

EXPLORING THE AGILE-ADAPTIVE BALANCED SCORECARD BENEFITS TOWARDS IMPROVING THE MANAGEMENT ACCOUNTING SYSTEM: A CASE STUDY OF IRAQI SMEs

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ABSTRACT

Economic fluctuations have recently affected the nature of accounting systems in companies, especially small medium enterprise (SMEs). Therefore, this study proposes the Agile-Adaptive Balanced Scorecard (AABSC) as an integrated tool to support and improve the Management Accounting System (MAS) in Iraqi SMEs. The main objective of this study is to explore the role of the AABSC in improving the Management Accounting System (MAS) as a response to economic fluctuations. A qualitative semi-structured interview was carried out in one Iraqi SME, with four top managers from different departments. The interviews are conducted online in the Arabic (Iraqi accent) and then translated into English by a linguist expert. The data were analysed and structured using content analysis and Atlas.ti 9 software. Such qualitative analysis is divided into two main categories and four sub-levels. The objectives and advantages of using the AABSC to improve the MAS of Iraqi SMEs are also examined. The adoption of AABSC as part of MAS has assisted companies in strengthen the system. Enhanced competencies are required for staff to increase productivity and ability to improve their decision making, which directly contributes to improving the business environment by enhancing the relationship with customers and stakeholders.



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Keywords: *management accounting system (MAS), agile-adaptive balanced scorecard (AABSC), Atlas.ti 9 software, content analysis, small medium enterprise (SMEs)*

INTRODUCTION

According to Almagtome *et al.* (2020), the management accounting systems (MAS) of companies in developing countries, especially Iraq, have suffered from a decline in performance, especially in achieving long-term business sustainability. Failure to absorb sudden and economic disruptions constitute a major cause in the failure of MAS implementation. In the last 15 years, previous researchers have relied on various modern tools for MAS, such as Activity-Based Costing (ABC), Total Quality Management (TQM), Strategic Cost Management, and Economic Value Added (EVA). However, these tools do not fully fulfil their purpose in achieving the required business performance. Accordingly, scholars have resorted to the use and implementation of the Balanced Scorecard (BSC). In Iraq, firms have adopted the BSC for achieving their goals and requirements and improving the decision making of management accounting system (Nather *et al.*, 2020). However, Hasrin (2020) discovered contradictory findings that traditional BSC is insufficient to achieve the goals of small and medium enterprises (SMEs), especially in volatile environmental and economic conditions. Traditional BSC dictates an organised strategy with long-term plans that are drawn up to manage these firms. Consequently, their use led to the failure of most of these firms, especially the Iraqi SMEs, due to the inability of administrative accounting systems by this traditional tool to provide accurate information to avoid economic problems. Consequently, their use leads to the failure of most of these firms, especially the Iraqi SMEs, due to the inability of administrative accounting systems by this traditional tool to provide accurate information to avoid economic problems (Al-Nasrawi & Thabit, 2020).

Therefore, this study adopts integrated tools of management accounting system, with an agile-adaptive model referred to as agile-adaptive balanced scorecard. Psarras *et al.* (2020) recently discovered agile-adaptive balanced scorecard, a dynamic, agile tool that can assist in developing short-term plans to resist economic volatility, which can cause failure in business continuity.

Gambelli *et al.* (2021) explored the adoption of agile-adaptive balanced scorecard as one of the modern tools, to improve the quality of management accounting system by providing managers with specific information about the external and internal environments, which enhance their decision making. Later, Mio *et al.* (2022) clarified management accounting system as an integration system once agile-adaptive balanced scorecard is adopted, to support the relationship between corporate social responsibility and performance. In addition, the implementation of agile-adaptive balanced scorecard with management accounting system can assist managers to anticipate crises and economic turmoil in the business environment (Tuan, 2020). Thus, firms can develop rapid strategies capable of addressing environmental and economic disturbances to remedy such risks (Zhai *et al.*, 2021). Furthermore, the adoption of the integrated tools such as agile-adaptive balanced scorecard instead of the implementation of the traditional BSC model can significantly contribute to supporting the roles of management accounting system by highlighting the knowledge of environmental efficiency to facilitate management decision making (Alobaidy, 2019). Hence, this study seeks to examine the ability of agile-adaptive balanced scorecard to improve the quality and efficiency of the management accounting system in Iraqi companies, especially small medium enterprise.

This paper is structured as follows. In the second section, management accounting system literature is reviewed, followed by a discussion on how to measure management accounting system effectiveness by adopting traditional tools compared with modern and integrated tools such as agile-adaptive balanced scorecard. Next, the adopted research method is described. Finally, the main findings of the research and conclusion are presented.

LITERATURE REVIEW

Management Accounting System

Pedroso and Gomes (2020) highlighted MAS as a collection of internal controls that help company management in their daily operations. MAS also plays an essential role in transforming the organisation's strategy into desired

behaviour and results (Chan, 2020). Furthermore, MAS is used by many business managers to improve and systematise the quality of information gains from internal and external business areas (Liem & Hien, 2020).

MAS can apply to all types of organisations following their activities in dealing with all situations (Ghasemi *et al.*, 2019). MAS helps the staff make decisions and control activities to attain a competitive advantage, leading SMEs to achievement their sustainable performance goals (Laguecir *et al.*, 2020). In addition, MAS is an essential source of information that helps managers control their activities and reduce problems of environmental uncertainty to achieve their firms' objectives (Chidimma & Ebere, 2019). MAS provides services or products to meet client needs by enhancing their experiences of the services and products' features, uniqueness, functionality, and responsiveness (Duong *et al.*, 2022).

MAS consists of four dimensions: scope, timeliness, integration, and aggregation (Braumann *et al.*, 2020). Scope is related to providing information that focuses on internal and external companies (Christina & Sopyansyah, 2020), and includes a wide range of data relating to the organisation that provides the financial and non-financial reports (Khaliq *et al.*, 2021). Timeliness reflects the executives' concern to obtain information frequently and without delay (Fuadah *et al.*, 2020). Moreover, the timeline is a part of the planning and often includes additional advantages that help monitor business progress (Howard & Zhou, 2021). Integration is a piece of information that establishes the relation among preferences, actions, and results of stakeholders' different cost centres' internal and external business environments (Johnstone, 2020). Integration allows departments of any organisation to share information (Rana *et al.*, 2019). Finally, aggregation denotes the way of obtaining the information that corresponds to different functional parts of the organisations over time (Laguecir *et al.*, 2020). Thus, the higher the level of aggregation of information, the less timing is required to evaluate the organisation business, thereby improving the efficiency of its management (Pedroso & Gomes, 2020).

In view of the above previous findings, the present study seeks the extent of the effect of MAS on firms and its effectiveness in measuring sustainable performance and has achieved its goal in companies in developed countries (Ghasemi *et al.*, 2019). However, for companies in developing

countries, the use of MAS remains weak in enhancing performance, especially in SMEs, because of the sudden economic fluctuations (Abedian *et al.*, 2021; Fitria, 2021). Thus, this study suggests using the AABSC as an integrated tool of MAS to improve firm performance. In addition, the next section describes the importance of this method and compares it with the traditional BSC.

Agile-Adaptive Balanced Scorecard (AABSC)

In recent years, the traditional BSC has suffered from a failure to cover matters related to severe economic fluctuations (Khiew *et al.*, 2020). According to Na *et al.* (2020) the traditional BSC is complex in use and requires long-term plans and strategies to control the performance measures of organisations. In addition, the use of the BSC imposes employee bonuses and raises in salaries (Benková *et al.*, 2020). However, this policy is difficult to implement under severe economic disturbances, such as the rise in exchange rates of the local currency against the US dollar (Dudic *et al.*, 2020). The traditional BSC is also considered unhelpful if the company declines in public financial stock (Tuan, 2020). Accordingly, literature suggests adopting the integrated tools of BSC, such as AABSC (Mio *et al.*, 2022), which tends to allow short-term dynamic plans to cope with sudden economic disturbances and develop immediate solutions to avoid administrative risks (Camilleri, 2021).

AABSC offers high adaptability, comprehensiveness, and unbiased, methodical cause–effect relationship construction for organisations, especially SMEs (Abedian *et al.*, 2021). AABSC is a flexible tool that can be adjusted with the business environment and can be used as an effective tool for developing MAS in SMEs (Khiew *et al.*, 2020). Oliveira *et al.* (2019) proved that the AABSC can embody bureaucratic concepts to provide accurate and relevant financial and non-financial measurements to facilitate decision making in enterprises. Therefore, the AABSC provides an excellent basis for the optimal and successful implementation of organisational strategy and creates a practical framework for individuals to find a new perspective for their activities, especially SMEs (Nazari-Shirkouhi *et al.*, 2020).

Wiraeus and Creelman (2019) confirmed that the AABSC has four perspectives: business value, customer, operational excellence, and future

orientation. Business value attempts to capture how current and future AABSC can bring about benefits for organisations, especially SMEs (Mio *et al.*, 2022). Therefore, business value—and especially its measures—are essential points in the context of the AABSC tool towards the sustainable performance of SMEs (Tuan, 2020; Oliveira *et al.*, 2021). Customer evaluates the sustainable performance of organisations from the points of view of its managers, leaders, and society at large (Dudic *et al.*, 2020). In addition, the customer perspective is customer-focused, which evaluates the degree of customer satisfaction in the external business environment (Nugroho & Pangeran, 2021). However, the customer perspective is usually neglected in target companies. The AABSC focuses only on the business value chains for organisations, indicating that all strategic goals have the same importance, which may not be accurate in real contexts (Abedian *et al.*, 2021).

According to Wiraeus and Creelman (2019), operational excellence is linked to improving organisational performance and efficiency in every dimension of sustainable performance (i.e., economic, environmental, and social). Operational excellence helps reveal hidden costs and allows firms to determine which products are increasing the capital, setting the stage for more remarkable profit growth, and achieving sustainable performance targets (Balafif & Haryanti, 2020). Finally, future orientation discusses the improvement of competitive advantage, the staff management's effectiveness, developing the organisation's architecture, and researching emerging techniques (Priatna, 2021). Future orientation is crucial for long-term success, helping to identify consumer needs in the future and the new products and services that can be used for expected needs (Oliveira *et al.*, 2019).

Overview of Iraqi SMEs

According to Malesios *et al.* (2018), SMEs continue to be one of the most reviewed subjects in literature, especially given their important influence on all types of economies. In playing an important role in job creation and significantly contributing to growth in both developed and developing economies, SMEs are recognised on a global scale as the driving force behind economic growth and fostering equitable development (Shrafat, 2018). As a result, creating vibrant SMEs is high on the list of priorities in almost every nation in the globe (Chatterjee & Kar, 2020).

Additionally, without integrated MAS, SMEs cannot expand to compete in international markets, acquire new technology, or form connections with larger businesses (Mohammed *et al.*, 2022). Therefore, by using AABSC as a brand-new, integrated instrument for MAS, this study aims to enhance the MAS in Iraqi SMEs.

Previous literature (Chong *et al.*, 2019), particularly on SMEs in developed nations, shows that BSC has a significant impact on the efficacy of MAS in businesses. However, even though the subject has been extensively explored, the focus on SMEs in developing nations, particularly in Iraq, has been virtually absent (Chege *et al.*, 2020; Kareem *et al.*, 2019).

The main value of this study is exploring the reliability and validity of implementation of AABSC to improve the MAS of Iraqi SMEs, which is important in their growth. For instance, data from the Central Organization for Statistics (COS) reveals that SMEs, which account for 99% of all companies in Iraq, comprise the majority of the country's private sector. However, despite their importance, SMEs face the risk of failure; historical data shows that three out of five fails within the first few months (Nather *et al.*, 2020). This finding determines the contribution of this study by exploring the reliability and validity of implementation of AABSC in improving the MASs of Iraqi SMEs to avoid early failure due to ongoing environmental and economic disruptions.

METHODS

In this case study, integrated AABSC tool was implemented for the first time to improve the effectiveness of MAS in Iraqi companies, especially SMEs.

Design and Participants

This empirical study used a qualitative approach to discover the effect of AABSC on the MAS of Iraqi companies, especially SMEs. Approval was obtained to carry out this study in one of the Iraqi SMEs in services and construction. The case company was given a specific code, NNCO, to maintain the confidentiality of its information. NNCO was classified as a sub-contractor company that provides services to oil companies in southern Iraq and was selected by the current study because it is one of the types

of Iraqi SMEs that suffers from the lack of effectiveness and performance of its MAS due to the deterioration of the internal and external business environment in the country (Nather *et al.*, 2020). Thus, this case company was highlighted to measure the impact of the implementation of AABSC on the effectiveness of MAS in SMEs.

This qualitative research was carried out with a content analysis based on the results of Atlas.ti 9 software. The study population comprised senior managers from the case company, due to their knowledge of MAS and its mechanisms, in addition to their experience in internal and external business environments. Table 1 shows the inclusion criteria, such as at least five years of experience in their current position to participate in the study. The participants of this study were selected using the purposeful sampling method based on the years of their work experience and the length of tenure in the top management of the case company.

Data Collection

Data were collected through four semi-structured in-depth online interviews during the last quarter of 2021. Please see Table 1.

Table 1: Characteristics of Participants

No.	Participants	Gender	Position	Education	Age	Years of Experience
1	P1	M	General Manager	Degree	45	18
2	P2	M	Manager & Supply Chain Coordinator	Master's degree	31	10
3	P3	M	Administrator	Degree	28	7
4	P4	M	International Relations Manager	Degree	35	10

The selected senior managers were contacted during their off times. After explaining the study objectives and acquiring verbal consent from the case company, the researcher identified a convenient time to interview the participants, who were given alphanumeric codes to protect their privacy, namely, P1 to P4. The in-depth interviews were carried out in the last quarter

of 2021 within 32 days, with an average of 48 minutes. According to the gathered data, the sample processing continued until the data saturation was achieved such that no new codes emerged from the participants' experiences. The interviews were carried out in a friendly manner, without restrictions or conditions. The researcher took notes and analysed the participants' personalities during the interview, not writing down any answers, which were transcribed verbatim based on the audio recording after the interviews. All the interviews were recorded on an iPhone device. By using probing key interview questions, the researcher guided the interviews and compared them with the objectives of the study and the previous literature to ensure that such goals are achieved.

Data Analysis

After being transcribed verbatim, the data were analysed immediately, and academic translation was carried out using Atlas.ti 9 software and content analysis (Kemigisha *et al.*, 2019; Briones-Vozmediano *et al.*, 2022). The next step was the coding process, which was conducted after a focused and repeated reading of the extracted texts, in addition to listening to the recordings to analyse the participants' behaviour. After extracting the initial symbols, these were combined to form main categories and sub-levels. The outcomes were validated in terms of interpretation, design, and data collection. The collected data were relevant to both study objectives and literature review. Finally, the hidden concepts of this data were explored.

FINDINGS

This study adopted a single case company, which is one of the most important SMEs in Iraq according to the COS classification, which enjoys the integrity and stability of its business in the local markets. NNCO practiced its business after the year 2004 in the field of oil services but developed after 2010 and reached its highest peak in 2017. Its business declined slightly after 2018 due to the deterioration of the economic environment in Iraq and the world due to the decline in oil selling prices, as well as the outbreak of the Coronavirus disease 2019 (COVID-19) pandemic. Four experts from the case company participated in this study. All of them are males, with an average age of 35 years, as shown in Table 1. A total of 183 codes is

extracted, classified into main categories and sub-levels, which are explained in the following sections.

MAS Concept of Case Company

The case company recognised MAS in 2010, after relying on such system to create financial and annual reports, in addition to preparing the budget for future planning and anticipating administrative risks (Almagtome *et al.*, 2020). Thus, based on the main interview questions, the concept of MAS in the case company was identified as follows.

According to P1, MAS within the case company helps to define, measure, analyse, interpret, and communicate financial information to managers to pursue the organisational goals and facilitate the decision making by senior management. P2 stated that the MAS within the case company helps the senior management in planning or budgeting and analysing income reports, to provide business-related information, which also helps them to determine the total cost of producing goods or services, where costs are divided into the variable, fixed, direct, or indirect costs.

P3 and P4 added that the MAS works to provide performance reports to the various departments, compare actual with planned performance, identify discrepancies between them, analyse and identify the causes of such discrepancies and the staff responsible for them, and communicate the findings to the administrative levels so they can work on resolving them and aid in decision making. Moreover, the current findings explain the main roles of the MAS within the case company and its ability to change, the evolution of the nature of administrative decisions, and the nature of their needed information. Thus, MAS supports managers in making decisions.

Important of MAS within the Case Company

In general, MAS works to help the organisation by providing the necessary information to assist the senior managers to process the day-to-day operations and establish plans for good decision making. According to Mio *et al.* (2022), the MAS in Iraqi SMEs suffers from a weakness in providing accurate information due to the adverse economic environment in the country (Gamage *et al.*, 2020). Thus, the interviews identified four basic elements regarding the importance of MAS in Iraqi companies, which are

preparing financial reports, planning, and controlling, determining budget needs, and calculating costs.

Table 2: Frequency of MAS Importance within the Case Company

MAS importance within case company		
Group of codes (items)	Frequency	%
Preparing financial reports	21	30
Planning and controlling	21	30
Determining budget needs	17	24
Calculating costs	11	16
	70	100

Table 2 shows the four basic elements of MAS within the case company, one of which is preparing financial reports. A financial report is a powerful tool that can reveal the company's strengths and weaknesses to clients (P1). P3 added that the financial reports are a more attractive communication tool with investors and financiers, aligned with previous findings (Barbose & Satchwell, 2020). P2 and P4 stated that the financial reports are also essential in the projections of future profitability, industry position and growth, similar to previous suggestions (Khaliq *et al.*, 2021).

Planning and controlling. All participants agreed that planning and controlling is one of the best services of the MAS of their company. Planning and controlling are related to each other, as the former defines the goals of the organisation, and the latter ensures their achievement. Planning decides the process of control, which then provides a sound basis for the planning for any MAS (Córdova-Aguirre & Ramón-Jerónimo, 2021).

Determining budget needs. Three of the four participants described the process of determining budget needs and how the MAS of their firm helps them prepare the budget for long-term requirements. Participants also discussed the importance of the MAS in budgeting and considered it a tool for tracking when and how an organisation earns or spends its funds.

Finally, calculating costs. P1, P3, and P4 explained the importance of their firm's MAS in this process, stating that the MAS can help them with how and when the company calculates costs to prepare a good plan

to help their firm in the future. P3 said that the MAS aims to record the total production costs by evaluating the variable costs of each production step in addition to fixed costs, and thereby make business and management decisions pertaining to the organisation’s business (Efendi & Kusuma, 2021). Hence, the results agree with the literature on the high importance of the MAS in firms.

Role of MAS within the Case Company

This section discusses the important basic roles of the MAS in the case company, representing the process of control and evaluating performance, in addition to the planning and the optimal selection of alternatives to facilitate decision making (Psarras *et al.*,2020). The three main roles of this MAS are strengthening strategic goals, addressing shortcomings and weaknesses, and increasing system efficiency, which are identified according to the interviews with the case company experts who were selected as participants in this study. Table 3 shows the details.

Table 3: Frequency of MAS Roles within the Case Company

MAS importance within case company		
Group of codes (items)	Frequency	%
Strengthening strategic goals	16	42
Addressing shortcomings and weaknesses	13	34
Increasing system efficiency	9	24
	38	100

Strengthening strategic goals. The four participants explained the role of MAS in maintaining their strategic goals. P1 and P3 discussed the specific financial and non-financial goals and results that the current company’s MAS aims to achieve within a specified period, usually within the next three to five years. The MAS of the case company works to develop a relatively stable plan for the long term, considering all internal and external variables. P2 clarified that the MAS of their firm contributes to the development of strategic performance measurement indicators to measure results and compare them with previously set goals to measure the entity success in achieving its strategic objectives. In addition, P1 and P4 said that the MAS enhances their current strategic objectives to fortify the business organisation’s general purposes, which is part of the business plan and is usually developed during strategy making or planning.

Addressing shortcomings and weaknesses. Three out of four participants mention the role and contribution of MAS to their organisation in resolving the flaws and weaknesses in the system of the company by designing appropriate programmes to obtain and employ different resources to achieve these goals. P3 and P4 stated that the MAS can gather information to support management planning activities by tabulating and analysing the general expenses to agree on the required solutions to resolve various administrative difficulties. P1 added that the MAS can offer reliable information that aids the senior managers in addressing organisational challenges (Pedroso *et al.*, 2020).

Increasing system efficiency. P2, P3, and P4 described the role of MAS for their company in increasing system efficiency and improving product quality, carried out through the expansion of strategic programmes through a curriculum that includes the entire educational system to raise the efficiency of teachers and increase understanding and awareness about the external business environment represented by customers and stakeholders, in addition to spreading awareness about focusing on growing revenues and reducing economic costs, which is considered one of the most important aspects of MAS; that is, to raise efficiency and improve product image. Thus, the present results match the literature on the roles of MAS in companies and add characteristics about its parts.

MAS Network within the Case Company

The MAS Network shows the patterns and relationships in the data of using the MAS in the case company, where it works to link the extracted codes to its core concept. Thus, this network shows how these symbols are intertwined to prove the effectiveness of MAS. Please see Figure 1.

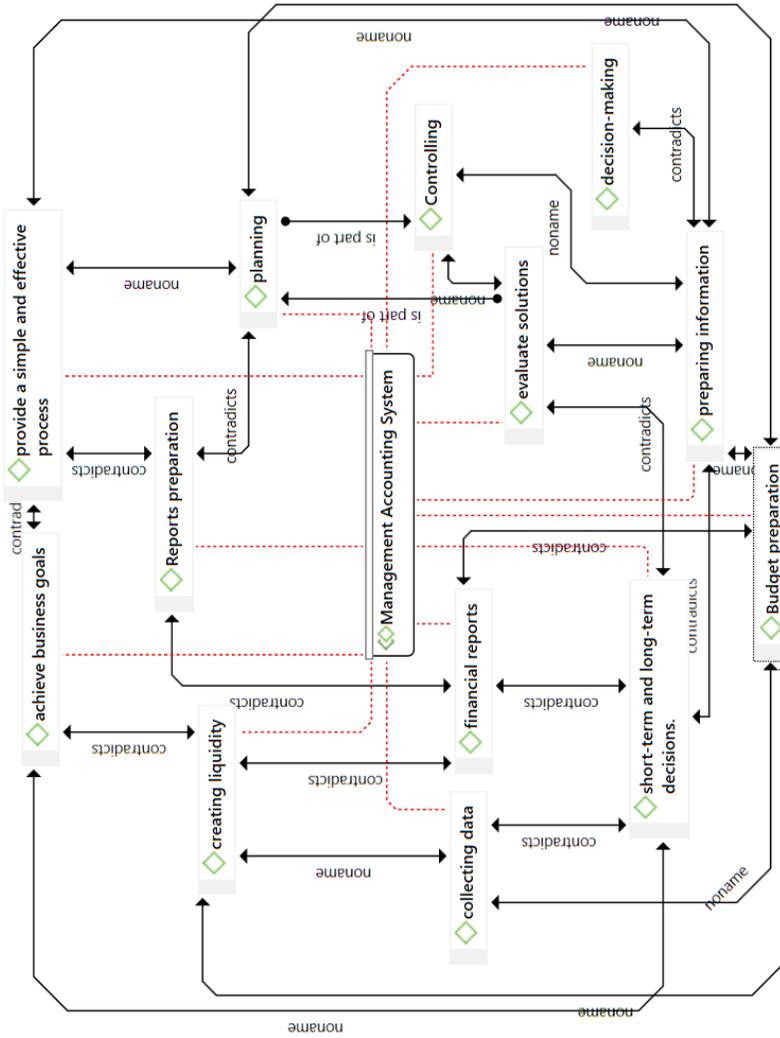


Figure 1: MAS Network based on Atlas.ti 9
(Sourced by author)

According to Figure 1, the above network shows high interconnectedness between the role and importance of MAS within the company relationships.

AABSC Understanding based on the Case Company

Data analysis of the case company shows that the AABSC is one of the modern trends that institutions seek to adopt to face fluctuating environmental obstacles. In addition, the AABSC is a dynamic and flexible tool that can deal with sudden administrative risks and address them through the development of short-term plans (Alharafsheh *et al.*, 2021). Therefore, the MAS of the current company can be flexible and change in response to the environmental risks and address them by aiding decision making. Thus, failure is prevented, and performance can be sustained in the long term. Data analysis shows that the AABSC can be encouraging to exercise shared responsibility and leadership rather than total control of work processes and focus, see value from the customer's point of view, eliminate wastes (things with no exceptional value to the final product), and to listen to the opinions of employees. Thus, this application of AABSC prevents individual decision making, and contributes to the unification of these decisions through heavy reliance on the MAS.

Objectives of AABSC

In this section, through interviews with participants from the case company, this study identifies four objectives of the AABSC: to increase productivity, exploit resources, solve problems, and guide decision makers. All the participants agreed on the importance of these objectives. Several of their opinions are similar and others differ about the explanation. Please see Table 4.

Table 4: Frequency of AABSC Objectives within the Case Company

MAS importance within case company		
Group of codes (items)	Frequency	%
Increase productivity	17	42
Exploit resources	7	17
Solve problems	5	13
Guide decision makers	11	28
	40	100

Analysis of data in Table 4 shows that the most important goals of the AABSC are as follows:

- i. Increase productivity with a frequency of 42%. The use of AABSC can have a strategy to increase productivity by helping people stay on task and setting them up for success, keeping employees focused and engaged while providing them with breathing room. Thus, the findings show that if the staff are happy and comfortable, their productivity increases, which is exactly what the firms need to help grow their business.
- ii. Guide decision makers with a frequency of 28%. According to P1, P2, and P4, the top managers always need to make the right decisions; therefore, adopting AABSC is a good step to achieve this goal. P3 stated that AABSC is a particularly useful tool for decision making, which helps the managers gather the necessary and relevant information, weigh the alternatives, and identify a goal to make a decision.
- iii. The exploitation of resources with its recurrence rates reaching 17%. The exploitation of natural resources is carried out for economic growth. The participants propose that using AABSC helps their firm and managers reduce wastage of resources and use it to create an appropriate environment. Thus, this goal can help the company gain a deeper understanding of natural resources and motives for these activities and analyse the resources based on their MAS needs (Oliveira *et al.*, 2021).
- iv. Solving problems is determined as one of the goals that the AABSC focuses on, with a recurrence rate of 13%. AABSC seeks to help the senior managers in the case company to avoid individual decision making and to follow the MAS to gain financial success, as well as to create a shared understanding between the top management and the staff through strategically relevant aspects.

Advantage of AABSC

Table 5 reviews the advantages of the AABSC on the case company, based on the four interviews with the department managers.

Table 5: Frequency of AABSC Advantage within the Case Company

AABSC advantage within case company		
Group of codes (items)	Frequency	%
Adjust to market changes	11	31
Adjust to customer demand	15	43
Adjust to internal changes	9	26
	35	100

The data analysis contributes to identifying the advantages of AABSC as an integrated tool for MAS, as shown in Table 5. A frequency of 31% shows that the AABSC can be used to adjust to market changes, and its implementation can help the firm narrow in on the most important decisions to achieve highly effective, well defined, and realistic strategic planning. In addition, 43% of the data analysis shows that AABSC is one of the modern tools that can help firms adjust to customer demand. Keeping current customers happy is key to ensuring their retention. Non-meeting deadlines or ignoring customer inquiries can increase customer dissatisfaction with the company and motivate them to consider competitor services.

Therefore, the implementation of AABSC can help firms to use modern technology such as websites, email, and phone systems, which can enable customers to quickly obtain the information they need as one aspect of customer response. Thus, the company can retain their customers by adjusting to their demands. Moreover, 26% of data analysis shows that implementing AABSC can help any company adapt to internal changes. Focusing on such changes permit increasing production by building new planned tasks, identifying the persons responsible, and tracing work priority, mode, planned duration, and employees to solve the problem. Thus, the AABSC can improve the internal processes and increase innovation and motivation (Klongthong *et al.*, 2020).

AABSC Network within the Case Company

The AABSC network shows the patterns and relationships in the implementation data to improve the MAS in the case company, where it links the extracted codes to the core concept. Thus, this network shows how these symbols are intertwined with each other to prove the effectiveness of the AABSC. Please see Figure 2.

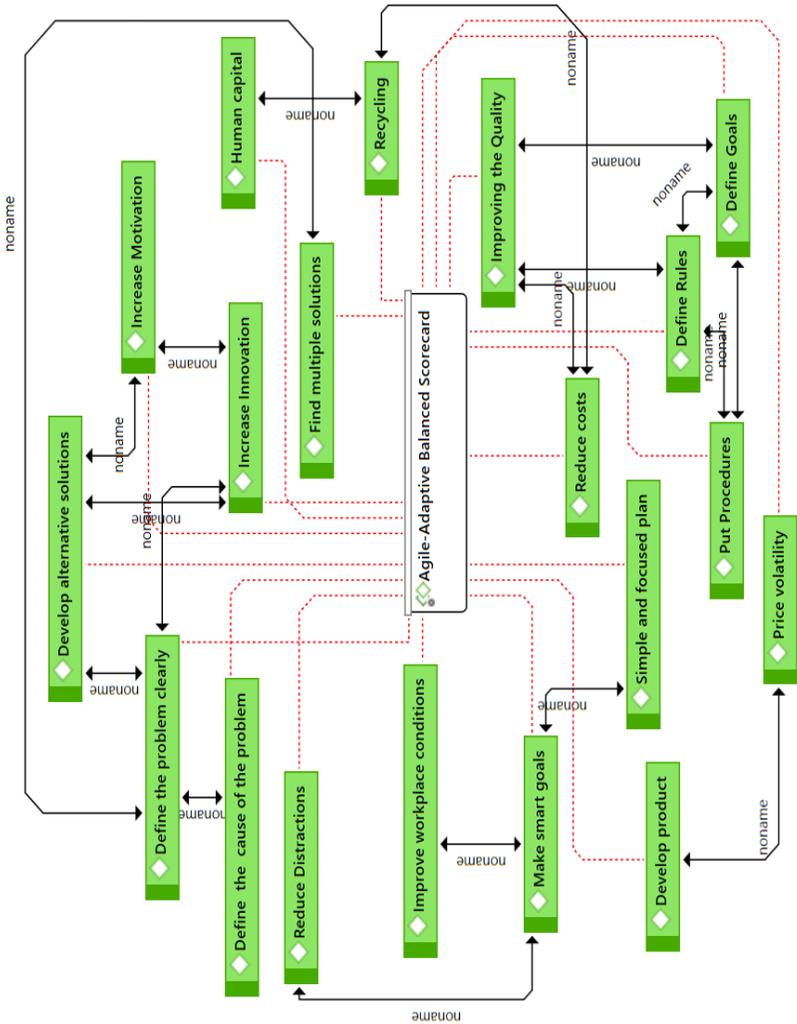


Figure 2: AABSC Network Based on Atlas.ti 9
(Sourced by author)

The network analysis of the implementation of AABSC in the case company shows the importance, objectives, and features of this tool and how it contributes to strengthening MAS of the Iraqi SMEs. The experts of the case company support the implementation of the AABSC, indicating its ability to achieve business stability and continue to compete in the market, through the close link between their objectives and advantages of the tool.

Effectiveness of AABSC on MAS within the Case Company

Data analysis explains how the AABSC can influence the effectiveness of MAS within the case company. The AABSC can help the top management to improve the MAS in addition to helping them understand the level of knowledge between units within the company. Thus, this AABSC helps the company decision makers to process both embedded and independent environmental data to make better investment decisions. On the other hand, the top management can make decisions systematically, which also enables them to overcome the challenges of accommodating complex issues and make sustainable organisational performance measurable and accessible to stakeholders. The AABSC can also help the firm to achieve its economic goals and spread the idea of sustainable development in business (Zawawi & Hoque, 2020). Thus, the MAS and AABSC can help any organisation to expand business, increase profits, support internal operations, increase competitive advantages, pursue goals and customers, and solve their problems. These tools can be considered the compass of senior management in determining the right direction or decision, sorting out wrong trends that can reduce the efficiency levels in performance (Ngo, 2020).

Data Analysis of Word Cloud

The size of a word may be used to depict its frequency and the importance attributed to it by participants. Figure 3 shows the visual representation of text data in this study. The number of times a term appears in the corpus is indicated by its size in the word cloud. In the Word Cloud analysis below, among phrases connected to the AABSC management accounting system, 'management' and 'system' are the most frequently used by the participants.

turmoil. Second, the findings show that the MAS adoption of the AABSC allows control of all information about customers and their requirements, competitive environments and how they provide services, and thus contributes to the continuation of the company in the market. Third, the findings explain how the MAS of any firm is affected when the AABSC is applied on issues of internal processes, such as increasing the innovation and staff motivation. Last, the findings show that the implementation of AABSC needs a high budget, and this may not be in line with firms that have limited capital, thus its implementation is not compatible with the requirements of these firms.

Research Implications

The results of this study can help and provide guides that can help the managers of institutions, especially SMEs, in addition to leaders and researchers in the social sciences, which is addressed through the sub-discussions below.

Theoretical Implications

The findings of this study contribute significantly to existing literature. This study is considered the first of its kind to use and explore the role of the AABSC as an integrated tool to improve the effectiveness of MAS in SMEs. Moreover, this study uses for the first time the qualitative approach to obtain results, which is an effective contribution to AABSC literature. Lastly, the findings from the interviews are correlated with the results obtained from other literature reviews, which provide a platform for further study to enhance the use of AABSC to improve the MAS in SMEs.

Practical Implications

Another segment that can benefit from this research is the institutions, especially SMEs, in addition to small business owners (SBOs) in organisations that suffer from instability in their business environment and economies due to competition in the local markets. Furthermore, focusing on developing and improving the MAS of SMEs can contribute to increasing the competitive advantage and the ability of enterprises to respond to sudden environmental changes, thereby improving the strategic planning of firms. Finally, this study can enhance innovation and increase

customer satisfaction, hence improving the quality of MAS for decision making in the long term.

Limitations

This study encounters several limitations that are recommended to be addressed in future research. First, the extracted results are from a single case study, and thus cannot be generalised. Second, this study focuses on a small number of participants to control the data and shorten the time for data collection. Therefore, extending the data collection period and allowing more participants to express their opinions can be carried out for future research. Third, the primary data are represented by personal interviews. The data collection can be enhanced with secondary data defined by documents review, observations, magazines, and websites in future studies. Finally, due to the outbreak of COVID-19, the interviews are done online during home quarantine. Accordingly, this study recommends the adoption of field interviews (face to face) to read, understand, and analyse the participants' personality, in addition to their understanding of the study content through the physical analysis represented by the eye-tracking technology and facial reactions.

CONCLUSION

Empirical literature review on AABSC adoption and implementation has considerably advanced over time and can continue to do so by considering macro-level study topics. Moreover, new subjects of interest can be considered, such as the implementation of AABSC as an integrated tool to improve the effectiveness of MAS in SMEs. Firms still struggle to support and enhance MAS to help managers in decision making. However, one of the biggest issues of today's firms is the ability to correctly complete the decision in the long term, leading to a decline in the firm performance. At times, they fail to continue due to the inability of MAS to allow good decision making, which complicates the processes of responding to customer needs, in addition to the failure of controlling the internal processes in product development due to the absence of innovation. According to the suggestions and recommendations mentioned above for future research, this study provides a synthesised outlook on AABSC literature and suggests that

a study schedule can deliver value to managers and researchers in this field. Future studies can also consider suggested topics to develop the literature about AABSC implementation. Finally, this study hopes to encourage other researchers to join this journey by providing new ideas on expanding the current research on AABSC towards improving MAS in firms, especially in SMEs.

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