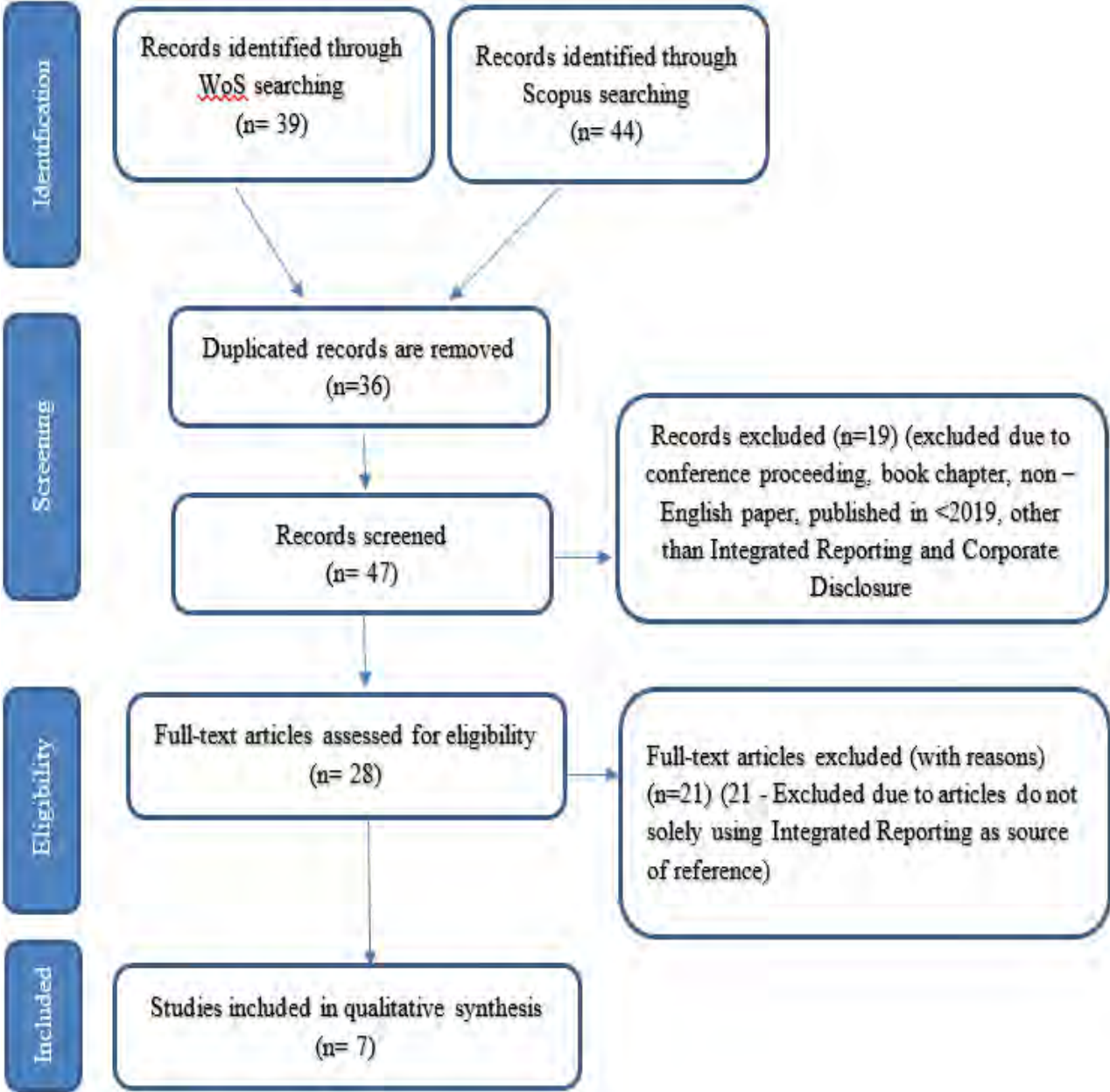
**Table 1:** The inclusion and exclusion criteria.

<b>Criterion</b>	<b>Eligibility</b>	<b>Exclusion</b>
Literature type	Indexed Journal (research articles)	Journal review, editorial, book series, book, chapter in book, and conference proceeding
Language	English	Non-English
Report	Integrated Report	Annual report, Sustainability report, CSR report and other types of Corporate Report
Timeline	Between 2019 and 2023	<2019
Subject area	Integrated Reporting, Corporate Disclosure	Other than Integrated Reporting, and Corporate Disclosure

### 3.4 Systematic Review Process

The initial steps of this systematic review process are to select articles to be reviewed through four stages (Figure 1); identification, screening, eligibility, and data abstraction and analysis. At the first stage, identification of keywords using thesaurus and similar terms used in past research are performed. Subsequently, string search (Table 2) is developed to retrieve data from the 2 databases. Second stage predetermine inclusion and exclusion criteria such as type of articles, language, and timeline are assessed from all the identified research articles. Duplicate articles among the databases are removed at this stage. At the third stage, articles eligibility will be examined where the research articles title, abstracts, and the main contents are carefully studied to ensure it fits the inclusion criteria and relevant to current study. Finally, after carefully analysing the selected articles, the raw data were converted to a meaningful group of data formed from similar themes and concepts. At this stage, authors will develop the theme and sub theme to respond to the research questions.





**Figure 1.** Systematic review process



**Table 2:** The search string used for the systematic review process.

Databases	Keywords used
Scopus	TITLE-ABS-KEY (("Integrat* report*" OR "integrat* disclos*") AND ("compan* disclos*" OR "organi*ation* disclos*" OR "firm* disclos*" OR "entit* disclos*" OR "institut* disclos*"))
Web of Science	TS= (("Integrat* report*" OR "integrat* disclos*") AND ("compan* disclos*" OR "organi*ation* disclos*" OR "firm* disclos*" OR "entit* disclos*" OR "institut* disclos*"))

## 4.0 RESULTS

The review resulted in 8 main themes and 4 sub-themes related to corporate disclosure (see Table 3). Result of this study presented a comprehensive analysis of the methods used by organization to adopt corporate disclosure in their integrated report.

**Table 3:** The findings: Main Themes and Sub-Themes

Sub-Themes	Quality of disclosure	Value creation process	Assurance Statements	SDG Roles
<b>Authors</b>	<b>Main Themes</b>			
Chiara Mio, Pier Luigi Marchini and Alice Medioli (2020)	1.forward looking / future outlook information			
Nicola Raimo, Alessandra Ricciardelli, Michele Rubino, and Filippo Vitolla (2020)		2.Human capital disclosure		
Michael Grassmann, Stephan Fuhrmann, and Thomas W. Guenther (2020)			3.IR six capitals disclosures	



Federico Barnabe and Sarfraz Nazir (2020)		4.Circular economy (CE) disclosure		
Aneetha Sukhari and Charle de Villiers (2019)	5.Business model (BM) and strategy disclosures			
Serena Santis, Michela Bianchi, Alberto Incollingo, and Marco Bisogno (2019)		6.intellectual capital disclosure (ICD)		
Maria Federica Izzo, Alberto Dello Strologo, and Fabrizio Granà (2020)				3.IR six capitals disclosures 7. Corporate social and environmental disclosure 8. Sustainable Development Goals (SDGs) disclosure

**4.1 Method of Corporate Disclosures Included in Integrated Reporting.**

This section concentrates on the main corporate disclosure’s method used by organization to justify the support the development of Integrated Reporting such as quality of disclosure, value creation process, assurance statements, and SDG roles.

**4.1.1 Quality of Disclosure**

In light of disclosing quality and determinants of Forward-Looking Information, Business Model section in Integrated Report do not express progress over time [28&29]. Often, short term company related Forward Looking Information are expressed by non-financial indicators were reported and are lacking of external context. Forward Looking Information always presented positively by organization [30]. The general level of forward-looking disclosure can be measured from the number of its disclosure in Integrated Report [31]. The Density Forward-Looking Score (DFLS) is calculated by dividing the number of Total Forward-Looking Objects disclosed with the Number of Pages of the report [32]

Quality of the disclosures in South African companies are still lacking of Business Model and Strategy Disclosure among others are; resource allocation plans, factors that impact competitive advantage, and ability of business model to adapt to changes and market differentiation. Organizations are suggested to reassess their strategy disclosure in Integrated Report which may lead to Business Model improvement to ensure alignment with KPIs and strategic direction. It is also recommended for organization to have management information system for complex operations [33].

#### **4.1.2 Value Creation Process**

Human capital disclosures in this era of knowledge-based economy where signify the strategic asset of organization is an important element in thriving competitiveness, value creation and growth. Human capital disclosure in Integrated Report is prominent for investors in making investment decisions (investor-oriented vision) [34]. Previous study finds that firm size, board size, board independence and board diversity have positive and significant impact on the level of Human capital disclosure. However, there is no significant effect of firm profitability on the level of Human capital disclosure [35].

Circular Economy related activities / initiatives and information reported in Integrated Reporting is done to address the requirement from academia and businesses in the context of content elements in IR Framework. The connection of Circular Economy and Integrated Reporting are under studied and require more research [36,37,38]. From a holistic view, integrated thinking applied in Circular Economy initiative is very relevant for modern organizations to structurally manage circular economy data and information [39]. Value creation from reducing waste in closed-loop supply chain involves collaboration of various players [40,41] to increase efficiency and profitability by advocating on reusing and repairing products.

Findings from previous research on Italian financial services sector reveals that there is scarce information disclosed with regards to Intellectual capital contribution to value creation process. This might be the outcome of subjective behaviour of the IR preparers. Additionally, there is also difficulty in identifying interdependencies and trade-offs between capitals. Businesses similarly are not motivated to disclose decreases of capitals caused by the organisation's activities. Limited number of organizations disclose Intellectual capital contribution to value creation process with minimum disclosure via superficial approach by "copying and pasting" the content of the IIRC Framework into their Integrated Report [42].

#### **4.1.3 Assurance Statements**

Credibility of assurance statements in Integrated reports has recently sparked the interest of academics. Assurance statements in Integrated Report have the ability to reduce information asymmetry among investors. Previous study reveals Integrated Reports that have high assurance quality coupled with high disclosed connectivity of the capitals has resulted in significant decrease of information asymmetry [43].

#### **4.1.4 SDG Roles**

Organizations are moving towards sustainable development (SDGs) in fulfilling its corporate sustainability agenda. In pursuing sustainable development, IR is an effective tool to inculcate organizations' thinking and reporting around SDGs. The connection of IR and SDGs emerging trend indicates positive tone for the growth of SDG disclosure as part of corporate reporting and research trend over the coming years. Previous study on European companies' disclosure practices with regards to IR capitals and SDGs reveals that 71% from the sample of European organizations analyzed are utilizing IR as an instrument to provide information on SDGs. 96% reports at least two of the six capitals defined in the IIRC Framework through Capital Disclosure Index. Whereas, 38% of the firms require a structured framework for SDG disclosure [44].

## **5.0 CONCLUSION**

The findings reveal that diversity in types of corporate disclosure has led to more enriching integrated reporting coverage. Over the years, it is observed that different corporate disclosure characteristics and methods have been used to advance corporate disclosure to multifaceted fields of scientific research. The findings are consistent with the notion of consolidated integrated thinking which enables organization to effectively utilizing their capitals and their value-creating activities to nurture positive behavioural changes in society and the environment. The results should be relevant for researchers to advance the understanding of the development of corporate disclosures research considering the availability of a variety of methods to undertake innovative research in the field of corporate disclosure.

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## **THE IMPACT OF COST ACCOUNTING ON THE GOVERNMENT ACCOUNTING SYSTEM IN AL- MUSTANSIRIYA UNIVERSITY**

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**ABSTRACT** - The research aimed to improve the quality of accounting information in the government accounting system, through the use of a cost accounting system that is compatible with the nature of the work of non-profit government units. The research assumed that the appropriate use of the cost accountingsystem in the government accounting system leads to an analysis of the cost elements for services and workundertaken by the state’s administrative apparatus. Information and data were collected through relevant laws and instructions, documents, records, and private financial statements for the 2014 study sample. Theresearch concluded that the data provided by the decentralized government accounting system currently inplace does not meet the requirements of planning, performance monitoring, and decision-making. Also, the Finance Division, which is responsible for operating the government accounting system, does not contain specializations in cost accounting or individuals specialized in the field of financial planning. The study recommended updating the government accounting system by using cost accounting to determine the costsof programs, activities, and services provided by government units. And to create two units within the first financial division for cost accounting systems that include individuals specialized in them, and the other for budgeting that includes people with competence and experience in budget planning and preparation.

**Keywords:** *Cost accounting ‘ government accounting system ‘ budget planning ‘ government units.*

### **1.0 INTRODUCTION**

The government accounting system is one of the tributaries of the important agencies in the sectors of the state and is responsible for measuring public expenditures and revenues. It provides an important database on one of its most important agencies, which is the financial system. However, this system faced many criticisms. Especially with regard to tightening control over state resources and preserving them from loss and waste, as well as the problem based on the ability of the system to provide information for planning and decision-making purposes. In order to develop the government accounting system, the cost accountingsystem must be used in accordance with the nature of non-profit service government units in order to calculate the cost of services provided by these units [1]. Thus, the use of this data in planning, control and decision-making. From this point of view, this research came in an effort to develop the government accounting system at Al-Mustansiriya University/College of Science as a case study to determine the extent to which the cost accounting system can be used in the government accounting system to improve the quality of information provided by this system.

The problem of the research is embodied in the deficiency of the government accounting system in providing data on the costs of services provided by government units. It provides data on the number of

amounts spent by the government unit within the allocations included in the state's general budget, as it provides traditional financial control only on the extent of budget implementation. So, the aim of this research is to use the cost accounting system in government units, by formulating a proposed model that shows how to apply the cost accounting system in the government accounting system, with the aim of improving the quality of information provided by the government accounting system. [2] explained that the use of cost accounting in government units has become a basic requirement imposed by modern trends in accounting and control over the performance of government units. Through the practical case they studied, it became clear that cost accounting has a fundamental role in economic control and the efficient use of resources allocated to the government unit, and it contributes to a lesser extent to monitoring the effectiveness of the government unit's performance.

[3] also confirmed that despite the implementation of the decentralized accounting system in Iraq, it remained below the level of ambition due to its lack of the principle of integration in accounting work at the level of the government unit. The decentralized system is not fully implemented in the government accounting system in Iraq, which constitutes an obstacle to the possibility of developing the modified cash basis or modified accrual and achieving advantages in showing the financial situation and results of operations at the government unit level and at the state level. Also, the government financial reports and statements prepared in Iraq only contribute to achieving financial and legal oversight and cannot, in their current state, achieve the real and fundamental goals of ensuring the spending of the state's public resources, evaluating the adequacy and effectiveness of the operations carried out by the government, and ensuring the accomplishment of the goals and tasks entrusted to it [4].

This research came as a complement to previous studies, which identified the weakness of the role of the Iraqi government accounting system as an effective accounting information system, as the data it provides cannot be relied upon in planning and control in light of the developments taking place, which helps in meeting modern planning methods such as the use of performance budgeting; Previous studies also identified the advantages of using cost accounting, and the data it provides on the costs of services provided by government units, which can be relied upon in planning and control. As the current research determined the extent to which cost accounting can be used in the government accounting system through a proposed model that shows the mechanism of its application in the government accounting system [5].

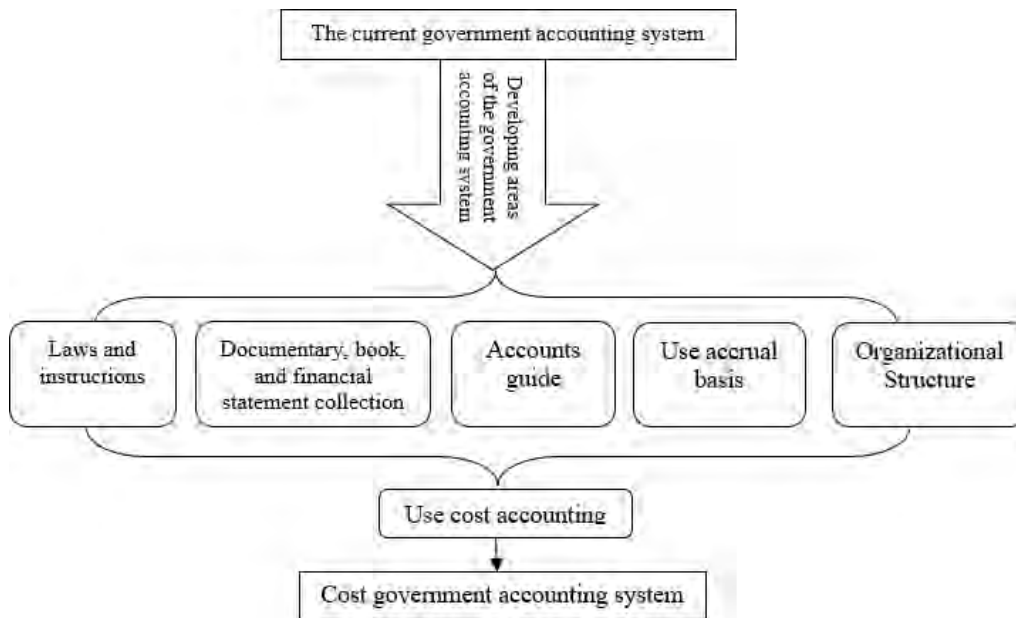
## **2.0 LITERATURE REVIEW**

The government accounting system is defined as a group of two or more interconnected elements that interact with each other to achieve a specific goal. Most systems consist of smaller subsystems that support the main system of which they are a part [6]. The Accounting and Control Standards Board in the Republic of Iraq also defined the accounting system in Guide No. (4) as (a set of processes and procedures according to which the required information and data are processed to achieve management objectives. This includes keeping records and accounting operations procedures followed in preparing information, analyzing it, calculating it, classifying it, posting it, summarizing it, and preparing reports on it. Governmental accounting, like any branch of accounting, aims to provide appropriate and reliable data and information on activity in government units, and present them to parties that have interests in the performance and activity of those units [7].

Government activity derives its characteristics from the environment in which it operates; They are non-profit government units, which can be summarized as government units do not aim at making profits: resources are usually allocated to public service projects in order to provide a necessary good or service to society; Individuals must obtain it regardless of the ability to pay [8]. The sources of financing public revenues and expenditures vary and are numerous: the government obtains public revenues in the form of taxes, fees,

and revenues of all kinds, and distributes them to the activities and services performed by the various government units according to appropriations allocated annually in the state’s general budget; In order to achieve general goals drawn by the government, and in the light of this, two basic elements become clear to the governmental administrative unit does not have a capital, but rather it is funded through the appropriations allocated for it in the state's general budget. The government unit’s revenues are not linked to its expenses, due to the inability to apply the principle of matching revenues with expenditures [9].

Absence of competition incentive in the field of government service activity: government units provide essential services to members of society, as they are not subject to exchange in the markets; Since it is provided free of charge or for a symbolic fee that has nothing to do with cost, just as there is no market for competition in the field of providing public services, but rather a monopoly market [10]. The government administrative units are subject to legal restrictions: under the supervision of the administrative and financial apparatus of the state, which is represented by the Ministry of Finance and its various agencies. The organizational structure is defined as a framework that defines the various internal departments and divisions of the institution. Through the organizational structure, the lines of authority and their flow between functions are defined, as well as the various administrative units that work together to achieve the objectives of the institution. In order to calculate the costs of activities performed by government units, a division must be adopted according to programs and activities, as this division depends on determining the relationship between the state’s work and projects that it aims to carry out during the coming period and the costs of these projects and not on what the state spends on purchasing goods and services only. According to it, distribution is made into a number of programs and activities, and the costs of each program or activity are determined in light of the appropriate measurement standards [11]. This classification is based on the principle of dividing the total activity into homogeneous groups, so that each group (program) is divided into a group of projects, and each project into a group of activities that integrate with each other to implement the targeted program. The proposed model for using cost accounting in the government accounting system is shown in the figure 1.



**Figure 1:** A proposed model for using cost accounting in the government accounting system  
 Source: Prepared by the author

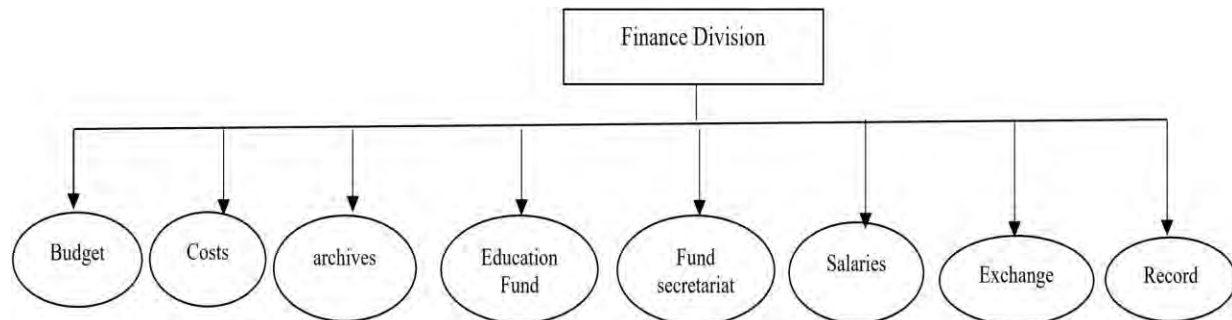


The first step in the organizing process is to know the main and sub-objectives of the government unit, and then to determine how to divide the work that must be done to achieve the goals and group the activities into appropriate organizational units. The use of cost accounting requires that the organizational structure be divided into functions with specific objectives. These functions are then divided into programs through which the function is performed, and these programs are divided into a number of activities that implement the program, and these activities can be divided into sub-activities, which represent cost centers. And we got acquainted with the organizational structure of the College of Science / Al-Mustansiriya University, and determined its goal, which is to graduate qualified cadres, which will be divided into a number of main and sub-activities so that we can determine the costs of these activities and, as a result, calculate the cost of the program. The program (Faculty of Science) was divided into a number of main activities which are direct activities they represent main activities directly assigned to the specified goal (graduating qualified cadres), and were divided into six activities, according to the number of scientific departments in the college. In addition, supporting activities: They represent main activities with indirect costs with the specified goal, which support the direct activities in achieving the goal, as after calculating the costs of these (supportive) activities, they will be distributed to the direct activities according to an appropriate loading rate, and this will be explained in detail later [12].

However, the basis used in the decentralized government accounting system applied at the College of Science/Al-Mustansiriya University is the modified cash basis required by the repealed Public Accounting Principles Law No. (28) of 1940, as amended in Article (11) and (12). In order to use cost accounting in the government accounting system, the accrual basis must be applied as the sole basis for recording financial transactions. Yet, after we have divided the organizational structure of the college into programs and activities, and used the accrual basis required by the cost accounting system, it is necessary to prepare a manual of accounts that is compatible with the requirements of applying cost accounting. Whereas, the manual currently approved in government units in general and the College of Science/Al-Mustansiriya University in particular is the Accounts Manual issued by the Ministry of Finance on 2/26/2013, which is consistent with the Government Finance Statistics (GFS) Manual [8].

Moreover, it will first learn about the Financial Division at the College of Science/Al-Mustansiriya University, as this division represents a partial activity within the proposed organizational structure, and as shown in Figure (2), this division consists of six units: (records, disbursement, salaries, fund secretariat, education fund, and archive). Yet again, after reviewing the organizational structure of the Finance Division, we found that it is to implement the proposed model for the government accounting system (using cost accounting). Two units must be created within the Finance Division, which include specialized individuals. The first (the cost unit) and the other (the budget unit) [13]. The first maintains special records for recording and tabulating costs, issuing statements that show the cost of each of the activities that make up the program, and then calculating the cost of the program and determining the cost of the student/year. The other maintains a special register to follow up on budget implementation (allocations follow-up register) and issues a monthly statement of the budget implementation percentages. It also plans to prepare the budget for the coming year, where the proposed organizational structure for the Finance Division will be as shown in the figure 2.





**Figure 2:** The proposed organizational structure for the finance division

Documentary group are the same set of documents approved in the current system is used with the addition of fields specific to cost centers, and a warehouse disbursement document is created that contains fields specific to cost centers, accompanied by a warehouse release document. A warehouse return document is also created to prove returns to stores, as a result of which a warehouse return document is created to be attached to it. While, the book group are the same set of books used in the current government accounting system will be used except for the consolidation record which is dispensed with; This is because the accounts of the financial position will be rotated annually with an opening entry applying the accrual basis, with the creation of some records such as the record of cost/expenditure centers divided according to the number of main activities as well as the record of cost centers/assets also divided according to the number of main activities; Each of these two records maintains its own general record, and these records are kept by the costs unit [14]. As for the rest of the financial records, they remain the same except for the creation of two records, the first for fixed assets, divided according to cost centers, and the other for commodity supplies, also divided according to cost centers. These two records are kept by the warehouse accountant, and a special record for following up on budget implementation for monthly follow-up on the extent of budget implementation [15].

### **3.0 MATERIALS AND METHODS**

The methodology used in applying the activity-based costing system in the College of Science / Al-Mustansiriya University will be explained as determining the main and sub-activities of the program: the college was divided into a number of main activities and two types of direct and supportive, then the main activities were divided into a number of sub-activities and sub-activities into a number of partial activities. In addition, determine the cost target: The number of students was chosen as the cost target. The fact that the goal of the college is to prepare students for their graduation as qualified cadres, and this guide is characterized by the fact that it is not subject to assessment and personal diligence. Furthermore, determine the cost elements: The cost elements will be determined based on the classifications contained in the general budget, which are employee compensation, commodity supplies, service supplies, maintenance, and other expenses. Moreover, it should be noted here that a tabulation will be created under the heading of non- financial expenses for the depreciation expense, according to the types of assets and the asset sale losses account (these accounts do not appear within the budget allocations), applying the accrual basis required by the costing system. Yet, calculating the costs of each main activity (direct and supportive) from the elements of the cost and according to the supporting documents. Distributing the costs of supporting activities to direct activities by adopting the total distribution method and according to the load rate that was determined (percentage of student numbers).

Considering that the first six of the supporting activities provide services to the direct activities related to them (primary and higher). The registration activity provides services to primary studies students. The postgraduate studies activity provides services to postgraduate students (Master's and PhD). The deanship's activity provides services to all students (primary and postgraduate). Calculating the student's cost for the academic year by tracking the direct costs of the relevant activity and allocating the indirect costs (supporting activities) according to the loading rate that was previously determined. Finally, determining the period of calculating the costs: where the student's cost is calculated for a period of one academic year, regardless of the financial period; That is, it starts from 1/9 of the current year and ends on 31/8 of the next year. At the end of the fiscal year (12/31), cost statements are prepared, which show the student's cost for a period of (4) months, i.e., one-third of the study period, which represents one-third of the student's cost for the academic year. However, for the purpose of calculating the costs of activities and then the cost of the student/year, the relevant statements are prepared at the end of August of each year, for the purposes of planning and decision-making.

The research sample of documents (selected sample) was chosen for the year 2014, and this sample represents most of the disbursement items, due to the difficulty of using all the documents organized during the year due to the large number of these documents. Also, choosing one of the months of the year to use its data in applying the proposed model does not provide full operation of the proposed government accounting system. This is because the first month does not include all items of exchange. If one of the following months was chosen, it would not provide the possibility of entering the opening entry, so a sample of documents was chosen that included most of the disbursement items, and it was assumed that these documents were organized in the first month of the year. This provides the possibility of operating the proposed government accounting system in all its fields, which were explained previously.

#### **4.0 RESULTS AND DISCUSSION**

This sample of documents will be used in operating the proposed accounting system by registering these documents in the book group (in addition to the documents that will be prepared by the researcher) in the proposed system; Then prepare financial statements and determine the cost of each activity during the month (the month that was assumed). The (8) documents were selected from the 2014 accounts, as the following table 1.



**Table 1:** Sample selected documents

N	Details	Documents			Transaction Amount (dinar)
		Date	Type	Number	
1	Wooden Furniture	2/2/2014	Cashing	109	100000
2	Devices	8/4/2014	Cashing	500	1750000
3	Commodity Supplies	20/1/2014	Cashing	45	19500
4	Commodity Supplies	26/2/2014	Cashing	312	300000
5	Transportation Rental	3/2/2014	Cashing	126	100000
6	Equipment Maintenance	16/1/2014	Cashing	20	400000
7	Printing Fees	20/2/2014	Cashing	220	250000
8	Car Maintenance	2/2/2014	Cashing	113	46500

**Source:** Prepared by the researcher based on a sample of selected documents

As a result, the program cost is calculated and the student cost is determined, install selected sample documents selected documents will be recorded in the book group of the proposed government accounting system. It should be noted here that with regard to commodity requirements and fixed assets. When buying and entering the warehouses, exchange documents are used supported by the warehouse entry document, and for each exchange document, a warehouse exchange document (which was created) is organized, supported by the warehouse output document, to supply these commodity requirements or fixed assets to the activities for the purpose of use. Before starting to record documents in the book group, the opening entry for the year 2014 must be organized according to the accrual basis. Since the opening entry according to the cash basis does not rotate all the balances of the financial position (budget accounts) except the cash account. The debit side of it is the bank account and the fund, if any, (it is classified as cash account 3-1) and the credit side is the revolving cash balance account (it is classified as credit cash accounts as cash 4- 1-2) to prove the cash balance at the beginning of the fiscal year, as follows:

352296212 from A/ Bank of Regular Expenses 3-1-2-  
 1-1 352296212 to A/ Revolving Cash Balance 4-1-2  
 For proof of opening entry for the year 2014

As for the opening entry according to the accrual basis, according to it, all the balances of the financial position will be rotated to the next year, as the opening entry for the year 2014 will be organized according to the accrual basis and transferred to the records, and the opening entry prepared on the above cash basis will not be approved. And that the balances of the opening entry represent the balances in the unification register in the field of the rounded final balance for the year following 2013, since this record rotates all balances based on the trial balance, as the accumulated account balances until 2013 were as shown in the following table:

**Table 2:** Accumulated account balances until 2013 (Amounts in Dinars)

Details	Creditor		Details	Debtor	
	The Amount			The Amount	
	Sub	Total		Sub	Total
Current Accounts Between the Departments of The Decentralized System and Its Branches		138540586693	Regular Expense Bank		2606438696
Deposits		6067803	Expenses		138569021901
Distribution Deposits	955000		Other Accounts Receivable		372093746
Other Departments And Destinations	456649		Excessive Spending	372093746	
State Employees' Pension Fund Secretariats	4656154		Fixed Assets		5316619625
Creditors		48283768	Buildings And Facilities	13507500	
Payable Salaries and Wages Returned	43806889		The Machines and the Equipment's	875437750	
Rasheed Bank	192082		Office Furniture and Equipment	4408472275	
Undrawn Bonds	4284797		Other Assets	19202100	
Revolved Cash Balance		2254142484			
Revenues		698473595			
Against Fixed Assets		5316619625			
Against Buildings and Facilities	13507500				
For Machinery and Equipment	875437750				
For Furniture and Office Equipment	4408472275				
Against Other Assets	19202100				
<b>Total</b>		<b>146864173968</b>	<b>Total</b>		<b>146864173968</b>

**Source:** Prepared by the researcher based on the data contained in the Tawheed Record for the year 2013

The balances can be rotated by organizing the opening entry for the year 2014 according to the accrual basis based on the balances of the unification register for the year 2013 according to the entry document, which bears the number (1), as follows:

Of those mentioned

2606438696 A/Current Expenses Bank 3-1-2-1-1

138569021901 A/expenses 2

372093746 A/ Excessive spending 3-3-3-3

13,507,500 A/ Buildings and facilities 3-9-4-2

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875437750 A/ Machinery and Equipment 3-9-4-3

4408472275 A/ Office furniture and equipment 3-9-4- 6

19202100 A/other assets 3-9 -4-8

To mentioned

138540586693 A/ Current accounts between the departments of the decentralized system and itsbranches 4-7-3-2

955,000 A/distribution secretariats 4-2-3

456649 A/ Other departments and destinations 4-3-4-9

4656154 A/ Secretariats of the State Employees Retirement Fund 4-2-

2-9-243806889 A/ Creditors of salaries and wages returned 4-3-1

192082 A/ Al Rasheed Bank 4-3-4-1-2

4,284,797 h/ undrawn checks 4-3-6-1

2254142484 A / rounded cash balance

4-1-2698473595 A / Revenue 1

13,507,500 A / opposite buildings and facilities 4-9-4-2

875437750 A / against machinery and equipment 4-9-4-3

4408472275 A/ against furniture and office equipment 4-

9-4-619,202,100 A/ against other assets 4-9-4-8

Proof of revolving account balances from 2013

After we rotated the accumulated balances up to the year 2013 according to Entry No. (1), to organize the opening entry according to the accrual basis, three treatments must be carried out: (cancelling the corresponding entries and proving fixed assets, closing the accounts measuring the result (expenditures and revenues), and canceling the revolving cash balance account) and as follows:

Fixed assets, where fixed assets must be recorded in the records and corresponding accounts canceled, according to what is required by the accrual basis. As the fixed assets will be recorded on the account of the revenues of previous years, because these assets, when acquired, were considered final expenses that were closed in the result measurement accounts and contributed to increasing the value of the deficit; In order to prove the fixed assets, a committee of specialists is formed working in coordination with the annual inventory committee to estimate the remaining life of the assets held by the government unit and its book value based on the percentages of obsolescence that were clarified in the second section of this chapter. The difference between the new book value and the historical cost of the asset represents the depreciation value of the previous years. An entry is organized in order to cancel it from the value of the assets and at the expense of previous years' expenses, which was created under the item of non-financial expenses, as follows:

A - Cancellation of corresponding entries: A registration document shall be prepared to cancel the corresponding entries and take the number (2):

Of those mentioned

13,507,500 A/in exchange for buildings and facilities, No. 4-

9-4-2875437750 A/for machinery and equipment 4-9-4-3

4408472275 A/ against furniture and office equipment 4-



9-4-619,202,100 A/ against other assets 4-9-4-8

To those mentioned

- 13,507,500 A / buildings and facilities 3-9-4-
- 2 875437750 A/ machinery and equipment 3-9-4-3
- 4408472275 A/ Office furniture and equipment 3-9-4- 6
- 19202100 A/other assets 3-9-4-8

For canceling the balance of corresponding accounts until 2013

B - Recording fixed assets: Entry No. (3) is organized to prove the value of the assets and at the expense of previous years' revenues, as follows:

Of those mentioned

- 13,507,500 A/ buildings and facilities 3-9-4-2
- 875437750 A/ machinery and equipment 3-9-4-3
- 4408472275 A/ office furniture and equipment 3-9-4-6
- 9-4-619202100 A / other assets 3-9-4-8

5316619625 to A/revenues of previous years 1-9

For establishing fixed assets at historical cost

T - Proving the extinction value for previous years: A committee of specialists is formed that works in coordination with the annual inventory committee to estimate the remaining life of the asset, the book value, and the extinction value for previous years, assuming that the extinction value has been estimated by the committee as shown in the following table 3.

**Table 3:** Table of estimating the book value of fixed assets, amounts in dinars

Details	Historical Cost of Assets	Extinction Rate	Estimated Extinction Value	Estimated Book Value
Buildings And Facilities	13507500	3%	405225	13102275
The Machines And The Equipment	875437750	10%	87543775	787893975
Office Furniture And Equipment	4408472275	10%	440847227	3967625048
Other Assets	19202100	10%	1920210	17281890
<b>Total</b>	<b>5316619625</b>		<b>530716437</b>	<b>4785903188</b>

Where entry No. (4) is organized to prove the value of depreciation for previous years, as follows:

530716437 from A/ Expenses of previous years 2-3-3

To those mentioned

- 405225 A/ buildings and facilities 3-9-4-2



87543775 A/ machinery and equipment 3-9-4-3  
440847227 A/ office furniture and equipment 3-9-4-6  
1920210 A/ Other Assets 3-9-4-8

Proving the depreciation value of previous years

Result measurement accounts (expenditures and revenues), expenditures and revenues are closed in the result accounts according to what was stated in the accounting manual for state accounts issued in April 2000, which created the accounts for measuring the result, in which expenditures and revenues are closed up to the result of the activity, whether it is a surplus or a deficit, and this is at the level of the government unit and at the level of the state. The revenue balance is closed at (6015093220) dinars, and the total revenue balance rotated in the opening entry No. (1) is represented by the amount of (698473595) dinars, and the previous years' revenue balance recorded in entry No. (3) is represented by the amount of (5316619625) dinars. As for the expenses, they are closed at the amount of (139099738338) dinars. The total balance of expenses rolled over in the opening entry represents (138569021901) dinars and the balance of previous years' expenses recorded in entry number (4) (530716437) dinars, and expenses and revenues are closed as follows:

A - Closing the revenue account: The revenues are closed in the result accounts by organizing registration document No. (5) and as follows:

6015093220 from A/ Revenue 1  
6015093220 to A/ accounts score 4-8

For closing the accumulated revenue account until 2013

B - Closing expenses: Expenditures are closed in the results measurement accounts by organizing entry document No. (6) and as follows:

139099738338 A/ Score 4-8 accounts  
139099738338 A / expenses 2 Closing the accumulated expenditure account until 2013

From the two entries above, we can extract the balance of the result measurement account (which represents the difference between the debit balance and the credit balance of the result measurement account), which represents an accumulated deficit of (133084645118) dinars.

Cancellation of the revolving cash balance account, the opening entry according to the cash basis requires rotation of the cash account only; Therefore, the revolving cash balance account is used to prove the cash balance at the beginning of the year. In order to cancel this account, we close the accumulated balance of the cash balance account rounded up to the year 2013 with the balance of the accumulated cash account until the year 2013, and the difference between them represents the cash balance that will rotate for the year 2014. This is done by organizing entry document No. (7) as follows:

2254142484 from A/ Revolving cash balance 4-1-2  
2254142484 to A/Current Expenses Bank 3-1-2-1-1

About closing the revolving cash balance account until 2013

From the above entry, we can conclude that the balance of the cash account at the beginning of 2014 is (352,296,212) dinars, as it represents the difference between the cash balance in entry No. (1) and the cash balance in entry No. (7).

After we have established the opening entry and processed the accounts according to what is required to apply the accrual basis, we are now recording all the documents of the selected sample. As well as the storage exchange documents that will be organized (in exchange for each document related to the purchase of fixed assets and commodity requirements) to prove the processing process from the warehouses supported by the warehouse output document for the fixed assets and commodity supplies, as follows:

4.1.3.1 Buying wooden furniture:

100,000 from A/ Wooden Furniture Monitoring 3-9-6

3-1-1100,000 to A/Current Expenses Bank 3-1-2-1-1

About purchasing furniture and bringing it into stores 100,000 A/ wooden furniture 3-7-3-1-1

Deanship activity 1-15

100,000 to A/ wooden furniture control 3-9-6-3-1-1

About equipping the office of the assistant dean of administration

4.1.3.2. Buying devices:

1,750,000 from A/ monitoring devices 3-9-6-3-2-2

1,750,000 to A/Current Expenses Bank 3-1-2-1-

1 About purchasing devices and bringing them into stores

1,750,000 from A/devices 3-7-3-2-2

Physics Department Activity 1-9

1,750,000 to A/ monitoring devices 3-9-6-3-2-2

About supplying equipment to the Physics Department

4.1.3.3. Purchasing commodity supplies/other supplies: 19,500 from A/Other supplies control 3-9-7-9-6

19,500 to A/Current Expenses Bank 3-1-2-1-1

About purchasing locks and bringing them into stores

19,500 from A/other supplies 2-1-3-9-6

Deanship activity 1-15

19500 to A/Other supplies control 3-9-7-

9-6 About preparing locks for the deanship building

4.1.3.4. Purchasing commodity supplies/laboratory supplies:

300,000 from A/ laboratory supplies control 3-9-7-

9-1 300,000 to A/Current Expenses Bank

3-1-2-1-1

About purchasing laboratory supplies and bringing them into stores 300,000 of laboratory supplies 2-1-3-9-1

Life Sciences Department activity 1-8

300,000 to A/monitoring laboratory supplies 3-9-7-9-1

About supplying laboratory supplies to the Life Sciences Department

4.1.3.5 Service requirements/transport rental:

100,000 A/ rent of means of transport 2-1-2-6-5

Physics Department Activity 1-9

100,000 to A/ Regular Expenses Bank 3-1-2-1-1

About the payment of transportation fees for the benefit of the Physics Department



4.1.3.6. Fixed Assets Maintenance / Equipment Maintenance:

400,000 from maintenance of devices 2-1-4-7

Atmospheric Sciences Department Activity

1-11400,000 to A/Current Expenses Bank 3-1-2-1-

1

About paying equipment maintenance fees for the Atmospheric Sciences Department

4.1.3.7 Service supplies/printing fees:

250,000 from A/ printed wages 2-1-2-15

Deanship activity 1-15

250,000 to A/Current Expenses Bank 3-1-2-

1-1 About disbursing printing fees for the deanship building

4.1.3.8. Maintenance of fixed assets / maintenance of work vehicles:

46,500 from work vehicle maintenance 2-1-4-3-3

Deanship activities 1-15

46,500 to A/Current Expenses Bank 3-1-2-1-1

About disbursing work vehicle maintenance fees for the deanship building

Calculating the costs of activities and determining the cost of the student, after we have registered all the documents, we will prepare the financial statements that represent the outputs of the government accounting system, which are relied upon in planning and decision-making. Therefore, this data must be detailed and suitable for planning and decision-making processes. The proposed system provides data on the cost of the program by specifying the costs of the activities that make up the program. As a result, this serves to track these costs, rationalize the unnecessary ones, and direct the necessary costs according to priority and comparison between available alternatives. After we have prepared a list of costs of activities and determined the cost of each activity from each item of expenses, we distribute the costs of these (supporting)

activities to the direct activities to determine the cost of the program and extract the cost of the student, and this is done by preparing a list of cost distribution.

Where according to this list, the costs of the supporting activities are distributed to the direct activities to determine the cost of the program, as the costs of the first six activities are distributed according to the percentage of the number of students for each department (elementary and senior), and for the activity of the Deanship, its costs are distributed according to the percentage of the total number of college students (primary and senior), As for the registration activity, its costs are distributed according to the percentage of the college's students for primary studies only, and the postgraduate activity's costs are distributed according to the percentage of the college's students for postgraduate studies only. Before starting the preparation of the cost distribution list, the number of students must be determined, as shown in the following table 4.

**Table 4:** Number of students in the College of Science for the academic year 2013-2014

Scientific Department	Number of Students		
	Initial	Supreme	Total
Mathematics Department	371	102	473
Department of Biology	580	154	734
Physics Department	326	123	449
Department of Computer Science	337	48	385
Department of Atmospheric Sciences	219	62	281



Chemistry Department	555	89	644
<b>Total</b>	<b>2388</b>	<b>578</b>	<b>2966</b>

**Source:** Prepared by the researcher (based on data from the Department of Statistics and Informatics)

After we have determined the numbers of students, we will now explain how the costs of supportive activities are distributed over direct activities by determining the distribution ratios according to the number of students, by dividing the number of students for the direct activity for which the costs are to be distributed by the total number of students on the basis of which the costs of the supportive activity are distributed as in table 5.

**Table 5:** Distribution of costs of scientific department activities (supporting)

Supporting Activity	The Cost of The Supporting Activity	Direct Activity	Cost Distribution Ratio		Direct Activity Share (Dinar)	
			Primary	Higher	Primary	Higher
A. Department of Life Sciences	(300000)	A. Life Sciences	79%	21%	237000	63000
A. Department of Physics	(100000)	A. Physics	72%	28%	72000	28000
A. Department of Atmospheric Sciences	(400000)	A. Atmospheric Sciences	77%	23%	308000	92000
<b>Total</b>	<b>0</b>				<b>617000</b>	<b>183000</b>

## 5.0 CONCLUSION

Through what was presented in this research from both the theoretical and practical aspects, some conclusions were reached, firstly, the organizational structure of the study sample is not divided according to programs and activities as required by the cost accounting system, which depends on dividing the organizational structure into jobs with specific objectives and then dividing these jobs into programs through which the job is performed and these programs are divided into a number of activities Which implements the program and these activities can be divided into sub-activities that represent cost centers. Secondly, the data provided by the decentralized government accounting system applied now does not meet the requirements of planning, performance control, and decision-making. It provides data on the number of amounts spent by the government unit within the allocations included in the state's general budget, as it only provides traditional legal and financial oversight on the extent of budget implementation. That is, it does not provide data on the costs of services provided by government units, which would provide a high level of effective planning and control.

Thirdly, the basis used in the decentralized government accounting system applied now is the modified cash basis required by the Public Accounting Principles Law. This basis for recording financial transactions carries many shortcomings, the most important of which is that it does not give a true picture of the financial position and accounts measuring the result, as it does not meet the requirements. Application of software and performance balancing. Fourthly, the accounting manual is one of the most important elements in the government accounting system, meaning that in order to develop the government accounting system to enable the application of the cost accounting system, this manual must be updated. The collection of documents, books, and financial statements used in the current government accounting system does not meet the

requirements for applying the cost accounting system in order to extract the costs of services provided by government units, so current records must be updated and other records created.

Fifthly, the government service units operate under legislation that governs their work because they were originally created according to a law. Therefore, to develop the government accounting system applied in those units, there must be a law that allows work according to those updates required by the application of the cost accounting system. Such as amending paragraphs (1) and (3) of Article Eleven of the Public Accounting Principles Law. Finally, the Finance Division, which is responsible for operating the government accounting system, does not contain specializations in cost accounting. In addition, there are no individuals specialized in the field of financial planning who plan and prepare the general budget.

Furthermore, through reviewing the conclusions reached, some recommendations were identified that lead to providing a government accounting system that provides data on the costs of activities performed by government units, the organizational structure of the College of Science/Al-Mustansiriya University is divided according to programs and activities, considering that the college is a program in itself whose goal is to graduate qualified cadres, and then this program is divided into main activities and two types, direct and supportive, and that these activities are divided into sub-activities and sub-activities into Partial activities that represent the cost center. Modernizing the government accounting system by using cost accounting to determine the costs of programs and activities and then determining the costs of services provided by government units. By determining the costs of these services, it is possible to provide a high level of planning and effective control over these government units, and measure the extent to which they achieve the goals that were set.

Following the accrual basis in recording financial operations because of the advantages this basis provides in giving a true picture of the financial position and accounts measuring the result, which is required by the cost accounting system. This is done by proving fixed assets, calculating depreciation on them, differentiating between revenue and capital expenditures, and recording operations. Disbursement and receipt immediately upon maturity, regardless of the date of payment or receipt. Updating the government accounting system guide by creating a guide to the government accounting system divided according to programs and activities and then using some other types of division as subdivisions, in a way that leads to providing the necessary data for planning, control and decision-making. Updating the documentary collection by adding a special field for tabulation according to the programs and activities, creating financial documents for stores of commodity supplies and fixed assets for the purpose of controlling them, creating a ledger set for the cost accounting system, as well as creating financial statements that provide data on the costs of services provided by government units. The reality of these updated records.

Updating some texts of the laws that govern the government accounting system to meet the requirements of modernizing the government accounting system, such as amending paragraphs (1) and (3) of Article Eleven of the Public Accounting Principles Law, which concerns the receipt of revenues and recording them in the year in which they are received regardless of the due date, as well as the expenses stipulated in paragraphs (1) and (3) of the aforementioned law. Creating legal texts that require recycling balances in an opening entry and calculating the depreciation of assets, as well as calculating the costs of services provided by government units through the use of a cost accounting system. Creating two units within the Finance Division, the first for the cost accounting system, which includes individuals specialized in cost accounting, and the other, a budget unit that includes people with competence and experience in budget planning and preparation.

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## **THE EFFECT OF ACCOUNTING DISCLOSURE ON THE FINANCIAL INSTRUMENTS AND FINANCIAL REPORTING QUALITY IN IRAQI COMMERCIAL BANKS**

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**ABSTRACT** - The current economic trend worldwide is for an industrial economy based on the impact of accounting disclosure on the financial instruments that are applied for the purpose of hedging and reducing risks in banks, and their reflection on the quality of financial reporting. Lately, financial instruments group, stocks and bonds are tools to reduce the effects of transactional risks in banking activities have generated renewed research interests. Based on these facts, the study focused on presenting and clarifying the nature and types of financial instruments that can be used in banking activities in order to face risks and reduce their negative effects on the bank. The researcher presented the different methods for detecting these tools and the deficiencies in the different accounting disclosure methods and their implications for the quality of the financial statements of the Iraqi commercial banks. The positivism philosophy, deductive approach and quantitative methods were used as the research methodology to accomplish the research objectives. In this process, a questionnaire survey and purposive sampling technique were used to collect the responses from the Iraqi commercial bank's employees. The obtained data were analysed statistically using the SPSS v<sup>25</sup> software. Interestingly, accounting disclosure and financial instruments were found to enhance significantly the quality of financial reporting of the banks, leading to better competitive advantages. Consequently, the study provides academicians and practitioners valuable insights into and guidance on how developing intellectual capital enhances competitive performance, especially in the context of Iraqi commercial banks.

**Keywords:** *accounting disclosure, financial instruments, and financial reporting quality.*

### **1.0 INTRODUCTION**

Accounting for financial instruments and their hedging strategies is an important contemporary topic of contemporary accounting in light of recent international trends, the development of the global economy and the trend towards improving performance in economic units, and the development of new products and investment tools that are similar to global products [1]. International accounting standards and financial reporting standards provide an update and development of accounting requirements for the accounting disclosure of financial instruments and the use of their strategies to hedge financial risks and demonstrate their impact on the effectiveness of the qualitative characteristics of accounting information – which is the cornerstone for evaluating and developing financial reporting and improving their quality and informational and media content to increase their efficiency and effectiveness. In making investment and financing decisions in economic units [2].

The success of economic units in the future depends on their ability to compete in the financial market, and to control the risks they face through financial engineering programs - represented by their tools and hedging strategies - that support their ability to continue. With the intensification of competition and the high degree of risk - the existing units can only continue with the availability of risk management with an integrated structure that contains an effective set of prudential strategies and policies that complement each other - including financial restructuring, liquidity crisis management and cash flow management, and recognition of the importance of accounting disclosure of available investment opportunities, predictions of failure and financial success, predictions of profits and expected cash flows, accounting disclosure of expected risks and their evaluation, accounting disclosure of alternative accounting policies, planning and drawing investment policies and strategies and the optimal use of resources to reduce financial risks [3]. This is because the integrated strategies give support to each other through the system of exchange of inputs and outputs between them.

The researcher believes that the concerned professional councils should keep abreast of developments in financial instruments programs and tools, as they cover many and varied types of tools - which are still innovating periodically. Accounting's disregard of financial instrument programs and strategies is a failure to provide qualitative characteristics of information, which is reflected in the quality of financial reporting of commercial banks and failure to meet the requirements and foundations of measurement and accounting disclosure in accordance with the International Financial Reporting Standards (IFRS) [4]. Commercial banks represent one of those institutions that have an important place in the economies of developing countries, as studies and experiences in countries around the world have proven their importance and the extent of their effective contribution to economic and social development. Despite all these efforts, insight into financial instruments accounting disclosure and its impact as a value creator is lacking [5]. Thus, the current research was to investigate the influence of the relationship between financial instruments accounting disclosure and financial reporting quality. Hence, the following research objectives were developed to help in the current investigation:

To examine the accounting disclosure on the financial instruments (stocks and bonds) in Iraqi commercial banks.

To examine the accounting disclosure on the financial reporting quality in Iraqi commercial banks.

## **2.0 THEORETICAL UNDERPINNINGS AND HYPOTHESES**

### **2.1 IMPLICATIONS OF ACCOUNTING DISCLOSURE ON FINANCIAL INSTRUMENTS (STOCKS AND BONDS).**

An overview of previous literature reveals that previously issued, which indicated that the levels of accounting disclosure are affected by various variables. One of those studies that was conducted on accounting disclosure is the study [6] when he studied the annual financial reporting of (527) financial institutions and their accounting disclosure indicators, which included thirty-one Information item This study discovered that the level of accounting disclosure is positively associated with the size of the financial institution and the current status quo and negatively with profitability. [7] found that the quality of accounting disclosure is associated with the size of assets, the number of shareholders, the rate of return on the asset and the profit margin and fluctuations in securities prices in the market and the status quo and auditing companies (CPA). On the other hand, there are studies that focused on the level of accounting disclosure and the extent of compliance with international accounting standards (IAS).

[5] using a sample of (279) international financial institutions, the study tested many variables as independent variables and their impact on the level of accounting disclosure. Financial and other variables, and that the appropriate information and data are provided to the parties that use accounting data in the process of making rational economic decisions related to the financial institution that issued these data, and it also provides decision makers with some financial indicators that help them predict some of the main variables. The future of that financial institution as its revenue strength or the extent of its ability to fulfill its short-term and long-term obligations, and professional groups in various countries of the world have been keen, due to the increasing importance of the accounting disclosure standard for information and data, to issue standards for accounting disclosure, and the International Accounting Standards Committee (IASC) has been keen. On the issuance of a special standard that expresses accounting disclosure, it is Standard No.(5), which bears the title (Information that must be disclosed in the financial statements). The issues dealt with by this standard, in order to provide a kind of international acceptance for the published financial statements. [8]. The main objective of the quality of financial reporting is to provide information in the financial reporting of high quality related primarily to the financial position of the economic unit. Also, providing quality in financial reporting will positively affect providers of capital and stakeholders in making investment and credit decisions and allocating other resources that increase market efficiency [9].

Financial reporting being free from material misrepresentations and giving them a true, fair, and clear picture of the company's financial position, and thus its high predictive ability to assess the current and future situation of the company. The quality of financial reporting has been defined as the integrity of the information conveyed by the reporting process. Whereas [10] defined it as “processes of processing useful information to investors, creditors, and other parties to help them make their investment, credit, and other decisions, and that this information should help its users in estimating the size, timing, and degree of uncertainty surrounding the expected cash flows.” defined it as preparing financial reporting in accordance with the applicable financial reporting framework and helping to communicate its content to its users in a timely manner and at an appropriate level of compilation while avoiding material distortion in this content. Thus, financial reporting honestly expresses the economic situation of the economic unit during a period certain time.

While [11] defined it as what satisfies the needs of its users. This definition focused on achieving financial reporting for the purpose of their preparation and the extent to which they meet the needs of their users, but quality cannot be achieved from this perspective because it is not possible to identify all the needs of users to achieve this satisfaction from one hand on the other hand, the economics of information cannot be overlooked. Financial reporting is a source of information, so they are one of the factors of production. Therefore, supply and demand and prices of other alternatives must be analyzed economically to obtain information, and then determine the best details in light of cost and return. The researcher defines the quality of financial reporting as all the reporting that are prepared by the administration with clarity and transparency and are presented without bias or misleading about the facts of the information contained in these reporting and are presented to their users, whether they are internal or external parties for the purpose of making the right and rational decision, and thus reflect a reliable and appropriate image of the information. For the balance sheet and cash flows of the economic unit (Iraqi commercial banks) for the users of these reporting. Based on these accounting disclosures, the following hypotheses can be made:

**Hypothesis 1 (H.1):** The higher influence of accounting disclosure, the higher level of financial instruments.

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## **2.2 IMPLICATIONS OF ACCOUNTING DISCLOSURE ON FINANCIAL REPORTING QUALITY**

Accounting disclosure, in fact, is not an end through which we aim to reach merely obtaining the process of accounting disclosure in itself, but rather a means to disseminate and present information and data related to the activities of the financial institution to the relevant parties and beneficiaries at the specified time, and the importance of accounting disclosure as mentioned. Some researchers have increased after the Great Depression crisis, which occurred in 1929 in the United States of America, which almost led the capitalist system to the abyss, had it not been for the great reviews that obtained the foundations of capitalism and its theory, among which the importance of disclosure increased in order to prevent falling into crises in the future [7]. Some writers explained that the contributing financial institutions were manipulating the numbers and accounting data published for the evaluation of their assets and properties in order to attract investors' capital to them, which led to the transfer of investors' savings and directing them to unsuccessful and inefficient projects, some of which were fake [12].

The accounting disclosure derives its importance from the multiplicity and diversity of the relevant beneficiaries of this information and data, which include investors, bankers, lenders, accountants, auditors, regulatory authorities, and others, in addition to the effects of whatever kind and the consequences of the decisions taken by these bodies based on this information and data [5]. Therefore, disclosure inaccurate or incomplete may lead to distortion in the process of making economic decisions that concern these parties, which may lead to negative effects now or in the future, and given the complexity of the financial instruments used in the banking system such as derivatives and securities and the amount and size of their large trading and risks disclosure has gained increasing importance at the present time. The importance of disclosure has also increased due to the increasing need of contributing financial institutions for sources of funds through private capital markets and stock and bond exchanges, whose impact is reflected in the establishment of efficient financial markets, and these markets are often supervised by professional regulatory or semi-governmental bodies such as the Central Bank [13].

These financial institutions are required to follow the basic rules set by these authorities, and to abide by the instructions issued by the supervisory bodies. Accounting disclosure also plays an important role in achieving the competitive mechanism in the capital market in terms of optimally setting prices for shares and achieving the difficult balance between the degree of risk and the return achieved by these shares [14]. The quality of financial reports will be of a high level if it leads to an improvement in the information environment of users of accounting information. The informational environment for users improves if the informational content of financial reports improves, and their ability to predict future cash flows. In other words, high-quality financial reports help users evaluate investment opportunities and make optimal allocation decisions for available economic resources by reducing accounting information asymmetry. As the financial report preparers aim to provide information with high quality to improve the decisions of users of accounting data. The quality of financial reports increases if they are prepared according to high-quality accounting standards such as the International Financial Reporting Standards, as such financial reports provide information that helps users in making rational economic decisions [15].

High-quality financial reports play an important and fundamental role in stimulating the performance of financial markets and the flow of investments, and thus maximizing the value of companies. He pointed out that high-quality financial reports lead to an increase in the transparency of financial reports, an improvement in the comparison of financial information, an improvement in the appropriate value of information, an improvement in the liquidity of financial markets, a reduction in the cost of capital, and an improvement in the flow of investments across countries. The accounting information that is provided by accountants to be presented to its users varies according to the nature of the accounting unit and the needs of these users. However, the presentation of accounting information is usually done through periodic reports called financial reports, and

financial reports differ from the financial statements, as the financial reports contain all the information Which banks are obliged to submit periodically in the form of lists and other forms of presentation. As for the financial statements, they represent the outputs of financial accounting that contain financial information of general purpose [16].

The main objective of the quality of financial reports is to provide information in the financial reports of high quality related primarily to the financial position of the economic unit. Also, providing quality in financial reports will positively affect capital providers and stakeholders in making investment and credit decisions and allocating other resources that increase market efficiency. [17] found the financial reports being free from material misrepresentations and giving them a true, fair and clear picture of the company's financial position, and thus its high predictive ability to assess the current and future situation of the company. The quality of financial reporting has been defined as the integrity of the information conveyed by the reporting process. Based on these accounting disclosures, the following hypotheses can be made:

**Hypothesis 2 (H.2):** The higher influence of accounting disclosure, the higher level of financial reporting quality.

### **3.0 MATERIALS AND METHODS**

The present research population encompassed 5 Iraqi commercial banks in the year 2022. The main reason for selecting these commercial banks from the financial population was mainly their flexibility and accessibility for research. In fact, these banks regard this flexibility as their visibility to external auditors. Additionally, the complex procedures for obtaining approval to access other types of Iraqi banks and collect data from them was one of the reasons for the researcher to focus on the commercial banks of Iraq as the dominant population for the study. The ever-growing demand for research makes an effective technique necessary for defining the required sample size in a given population. Thus, a sample size of 125 participants was required to investigate the current phenomena. In all, 125 questionnaires were distributed amongst the bank employees considering the fact that the larger the study sample, the more the results can be generalised to the target population. The selected sampling method enables gathering accurate information from the population concerning financial instruments accounting disclosure and financial reporting quality.

Furthermore, purposive sampling of the estimated population was considered to be more suitable than normal sampling. Purposive sampling is the process of selecting respondents who are best placed to deliver the required data for the study. Bank employees being the most experienced and well informed in the preparation of financial statements are thus claimed to possess and reflect expert knowledge capable of delivering data relevant to the research inquiries. The present research context required participants from the banking field who met specific criteria, such as being persons responsible for preparing financial reporting and managing financial data in Iraqi commercial banks. This population of interest indeed comprised respondents who possessed the required facts and could provide the desired information. Briefly, the respondents of this study were bank employees involved in rigorous banking business regardless of their rank or position (see Appendix A).

In this work, the primary data were collected through a set of quantitative questions that served to measure the opinions, perceptions and attitudes of the respondents to-wards the main construct in the present investigation. Considering the recent turbulent situation in Iraq, most of the respondents in the Iraqi commercial banks preferred to answer the questionnaire manually (using a hard copy). As a result, data cleaning was important to filter for usable responses and avoid any errors during the data analysis procedures.



All the banks and their employees were informed before the researcher arrived to distribute the questionnaires and begin data collection. Thereafter, the researcher distributed 125 questionnaires across five Iraqi commercial banks and informed the respondents that they have to answer all the questions. The main data collection process was conducted from August 2022 to November 2022 (roughly over a period of 3 months). After the data were collected, the data cleaning process was started, ensuring the consistency of the responses for further data analysis with the required number of participants. For selecting ten items, the protocols of [1] financial instruments were used, which helped measure the independent variables. In this study, the dependent variables (ten items) were used to measure the respondents' financial reporting quality following [13]. Responses were made on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

#### 4.0 RESULTS AND DISCUSSION

##### 4.1 Relationship between Accounting disclosure and Financial Instruments (Stocks and Bonds)

Tables 1 show the analysis of the paragraphs included in the questionnaire for the extent of the relationship between accounting disclosure and financial instruments in Iraqi banks, as the arithmetic means and standard deviations were calculated for the sample's answers for the total score and for each paragraph. In addition, it shows that the relationship between accounting disclosure and financial instruments is at a high level, with an arithmetic mean of 40.60 and a standard deviation of 5.467, as the descriptive data shows that 96 male and female employees are aware of a high level of relationship between accounting disclosure and financial instruments at a rate of 76.8.

**Table 1:** The relationship between accounting disclosure and financial instruments (stocks and bonds)

Relationship	Frequencies	Percentage	Mean	Standard Deviation
Low	0	0	40.60	5.467
Medium	29	23.2		
High	96	76.8		
<b>Total</b>	<b>125</b>	<b>100</b>		

##### 4.2 Relationship between Accounting disclosure and Financial Reporting Quality

Tables 2 show the analysis of the paragraphs included in the questionnaire for the extent of the relationship between accounting disclosure and financial reporting quality in Iraqi banks, as the arithmetic means and standard deviations were calculated for the respondents' answers for the total score and for each paragraph. In addition, it shows that the relationship between accounting disclosure and the quality of financial reporting quality is of a high level, with an arithmetic mean of 40.88 and a standard deviation of 6.206, as the descriptive data shows that 97 male and female employees acknowledge a high level of relationship between accounting disclosure and financial reporting at a rate of 77.6.

**Table 2:** The relationship between accounting disclosure and financial reporting quality

Relationship	Frequencies	Percentage	Mean	Standard Deviation
Low	0	0		
Medium	28	22.4		





High	97	77.6	40.88	6.206
<b>Total</b>	<b>125</b>	<b>100</b>		

## 5.0 CONCLUSION

This section includes the most important conclusion reached through the study and the recommendations proposed by the researchers. In addition, at the first the conclusions start with there is a significant relationship between accounting disclosure and financial instruments in the financial statements of Iraqi commercial banks listed on the Iraq Stock Exchange. Furthermore, there is a significant relationship between accounting disclosure and the quality of financial reporting. Moreover, the concept of accounting disclosure is one of the important and well-established concepts in modern accounting thought, as it is an important communication tool between companies in general and banks in particular and the outside world, whether they are investors, shareholders, or even the supervisory authorities represented by central banks. It is considered one of the important issues that occupied the attention of accountants and others, because it has an impact on the behavior and actions of those interested in business activities with the aim of the financial reporting and their indicators being transparent, honest, and clearly expressing the financial positions of companies and banks, and then being able to clarify the centers of strength and weakness and to ensure quality in those reporting.

Then, the international accounting standards and financial reporting standards are concerned with providing an update and development of accounting requirements for the accounting disclosure of financial instruments and the use of their strategies to hedge against financial risks and demonstrate their impact on the effectiveness of the qualitative characteristics of accounting information - which is the cornerstone for evaluating and developing financial reporting and improving their level of quality and informational and media content to increase its adequacy and effectiveness in making investment and financing decisions in economic units. Yet again, the quality of financial reporting will be of a high level if it leads to an improvement in the information environment of users of accounting information. Thus, the informational environment for users improves if the informational content of financial reporting improves, and their ability to predict future cash flows. The financial reporting provides the administration with the basis on which it relies to judge the strength and weakness of the financial and productive position of the company. However, the recommendations start with, the necessity of adhering to international accounting standards and financial reporting standards and keeping up with them, so adopting International Financial Reporting Standards (IFRS) as global standards that will contribute to reducing differences between financial reporting among different countries, and then strengthening the comparability of financial information, and improving its explanatory ability as an indicator of banks' performance and companies and reduce their cost, improve transparency and adequate accounting disclosure and reduce information asymmetry, and thus increase the quality of financial reporting, which leads to increased investor confidence and encourages them to direct their banking investments because of the importance of financial information being appropriate, reliable, comparable and rational decision-making. Moreover, the concerned professional councils must keep abreast of developments in financial instruments programs and tools, as they cover many and varied types of tools - which are still being innovated periodically. Accounting's disregard of financial instrument programs and strategies is a failure to provide qualitative characteristics of information, which is reflected in the quality of financial reporting of commercial banks and failure to meet the requirements and foundations of measurement and accounting disclosure in accordance with the International Financial Reporting Standards (IFRS).

Furthermore, we recommend the need to develop the quality level of financial reporting and produce high-quality information by developing the content of the financial statements to include non-traditional information, which achieves transparency on the one hand, and strengthens the confidence of the banking sector, lending and financing agencies, and investment companies. In addition, the necessity of adhering to



accountability for the effectiveness of employing financial instruments, as evaluating the business results and performance of banks, in the absence of accountability for the effectiveness of employing financial instruments, is considered a neglect of accounting principles related to accuracy and objectivity in terms of the fairness of measuring and presenting the assets and liabilities of the economic unit and the results of its work - which is one of the issues important considerations in light of the competition.

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**Appendix A. Measurement Items**

<b>Financial Instruments Accounting disclosure</b>
- Accounting information on stocks and bonds is provided for the purpose of accounting disclosure.
- The accounting information and data of stocks and bonds are appropriate for the purpose of decision-making.
- The stability of the accounting methods and policies used in preparing the financial statements from one year to the next.
- The preparers of the financial statements are familiar with the standards for preparing the financial statements.
- The accounting information of stocks and bonds enjoys credibility and transparency.
- The bank's commitment to modern elements of accounting disclosure of stocks and bonds.
- Non-bias in the preparation of the financial statements of stocks and bonds in favor of a particular group at the expense of other groups.
- The financial statements of stocks and bonds are presented to decision makers in a transparent manner.
- Management is influenced by imposing restrictions on the accounting disclosure of stocks and bonds on the preparers of financial reporting.
- Familiarity with the preparers of the financial statements of the importance of disclosing the banking business.

<b>Financial Reporting Quality</b>
- Familiarity with the internal auditor with the types of quality of financial reporting in terms of formulation, content, and presentation.
- The quality of financial reporting has an impact on improving the information environment of users of accounting information.
- Financial reporting has a high quality in the way they provide information that helps in making rational economic decisions.
- Increased accounting disclosure leads to high-quality reporting submitted to decision makers.
- The financial reporting has a high quality in presenting the financial statements in a way that expresses the strength of the bank's financial position.
- The financial reporting is of high quality in a way that provides management with the bases on which it relies in judging the strength and weakness of the bank's financial position.
- High-quality financial reporting enable management to predict the future of the bank.
- The management of the bank provides the human, material, and financial elements for the preparers of the financial reporting in a way that is reflected in the quality of the financial reporting.
- The financial reporting is presented to the internal auditor of the bank before their final presentation to the decision makers.
- The report of the board of directors and the report of the auditor reflects the true financial position of the bank.

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**THE EFFECT OF NATURAL RESOURCES AND INSTITUTIONAL  
QUALITY ON ECONOMIC GROWTH EVIDENCE FROM RESOURCE  
AND NON-RESOURCE RICH COUNTRIES IN AFRICA**

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**ABSTRACT** - *The resource curse hypothesis has been a topic of significant interest among researchers over the years, particularly in the context of African nations endowed with abundant natural resources. This study investigates the relationship between natural resources, both in aggregated and disaggregated forms, and composite institutional quality on the economic growth of 43 resource-rich African countries, juxtaposed against 9 non-resource-rich African nations. The research seeks to analyze the interactive effect of natural resources and institutional quality on economic growth by utilizing annual data spanning from 1980 to 2020 across the same countries. To ensure robustness and accuracy in parameter estimation, the study employs the Driscoll-Kraay estimation technique, which effectively addresses issues of cross-sectional dependence, endogeneity inherent to panel analysis, and potential serial correlation in the data. The findings of this study reveal that resource-rich African countries tend to experience higher economic growth rates compared to their non-resource-rich counterparts. Notably, the effect of oil and mineral resources on economic growth is more pronounced in resource-rich countries compared to non-resource-rich nations. This study underscores the imperative for resource-rich African countries to prioritize the strengthening of their institutional structures as a means to achieve sustained economic growth.*

**Keywords:** *Economic Growth; Resource curse hypothesis; Driscoll-Kraay; Africa.*

## 1.0 INTRODUCTION

The natural resources curse on economic growth hypothesis could be traced back to the works of [1] and [2]. Ever since then, scholars have explored the impact of natural resources on the economic growth of different countries and regions. Albeit mixed findings from these studies, it is believed that any nation's economic development and growth depend on the level of her natural resources. The examination of the impact of natural resources on economic growth has taken different dimensions by scholars [3]; [4]; [5]; [6]; [7]. These scholars tried to see the economic, political, institutional and even environmental intuition behind the natural resources and economic growth relationships.

The studies of [3]; [4] assert that countries that benefited from the positive impact of natural resources on economic growth are those that care about their environment. Among those earlier studies that examined the economic factors that mediate the impact of natural resources on economic growth is the study [5] which documents that the positive impact of natural resource on economic growth depends to a larger extent on the level of human capital. The studies of [[7], [6] opined that the state of institutions plays a major role in the natural resources and economic growth relationship, while [8] opines that both institutional quality and human capital do not affect the natural resource curse hypothesis.

Natural resources play a major role in the wealth creation of most African countries [9]. Yet, it is evident that the numerous resources endowments are insufficient for economic prosperities [10]. [10] attribute this failure to over-dependence on natural resources with little diversification in most African countries, which prevents resource-rich economies from achieving sustained economic growth through natural resources. South Africa, Nigeria, Algeria, Angola and Libya are the African countries with the most revenues from mineral resources in recent years with \$125bn, \$53bn, \$39bn, \$32bn and \$27bn, respectively. These countries produced more than two-thirds of Africans natural resources wealth. Despite the abundant resources of the aforementioned countries and other resource-rich countries in Africa, many questions remain unanswered in the existing literature. Some resource-rich countries such as Nigeria, Angola, DR Congo experienced low economic growth, some resources-scarce countries like Ethiopia and Rwanda experienced positive growth rates in recent years [11].

Some empirical studies have examined the impact of aggregate and disaggregated institutional quality on economic growth [12]. [12] found that institutional quality has a spillover effect on economic prosperity and growth, [13] found that institutional quality negatively influenced the economic growth of MENA African countries. This is so because most African countries' institutional quality has been considered weak over the years. Some studies also suggest that the nature of natural resources also affects the link between institutions and resources. Numerous studies demonstrate that the "point" (concentrated) natural resources lead to bad institutions, while "diffuse" resources do not. This is so that point resources (such as crude oil, minerals, and plantations) may be secured and controlled at comparatively low expense and are available from a limited geographic or economic basis. Contrarily, horizontally oriented agents exploit diffuse natural resources (such as agricultural products) dispersed throughout space [14]. These have less of a correlation with institutional quality.

Hence, considering the richness of natural resources in Africa and the nature of institutional qualities of African countries, it is pertinent to examine how institutional quality moderates the impact of natural resources on the economic growth of the resource-rich countries in Africa. This is build on the premise that counties with strong institution are more likely to drive economic growth and development.

This study will contribute to the existing literature in different folds. Firstly, it will unleash the effect of disaggregated resource rent vis-à-vis oil rent, natural gas rent and mineral resources on economic growth in Africa. Aggregate resource rent refers to the total income or revenue generated from the exploitation of a country's natural resources, such as oil, natural gas, and minerals, without distinguishing between different resource types.

In contrast, disaggregated resource rent involves a detailed breakdown of this income, separating it into specific categories like oil rent, natural gas rent, and mineral resource rent. Studying these forms of rent in Africa is essential for several reasons. Firstly, it helps unravel the distinct impacts of different resource types on economic growth, shedding light on the nuanced dynamics of resource-dependent economies. Secondly, it enables policymakers and researchers to craft more targeted and effective resource management strategies. Lastly, this study contributes to the existing literature by enhancing our understanding of how the exploitation of specific resources can influence economic development in the diverse and resource-rich African context, thus aiding in the formulation of more informed policies and sustainable development pathways for the continent.

## 2.0 MATERIALS AND METHODS

This study employs the endogenous growth model, which explains how economic growth is influenced by the growth of factors of production. The endogenous growth theory explains how economic growth is influenced by internal economic factors such as human capital, particularly, those forces governing the opportunities and incentives to create technological knowledge, and economic and political institutions. This study modifies the models of [15] as follows:

$$\Delta GDP_{it} = \alpha_0 + \beta_1 Res_{it} + \beta_2 Inst_{it} + \beta_3 HC_{it} + \beta_4 Inv_{it} + \varepsilon_{it} \quad (3.2)$$

Where  $\Delta GDP_{it}$  represent the real GDP growth rate, Res is the revenue from natural resources, Inst is the institutional quality index, HC is the human capital index, and Inv represents the investment level. Our model differs by comparing the moderating effect of natural resource abundance and institutional quality on the economic growth of resource-rich and resource-scarce African countries. Hence, incorporating capital stock (K) as suggested by theory, moderation term  $Res * Inst$  and disaggregating natural resource abundance into oil, natural gas and minerals for natural resource-rich and non-natural resource-rich produced equations 3.3, 3.4, 3.5 and 3.6.

$$\Delta GDP_{itr} = \alpha_0 + \beta_1 Oil_{itr} + \beta_2 NG_{itr} + \beta_3 Min_{itr} + \beta_4 Inst_{itr} + \beta_5 HC_{itr} + \beta_6 Inv_{itr} + \beta_7 K_{itr} + \beta_8 Res * Inst_{itr} + \varepsilon_{it} \quad (3.3)$$

$$\Delta GDP_{itr} = \alpha_0 + \beta_1 Res_{itr} + \beta_2 Inst_{itr} + \beta_3 HC_{itr} + \beta_4 Inv_{itr} + \beta_5 K_{itr} + \beta_6 Res * Inst_{itr} + \varepsilon_{it} \quad (3.4)$$

$$\Delta GDP_{itr} = \alpha_0 + \beta_1 Oil_{itr} + \beta_2 NG_{itr} + \beta_3 Min_{itr} + \beta_4 Inst_{itr} + \beta_5 HC_{itr} + \beta_6 Inv_{itr} + \beta_7 K_{itr} + \beta_8 Res * Inst_{itr} + \varepsilon_{it} \quad (3.5)$$

$$\Delta GDP_{itr} = \alpha_0 + \beta_1 Res_{itr} + \beta_2 Inst_{itr} + \beta_3 HC_{itr} + \beta_4 Inv_{itr} + \beta_5 K_{itr} + \beta_6 Res * Inst_{itr} + \varepsilon_{it} \quad (3.6)$$





## 2.1 Nature of Data and Sources

This study utilizes a panel data of forty three (43) natural resource-rich African countries and nine (9) non-natural resource rich African countries. The data were sourced from World Bank Development Indicators and Penn World data as explained in Table1. The data ranges between 1980 and 2020 due to data paucity in some countries prior to 1980.

## 2.2 Estimation Technique

There are at least three estimation issues that are peculiar to panel data analysis that needs to be resolved in equation 3.3 to 3.6. The panel estimation issues include heteroscedasticity, multicollinearity, endogeneity, and autocorrelation. This is because some variables are unobservable directly. Another reason is the simultaneity problem which is often caused by endogeneity. For instance, some existing literature postulated a bi-directional causality between environmental degradations and energy consumption, which they addressed by employing a Generalised method of the moment (GMM). Hence, the presence of these issues will make OLS inconsistent, and the coefficients will not be efficient. In a situation where exogeneity is present and other issues are present, a Driscoll Kraay standard error estimator which is robust to serial correlation, autocorrelation, and heteroscedasticity, could be employed (Driscoll & Kraay, 1998). Another distinct feature of this technique is its ability to accommodate an unbalanced panel (Hoechle, 2007).

## 3.0 RESULTS AND DISCUSSION

**Table 1: Estimates of Driscoll-Kraay Results**

VARIABLES	Model1	Model2	Model3	Model4
<i>LnINV</i>	0.712*** (0.0344)	0.498*** (0.0357)	0.648*** (0.0809)	0.384*** (0.100)
<i>lnK</i>	0.0446*** (0.0136)	0.0153 (0.0125)	0.311*** (0.0267)	0.201*** (0.0280)
<i>lnHC</i>	0.00648 (0.00606)	0.00732 (0.00574)	0.00673 (0.0192)	0.00868 (0.0153)
<i>lnMin</i>	0.0793*** (0.0105)		0.0092*** (0.0049)	
<i>lnNG</i>	0.00460 (0.0123)		-0.0529 (0.0377)	
<i>Oil</i>	0.10511** (0.0006)		0.008*** (0.0308)	
<i>lnINST</i>	-13.93 (0.75)	9.234 (17.66)	4.641 (9.970)	6.703 (9.764)
<i>lnRes INST</i>	0.0479* (0.0260)	0.0850*** (0.0245)	0.0406 (0.0319)	0.0391 (0.0251)
<i>lnRes</i>		0.163*** (0.0105)		0.120*** (0.0349)
<i>Constant</i>	1,302*** (78.77)	924.9*** (77.85)	43.02 (30.44)	72.73 (48.35)
Observations	1,564	1,564	333	333
Number of Country	43	43	9	9

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The study employs Driscoll-Kraay estimation to analyze the impact of natural resources and institutional quality on the economic growth of both resource-rich and non-resource-rich African countries. The results indicate that investment (INV) positively influences economic growth in both categories of countries, with a 0.606% increase for resource-rich countries and a 0.516% increase for non-resource-rich countries on average. Capital stock (K) also positively affects economic growth, with a 0.0446% increase for resource-rich countries and a more significant 0.256% increase for non-resource-rich African countries, highlighting the greater influence of capital stock on the latter group. Human capital, while positive, is not statistically significant, possibly due to limited access to education and training in many African countries.

Regarding natural resources, minerals, and crude oil have a positive impact on economic growth for both resource-rich and non-resource-rich countries in Africa, with a more pronounced effect in the former. Specifically, a percentage increase in minerals and oil leads to a 7% and 10% boost in economic growth for resource-rich countries, compared to 0.09% and 0.08% for non-resource-rich countries. Natural gas, on the other hand, does not significantly impact economic growth in either category. Aggregate natural resource endowment has a more substantial effect on economic growth in resource-rich countries compared to non-resource-rich countries, with the former experiencing a 4.3% higher impact. The study also highlights the crucial role of institutional quality in moderating the impact of natural resources on economic growth. Strong institutions are found to significantly enhance the positive effect of natural resources on economic growth in resource-rich countries, indicating the importance of stable and predictable business environments and equitable resource distribution. However, institutional quality in most African countries is weak, characterized by high levels of corruption, which may hinder the positive impact of resources on economic growth. Overall, the composite institutional quality is not found to have a significant impact on the economic growth of both resource-rich and non-resource-rich African countries, underscoring the need for institutional strengthening to achieve sustained economic growth.

#### **4.0 CONCLUSION**

The study examines the resource curse hypothesis in African countries with abundant resources. It compares the impact of natural resources and institutional quality on economic growth in 43 resource-rich and 9 non-resource-rich African nations from 1980 to 2020. Results show that resource-rich countries grow faster, but institutional quality doesn't influence growth. Oil and minerals positively affect growth, especially in resource-rich nations, while natural gas has less impact. The study emphasizes the need to strengthen institutions in resource-rich African countries for sustained economic growth, contributing to the resource curse debate in Africa.

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## **IMPLICATIONS OF CRYPTO INTEGRATION ON MACROECONOMICS INDICATORS IN ASEAN-5 COUNTRIES**

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**ABSTRACT** - This study aims to investigate the relationship between macroeconomic indicators and cryptocurrencies, specifically Bitcoin. Using the unit root test, co-integration, and vector error correction model, the relationship between Bitcoin price and macroeconomic variables was determined. This study analyzed the relationship between interest rate, exchange rate, inflation rate, financial stress index, gross domestic product, and Bitcoin price using monthly data gathered from January 2018 to February 2022 across five ASEAN countries. Vector error correction model (VECM) tests, Johansen co-integration, and summary statistics are utilized to assess the fluctuation patterns. The study's findings proved the co-integration of the variables. According to the VECM, the cryptocurrency model has a long-run relationship with all variables and a short-run association with the exchange rate. By discovering the most recent research on this related topic, our study contributes to the growing body of knowledge regarding cryptocurrencies by extending and augmenting it.

**Keywords:** *GDP; exchange rate; real interest rate; inflation rate, cryptocurrency.*

### **1.0 INTRODUCTION**

Blockchain technology has the potential to be utilized to trade or employ centralized virtual or digital tokens. The native digital asset of blockchain networks and a vital feature of their operation is cryptocurrencies. Cryptocurrencies are digital currencies based on cryptographic concepts. The cost of cryptocurrencies is increasing. With varying degrees of success, these types of digital currencies aim to improve privacy and anonymity (Le, 2023). While some of these currencies offer the choice of privacy, others openly disclose all transactions. Cryptocurrencies are meant to both replace and supplement fiat currencies because they are not backed by the government and instead depend on investor activity to decide the currency's value through supply and demand (Böhme et al., 2015; Chiu & Koepl, 2017). Since Satoshi Nakamoto initially proposed the concept in his white paper in 2008, bitcoin has gained significant attention as a subject of research and discussion. This is due to the global distribution of academics, professionals, and investors. Though it is a young market, it has taken off like wildfire around the world. Bitcoin's market capitalization alone is expected to exceed that of Malaysia's most valuable company (Nawang, 2021; Yeong et al., 2019) . Therefore, it becomes crucial to comprehend whether Bitcoin, the first cryptocurrency, is similarly impacted by a nation's economic indicators, just as traditional investment assets like stocks, shares, etc. It is critical for investors, researchers, and policymakers to comprehend that Bitcoin adheres to the same fundamental economic

principles as other traded investments (Böhme et al., 2015; Chiu & Koepl, 2017; Nández Alonso et al., 2021). Many studies have been conducted to determine the relationship between macroeconomic factors and share prices (Dudukalov et al., 2021; Martynov, 2020; Ssaharti, 2022). However, few studies have been conducted to determine the relationship with cryptocurrency (Esmailian et al., 2020; Miraz et al., 2021; Wang et al., 2022). Furthermore, most of the research focuses only on one country and uses time series data analysis (Conlon et al., 2021; Wagenaar, 1990). Only a few studies have used panel data analysis to examine cointegration relationships between macroeconomic variables (Havidz et al., 2021). There are many macroeconomic variables that have been used to find the relationship with cryptocurrency. However this study focuses on the exchange rate, interest rate, inflation rate, gross domestic product, and financial stress index.

## **2.0 LITERATURE REVIEW**

Cryptocurrency has evolved from being a strange product to one of the most contentious topics on TV, social media, and academic forums. Participants were able to make quick gains because there was no regulatory structure in place and the activity was speculative. This story held some truth up until December 15, 2017, when Bitcoin experienced a 50% price decline in less than two weeks. On November 12, 2021, three years later, it reached its pinnacle when one bitcoin was traded for US\$64,400. Investors from all ages, religions, political ideologies, and continents were captivated by this truth. State officials started to become concerned about this market's ongoing growth, but researchers' curiosity was also maintained. The risk-return tradeoff between Bitcoin and other financial products has been a popular subject of study for academics from a variety of fields.

In the past five years, there has been a substantial evolution in the empirical literature on cryptocurrencies, particularly Bitcoin. In their thorough analysis of the existing cryptocurrency research, Abdul-Majid et al. (2018), Kouhizadeh et al. (2022) and Southerton (2014) explored the categorization of cryptocurrencies as a medium of exchange and speculative instrument. On the other hand, according to Havidz et al. (2021), Bitcoin's limited supply and mining process make it act like money and serve as a store of value. Similar results were reached by Metawa et al. (2022) and Rayhi (2020), who characterized Bitcoin as a hedging-capable hybrid asset that straddles the line between a currency and a commodity. According to Al-Khazali et al. (2018), Bitcoin can be used as a hedge against the unpredictability of economic policy, but its effectiveness is constrained by speculative bubbles and price stability issues.

### **2.1 Underpinning theory**

According to the quantity theory of money, the level of prices is determined by the supply and demand for money. Kjaerland et al. (2018) emphasized how the forces of supply and demand are the primary drivers determining the price of Bitcoin using this paradigm. Buchholz et al. (2012) emphasized the relationship between macro-financial indicators and Bitcoin prices using the Keynesian theory of speculative demand for money framework. The idea is that consumers engage in currency trading to avoid suffering a loss on their bond and other financial asset investments. A rise in interest rates reduces the value of economic assets, which causes financial assets to lose money when invested (Havidz et al., 2021). The research was expanded upon by García-Monleón et al. (2023) to examine how certain macroeconomic indicators affected the forecasting of the price of bitcoin. He discovered that if Bitcoin is used more for trade or non-exchange transactions, it will appreciate over time.

## **2.2 Interest Rate and Bitcoin**

The factors that affect the price of Bitcoin have been the subject of extensive research. Real interest rate-based work remained comparatively rare. There are, however, some similar books that focus on macroeconomic aspects and economic policy. According to Tijn & S (2022), the variance decomposition revealed that negative real interest rate shocks had a greater impact on the price of bitcoin than positive real interest rate shocks. Over time, negative real interest rate shocks emerged as the primary explanatory factor. The Bitcoin price's response to the positive interest rate, according to impulse response functions, was inconsequential. In addition, Brody et al. (2020) carried out a study to see if there is a relationship between bitcoin and monetary variables in Indonesia. The researchers discovered that over the long term, there is no balance or parallelism in movement between the increase in bitcoin prices, the exchange rate, inflation, gold prices, and interest rates. Köse & Ünal (2023) discovered a significant correlation between bitcoin, gold, and crude oil although there is little correlation with the interest rate. On the other hand, price behavior, according to Auer et al. (2022), cannot be described by conventional economic theory. This is supported by the fact that, unlike traditional fiat currencies, Bitcoin is a digital currency that is not influenced by macroeconomic factors.

## **2.3 Exchange Rate and Bitcoin**

According to BenSaïda (2023), investors in cryptocurrencies and other financial assets denominated in the currencies from our sample can benefit from diversification by including both types of assets in their portfolios. He also emphasizes the relevance of Bitcoin price movements to the conduct of monetary policy through the exchange rate channel. On the other hand, Erdas & Caglar (2018) discovered that in both the short- and long-term co-integration equilibriums, Bitcoin exchange rate (BER) and Google search volume index (SVI) have a Granger causality feedback relationship, and the investor fear gauge is highly related to BER in the long-term co-integration. Ibrahim & Ali Basah (2022) investigated how the prices of oil, financial markets, and exchange rates affected the price of bitcoin. According to the outcome, the Dow Jones Index, the euro-dollar exchange rate, and the price of oil have a big impact on the long-term value of Bitcoin. Tijn & S. (2022) investigated whether users thought of Bitcoin as a currency or an asset while Dumitrescu et al. (2023) investigated the value of Bitcoin as an investment asset and as a medium of trade. The study discovered that, while Bitcoin can significantly improve an investor's portfolio's efficiency, it may not be acceptable as an exchange currency.

## **2.4 Gross Domestic Product (GDP) and Bitcoin**

Shaikh (2020) discovered that the volatility of the Federal Open Market Committee (FOMC), the GDP, and other macroeconomic data had a detrimental impact on the price of bitcoin. Additionally, Ali Al-Qudah et al. (2020) stated the rise in market capitalization and popularity of Bitcoin in investor portfolios made it more likely that it would have an impact on overall economic activity. According to Mishkin (2018), asset prices and the exchange rate have an impact on GDP. Since monetary policy has an impact on both asset prices and the exchange rate, it is important to consider these channels when deciding how to implement monetary policy. Consequently, asset values impact the net worth of a household or business, influencing spending and investment decisions as well as borrowing capacity.



## **2.5 Inflation rate and Bitcoin**

Although a small number of studies based on the money demand theory suggest a connection between Bitcoin prices and inflation Erfanian et al. (2022), this connection has not, to our knowledge, been empirically examined. The high-frequency research of the correlation between inflation and Bitcoin prices offers significant policy implications given that many investors view Bitcoin as an inflation hedge, particularly during the recent epidemic (Blau et al., 2021). The rise in the price of cryptocurrencies has been associated with higher inflation forecasts (Zhu et al., 2017). Although they still have some capacity for currency hedging, cryptocurrency prices have high associated volatility. Auer et al. (2022) exposed to similar macroeconomic factors as traditional assets, which reduces their effectiveness as a hedge (Muller et al., 2020; Wagenaar, 1990). One major factor contributing to cryptocurrencies' ability to function as a more effective inflation hedge than gold is the simplicity with which they can be exchanged and stored.

## **2.6 Financial Stress Index and BTC**

Bitcoin returns and investors' level of risk revision have a complicated relationship (Zhang & Wang, 2021). Over time, the degree of connectivity between Bitcoin exchange platforms changes. A well-known exchange like Bitfinex, for instance, has an impact on other exchanges (Hoque & Low, 2022). The prediction model, which is based on intraday momentum and reversal, can be used in the cryptocurrency trading market similarly to financial markets (Korkmaz & Nur, 2022). Based on quantile dependence analysis, Bitcoin has been discovered to be a safe haven against global financial stress on a macro level (Yin et al., 2022). Furthermore, Dudukalov et al. (2021) use several wavelet-related techniques with US data and discover a sizable effect of Bitcoin price on money supply. The study by Rayhi (2020) looks at how the financial stress index in China and the U.S. affects the volatility of Bitcoin and gold. They claim that, in times of apprehension, the financial stress index has a medium-term impact on gold prices in the United States. It affects Bitcoin in the short term, whereas the financial stress index in China affects Bitcoin in the medium term.

## **3.0 MATERIALS AND METHODS**

This study seeks to clarify the long- and short-term links between cryptocurrencies and macroeconomic variables such as the exchange rate (EXR), inflation rate (CPI), interest rate, gross domestic product (GDP), and financial stress index (FSI) proxies in five Asian nations, namely India, Indonesia, Japan, Malaysia, and Thailand. For the period from January 2017 to December 2022, monthly observations of cryptocurrency prices and macro data are taken for the five Asian markets. Bitcoin can be bought and sold on a variety of exchanges and in a variety of currencies. Bitcoincharts.com displays prices and volumes for 31 different currencies over 72 different exchanges. However, to conduct a comparable cross-country study, we only looked at Asian exchanges that settle transactions in at least five distinct currencies. The information was collected from reliable and trusted sources such as the Investing.com website and World bank data. The link and direction of causation are evaluated using an Augmented Dickey-Fuller, Johansen cointegration analysis, and vector correction Model (VECM). The results provide factual evidence of the panel data cointegration and long-run correlation of cryptocurrency with key economic indicators in five Asian countries.



#### 4.0 RESULTS AND DISCUSSION

Investigating the statistical properties of the variables comes before utilizing the econometric model.

**Table 1.** Summary Statistics of Constituent Variables

	BTC2	CPI	EXCHANGE_RATE	FSI	GDP	INTEREST_RATE
Mean	61118463	55.28666	97.996633	-0.58299	5.75E+12	5.42725
Median	934090	50.01676	98.81	-0.6873	584869.1	4.619027
Maximum	8.23E+08	159.1812	105.7	6.5721	4.1E+13	22.95688
Minimum	14387	0.000278	73.7	-3.7048	19746.99	-6.79888
Std. Dev.	1.58E+08	41.46217	5.1835793	1.313648	1.19E+13	5.137993
Skewness	3.332544	0.355565	-2.2998395	0.93341	1.74504	0.67852
Kurtosis	14.13539	1.951489	10.266164	6.966155	4.422627	2.963161
Jarque-Bera	2105.255	20.0635	924.4273	240.1926	177.5566	23.03645
Probability	0	4.40E-05	1.83E-201	6.96E-53	2.78E-39	9.95E-06
Sum	1.83E+10	16586	29398.99	-174.897	1.73E+15	1628.175
Sum Sq. Dev.	7.47E+18	514014.3	8033.9787	515.9753	4.21E+28	7893.293
Observations	300	300	300	300	300	300

The descriptive statistics for the price of Bitcoin (BTC), inflation rate (CPI), exchange rate, FSI, GDP, and interest rate are shown in Table 1. It is notable that the mean of the BTC is lowest for FSI (-058299) and greatest for BTC (6111843). Any series' volatility is represented by its standard deviation. When compared to other variables with significant variance, the exchange rate has the highest volatility (5.1835). While BTC, CPI, FSI, GDP, and interest rates have positive skewness, the exchange rate has a negative skewness, suggesting the possibility of negative earnings. High kurtosis followed by the exchange rate, which denotes the realization of extremely high and low values, is recorded for BTC. At a 5% level of significance, each of the constituent series considered in this analysis strongly refutes the null hypothesis (series follows normal distribution).

**Table 2.** Result of the ADF Test for Unit Root

Variable	ADF Fisher- Chi-square	P-Value	Inference on Integration
BCM	116.817	0.0000	I (1)
CPI	39.785	0.0000	I (1)
Exchange Rate	156.842	0.0000	I (1)
FSI	118.871	0.0000	I (1)
GDP	61.492	0.0000	I (1)
Interest Rate	101.713	0.0000	I (1)

This test compared the possibility that the variable is stationary with the possibility that it has a unit root (series nonstationary). According to Table 2 above, the ADF Fisher Chi-square test found that the series of variables were stationary at the first difference level.



**Table 3.** Johansen Cointegration Test

Hypothesized	Fisher Stat.*		Fisher Stat.*	
No. of CE(s)	(From trace test)	Prob.	(From max-eigen test)	Prob.
None	123.8586713	8.32E-22	110.437365	4.35E-19
At most 1	48.07083897	6.02E-07	36.99347923	5.67E-05
<b>At most 2</b>	<b>18.99547545</b>	<b>0.04032019</b>	<b>11.84792779</b>	<b>0.295363089</b>
At most 3	11.15349804	0.34568487	9.839305769	0.454702991
At most 4	5.771867444	0.83405186	5.132487494	0.882153704
At most 5	5.03302412	0.88896108	5.03302412	0.888961077

We discovered that all the variables are stationary at the first difference after running a stationary test for them. By using the Johansen Cointegration method, this study proved that the variables were cointegrated. Data analysis was predicated on the null hypothesis that there was no cointegration. According to the information in the Table 3 above, the Johansen procedure's trace test and maximum eigenvalue test both identified two cointegrating vectors. Therefore, at a 5% level of significance, the analysis rejects the null hypothesis that there is no cointegration. A significant positive long-run association between the variables and BTC (Bitcoin) is implied by the rejection of the null hypothesis of no cointegration at a 5% significance level among the variables, which is consistent with a priori expectations. The outcome shows that the model was stationary and had cointegration, and it allows for the evaluation of the VECM approach to investigate the short- and long-term characteristics of the cointegrated series.

**Table 4.** Result of Vector Error Correction Model (VECM)

	Coefficient	Std. Error	t-Statistic	Prob.
C (1)	<b>-0.05318</b>	0.018043	-2.947544621	<b>0.003483072</b>
C (2)	67080.67	74860.06	0.896081	0.371007715
C (3)	0.023819	0.058604	0.406445782	0.684737056
C (4)	-0.02763	0.058538	-0.471957791	0.637338108
C (5)	610757.7	1159635	0.526680832	0.59884766
R-squared	0.091137	Mean dependent var		487366.0035
Adjusted R-squared	0.04401	S.D. dependent var		44129913.63
S.E. of regression	43147901	Akaike info criterion		38.04936165
Sum squared resid	5.03E+17	Schwarz criterion		38.24159793
Log likelihood	-5407.03	Hannan-Quinn criter.		38.12642439
F-statistic	1.933882	Durbin-Watson stat		2.061956455
Prob(F-statistic)	0.023237			



If the error correction term coefficients for the VECM are negative and statistically significant at the 5% level, then it can be concluded that there is a long-term relationship between the variables and BTC (Bitcoin). The substantial negative value of the coefficient, -0.05318, indicated a long-term relationship between the variables and Bitcoin. The R-squared value is 0.091137, which represents only 9.11 percent of the independent variable's effect on the dependent variable. The value is lower than in previous studies by Bonucchi and Catalano (2022) and Foye (2023), but the model is still accepted by Ismail and Ali Basa (2021), despite the model R2 being less than 60%. The significance level of the F-statistic, which was 0.023237, indicated that our data closely matched the model's predictions.

**Table 5.** Wald Test for Testing Short Run Causality

Variable	Chi-Square Test	Degree of Freedom	P-Value
CPI	1.718056887	2	0.423573408
Exchange Rate	16.45272426	2	<b>0.000267508</b>
FSI	0.222469976	2	0.894728474
GDP	0.248975621	2	0.882949024
Interest Rate	1.966355495	2	0.374120348

The following Table 5 displays the Wald Test result, which examined the short-term connections between the variables. At the 5% significance level, the probability value revealed a short-term link between the macroeconomic variables and Bitcoin. The results indicate that the exchange rate is the sole variable with a significant threshold of 5%. This demonstrated a short-term association between the variables and Bitcoin.

## 5.0 CONCLUSION

The VECM test provides proof that the Bitcoin price and its underlying macroeconomic variables are in equilibrium over the long run. It also implies that only the exchange rate (EXR) is sufficiently relevant and significant to demonstrate a short-term causal relationship between bitcoin's price and the exchange rate (BTC). This study demonstrates that there is no causal distinction between the long-term and short-term dynamics of the market. This has substantial ramifications for investor and government decision-making. Investors can diversify their portfolios by evaluating both the short- and long-term ramifications of the macroeconomic aspects comprising their chosen holdings. Extending the scope of the study by analyzing additional macroeconomic factors that may influence the price of bitcoin is possible.

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## Theme 4: Marketing, Human Resources

The final theme in the AHIBS International Action Conference 2023 Proceedings addresses the contemporary challenges and strategies in Marketing and Human Resources. This theme underscores the importance of adaptability and innovative approaches in both fields in the face of rapid market changes and evolving workplace dynamics. The papers in this theme analyze various facets of marketing and human resource management, from enhancing mental health support for healthcare workers to leveraging digital marketing to bolster company performance. They explore the effectiveness of Customer Relationship Management (CRM) systems in ensuring business survival post-pandemic and examine the role of social media as a transformative tool for fundraising campaigns. Additionally, the implications of new media broadcasting technologies and their convergence within the media industry are scrutinized for their impact on public opinion and industry growth.

Also included are studies on enhancing entrepreneurial capabilities among marginalized communities, specifically single mothers, to improve resilience in challenging economic times. Demand analysis for e-commerce professionals in the digital economy era is discussed, highlighting the need for talent that keeps pace with industry needs. Moreover, a case study illustrates the digital marketing transformation of a company via LinkedIn, showcasing the potential of professional networking sites in B2B marketing. Collectively, these articles provide a comprehensive view of how strategic marketing and human resource initiatives can be optimized to drive business success and foster a supportive and productive organizational culture. These insights are invaluable for professionals seeking to implement cutting-edge marketing strategies and create human resource policies that support well-being and drive performance in the modern workforce.



## **IMPROVING MENTAL HEALTH ISSUES AMONG HOUSE OFFICERS THROUGH ENHANCEMENT OF ACCESSIBILITY TO PSYCHOSOCIAL SUPPORT**

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**ABSTRACT** - Mental health issues have caused attrition of house officers (HO) from Sungai Buloh Hospital during the last four years. Understanding how to manage HO who have mental health issues, identifying the necessary solution, and assessing the impact of the intervention on lowering mental health concerns in this population are all critical. A mixed-methods approach and nonprobability sampling were used in the descriptive cross-sectional investigation. Semi-structured interviews with HO Unit workers, an occupational therapist, and a counselor were conducted for qualitative data. A questionnaire was given to HO for quantitative data. Anxiety, stress, and depression were the most common symptoms found. The management workflow for HO with mental health issues was unorganized and unstructured. Anxiety, stress, and depression were reduced in those who received the intervention. Cycle 2 found an established workflow however the intervention has had no beneficial effect. Psychosocial support may help lower mental health issues, improves talent retention and performance and the rate of resignation among HO. It is recommended that technology and digital platforms should be used for further study. Further collaboration is also required among legislators, HO, mental health specialists, and healthcare organizations.

*Keywords: mental health; house officer; psychological support; attrition.*

### **1.0 INTRODUCTION**

Good mental health is needed for everyone to conduct their daily activities, including self-care education, employment, and participation in social life and community (Hassan et al., 2018). Mental health issues are one of the primary concerns of the World Health Organization (WHO) (Hassan et al., 2018). In Malaysia, a house officer is a qualified pre-registered doctor practicing under supervision in the first and second years of graduation. They must undergo at least two years of training before obtaining their full registration certificate and being promoted to a medical officer. Locally, the number of doctors resigning from the Ministry of Health has increased since 2017. There are nearly 3,000 contract doctors resigned since 2017. However, no available data examined the number of house officers who resigned. (*Dr Zaliha: Over 3,000 Contract Doctors Resigned since 2017 | Malay Mail, 2023*).

In Sungai Buloh Hospital, there were increasing number of attrition among house officers for the past four years which was attributed to mental health issues. The current workflow is that their superiors must refer house officer that require counselling or psychological support to psychologist. Once the cases have been referred, house officers will get an appointment within 5 minutes. However, the problem lies in identifying the case by the supervisor. Only those house officers whose supervisor identified as having mental health

issues will be referred and given an appointment later. This system is less effective with the increasing attrition rate among house officers. It cannot promptly detect house officers with mental health issues before tendering their resignation letters. The aims of this study are:

- To identify the gap in gaps in the current process of managing house officers with mental health issues.
- To propose psychosocial support as an intervention in reducing mental health issues among house officers.
- To measure the impact of psychosocial support on house officers with mental health issues in Sungai Buloh Hospital.

This study would benefit the organization and other researchers as it would contribute to the knowledge of mental health issues among house officers in the hospital setting. The decrease in house officers who struggle with mental health problems increased productivity, improving patient care and higher patient satisfaction. In addition, the decline in the prevalence of mental health problems among them may also increase their self-assurance level.

## **2.0 MATERIALS AND METHODS**

A descriptive cross-sectional design with mixed method approach and nonprobability (convenience) sampling is used in this study. The intervention implemented in the first cycle was proactive screening of house officers and support group through individual sessions. A support group was created, with individual sessions offered, including the commitment of a psychologist, psychiatrist, occupational therapist and staff of the house officer's unit. A QR code was circulated in the telegram group of house officers handled by the staff of the house officers unit. Awareness regarding this support group was also displayed on each computer's desktop in Hospital Sungai Buloh. Those interested in joining the support group were linked to a Google Form questionnaire once they clicked the QR code. A proactive screening of their mental health status is known once they fill in the form. Whereas in cycle 2, reassessment screening was done and support group through group session was then introduced using the similar approach as in cycle 1.

### **2.1 Data Collection**

Qualitative data was taken through an interview with a few healthcare staff workers in Sungai Buloh Hospital. The respondents for qualitative sampling in cycle 1 were two of the staff of the House Officer Unit. In Cycle 2, the respondents for qualitative sampling were the two staff from the House officer unit, one psychologist and one occupational therapist. The interview questions were divided into three section which were demographics data, current management of house officers with mental health issues and the gaps and challenges of the current workflow as well as their opinion on factors that lead to increased mental health issues among house officers and the best method to help reduce them were also asked.

Quantitative data was done using a survey questionnaire that was given to those house officers that were interested in joining the support group. Pre and post intervention survey questionnaire in Google Form were given to them which consist of 2 sections. The first section was on the sociodemographic data. The second section uses a validated depression anxiety stress scale 21, which consists of 21 questions to know psychometric profiles for depression, anxiety, and stress (Ahmad et al., 2018). Three self-report scales, the DASS, assessed the negative emotional states of stress, anxiety, and depression. Subjects were asked to score the frequency and severity of each state they encountered over the previous week using a 4-point severity/frequency scale. The scores for the relevant questions were added to determine the scores for depression, anxiety, and stress.

## **2.2 Data Analysis**

Qualitative data was coded manually after being transcribed using a specific theme. The quantitative data was analyzed using SPSS. The items that consist of the respondents' sociodemographic characteristics, were analyzed descriptively using SPSS. For all variables, frequency and percentage were used. For each response on the items of stress, anxiety and depression, the results were categorized based on severity. After being categorized, the mean score and standard deviation were calculated. T-test was used in Cycle 1 to know the impact of the intervention in reducing mental health issues among house officers. For Cycle 2, it was not a standard distribution sample. Wilcoxon Signed Rank Test was used to know the impact of the intervention in reducing mental health issues among house officers and if the data was statistically significant.

## **3.0 RESULTS AND DISCUSSION**

### **3.1 Cycle 1**

In Cycle 1, the challenges that were faced were the haphazard process with limited time for the staff and house officer to get to know one another and create confidence for the house officer to confide in them about their problems. Personal factors of the house officers like poor time management and inadequate emotional management also play a role. Doctors' psychological issues may also impact their colleague's therapeutic and professional relationships. However, due to the stigma associated with mental illness and the threat of revoking their licences, doctors are frequently unwilling to report their psychological issues, making identification challenging and possibly negatively impacting the healthcare system. (Mehta et al, 2018).

Quantitative data of 32 respondents shows that the mean for depression, anxiety and stress were lower post intervention rather than pre intervention. The highest t-value recorded for all variables was anxiety (9.321). Followed by stress (6.855) and depression (6.226). Given the above results, this research demonstrates organizational differences before and after the intervention. With a p value of 0.000 for all variables that shows it is statistically significant. A study by Ismail et al. (2021) also reported that anxiety was reported by 39.9% of interns, stress was reported by 29.7%, and depression was reported by 26.2%.

### **3.2 Cycle 2**

For cycle 2, we found that the workflow has been established but challenges still many which includes budget, stigma, and follow up session. Knaak et al. (2017) stated that the stigma associated with mental health issues has internal effects on the willingness of health professionals to seek help or disclose a mental health problem, which can lead to an overreliance on self-treatment, low peer support, including ostracization and judgement from coworkers if disclosure occurs, and increased risk of suicide.

Quantitative data of 19 respondents shows only 7 respondents recorded post intervention score below pre intervention with many reported no difference. This data was not statistically significant. However, a different finding from a randomized controlled trial was carried out in India to assess the efficacy of the Healthy Activity Programme (HAP), which is a condensed form of psychological therapy for severe depression that is administered by lay counsellors in primary care settings. Individual counselling and group sessions were also a part of the treatments. According to the findings of the study, participation in HAP's group therapy sessions was successful in alleviating symptoms of severe depression and enhancing overall mental health outcomes. (Patel et al., 2017)

## 4.0 CONCLUSION

Proactive screening with smart work process improve accessibility to psychosocial support. With the implementation of psychosocial support through individual and group session shows that it does help in reducing mental health issues among house officers.

Future recommendation is to investigate the feasibility of utilising telepsychiatry and teletherapy as readily available methods of providing house officers with psychosocial support. Because of advances in telehealth and video conferencing technology, house officers can consult with mental health professionals remotely, regardless of their current location or availability. Future collaboration with other government hospitals to increase participation and collaboration with other organisations like universities or non-governmental organisations (NGOs) should also be established to increase funding, resources, and the overall influence on the community and nation.

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## **TO IMPROVE ALWAN ALMOAHIB'S DIGITAL MARKETING**

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**ABSTRACT** - Marketing is no exception to the trend of moving from analogue to digital. Digital marketing, social-media, and search-engine are becoming increasingly popular as a result of the rapid advancement of technology. As the number of people using the internet continues to rise, digital marketing has benefited the most. Customer buying habits are shifting and they prefer digital marketing over traditional advertising. An electronic communication method used by businesses to promote their products and services is known as digital marketing. It is the ultimate goal of digital marketing to capture the attention of customers and give them a way to interact with the product. This study focuses on the impact of digital marketing on Alwan Almoahib. This study aimed to solve the company's digital marketing problem and determine whether it can improve the company's overall performance. This research is critical for understanding the impact of digital marketing on small and medium-sized businesses. The study is critical in reviewing the leading theory on the impact of digital marketing on business growth. The research's applicable theory and model, the marketing mix (product, location, pricing, and promotion), and the 4Cs were discussed throughout the study. Alwan Almoahib's strengths, weaknesses, opportunities, and threats have been analyzed using a SWOT analysis. This study accumulated data using qualitative approach. The qualitative interpretivism research philosophy was used to reflect the researcher's main hypotheses, which also serve as the basis for the research approach. The problem is identified in the initial stage, and the solution is developed based on the problem diagnosis. The first stage of the interview was conducted one-on-one. The purpose of this study is to demonstrate the significant advantages that digital marketing can provide to Alwan Almoahib. Increase the number of potential customers for the small business by using digital marketing strategies. Also, to emphasize the importance of digital marketing in a competitive market.

**Keywords:** *Digital marketing, SME, Cross-channel, Brand.*

### **1.0 INTRODUCTION**

Marketing encompasses a range of promotional endeavors aimed at enhancing the accessibility of products and services for purchase by both individual consumers and enterprises. Marketing activities can be carried out through various channels, including direct efforts by the producer, engagement with broker companies that promote the producer's or manufacturer's offerings, and, notably, through marketing operations. Marketing involves the dissemination of all goods and services to consumers with the aim of enhancing sales. Businesses depend on the four fundamental components of marketing, namely product, price, promotion, location, and distribution, with the constant objective of enhancing their marketing capabilities or strategies to generate greater revenue. As per the American Marketing Association, the term "digital



marketing" pertains to the utilization of digital or social media platforms for the purpose of promoting a business or engaging with consumers. This type of advertising can be deployed via the internet, social media platforms, online services, mobile devices, and other supplementary mediums. In order to effectively reach consumers, it is necessary to employ innovative marketing strategies and possess a comprehensive comprehension of the factors that shape their behavior.

Small businesses are widely recognized and esteemed within the social and economic spheres due to their significant contribution to the achievement of economic and social progress. The empirical evidence from developed nations across the globe has illustrated that small enterprises possess the potential to attain the desired economic progress, provided that a conducive cultural environment and appropriate financial prerequisites are established. Moreover, it is imperative that these small businesses receive due recognition in legal frameworks and legislation, along with the opportunity to exert influence on them. Small and medium-sized enterprises (SMEs) exhibit significant concentrations of individuals with low incomes across various countries globally.

The company known as Alwan Almoahib Stationery was founded in 2009 and is situated in the city of Dammam. Alwan Almoahib is a retail company located in Dammam, Saudi Arabia. The company engages in the trading of office equipment, school supplies, student services, arts and printing services. This study primarily focuses on the challenges and obstacles encountered in Alwan Almoahib's marketing efforts. The organization encounters numerous marketing-related obstacles. There is a big problem with how they do marketing, which is that the importance of marketing isn't emphasized enough in their business strategy. This is especially true when it comes to marketing strategies, market demands, and how their products don't reach enough people through the right distribution channels. Additionally, challenges are encountered in terms of publicity and advertising.

## 2.0 MATERIALS AND METHODS

### 2.1 Research Philosophy

In this study, the qualitative interpretivism research philosophy was used to reflect the researcher's main hypotheses, which also serve as the basis for the research approach. The method of data collecting linked with interpretivism employed an inductive strategy and a small sample size. The data acquired for this study are qualitative in nature, and an interview was employed to collect them. The data was collected by interviews with the general manager of Alwan Almoahib. The purpose of this research is to assess the impact of social media marketing on Alwan Almoahib's growth. Thereby, the study attempts to boost Alwan Almoahib's business by applying social media marketing to raise brand awareness and the company's consumer base. The researcher has been implementing the intervention through social media marketing from June 1, 2022, to July 30, 2021. This research has been handled since May 2022 and will be completed in June 2023. The researcher utilised content analysis to establish whether or not the research objective had been attained.

**Table 1.** Unit of Analysis

Research Objective	Unit of Analysis
<b>To emphasize the importance of digital marketing to the company's brand.</b>	<b>Company</b>
<b>To assess the effectiveness of digital marketing on small and medium businesses.</b>	<b>Company</b>
<b>To examine the impact of digital marketing based on the intervention used on Alwan Almoahib.</b>	<b>Company</b>



## **2.2 Validity and Reliability**

In order to collect information for this study, an interview with an employee of the Organization was conducted. After the interview, the data that were gathered during the process were verified by the interviewee to ensure that all of the data are reliable, and then the thematic analysis was carried out. To ensure that the quality of the journal produced possesses significant impact in answering research questions and for the references of future research, a list of journals that have been chosen as the references in this study has been generated through Emerald, Mendeley, ResearchGate, the UTM Library, and Web of Science.

## **2.3 Data Collection Procedure**

### **2.3.1 Secondary Data**

The researcher gathered the secondary data for this study from journal articles. Several authors who wrote about this topic provided valuable insight in the journals.

### **2.3.2 Primary Data**

The researcher conducts an interview with the business owner for this study. This interview is used to boost the research's credibility. The interview assisted the researcher in critically analyzing the impact of social media on the firm. The business owner is willing to provide the researcher with the requested information. The manager who is being interviewed was asked about the business's operations and obstacles. The interviewee's response enabled researchers to determine the influence of social media on the business's brand and growth.

The researcher conducted interview to obtain data. The collection of high-quality qualitative data requires a dependable interview protocol. The interview procedure improves the efficiency of qualitative interviews by facilitating the collection of as much information as possible within the allotted time. The foundations of every interview agreement include interview ethics, interview skills, question format, and interview surroundings.

## **3.0 RESULTS AND DISCUSSION**

### **3.1 Findings**

The objective of this research was to examine the digital marketing tools used by Alwan Almoahib and their effectiveness in the business domain via social media campaigns. The findings of this research indicate that effective social media campaigns are a crucial factor in fostering brand loyalty. This is closely followed by the relevance of the content, the popularity of the content among social connections, and the presence of the brand on various social media platforms. The observed outcomes can be rationalized by the utilization of marketing tactics via social media platforms, which facilitate the provision of Alwan Almoahib's related information to customers, thereby contributing to the enhancement of brand loyalty. The objective of the study is to enhance the digital marketing campaign of Alwan Almoahib. In order to attain the stated objective, the

researcher has proposed an intervention involving the provision of promotional incentives to customers of Awan Almoahib. The initial intervention was successful.

Consequently, the intervention has led to an increase in the sales of Alwan Almoahib. This has been verified through an interview with the business owner conducted after the second intervention. Many retailers have commonly utilized marketing strategies to entice a greater number of customers to their stores and ultimately boost their sales. To conclude, the implementation of the digital marketing strategy has resulted in an increase in the company's sales, thus successfully achieving the set objective.

The third objective of this research is to evaluate the outcome and impact of venturing into digital marketing as an intervention proposed for Alwan Almoahib the efficacy of advertising and marketing is crucial for the prosperity of a firm. Promotions have the potential to enhance consumer loyalty by disseminating information about exclusive prices, rewards programs, and other incentives to purchase (Morello, n.d.). Frequent reminders of your products to customers may lead to a preference for your organization as a one-stop-shop, potentially resulting in a reduced consideration of alternative options. Employing marketing strategies to effectively communicate the superiority of one's product and competitive pricing often leads to heightened customer allegiance (Morello, n.d.).

During a specific period, Alwan Almoahib implemented a promotional campaign. The implementation of a sales promotion has the potential to impact a customer's purchasing decision, as it serves as a means of attracting their attention and interest. In due course, the clientele will make the decision to physically visit the organization. Following the implementation of the intervention, the researcher conducted an interview with the business owner. The proprietor reported an increase in the number of customer visits to the stores subsequent to the advertisement campaign. Therefore, the third objective has also been accomplished.

Within a short time, the researcher obtained positive data from the company's social media platform. The company learned social media marketing, implemented strategies, and had success on their second attempt. In the second intervention, the researcher exclusively presents product information and suggests ways to use them. The posts' reach has increased Alwan Almoahib's followers, engagement, and clientele. The content persuaded viewers to buy the product. The intervention increased brand awareness by attracting new customers. As more customers discovered the company, brand recognition increased. Alwan Almoahib's products and services interest potential customers. During the intervention, sales and profits rise. The intervention increased customer traffic and sales. This helps the company attract new customers and influence their buying habits. Alwan Almoahib also retains customers, as shown by their repeat visits. The researcher's analysis produced positive results.

### **3.2 Discussions**

The researcher employed a qualitative approach to analyze the data and ascertain the extent to which the research has fulfilled its aim. The findings indicate that the interviewee provided favorable feedback to the researcher regarding the salient themes that were discussed. The interviewee provides a comprehensive explanation regarding the efficacy of the conducted intervention.

In addition to conducting interviews, an analysis of Alwan Almoahib's financial statement was also undertaken. According to the report, there was a notable uptick of 14% in sales during the intervention period as compared to the preceding months. Alwan Almoahib was able to achieve a higher level of revenue in comparison to the preceding months. The accomplishment was attained by executing a digital marketing



campaign on Instagram and other social media platforms. Furthermore, there was a gradual increase in the quantity of customers, and Alwan Almoahib was able to acquire new clients as a result of this intervention. The cash flow for the three-month period exhibited positivity and effectively covered all expenses incurred within said timeframe. In general, Alwan Almoahib yields a substantial profit due to the high demand from customers who are eager to avail the company's promotional offers and purchase additional products to capitalize on the promotion. Despite the absence of an increase in the number of competitors relative to the initial intervention, there remains a notable level of competition among stationery businesses in the region, as they strive to maintain their market position and achieve greater success within the industry.

**Table 1.** Pre and Post Data

Topics	Interviewee	
	Pre	Post
Sales	9%	+14%
Profits	5%	+ 8%
Customers	↑	↑

#### 4.0 CONCLUSION

This study examines how social media marketing affects SMEs. Due to a lack of marketing resources, microenterprises struggle to manage multiple social media accounts. Since the company usually assigns one person to manage marketing operations and other work, it may cause scheduling issues. Alwan Almoahib should consider a social media presence. Business content and activities are more important than choosing a social media platform. Alwan Almoahib individuals who are limited in their ability to maintain multiple social media accounts should ensure that their uploaded content and posts are full of valuable product and company information.

Social media marketing requires patience. As mentioned, a company's content must be informative, useful, and convey a clear message to its customers. The company should only consider relevant content and messages that clearly identify the company or its products and services. Participants also preferred giving feedback to the organization via social media. Publishing and uploading product images and exhibitions followed. When they have good and bad experiences with a company's products and services, customers want to show off. Dissatisfied customers may deter new customers, while satisfied ones may persuade them.

The study found that beneficial campaigns, relevant and popular content, a multi-platform presence, and social media promotions boost brand awareness and loyalty.

Managers can use social media to build brand awareness and customer loyalty with the findings above. The researcher also notes that social media management may vary depending on brand management goals like brand awareness or loyalty. The findings suggest managers should not separate social media management from other organizational activities. The organization's ability to internally disseminate social media information, integrate it with other communication tools, and respond to emerging requests and needs determines social media's effectiveness in boosting brand performance and company growth.

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## **ENSURING BUSINESS SURVIVAL OF SN MEDICARE BY USING CUSTOMER RELATIONSHIP MANAGEMENT (CRM)**

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**ABSTRACT** - With the opening of global restrictions, online micro and small and medium enterprise (SME)s started to survive by selling their products on more than one platform. Marketing is essential but however, their customer's databases were kept separately by these platforms and caused problems in managing customer's related issues. The objectives of this study is to improve the business survival of SN Medicare as their revenues dropped by 50.4% post pandemic. The research was done by reviewing the current challenges of current customer's data management, identifying the contributing factors towards Customer Relationship Management (CRM) adoption and to review the effectiveness. Two initiatives were suggested in this action research. In the first cycle, SN Medicare was proposed a suitable CRM software and introduced three most searched products that sold in Malaysia e-commerce. The data collections were done by conducting interview protocols and gathering secondary data from multiple e-commerce webpages. Findings from Cycle 1 showed that the interventions were not improving SN Medicare's revenues. However, Cycle 2 showed an increase of revenue by 10.4%. This study shows the important of effective customer's data management and technology adoption in order to promote the use of CRM technology among micro and SMEs

**Keywords:** *Customer Relationship Management; Business Survival; Online Micro; Small and Medium Enterprise*

### **1.0 INTRODUCTION**

The Electronic Commerce (E-commerce) industry was growing rapidly during pandemic Covid-19. Thanks to the government of Malaysia for the nationwide improvement of internet access, high mobile phone penetration in rural areas and enhanced internet security. In 2015, 67 percent of Malaysian populations were already using the internet and ranked as the third highest country in Southeast Asia (Kim, 2015). In 2021, the figure increased to 83% but they were not only internet users but actually already became internet buyers that bought something through the web.

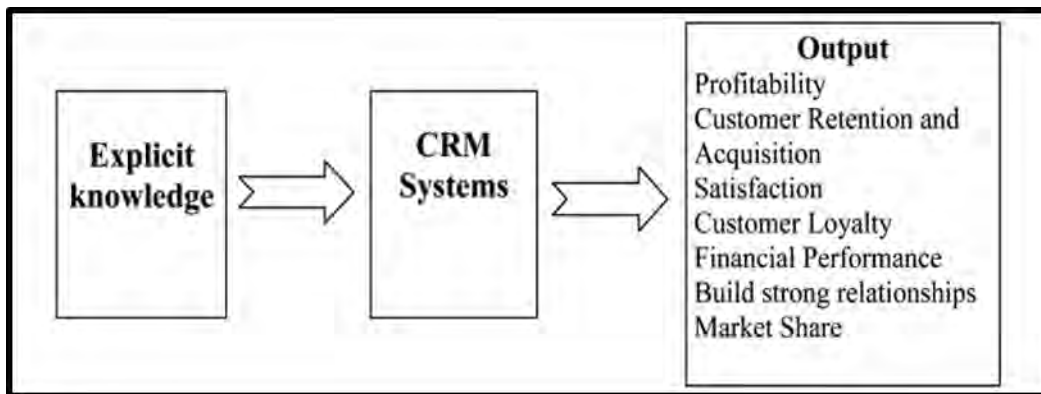
Malaysia's e-commerce market was mainly dominated by micro and small and medium-sized enterprises (SMEs). They usually have limited capital to extend their business physically, but had shown significant contributions to the national economy all over the world, especially among the developing countries (Kotelnikov, 2007). It showed that, micro and SMEs benefited from technology adoption of digital economy and it should be seen as a lifesaver during pandemic. The sales of e-commerce SMEs were recorded as increasing by 275 percent during pandemic (Di Pietrantonio, 2020). However, research by Shopify Pluvear,

(2020) showed that majority of all sales actually still happen inside the physical store and the percentage was expected to increase further. These data showed that there is a possibility that the customer might shift to physical shopping after the pandemic.

Post pandemic had shown that e-commerce micro and small and medium enterprise (SME) encountered problems of reduced sales, might be due to traffic reduction of online customers in e-commerce as many of them choose to buy their needs at the physical stores. The SMEs with high capital started to open their own physical store, especially to those selling goods that allowed customers to feel and see the products on their own. Most of them brought their online customers to new physical stores. At the same time, implementation of Personal Data Protection Act (PDPA) makes the e-commerce providers upgraded their system and as a result, disable the online sellers from downloading their customer data, checking previous transaction history, retrieving delivery address and phone number.

SN Medicare is an e-commerce micro SME that doing well during pandemic. Majority of the sales comes from Shopee where they have more than 5500 followers, shop rating of 4.5 star over 5.0 and preferred seller status. After the pandemic ended, SN Medicare losing their online customers to physical stores and caused declining in income by 50.4%. SN Medicare also had difficulty to get their own customer’s information because the features now were kept hidden. Therefore, SN Medicare had limited access to their customer’s data and led to marketing issues such as difficulty in identifying loyal customers, tracking previous sales and after sales activities.

A brief Analysis of Contemporary CRM Models by Tahir, D. et al., (2018) is considered in this research. This model explained that CRM systems receive an explicit knowledge in form of customer data, then processing it and producing the outcomes such as profitability measures, customer retention and acquisition, customer satisfaction, customer loyalty, financial performance, relationship building and market share. This model also explained that misconceptions about the CRM by the users will always lead to system failure.



**Figure 1.** Brief Analysis of Contemporary CRM Models

Since customer data management is fundamental in improving customer satisfaction and loyalty, this research proposed a software called customer relationship management (CRM) which is suitable to be implemented by micro and SMEs. This research also would give new suggestions on how they could improve their revenues based on secondary data analysis.





Based on the gaps mentioned in the problem statement, the following research questions were stated which RQ1) What are the challenges faced by SN Medicare related to current practice of customer data management? RQ2) What are the factors contributed towards CRM adoption? and; RQ3) How is the CRM system applied effectively?

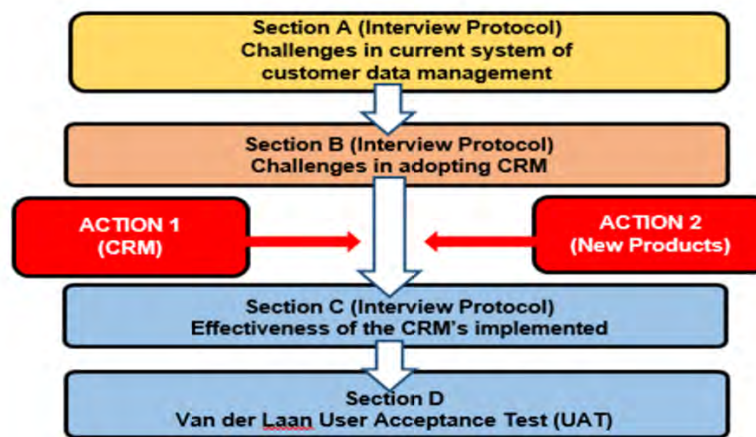
## **2.0 MATERIALS AND METHODS**

The research design used was a semi structured protocol interview. The researcher initially needed to develop the interview protocols and attended training to conduct semi structured interviews. The training consisted of the following steps. The researcher completed an online training module on Business Research, Action Research and Research Ethics and read materials on customer relationship management (CRM). The researcher needs to complete sets of training on Quantitative and Qualitative Analysis. The researcher then needs to meet the supervisor for face to face training on how to conduct semi structured interviews.

5 respondents from SN Medicare would be answering the interview protocols (IP) or involved in focus group discussion (FGD). They were the owner, 2 sales agents and 2 drop shippers. The written consent was also taken. In this research, SN Medicare would be treated as a single unit analysis method, with findings and conclusions were drawn to make recommendations

### **2.1 Interview Protocol Design**

This research has 3 section. Section A is the first part of the protocol focused on the challenges in the current system of record-keeping management ARQ 1. In section B, the questions were designed to answer ARQ 2 which is related to the implementation of the system. The aim of the following sections was to explore the feedback of the respondents regarding the effectiveness of the solutions implemented (ARQ 3). It consisted of 2 sections which were Section C (interview protocol), and Section D (Van der Laan User Acceptance Test). This analysis was mainly conducted through a cross-case examination between the respondents to look for dissimilarities and likenesses, a result confirming that significant lessons were learnt. In Sections, C and D, the respondents were requested to give their comments on the practicability of the system implemented and to determine how it helps in terms of maintaining good record-keeping management. The intention was to validate the related theories without restriction to only the above-mentioned criteria through open-ended questions. During Cycle 1 of action research, two actions would be suggested and implemented.



**Figure 2.** Action Research Methodology

## 2.2. Data Analysis

The content analysis was done by using a qualitative software known as NVivo 10. The content analysis consists of code based analysis by drawing the framework matrices and frequency based analysis as well as cognitive mapping in order to identify the number of respondents pointing out the most and least of certain statements according to the themes created, to identify the similar statements given by the respondents based on the interview transcripts and to show the main theme and sub theme mapping as a framework concept to summarize the entire detailed findings. The Van Der Laan Acceptance – Scale (Van Der Laan et al., 1997) was used to assess the participant’s acceptance towards CRM implementation. The scale consists of the two sub-facets usefulness (five items) and satisfaction (four items), with items answered on a 5-point semantic differential from -2 to +2. Examples are superfluous/effective (usefulness) and unpleasant/pleasant (satisfaction). Satisfaction and usefulness were assessed at all data collection points. Reliabilities (Cronbach’s alpha) for usefulness were from questionable to good ( $\alpha_{T0m1} = .75$ ,  $\alpha_{T0} = .76$ ,  $\alpha_{T1} = .60$ ,  $\alpha_{T2} = .86$ ). Reliabilities for satisfaction were from acceptable to excellent ( $\alpha_{T0m1} = .83$ ,  $\alpha_{T0} = .72$ ,  $\alpha_{T1} = .83$ ,  $\alpha_{T2} = .90$ ). Descriptive statistics of Van der Laan among the users were then derived.

## 3.0 RESULTS AND DISCUSSION

### 3.1 Challenges in the current system of customer’s data management

From verbatim transcript and significant statements extracted, the findings showed the challenges faced by SN Medicare in the current system of customer’s data management. In this research, the challenges identified were: 1) ownership of the customer's information; 2) limitation in forecasting future sales; 3) limitation in marketing; 4) limitation in communication; 5) limitation in recognizing loyal customers and; 6) the system is not user-friendly.

The ownership of the customer’s information become an issue when their database was actually kept and stored by the e-commerce providers. Due to various reasons such as limited data storage for example, features

like analyzing customer's location or address were not offered after the item's delivered. Customer's location will enable them to concentrate the marketing efforts towards that area only and will save the advertisement cost. It showed the importance of centralized database which can be used for marketing purposes. Informant 1 stated that:

*"...I think the features were made hidden intentionally to avoid the sellers using it for marketing purposes post pandemic, as we know more online sellers open their physical stores after the government lifted up the movement control order (MCO). As we know names, phone numbers and addresses are important for future marketing plans. The address can be analyzed to get the highest density of the customer's location. The information about the customer's location will help the seller to choose the location for the physical store. We can use that database for our marketing..."*

The findings showed that retaining ownership of the customer database is vital for e-commerce companies, as it allows them to maintain control over their customer data and business.

Forecasting sales is the process of predicting future sales performance based on historical data, current market trends, and various other factors that can influence sales performance. The goal of sales forecasting is to provide an estimate of future revenue to help businesses make informed decisions about resource allocation, budgeting, and planning. This feature was not provided by current e-commerce. The current system also does not allow the sellers to review their past revenues. This makes SN Medicare unable to forecast their future sales. Informant 5 stated that:

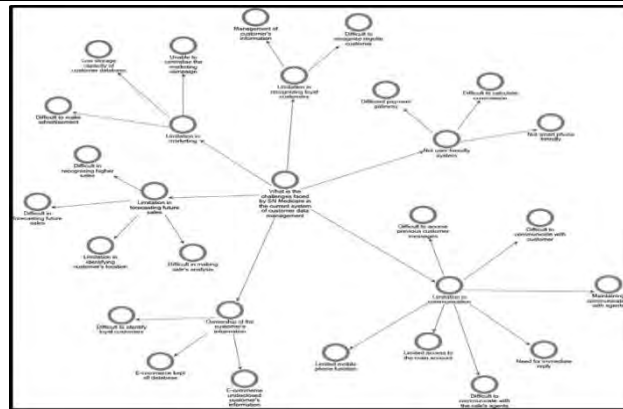
*"...I also found that the current system only displays the income figures for four month duration. Figures for the whole year duration are important in forecasting future sales..."*

The findings showed that limited features provided in the e-commerce applications could cause difficulty in accurately forecasting future sales. These findings were supported by a study done by Liu, N., et al. (2013). This study had stated in order to achieve economic sustainability under a highly competitive environment, a company should adopt a consumer-demand driven "pull" operational strategy which means the need to forecast future sales becomes critically important task.

The current system has caused difficulties in centralizing the marketing campaign across the channels. SN Medicare knows the importance of centralizing marketing which would lower the advertisement cost. It allows the company to standardize the marketing contents, price and discounts. Standardizations also will simplify the training of their sale's agents and drop shippers. Informant 4 stated that:

*"...SN Medicare can centralize marketing for all their agents and drop shippers. Centralizing marketing will save my marketing cost and be able to standardize the promotional price..."*

These findings suggested the importance of centralizing marketing and its impact on marketing price and promotional price. Study by Guerini, C. (2007) among Italian multinational companies stated that centralized marketing were more dominant than decentralized marketing activities in leading the company towards an Integrated Global Approach.



**Figure 3.** Diagram analysis for challenges in current customer’s data management

### 3.2 Challenges in technology adoption

From verbatim transcript and significant statements extracted, the findings showed the challenges faced by SN Medicare in technology adoption. In this research, the challenges identified were: 1) misunderstanding about the use of CRM; 2) limitation in investment and; 3) lack of information.

The common misunderstanding is that CRM is only useful for big companies. In reality, CRM can be a valuable tool for businesses of any size, regardless of the industry they operate in. By using CRM, small businesses could better understand their customers, track interactions, and personalize their marketing efforts. Informant 3 stated that:

*“... I never know about CRM but it looks beneficial depending on their size of business. Big companies will always have special funding for it. I don’t know the usage of this software...”*

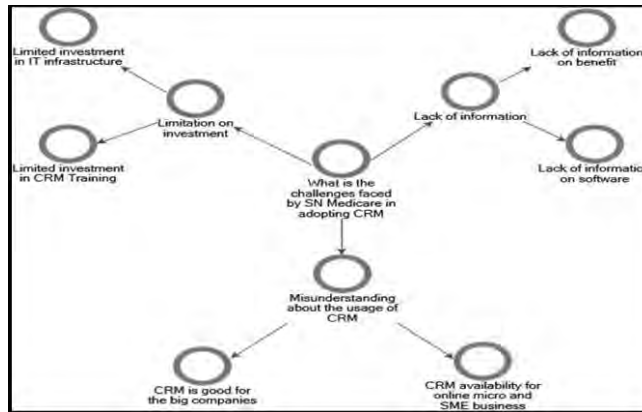
These findings suggested that SN Medicare had misunderstanding opinion about size of the company in relation to CRM usage for their business. This misunderstanding might be due to the opinion that a bigger size of business might have more financial and human resources capabilities to adopt CRM. This might be true as one local study by Chavoshi 11, et al., (2015) also stated that organizational characteristics such as size of the business and top management support would give given impact on the CRM adoption.

Investing in a robust Customer Relationship Management (CRM) system is critical for organizations that want to improve customer satisfaction and increase sales. One of the key components of a successful CRM implementation is a strong IT infrastructure. A well-designed IT infrastructure can ensure that the CRM system runs smoothly, provides accurate data, and supports the overall goals of the organization. Informant 3 stated that:

*“...The company also should provide us with smartphones or other relevant IT infrastructure. We also don’t know which software is the best. Especially, me myself has not enough knowledge in ICT skills. I can improve my ICT skills as well...”*

The findings suggested that investment in IT infrastructure such as laptop and smartphone are needed for CRM adoption. It is something that cannot be denied by the employers. These findings were supported by

Farzin & Abadi (2014) who found that the IT infrastructure usage (data warehouses, enterprise resource planning, Internet and Data mining) was effective to be used in CRM implementation of a manufacturing companies.



**Figure 4.** Diagram analysis for challenges in technology adoption

### 3.3 The effectiveness of the system’s implemented

From verbatim transcript and significant statements extracted, the findings showed the factors influence the effectiveness of the CRM system’s implemented. In this research, the factors identified were: 1) enhance marketing; 2) accessible information and; 3) customer database.

CRM integration with social media platforms would allow an effective targeted advertising campaigns. The sales team could use customer data from the system to create custom audiences and segments for social media ads. By targeting specific customer groups based on demographics, interests, or behaviors, they could optimize advertisement spend, increase advertisement relevancy and improve conversion rates. Informant 1 stated that;

*“...I can also use social media marketing such as WhatsApp to blast the advertisement content because all my customer’s hand phone numbers were all kept in the system...”*

Informant 2 added;

*“...I do receive feedback from the customers in the form of WhatsApp short messages. Most of them ask how to purchase the product as they forget where the last time they bought it...”*

These findings were consistent with a study done by Ahmed & Zahid (2014). They suggested that the use of social media marketing as part of a CRM feature could positively influence the customer’s purchase intention and brand equity, thus would increase sales. Current trend had shown that the consumers were becoming more informative and interested to search product features online before making any purchase. Social media marketing was proven effective in providing information to customers, building their preferences and choice of purchase.

Customer Relationship Management (CRM) ensures easy access to customer information through various features and functionalities. CRM systems centralized customer information into a single, unified database. This database contains details such as contact information, purchase history, interactions, preferences, and

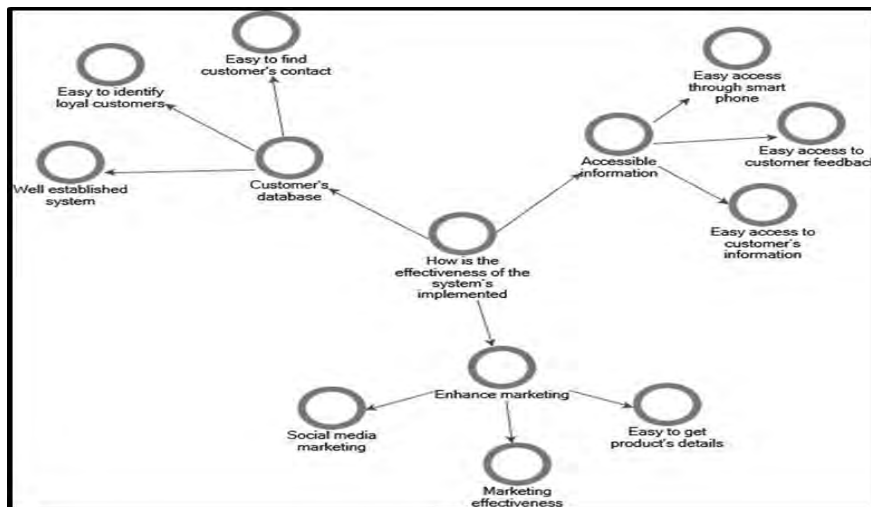
more. By having all customer data in one place, businesses can easily access and retrieve information without the need to search through multiple sources or systems. Informant 1 stated that;

*“...In addition, the system allows me to have access and control towards whatever input regarding customer’s information and transactions...”*

Informant 3 added;

*“...The customers will get their problems solved faster as we are able to check their history of purchasing easier...”*

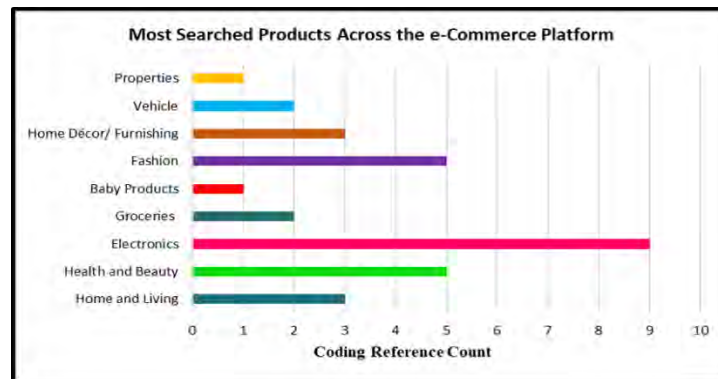
These findings showed the importance of having immediate access towards customers' information. The current systems provide mobile apps or mobile-optimized interfaces that will ensuring easy access to customer information via smartphones or tablets. Mobile accessibility allows employees to retrieve customer data on the go, whether they are in meetings, traveling, or working remotely. This flexibility ensures that customer information is readily available whenever and wherever it's needed.



**Figure 5.** Diagram analysis for the effectiveness of the system’s implemented



### 3.4 New products suggestion



**Figure 6.** New products suggestion

In this research, top three most searched products that found in secondary data analysis of 11 Malaysia e-commerce were came from category of: 1) electronic; 2) fashion and; 3) health and beauty.

### 3.5 Van der Laan

**Table 1.** Usefulness Score (Item 1,3,5,7,9)

Participants	Usefulness Score	
	Before	After
1	-0.6	0.4
2	-1	0.8
3	-0.2	1
4	-1	1.4
5	-0.8	0.6
Average	-0.72	0.84



**Table 2.** Satisfaction Score (Item 2,4,6,8)

Participants	Satisfaction Score	
	Before	After
1	0.25	0
2	-0.75	0
3	0.5	0.5
4	0	0.5
5	-0.25	-0.25
Average	-0.05	0.15

This research found that there are increments in both usefulness scores (from -0.75 to 0.84) and satisfaction scores (from -0.05 to 0.15) after the implementation of the CRM system.

#### **4.0 CONCLUSION**

In conclusion, the researcher was able to answer three research questions and implement two interventions in this action research. At the beginning, this company recorded 50.4% drop in financial performance due to opening of the offline stores. However, with the two interventions, the financial performance recorded an increase of 10.4%. This research shows the important of effective customer’s data management and solving problems related to technology adoption in order to promote CRM technology. It is suggested in the future, big data analysis during CRM usage should become primary data driven decision making in daily business activities.

#### **ACKNOWLEDGEMENT**

We would like to express our gratitude to the respondents and the company that involve this action research.

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## **ASSESSING THE POTENTIAL OF SOCIAL MEDIA FOR ENHANCED FUNDRAISING CAMPAIGN PERFORMANCE**

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**ABSTRACT** - Donating to charity has becoming more popular in recent years as the nation witnessed numerous social and environmental issues. However, social media are rarely used as a digital fundraising tool especially for smaller non-profit organizations. This study examines the potential of social media, specifically Facebook, in enhancing fundraising campaign performance. By utilizing Facebook Ads as the primary tool, the study aims to measure the effectiveness of the advertisement and the resulting donations received. Non-profit organizations can target certain demographics and optimize fundraising campaigns by leveraging on Facebook's wide reach and targeting capabilities. The study implements a qualitative and quantitative research approaches to identify the issues in adopting social media as a fundraising tool and analyses data from a fundraising campaign deployed on Facebook Ads. Key metrics such as ad impressions, click-through rates, engagement rates, and total campaign donations are used to evaluate campaign performance. The research also explores the connection between Facebook advertisement characteristics and campaign performance. The result will provide insights into the effectiveness of Facebook Ads as a fundraising tool, allowing non-profit organizations to implement it as part of their fundraising efforts. In today's digitally driven world, understanding the impact of social media on fundraising campaign performances improves non-profit organization's ability to attract donations and maximize their social impact.

**Keywords:** *fundraising campaigns, digital crowdfunding, social media, Facebook advertising, non-profit organizations*

### **1.0 INTRODUCTION**

In our interconnected society, social media platforms have revolutionized communication and networking. Non-profit organizations dedicated to serve the public good rely significantly on donations to fund their operations. Charitable giving has increased significantly as a result of increased awareness of social and environmental issues, as well as the convenience of digital platforms. Currently, there are 72,444 non-profit organizations registered throughout Malaysia (Nur Hasliza, 2022).

As the number of non-profits organizations continues to grow in Malaysia, it is also has becoming more challenging to raise funds to sustain operations. Hence, it is crucial for non-profit organizations to explore the

role of social media as a potential primary tool for fundraising. While larger non-profit organizations have successfully used social media for fundraising, smaller organizations have struggled to maximize on its potential. Their inability to engage potential donors and raise awareness is hampered by a lack of resources, expertise, and grasp of digital platforms (Di Lauro et al., 2019).

This research is based on the current fundraising issues faced by Pertubuhan Kebajikan Darul Aitam. When considering a digital fundraising campaign, there are a few factors affecting the success, including digital presence. This research will provide some idea about the impact of social media on fundraising campaign performance.

It is imperative that these non-profit organizations to stay afloat as these organizations frequently stepped in and intervene any issues or hardships arisen from the community. While social media platforms possess significant potential for facilitating fundraising activities, it remains unclear how effectively non-profit organizations, especially smaller entities, utilize social media for their fundraising campaigns. Typically, these smaller non-profit organizations used social media to only provide updates of the activities organized rather than encouraging donors to contribute funds.

Understanding the impact of social media on fundraising campaign performance will provide valuable insights into the strategies, techniques, and approaches that lead to successful fundraising campaigns. Subsequently, by identifying the impact, this could lead to enhancing the knowledge and understanding of how social media can be effectively utilized to mobilize support, engage with donors, and ultimately improve the fundraising campaign performance of non-profit organizations in Malaysia.

The research aims to understand the key barriers that hinders non-profit organizations from utilizing social media as a primary tool for fundraising campaigns, implement an intervention that showcases the potential of social media on enhancing fundraising campaign performance and examine the impact of the intervention on the overall performance of fundraising campaigns.

## **2.0 MATERIALS AND METHODS**

This research adopts a mixed-method research design, which incorporates both qualitative and quantitative research approaches. An interview will be conducted with the chairperson of Pertubuhan Kebajikan Darul Aitam. The interview will explore the organization's current fundraising practices, challenges, and perceptions regarding digital fundraising campaigns. This information will determine the adopter category of the chairperson in adopting new innovations into the organization. The format of the interview will be semi-structured so that both the interviewer and the interviewee will have the opportunity to delve more deeply into certain topics. The interview will be recorded and transcribed after the session has ended.

Following that step, a Facebook Ads Manager account for the organization will be set up to enable the organization to create ad campaigns tailored to the objectives of the digital fundraising campaign. Prior to boosting the ad, it is essential to conduct a pilot test in the form of A/B testing. This test will allow two variations of advertisements be created and randomly shown to different segments of the target audience. Through A/B testing, we could determine the variables that could affect the perception of Facebook users on the ads and help determine which ad performs better in terms of engagement, click-through rates, and conversions, thereby providing insights into the effective ad design and messaging. After that, based on the A/B testing results, the better-performing ad will be boosted for a few weeks to maximize reach, engagement, and potential donations.

Throughout the duration of the campaign, relevant data will be collected from Facebook Ads Manager, including reach, impressions, engagement, click-through rates, and conversions. These metrics will be used to evaluate the performance and effectiveness of the digital fundraising campaign. Aside from the analytics from Facebook Ads Manager, the amount of donation received during the campaign period will be recorded for analysis.

In terms of analysis, for the qualitative approach, the recorded interview will be transcribed after the interview session is complete. After that, the transcription will be analyzed using thematic analysis to identify recurring themes, patterns, and insights related to the organization's challenges and perspectives on digital fundraising campaigns. Meanwhile, for the quantitative approach, the quantitative data collected from Facebook Ads Manager and donation amounts will be analyzed using descriptive statistics, as to examine campaign performance, identify trends, and determine the impact of the digital fundraising campaign on donation amounts.

Hence, by employing this mixed-method research approach, combining qualitative insights from the interview with the chairperson and quantitative data from the digital fundraising campaign, we are able to provide a comprehensive understanding of Pertubuhan Kebajikan Darul Aitam's challenges, perspectives, and the impact of digital fundraising campaigns on donation amounts.

### **3.0 EXPECTED RESULTS AND DISCUSSION**

From this research, there are several expected findings that showcase the impact of using social media on the fundraising campaign performance. The anticipated outcome will not only be on the monetary donations received, but also on the donor engagement and the organization's reach as well as visibility.

When it comes to donation received, it is expected that the digital fundraising campaign conducted through Facebook Ads will positively impact fundraising outcomes. By delivering targeted and compelling campaign content to the identified audience, the campaign is likely to generate increased interest, click-through rates, and conversions (Liu et al., 2021). Higher engagement rates and successful conversions are anticipated to lead to a higher amount of donations received during the campaign period.

Other than the amount of donations received, we can also anticipate that by leveraging on social media, it will lead to increased donor engagement. Previous studies have shown that social media platforms provide opportunities for organizations to connect with their audience, foster engagement, and cultivate a sense of community (Liu et al., 2021). By targeting specific demographics and interests, the digital fundraising campaign is expected to attract a larger audience and encourage active participation and support.

Aside from that, utilizing Facebook Ads has the potential to enhance the reach and visibility of the fundraising campaign. Social media platforms allow non-profit organizations to tap into vast user bases and target specific audience segments (Tabas, 2021). By effectively leveraging Facebook's targeting capabilities, the campaign can reach individuals who are more likely to resonate with the cause and contribute to the fundraising efforts.





Through this research there are certain contributions that are expected. Firstly, by evaluating the effectiveness of a digital fundraising campaign conducted via Facebook Ads, the study can offer evidence-based strategies and best practices to enhance fundraising efforts in the digital realm (Li et al., 2019).

Other than that, while social media has gained significant attention in the fundraising area, there is a lack of comprehensive research specifically focusing on the impact of social media on fundraising campaign performance for non-profit organizations. The findings can help bridge the gap in knowledge and contribute to a deeper understanding of the role of social media in raising funds (Tikno, 2017).

By combining qualitative insights from the interview with the chairperson and quantitative data from the digital fundraising campaign, the research will generate empirical evidence on the impact of social media on fundraising campaign performance. The research's findings will provide a basis for evidence-based decision-making for nonprofit organizations, offering practical recommendations on leveraging social media platforms for effective fundraising strategies (Bhati and McDonnell, 2020).

Lastly, the research will contribute to a better understanding of donor engagement in the context of digital fundraising campaigns via social media platforms. By examining campaign performance metrics and analyzing the relationship between social media engagement and donation amounts, the study can shed light on the factors that influence donor behavior and engagement in digital fundraising initiatives (Liu et al., 2021).

#### **4.0 CONCLUSION**

This research aims to examine the impact of social media on fundraising campaign performance for non-profit organizations, focusing on Pertubuhan Kebajikan Darul Aitam. It addresses the barriers faced by smaller organizations in utilizing social media for fundraising and explores the potential interventions to showcase its impact. The research adopts a mixed-method approach, including an interview with the organization's chairperson and a digital fundraising campaign using Facebook Ads. The expected findings include increased donations, improved donor engagement, and enhanced campaign reach. The research's contributions lie in providing evidence-based strategies, filling the knowledge gap, generating empirical evidence, and enhancing understanding of donor engagement in digital fundraising campaigns.

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## **ANALYSIS OF NEW MEDIA LIVE BROADCASTING TECHNOLOGY UNDER THE BACKGROUND OF MEDIA CONVERGENCE**

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**ABSTRACT** - At the present stage, the development of many industries reflects the characteristics of network and information technology, and intelligence has become the main development goal of many industries. Although new media live broadcasting can bring people a better viewing experience and help improve the influence of the media industry, it is easy to have the wrong public opinion direction due to the openness of the network environment and other factors. Therefore, the media integration development mode should be constructed, give full play to the functions of relevant departments to do a good job in supervision, rationally use the new media live broadcasting technology, and improve the information dissemination ability and comprehensive development strength of the media industry.

**Keywords:** *Financial media; new media live broadcast; key points of technology application*

### **1.0 INTRODUCTION**

Under the background of the wide application of Internet technology, based on the use of intelligent mobile terminals, to expand the development space for network broadcast, making network broadcast become the main modern development trend. To make the network live broadcasting industry have a stronger impetus for development, it is necessary to strengthen the research on new media live broadcasting technology and continuously improve the technology application level of the media industry.



## **2.0 LITERATURE REVIEW**

### **2.1 The development power brought by the media convergence to the new media live broadcasting technology.**

#### **2.1.1 Application points and advantages of P2P live broadcasting technology**

From the perspective of the development of financial media, the utilization rate of P2P live broadcasting technology is relatively high. This technology specifically points to the point of live broadcasting, which can effectively enhance the interaction between information dissemination and receiving parties, and bring a better viewing experience for the audience. The traditional way of information dissemination lags behind, and is limited by the technical level. In the case of excessive number of users, it is easy to bring bad effects to the normal live broadcast. The adoption of P2P live broadcasting technology can not only avoid the above problems, but also expand the system storage space and operation space, helping to reduce the bandwidth restrictions.

#### **2.1.2 Application points and advantages of 4 G live broadcasting technology**

Under the background of the wide use of smart phones, it brings technical support to the mobile phone network broadcast. Although China has entered the 5G era, it is only limited to the commercial field and has not been popularized among ordinary people. The corresponding live broadcasting technology is still in the early stage of development, and new media live broadcasting is still dominated by 4G network users. People can watch live through Weibo, wechat and various short video platforms, and can also adjust the picture quality online. Based on the use of various software platforms, real-time coding processing can be realized, and users are allowed to download and play related videos by themselves.

#### **2.1.3 Application points and advantages of streaming media live streaming technology**

Live streaming media technology with streaming transmission technology as the core, based on various technical functions, can achieve the purpose of real-time live broadcasting, and bring more shocking live broadcast viewing experience to the audience. In the process of live streaming media, all work should be carried out in accordance with the standard process, that is, compress the live broadcast data information and upload relevant information to the streaming media server, after which users can watch and download it online through the client. In addition, based on the application of buffer pre-storage technology, it can solve the problem of unstable resource download, and reduce the adverse impact of network instability and other situations on live broadcasting.



## **2.2 Strategy to improve the application level of new media live broadcasting based on media convergence.**

### **2.2.1 Focus on strengthening the innovation of studio technology.**

Although the new media live broadcasting technology is widely used and recognized, it brings great challenges to the traditional TV media, while the traditional TV media has a huge mass base, which can make full use of this advantage to maintain the status of the traditional TV live broadcasting. Therefore, should enhance the consciousness of innovation and development, increase the traditional studio live technology and the depth of the new media live technology fusion, help to expand the content of the traditional TV live, and create good studio image, can also accumulate for new media live users, improve the influence of new media live, make live content more interesting, more attractive.

### **2.2.2 Actively grasp the right to speak of new media live broadcasting.**

Under the development background of the new era, with the support of advanced development concepts and science and technology, the number of live broadcasting platforms is increasing, and the emergence of a large number of live broadcasting platforms has lowered the threshold of the live broadcasting industry. Due to the complex development of the industry and the chaos of live broadcasting in endlessly, it is not conducive to market supervision. Especially in the wide application of new media live broadcast, the problems of the voice of live broadcast discourse frequently appear, which is easy to mislead the audience and is not conducive to the formation of correct values and outlook on life. Regional regulators, therefore, need to intensify supervision, establish a scientific and perfect market management mechanism, effective constraints live industry staff behavior and words, to ensure that the mainstream media can occupy the active position, accurately grasp live voice, always adhere to the correct public opinion direction, into the green live live, health concept, and firmly grasp the new media live stream of consciousness orientation, create a harmonious and stable live environment and social development environment.

## **3.0 CONCLUSION**

Media convergence has become the development trend of the media industry in the new era. It is difficult to meet the personalized needs of the audience and the development requirements of modernization only by relying on the traditional way of information dissemination. Therefore, it is necessary to enhance the application awareness of new media live broadcasting technology, integrate the concept of sustainable development, strengthen the integration of traditional media and new media, build the development mode of financial media, and lay a good foundation for the long-term development of the media industry.

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## **ENHANCING ENTREPRENEURSHIP CAPABILITIES AMONG SINGLE MOTHERS IN B40 GROUP THROUGH ENTREPRENEURIAL SKILLS AND EMOTIONAL INTELLIGENCE DEVELOPMENT**

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**ABSTRACT** - The recent COVID-19 pandemic has crippled the global economic paradigm leading to a surge in unemployment rate amidst the increasing cost of living. Due to the movement restriction order (MCO) implemented by the government, many non-essentials services were forced to shut which had compounded the burden in every household, especially among single mothers. Prior to the pandemic, single mothers earned merely an average RM3,000 per month according to the Selangor Women Empowerment Institute. The labour market has since then shifted towards gig economy and entrepreneurship to surface out from the economic downturn. However, entrepreneurial opportunities can be made more inclusive of the marginalized community such as the single mother entrepreneurs. In this study, the researcher aims to enhance the entrepreneurship capabilities of 30 single mothers in the B40 group in Klang Valley. By using a mixed-method approach, this study aims to assess and improve the entrepreneurial skills and emotional intelligence (EI) of the participants. The participants will be trained on adapting the Business Model Canvas (BMC) in improving their business performance and also equipped with EI competency skills through the workshop. The effectiveness of the workshop will be measured within 3 months following the workshop through revenue generation and other relevant metrics. In relation to the Sustainable Development Growth (SDG 5), this research aims to achieve gender equality and women empowerment by closing the gap of employment and income among single mothers to be as competent in the current volatile post-pandemic economic environment.

**Keywords:** *entrepreneurship; entrepreneurial skills, emotional intelligence*

### **1.0 INTRODUCTION**

An entrepreneur is a term used to describe ‘someone who starts their own business, especially when this involves seeing a new opportunity’, as coined in Cambridge Dictionary (2023). It can also be defined as an individual who is able to capture profitable transaction opportunities through innovation (Chaidi et. al, 2022). Alotaibi and Badawi (2023) emphasized that entrepreneurs play a crucial role as the drivers for the expansion of the economy, by creating employment opportunities and boosting innovation as well as attracting export opportunities. Nevertheless, the arduous nature of entrepreneurship with high exposure to ambiguity, risk of business failure, and long working hours among other stressors pose significant stressors for entrepreneurs



(Ismail et al, 2015; Peters et al., 2017; Pathak et al, 2020). This signals the need for sound mental and emotional stability to remain agile amidst the competitive entrepreneurial landscape (Nghah & Salleh, 2015).

Emotional intelligence (EI) was first introduced by Salovey and Mayer in 1990 and later refined in 1997 as the “Emotional intelligence involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth” (Salovey & Mayer, 1997). The EI Ability-Based Model (Mayer & Salovey, 1997) is a hierarchically organized model that encompasses four abilities of perception, assimilation, understanding and regulation of emotions.

Gibbs (1987) emphasized that albeit ability to be learnt from experience, training and education could enhance one’s entrepreneurial capabilities. This was reiterated by Boukamcha (2015) by emphasizing that training programs are prerequisites to increase one’s knowledge and cognitive skills in the wide business field such as creativity, innovation and agility to remain competitive (Byun Sung, Park & Choi, 2018). It also enhances business competencies measurable through income, sales, profits and inventory (Cho & Honorati, 2014).

A study by Petridoud and Glaveli (2008) reiterated that entrepreneurial competencies in rural women can be developed through entrepreneurial training programs (Lourenco et al, 2014). This is supported by Rao (2014) in a study on the impact of education and training programs in accelerating women entrepreneurs’ business growth and performance. The study discovered that entrepreneurship education and development programs led to an increase in revenue and job creation, which had a significant impact on the wider society. The study also showed that these programs boosted the self-confidence and strategic thinking of the women entrepreneurs, which in turn positively affected their business growth and performance.

Besides the training on technical skills of entrepreneurship, Alotaibi and Badawi (2023) also emphasized the importance of designing entrepreneurial training programs that enhances the development of EI. This can be reasoned with the fact that equipping potential entrepreneurs on their EI, supporting them in developing their skill to appraise, managing and utilizing their emotions in the rigorous entrepreneurial field could lead to entrepreneurial success (Mortana et. al, 2014).

The EI within entrepreneurs is thus fundamental in determining entrepreneurial success, and it has been discovered to incorporate a variety of cognitive and social skills (Alotaibi & Badawi, 2023). EI has been posed as a valid predictor of entrepreneurial competency, in which individuals with high EI have the higher tendency to be involved in contemporary entrepreneurial activities and possess higher emotional and cognitive aptitude (Ahmetoglu et al, 2011). Cross and Travaglione (2003) reiterate that entrepreneurs will gain a competitive advantage by improving their capacity to identify, comprehend, and manage their emotional responses as well as the emotional responses of others. This is supported by Mortana et al (2014), Baron (2008) and Adiya and Khurana (2018), EI is essential in forecasting the success of entrepreneurship. Baron (2008) also denoted the relevance of EI in entrepreneurship in order for entrepreneurs to remain agile under high unpredictability and uncertainty of new ventures.

## **2.0 MATERIALS AND METHODS**

Thirty single mothers who are also entrepreneurs in Klang Valley will be selected by convenient sampling techniques as participants for this study in collaboration with a non-governmental organization (NGO) Pertubuhan Ikatan Wanita Prihatin. Data collection will be conducted with semi-structured questionnaires that will be developed around entrepreneurial capabilities and emotional intelligence competency. The Pre and Post Business Competency Survey will be designed based on the European Entrepreneurship Competence Framework (2018). The Business Model Canvas (BMC) by Alexander Osterwalder (2004) will be exposed to the participants and assist them to create their business strategies. BMC consists of nine essential parts: Customer Segments, Value Proposition, Revenue Streams, Channels, Customer Relationships, Key Activities, Key Resources, Key Partners, and Cost Structure. As for the emotional intelligence assessment, participants will be required to complete the Schutte Self Report Emotional Intelligence Test (SSEIT) before and three months after the workshop to measure EI skills improvements. A semi-structured interview will also be conducted to assess the participants to gauge their reflection on the effectiveness of the training workshop.

This action research will be a longitudinal study with mixed-method design. There will be two cycles of interventions (Cycle 1 and Cycle 2) and pre/post data collection will be conducted at three time points (Time 1, Time 2, Time 3). Both questionnaires will be distributed with Google Form to the participants. The first data collection (T1) will be conducted right before the workshop begins to gauge participant's business competency and EI competency for baseline information. Second data collection (T2) will be conducted immediately after the workshop, to measure the effectiveness of the workshop delivery with the same set of business competency questionnaires, as well as their current baseline business performance. The final data measurement (T3) will be conducted 3 months after the workshop, by measuring the post SSEIT scores and the interview with 3 of the participants.

## **3.0 EXPECTED FINDINGS AND DISCUSSION**

Participants are expected to display improvement in comprehension of business skills and emotional intelligence following the workshop, which will be measured from the post-implementation survey. Participants should also be well-versed in identifying the Customer Segments, Value Proposition, Revenue Streams, Channels, Customer Relationships, Key Activities, Key Resources, Key Partners, and Cost Structure by utilizing the BMC tool. On top of that, the emotional intelligence module will guide participants in improving understanding and regulating emotions in oneself and in others. Following Cycle 2, which is estimated to be three months after the workshop, participants will then be anticipated to have improved business literacy and EI competency skills and show improvements in their business performance which can be measured from relevant metrics such as increase in revenues, increase in conversion lead-to-customer ratio, among others.

This research will have practical implications on the interaction between entrepreneurial training with entrepreneurship capabilities. Prior to attending the workshop training, participants probably lack business skills. Thereafter, the interventions proposed will allow entrepreneurs to apply the Business Model Canvas (BMC) tool to venture into a new start-up or simply re-strategizing their existing business. The training will also equip the participants with business metrics that can be used to measure their business performance throughout the venture.

The importance of high emotional intelligence is also expected to contribute to the success of entrepreneurs as they will learn how to manage their own and others' emotions. This has been emphasized by a number of researchers in the past. Zampetaskis et al. (2009) denoted that emotional intelligence influences entrepreneurial behavior by the ability to tolerate stress, able to make better judgements as well as informed decisions.

#### **4.0 CONCLUSION**

This study supports previous research theories and findings on how entrepreneurial skills and emotional intelligence are important predictors of entrepreneurial success. In line with the Self-Efficacy Theory (Bandura, 1977), providing a one-day training workshop by experienced professionals on improving business acumen and emotional intelligence could refine one' belief in one's own capabilities to succeed as an entrepreneur following perceiving the success in others and positive encouragement from the trainers. This study however does not represent the effectiveness of the intervention in the general population with dynamic demographics. In short, this study will create entrepreneurial awareness among participants, increasing business competency skills, improving the emotional intelligence to remain agile, and successful launch or progress of own start-up ventures among participants.

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## **DEMAND ANALYSIS OF E-COMMERCE PROFESSIONALS IN DIGITAL ECONOMY ERA**

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**ABSTRACT** - As a burgeoning economic paradigm, the digital economy has significantly propelled the exponential growth of the e-commerce industry. As an integral component of this digital landscape, it is imperative for e-commerce giants to prioritize innovative models for nurturing and cultivating talent that aligns with industrial advancements. This paper delves into market-driven talent demands in the era of digital economy, scrutinizes prevailing challenges, and proffers strategic measures and recommendations to address them effectively.

**Keywords:** *Digital economy; electronic commerce; talent demand.*

### **1.0 INTRODUCTION**

The digital economy represents a novel form of economic activity, driven by information and communication technology as a crucial force, facilitated by modern information networks as significant carriers, and reliant on data resources as key factors of production. Among the various manifestations of this emerging digital economy, e-commerce stands out as the most dynamic sector with unparalleled growth potential. E-commerce professionals can effectively leverage their expertise to harness digital technologies for increased productivity and enhanced efficiency, thereby seamlessly integrating these advancements into the real economy[1]. The age of digital economy has brought new opportunities for the development of e-commerce enterprises in China, and at the same time brought more new challenges to the development of e-commerce professionals.

With the gradual dispersion and fragmentation of e-commerce traffic sources, the adjustment of the business direction and model of the e-commerce industry, the structure of talent demand is also changing, and the demand for talents in the direction of community marketing, new media operation, and digital skills is very strong. Under the background of comprehensively promoting the "Internet +" digital economy, creating a digital economy is an inevitable result.

## **2.0 LITERATUR REVIEW**

### **2.1 Current status and prevailing issues of e-commerce in the digital economy era**

Under the background of digital economy, new requirements have been put forward for e-commerce merchants. Data processing ability, digital marketing skills and other data capabilities will become one of the important capabilities that e-commerce applied talents should have. As the social recognition of e-commerce improves and new forms of digital commerce such as cross-border e-commerce, new media, and live broadcasting gain popularity rapidly, there is a surge in demand for digital talents who possess expertise in e-commerce technology. Consequently, it has become an urgent problem to address how to train e-commerce professionals to meet the industrial needs of the digital economy era [2].

### **2.2 The supply of digital e-commerce merchants for industrial applications is insufficient**

With the rapid development of the digital economy, the issue of talent shortage is further accentuated, particularly in terms of insufficient numbers of skilled professionals in digital e-commerce for industrial application. Currently, senior e-commerce operation experts mainly acquire their skills through self-study and internal training. In the process of talent cultivation at colleges and universities, the lack of targeted and contemporary teaching content results in an inadequate supply of qualified individuals. Given that the e-commerce industry relies on various operational strategies to enhance information dissemination efficiency, personnel involved in operations are increasingly crucial. However, colleges and universities primarily focus on theoretical instruction during talent training, lacking practical experience from real-world projects within enterprises.

### **2.3 The transformation from one yuan to multiple talent training is not enough**

The demand for talents is increasingly diversified, and the current demand for talents in short video creation, copywriting planning, anchor operation and live broadcast operation is much higher than the current talent pool. From the practical level of enterprises, "e-commerce + new media", "cross-border e-commerce + live delivery of goods" and other new comprehensive multi-type e-commerce is in short supply, and the transformation of talent training from one yuan to multiple people is imminent.

### **2.4 The training of fresh professionals is not standardized**

At present, the training standards for new vocational talents have not been established and standardized, and the training systems and policies for new vocational talents still need to be supplemented and improved. There are no standardized courses and teaching plans for new vocational skills training, such as: "Live broadcast salesman" has become a formal job, but the relevant talents are still in a state of acute shortage, live broadcast e-commerce training system has not yet formed, the curriculum system has not formed a standard, and the teaching staff with both theoretical knowledge and practical experience is also relatively short. At the same time, copywriting planning, anchor operation and live broadcast operation supporting live broadcast e-commerce also need to cultivate talents of the whole industry chain.



### **3.0 RESULTS AND DISCUSSION**

Based on the characteristics of the major of e-commerce, which is complex, practical and innovative, the major of e-commerce should adhere to the fundamental task of cultivating talents and establish new demands for development under the background of digital economy on the basis of extensive research on employers, students, graduates and professional teachers. According to the current new needs of enterprises and the development situation of enterprises, the following suggestions on talent training are put forward.

#### **3.1 Build a "trinity" of digital e-commerce talent training system**

Through the government's integration of resources, the construction of digital trade, production and education integration training base, the construction of digital trade network platform, and the provision of cutting-edge teaching resources in the industry. Finally, the mechanism of school-enterprise collaboration education is brought into play. In the process of talent training in colleges and universities, the talent evaluation mechanism of industrial enterprises is added, real project cases of enterprises are introduced, and students participate in horizontal and vertical projects of teachers during the school period. At the same time, it can obtain relevant qualifications such as cross-border e-commerce operator, e-commerce designer, digital manager, etc., to improve the practical ability of teachers and students, so as to further meet the needs of the industry and make students' employment seamless.

#### **3.2 Strengthen the training of diversified and interdisciplinary talents for positions in short supply**

Local governments continue to launch relevant training and provide financial support policies for on-the-job training, and organize local training institutions, universities and young people to actively participate [3]. Colleges and universities can set up Internet marketing, all media operator and other related courses through professional co-construction, so as to achieve the matching of talent ability and job demand. At the same time, industry enterprises participate in the teaching guidance and training program of the school to create the teaching content of "real business environment + real e-commerce business project + real workflow + real product training", and move enterprises into the campus to improve the suitability of practical knowledge and skills with the job needs of enterprises. Cultivate students' good professional quality, skilled digital knowledge and skills, positive working attitude, strong language expression ability and on-site adaptability.

### **3.3 Standardize the construction of a standard system for training new professional talents**

The standard system for training new professional talents has not yet been perfected. With the help of government, enterprises, schools and other forces, we can further promote the construction and implementation of the new vocational training policy and talent training standard system, which can better guide and standardize the development of new professional talent training. Through the development of new vocational skills training supporting resources, such as curriculum standards, syllabi, curriculum resource packages and teaching materials construction, promote the implementation of new vocational talent training system standards.

## **4.0 CONCLUSION**

The development of digital economy is very important for both the research of e-commerce industry and the training of e-commerce talents. It is necessary to focus on the background of the digital economy, face the needs of the industry, take the initiative to meet the needs of new types of talents in the new forms of the digital economy, and build a talent training system under the new needs. Based on the analysis of the current situation of the e-commerce industry and the exploration of the current problems in the supply of e-commerce talents, combined with the development trend of e-commerce and the actual situation of talent demand, this paper puts forward the optimization plan of the trinity talent training system, which is led by the government, participated by enterprises and dominated by schools, to provide guarantee for the training of e-commerce talents. Digital curriculum construction and personnel training can be further studied to provide certain intellectual support for the sustainable training of e-commerce talents.

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## **DIGITAL MARKETING TRANSFORMATION OF DURIO'S VIA LINKEDIN**

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**ABSTRACT** - The COVID-19 pandemic has profoundly impacted industries worldwide, necessitating strategic adaptations to maintain competitiveness and sustainability. Facing declining demand for personal protective equipment (PPE), Durio PPE Sdn Bhd, a leading manufacturer in Malaysia, embarked on a transformative journey to leverage LinkedIn for business-to-business (B2B) marketing. This paper presents an in-depth analysis of Durio's strategic overhaul of its LinkedIn marketing approach, employing a multi-pronged methodology. Preliminary results indicate significant improvements in platform engagement, substantiated by specific metrics. This paper underscores the untapped potential of LinkedIn for B2B marketing and offers actionable insights for businesses navigating digital transformation in a post-pandemic landscape.

**Keywords:** *B2B Marketing, LinkedIn Marketing, LinkedIn, Durio, Face Mask, Malaysia*

### **1.0 INTRODUCTION**

The COVID-19 pandemic has caused a global crisis, disrupting the lives of millions worldwide (World Health Organisation, 2020). Malaysia was no exception, and the sudden surge in demand for personal protective equipment (PPE), including face masks, posed significant challenges (Malaysian Investment and Development Authority (MIDA), 2020). Unfortunately, the country initially lacked local production of core material, melt blown, making it difficult to meet the nationwide needs for masks (Todayonline, 2020). This situation prompted Durio PPE Sdn Bhd, the first company to produce melt blown in Johor Bahru, Malaysia, to stabilize mask production and contribute to exports (Malaysiakini, 2020).

However, as the pandemic measures eased, including the lifting of mandatory mask-wearing policies, demand for masks plummeted. To circumvent this downturn and sustain operations, PPE producers have pivoted toward aggressive social media marketing across platforms like Facebook, Instagram, YouTube, TikTok, and Xiaohongshu. Amidst this landscape, LinkedIn stands as a conspicuously underutilized asset, despite its unparalleled potential for business-to-business (B2B) marketing. Boasting a global user base exceeding 774 million and accounting for 89% of B2B marketers utilizing it for lead generation, 62% claim it produces leads for them (Witt, 2023). The local context further underscores this point; with 7 million members in Malaysia and an 11% uptick in potential ad reach as of 2023, LinkedIn's underutilization presents a missed opportunity for enterprises (Kemp, 2023). Notably, BMW's recent LinkedIn-based lead generation campaign in Malaysia significantly outperformed their benchmarks, achieving a 42% lower cost per impression and a 21% lower cost per lead (LinkedIn Marketing Solutions, 2023). In light of these trends, this research aims to explore the untapped potential of LinkedIn as a viable marketing channel for Durio. By



analyzing the current landscape and outlining actionable insights, this paper seeks to provide a roadmap for Durio's strategic digital transformation through LinkedIn, thereby contributing to the scholarly understanding of adaptive business strategies in the post-pandemic context.

## **2.0 LITERATURE REVIEW**

The advent of social media has profoundly influenced the B2B landscape, providing organizations with new avenues for communication, sales, and marketing strategies. However, the extent of utilization across these platforms often varies, making it crucial for companies like Durio to understand the dynamics to effectively leverage platforms like LinkedIn.

### ***Strategic vs. Tactical Use of Social Media in B2B***

Cartwright et al. (2021) underline the dichotomy between strategic and tactical uses of social media in B2B settings. The research observes that while tactical usage has been well-explored, strategic applications remain relatively under-studied. This distinction is crucial for Durio, especially as it aims to transition from a mere tactical presence to strategic positioning on LinkedIn.

### ***Content Strategy and Engagement***

Two studies offer valuable insights into effective content strategies on social platforms like LinkedIn. Roberto et al. (2022) emphasizes a typology of posts—sales, technical, and social—and demonstrate how each influences engagement and ultimately, sales revenue. Sundstrom et al. (2020) add nuance by showing that action-oriented messages have a more significant impact on engagement compared to product-oriented or value-based messages. These findings can guide Durio in customizing its LinkedIn content to engage more effectively with its target audience.

### ***Sustainability Focus and Audience Segmentation***

Platforms like LinkedIn and Twitter have proven effective in disseminating sustainability knowledge to targeted audiences. On LinkedIn, users are particularly focused on obtaining specific advice related to community sustainability plans (Huang et al., 2019). As Durio has a broader mission concerning sustainability, this information can guide the company in tailoring its LinkedIn content to a specialized audience.

The growing importance of digital marketing cannot be overstated (Desai, 2019). The collective findings from these studies provide Durio with a comprehensive understanding of key elements for optimizing its LinkedIn presence. Not only do they emphasize the importance of transitioning from a tactical to a strategic approach, but they also underscore the potential of a well-crafted content strategy and a focus on sustainability. These elements are essential for fostering better engagement and achieving desired business outcomes. Far from being purely theoretical, these insights offer actionable strategies that could serve as the cornerstone of Durio's ongoing LinkedIn transformation activities.



### **3.0 DURIO & ITS LINKEDIN ROADMAP**

#### ***Company Background***

Founded in 2020, Durio PPE Sdn Bhd has rapidly emerged as one of the leading manufacturers in Malaysia's PPE sector, with a specialized focus on high-quality face masks and melt blown fabrics. The company operates 30 automated production lines, facilitating an impressive daily output of 2 million face masks. Durio places a strong emphasis on quality assurance, adhering to ISO-13485 standards and employing particle filtration efficiency tests for rigorous quality control. Its masks meet the stringent international protection criteria of ASTM F2100 Level 3 and EN14683 Type IIR, ensuring both safety and efficacy for wearers.

#### ***Durio LinkedIn Transformation Journey***

This section delineates the key activities undertaken by Durio to refine its LinkedIn strategy, aiming to bolster brand credibility, engage with pivotal stakeholders, and enhance content relevance and reach. These activities are part of an ongoing, iterative process designed to adapt to the dynamic digital milieu while aligning with the company's broader objectives in the PPE industry.

#### ***Key Milestone 1: Optimization of LinkedIn Company Page***

As an initial measure, Durio undertook a revision of its LinkedIn company page. The artwork and description were revamped to include relevant industry keywords and essential details such as the company's size and sector. This effort was geared towards enhancing both the discoverability and credibility of Durio's LinkedIn presence, thereby serving as an effective introductory point for target audiences and reinforcing the company's professional stature.

#### ***Key Milestone 2: Strategic Network Expansion***

Following the optimization of its company page, Durio expanded its network with deliberation. The company began by following LinkedIn pages of relevant stakeholders, including government sectors and potential customers bases like hospitals and pharmacies. Concurrently, Durio became an active participant in LinkedIn groups pertinent to the industry, offering valuable insights and fostering discussions. This active engagement served a dual purpose: it both showcased Durio's expertise, positioning it as a knowledgeable and reliable entity in the industry, and facilitated networking with potential clients, partners, and influencers, thereby amplifying brand visibility and laying the groundwork for future collaborations.



### ***Key Milestone 3: Content Strategy and Deployment***

Currently, Durio is in the phase of implementing the content strategy. Leveraging LinkedIn's on past reaction and outreach, the company has tailor its content to resonate with identified audience interests. Durio maintains a consistent posting schedule, disseminating a diverse array of content types – ranging from product updates and industry news to achievements and milestones. Content is designed to educate, inspire, and engage, utilizing a mix of formats such as images, videos, infographics, and articles. As this transformation project is iterative and ongoing, Durio has thus far executed these three key steps. Each contributes to enhancing the company's LinkedIn presence, aligned with Durio's broader strategic objectives in the PPE industry. Future steps in this transformation journey will build upon these foundational elements to foster continual growth and engagement on the platform.

## **4.0 IMPLICATIONS & CONCLUSION**

The pervasive role of digital platforms in contemporary business strategies necessitates a meticulous approach to online engagement. This is especially true for companies in the highly competitive PPE industry, such as Durio PPE Sdn Bhd. Durio's strategic digital transformation on LinkedIn aligns with broader global initiatives, including the Sustainable Development Goals (SDGs) introduced by the United Nations. Specifically, Durio's efforts are in line with SDG 8 (Decent Work and Economic Growth) and SDG 9 (Industry, Innovation, and Infrastructure) as it leverages technology for sustainable business practices and economic development.

Through a multi-faceted approach that encompasses the optimization of its company profile, strategic network expansion, and data-driven content deployment, Durio aims to fortify its digital footprint. This is consistent with broader industry objectives focused on sustainable growth and responsible business conduct, making a noteworthy contribution to global sustainability agendas. Upon reflection, the research and preliminary outcomes demonstrate that platforms like LinkedIn can play a vital role in achieving broader socio-economic goals. Durio's adaptability underlines the importance of agility and technological prowess in navigating the complexities of post-pandemic market dynamics, all while adhering to global standards set by entities such as the United Nations.

The management at Durio has observed tangible improvements from this LinkedIn transformation. Quantitatively, the company has experienced over 200% organic growth in its number of followers, a significant increase in page views, and a marked rise in user interactions. One particular post garnered 536 impressions and 49 engagements, validating both the effectiveness of Durio's LinkedIn strategy and its alignment with broader economic and industrial objectives, as outlined by the SDGs. As Durio continues to refine its digital presence, the importance of platforms like LinkedIn in shaping the B2B landscape cannot be overstated. Durio's ongoing activities provide actionable insights for businesses seeking to exploit the full range of opportunities available through targeted, strategic engagement on this influential platform. By weaving together technology, market strategy, and global sustainability objectives, this study featuring on the LinkedIn roadmap of Durio serves as an invaluable template for businesses aiming to align their operations with universally recognized goals through digital marketing.



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## CONCLUDING REMARKS

As we conclude the AHIBS International Action Conference 2023 (AHIBS-ACT-2023) Proceedings, we reflect on the rich tapestry of knowledge that has been woven across diverse domains, culminating in the insightful theme of Marketing and Human Resources. This final section has highlighted the critical importance of adaptability and innovation in these rapidly evolving fields, offering a lens into the future of business practices. The papers in this theme have adeptly tackled a range of topics, from mental health support in healthcare to the transformative power of digital marketing and social media in today's business landscape. They have provided invaluable insights into customer relationship management, the role of new media technologies, and strategies for enhancing resilience in marginalized communities. These contributions not only showcase cutting-edge strategies in marketing and HR but also exemplify the dynamic nature of contemporary business challenges and solutions.

This compilation stands as a testament to the scholarly excellence and collaborative spirit that characterized AHIBS-ACT-2023. The diverse perspectives and innovative discussions present in these proceedings have made significant contributions to the fields of business and economics, setting a new benchmark for academic inquiry and professional practice. We express our profound gratitude to all contributors for their exemplary scholarship and dedication. Their work has enriched the academic dialogue and set the stage for future exploration and impact. As this publication marks the end of AHIBS-ACT-2023, it also signifies a beginning – a beacon guiding ongoing research, inspiring change, and influencing the global academic and business spheres.