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Examining the Impact of Artificial Intelligence (AI)-Assisted Social Media Marketing on the Performance of Small and Medium Enterprises: Toward Effective Business Management in the Saudi Arabian Context

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ABSTRACT

Purpose: To examine the impact of artificial intelligence-assisted social media marketing (AISMM)on the performance of start-up businesses of small and medium enterprises (SMEs) in Saudi Arabia. Design/methodology/approach: A survey technique was employed whereby primary and secondary data was collected, analyzed, and interpreted. Participants involved business operators or employees of start-up businesses and SMEs in the Saudi Arabian context. Data were analyzed by using partial least square-structure equation modeling (PLS-SEM). Findings: AISMM, which exhibits an increasing trend among start-up businesses and SMEs in Saudi Arabia, accounts for an overall increase in the number of customers and customer bases—and an additional tertiary effect of increased profitability. AISMM increases the effective business management and SMEs performance (SMEP). Moreover, effective business management increases the SMEP Originality/value: This study is quite unique as it is investigated that AISMM practices has significant role to enhance SMEP in which effective business management playing a mediating role. Implications: The practitioners can get help from this study to increase the performance by decreasing various problems of marketing by using AISMM.

1. INTRODUCTION

Saudi Arabian small and medium enterprises (SMEs) are growing with a significant growth level. Significant growth rate has been seen in recent decade. According to the calculation, these SMEs contributing 90% in the total Saudi business. It is one of the huge contributions in business activities. These SMEs are also creating 60% of the employment opportunities. However, these SMEs are facing various issues in marketing activities which can be managed with the help of artificial intelligence-assisted social media marketing (AISMM) practices. The marketing activities in these companies are not well developed to get higher business performance which is one of the motivational factors in this study. Therefore, this study is an attempt to facilitates effective business management and business performance through AISMM practices.

Since its inception, artificial intelligence (AI) has undergone significant innovations, especially in the last five decades [1]. In the wake of growing social media usage among product and service uses, especially in the business sector, a question that emerges is whether AI might determine the level of success of social media, especially in relation to the use of the latter in business marketing and management processes [2]. Recently, it has been documented that as many as 2.77 billion users interact on social media platforms and that they account for significant data amounts that the platforms possess [2,3]. Through AI, many studies avow that data-driven marketers have emerged, eventually exploring new marketplaces or marketing dimensions based on the insights gained from AI-driven social media marketing [4–6]. The motivation behind the majority of social media marketers to employ AI's perceived rudimentary principles has also been documented. Indeed, many investigations concur that the motivation behind the adoption and implementation of AI-driven social media marketing has been to understand human psychology, with organizations such as start-up businesses or SMEs being unexceptional [5–7]. Through social media marketing automation, some studies contend further that the resultant outcome involves AI leveraging [7,8], with the latter trend observed further to aid in understanding and tracking the user behaviors' multiple aspects [8–10]. Some of the specific user behavior aspects that have been observed to attract the adoption of AISMM include the aim of individuals to use social media, the types of social media platforms on which the individuals are likely to spend more time interacting, and the amount of time that individuals spend interacting online [9,10]. Others include the types of brands or products that receive the most attention and visibility among the online users—and the type of online content that the individuals consume [10,11].

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Indeed, the marketers' sufficient visibility on the potential product and services users' aspects mentioned above has been affirmed to pave the way for the combination of the resultant data with previous marketing campaign information, strategies, or approaches to steer hyper-personalized marketing messages [11,12]. From a business management perspective, especially among start-ups and SMEs, it has been documented that the latter trend brings success [13]. Despite the informative nature of these scholarly insights, one of the questions that arise is what is the current state of AI in social media, especially among Saudi Arabia's start-up businesses and SMEs? To address this question and contribute to the debate of AISMM in the business marketing and management contexts, this study strives to gain insights from primary and secondary sources conducted by some of the previous scholarly investigations, especially those that have focused on the context of Saudi Arabia. Moreover, Saudi Arabian SMEs are facing various issues related to the human resource management [14], strategy development [15], and issues related to the e-commerce [16]. Due to these issues the performance of these companies is low which needed to significant reforms to expediate the performance. Therefore, this study introduced AI to manage these issues. In addition, previous studies ignore the effect of AISMM on the performance of start-up businesses of SMEs.

Various studies are available in the literature which considered the Saudi SMEs. However, literature is missing with the studies which shows the relationship of AI and SMEs. Particularly, the literature is missing with the relationship of AISMM practices in Saudi SMEs. Therefore, this study has important role to fill this literature gap.

The objective of this study is to examine the impact of AISMM on the performance of start-up businesses of SMEs in Saudi Arabia. Thus, the current study is most significant for the Saudi Arabian SMEs to boost the marketing performance with the help of AISMM practices. It will help to decrease the various issues related to the marketing and increase the overall performance of these companies. Moreover, this study significantly contributed to the body of knowledge by examining the role of AISMM practices to enhance SMEs performance (SMEP). This is pioneer study which investigated the role of AISMM to promote effective business management in Saudi Arabia SMEs. Additionally, this study contributed by highlighting the mediating role of effective business management to promote performance.

2. LITERATURE REVIEW

AI is now become the need of organizations. Particularly, in Saudi Arabian SMEs, AI is key to promote business by incorporating latest marketing technologies. In Saudi Arabia, the companies are facing the marketing issues. By using the AI, data storage is easy. As the architectural integration of knowledge management, decision support, AI, and data warehousing has significant relationship with each other's [7]. AI has the ability to promote effective business management by facilitating various business activities including marketing activities and enhances the business performance. In the recent decade, the current literature points out the efficiency in implementation of AI in empowering social media marketing campaigns. It is one of the most significant part of today's marketing activities [17,18] where the Saudi Arabian companies can get benefit.

Economically, politically, and socially, the world is converging. This convergence has translated into the attribute of computational technology. For the majority of corporations, most of the previous scholarly studies affirm that the needs of product and service users (as well as the preferences of stakeholders) are ever-changing. Other studies hold that there is stiffening competition at the inter-industry and intra-industry levels [9]. As such, many organizations have had to keep abreast with industry demands and the need to maintain competitiveness. These efforts have yielded trends in which many firms have extended their customer bases or marketplaces beyond traditional niches. As such, there has been a growing need and interest in participating in SME activities, leading to the emergence of AISMM. For proponents of computational technology, this process is beneficial to startup businesses and SMEs because of increased access to consumer goods and potential talent pool [11,19–21].

In the developed and the developing world, most of the current literature points out the efficacy of embracing AI in empowering social media marketing campaigns. Social media marketing is one of the most important part of today's marketing activities [17,18], as it has significant contribution to marketing activities. Social media marketing shows positive effect on marketing which promote performance of the companies [22]. In the same direction, it increases the performance of SMEs. However, in Saudi Arabian SMEs, the marketing performance is low. Low marketing performance shows negative effect on performance [23]. Therefore, these companies require to increase the performance by introducing better strategies for marketing. For instance, one of the areas that have been observed to gain from AISMM (especially among start-ups and SMEs) is the case of AI-assisted content creation [12,13,24]. For proponents of this stance, AI tools give crucial insights into the types, nature, or form of content that certain brands post, as well as how the intended audiences tend to interact or engage with the content provided on certain social media sites [12]. Other studies affirm that AI-assisted content creation as a trend that informs success in social media marketing provides room for the suggestion of the type of content that is worth creating, as well as that which is worth optimizing [13]. From a business management and marketing perspective, the latter trends have been observed to yield fruitful outcomes in terms of the provision of room for the determination of the target users' purchasing behaviors, their daily environments, and some of the forces that shape their buying decisions [24,25]. To generate content, some of the companies that have been observed to utilize AISMM include CBS, BBC, Reuters, *The New York Times*, *The Washington Post*, and *USA Today* [24–26]. Thus, these insights are informative, whereby they increase the understanding that there is an increasing trend in the adoption and implementation of AISMM. However, two major issues remain unaddressed. Firstly, the findings fail to document whether similar trends have been adopted in regions such as the Middle and the Far East. Secondly, the scholarly assertions do not highlight the extent to which AI-assisted content creation as a perceived product of AISMM efforts affects the performance of start-up businesses and small and medium side enterprises. To contribute to this inconclusive debate, this study targets the case of Saudi Arabia's business firms.

AI is one of the tools, which has the ability to participate in marketing activities and increase the marketing performance of SMEs in Saudi Arabia. Because AI has significant importance in social media marketing [27,28]. It provides the latest technologies for

social media marketing which effect positively on overall marketing activities. Various studies provided the evidence that social media marketing and AI intelligence as significant relationship with each other's [29]. Therefore, AISMM has key importance for organizations to increase the overall performance by increasing the marketing performance.

Other scholarly studies have documented that through AISMM, many business organizations experience round-the-clock online presence [25]. For these investigations, the constant management of social media pages proves exhausting [19]. As such, the use of AI-based chatbots allows brands to manage their nature and level of online presence [19,20,26]. Similar observations hold further that the AISMM approach provides room for business marketers to respond to the queries or messages of their customers round the clock [13,24]. Furthermore, the AI-based chatbots ensure that the responses are tailored to be as human as possible, having answered open questions using machine learning (ML) and natural learning processing (NLP) to establish accurate responses [20,21]. Also, AISMM has been observed to aid in tackling issues or customers' concerns in real-time [19,24]. In this paper, the objective is to determine whether these trends hold in the Saud Arabian context (especially among start-up businesses and SMEs), upon which inferences might be made relative to issues such as trends in AISMM, the impact that the practice poses on the performance of business organizations, some of the challenges facing marketers in relation to the adoption of AISMM, and feasible solutions or strategies that could be implemented to ensure successful business operations in the Saudi Arabian business context.

Despite the significant improvement in the Saudi Arabian SMEs, there are several issues are prevailing related to the marketing activities. With a count of 1.97 million, SMEs constitute almost 90% of registered businesses and 60% of the total employment in Saudi Arabia. Nearly, 85% of these small and medium enterprises are single proprietor companies [30]. These SMEs are the key to unlock the vast potential of the Saudi Arabian economy [30]. SMEs are widely present in the private sector. However, it is important to overcome marketing issues.

Saudi Arabian SMEs are facing different issues related to the marketing activities. Particularly, these companies are facing different problems related to the electronic commerce which is directly linked with social media marketing practices [16]. Moreover, Saudi Arabian SMEs facing the issues of human resource management [14] which has direct effect on all activities including social media marketing. Inappropriate management of human resources effect on the marketing performance which decreases the company performance. Along with these issues, the other challenges include the business-related issues [15] which also has relationship with marketing activities.

Other issues that have been associated with AISMM include automated bidding and enhanced audience targeting. With AI, platforms such as LinkedIn, Twitter, and Facebook have been observed to be better equipped to analyze the type and form of content with which online users interact—before adjusting bids in a manner that assures maximum results (of the social media marketing campaigns) [21,31]. As such, these observations lead to the understanding that AI implementation allows business organizations to achieve actionable and real-time insights into marketing areas that exhibit exceptionally good performance [32], upon which keywords that matter are focused while increasing their marketing return on investment (ROI) [33]. In this investigation, it becomes imperative to determine whether such trends hold for the case of Saudi Arabia and, if so, whether AI promises to be the key driver of the future of social media marketing in the country. Therefore, along the marketing issues, Saudi Arabian SMEs are also facing the issues related to AI. AI implementation is most crucial which requires significant employee capabilities. Thus, these issues are needing to be considered while AISMM practices to improve the marketing performance.

Regarding the capacity of AISMM campaigns to enhance audience targeting, additional scholarly investigations suggest that the trend allows audience activities to be stored online [33]. In so doing, most of the business marketers end up leveraging the AI technology to ensure that all the audience-related data is collated, eventually yielding meaningful audience data that reflect enhanced targeting [34]. Some of the audience data that is collated include frequent buying patterns, online user behaviors, and social media usage [35,36]. Based on these scholarly affirmations, it becomes inferable that through the AI power, social media markets have an opportunity to expand brand campaigns beyond traditionally linear segmentations to ensure that they target site users with similar features as the existing product and service users. In turn, AI-assisted social media ends up allowing marketers to use advanced patterns and past behaviors to identify the right target audience. For studies that have gained insights from SMEs in developing countries, the latter trends have been observed to aid in increasing the brand relevance, hence higher returns on investment—and better conversions [33–36]. For the Saudi Arabian context, this study seeks to discern whether the findings that might be obtained from SMEs (and start-up businesses) are likely to concur with the current literature about the subject of AISMM and its effect on business performance, eventually generalizing (or otherwise) the outcomes to other country and business scenarios with similar geographic, political, socio-economic, and demographic characteristics as those that this study targets.

3. RESEARCH METHODOLOGY

3.1. Research Design

As mentioned earlier, the central aim of the study is to determine how AISMM affects the performance of SMEs. The research context involves Saudi Arabia. Notably, incorporation of secondary data into primary data is beneficial whereby the information can be accessed readily at a low cost [37]. Also, the incorporation of secondary data into primary data ensures that the resultant inferences are informative whereby the primary data obtained forms a foundation for qualifying (or otherwise) the trends reported in the majority of the previous scholarly studies [37,38]. Hence, it is evident that the role of the secondary data is to guide subsequent research practices, which are achieved via primary data collection and analysis—before discerning the validity and reliability of the conclusions accruing from the primary research. In this study, it is projected that the use of primary and secondary data will give insight into the subject of AISMM in Saudi Arabia, upon which the findings might be related to other countries and business organizations with similar features as those in the selected research context.

However, some studies caution that when secondary data is incorporated into primary data, the process might be disadvantageous in such a way that internal secondary data, which is obtained from sources such as sales reports and customer databases, only offers descriptions of the situation at hand without account for the past trends; neither do they predict the future of the subject under debate [39]. Another issue to note is that if a research process strives to incorporate secondary data into primary data but target a setting marked by unpopular markets or strict media control, sources of secondary data might be limited, compromising the reliability of the outcomes [40]. However, benefits arising from the combination of secondary and primary data outweigh the associated disadvantages, a trend that informs the current study's use of the selected approach.

Imperatively, both secondary and primary data has been documented to be beneficial and insightful in such a way that it gives insight into the views of the research participants from varying points of view [41]. Also, it is appropriate when the intention of the research is to elaborate, clarify, or build on a debate that is inconclusive [40]. From the literature review, several gaps were identified and reflected the inconclusive nature of the subject of AISMM and its impact on the performance of business organizations in Saudi Arabia, rendering the technique of the secondary and primary data mixture method appropriate.

Similarly, use of primary and secondary data has been selected because it offsets the disadvantages that might be experienced when research is applied independently [39–41]. In addition, the research approach has been associated with the provision of more comprehensive data, which add to the representativeness of a research process, hence worth generalizing and relating to similar sociocultural, economic, and political contexts as those that the research at hand targets.

3.2. Data Collection, Population, and Sample

The number of SMEs in Saudi Arabia reached 949,900 with 4.7 million employees. For primary data collection, 100 questionnaires were sent to the respondents. From these 100 questionnaires, 78 were returned and used for data analysis. Therefore, the response rate was 78% which is acceptable. Simple random sampling technique was used to analyses the data because it is most cost effective and less time consuming. Some of the sources of secondary data from which this study gains insights, including those that have been presented in the literature review, include company financial reports, magazines, newspapers, e-books, and journals. Also, internal secondary sources aid in accessing data about a given subject under investigation. In this study, some of the internal sources of secondary data that will be used include sales reports, customer data and company information, reports or feedback from dealers, retailers and distributors, and management information. The inclusion criterion is set in such a way that the participants are expected to be operators of start-up businesses and SMEs in the Saudi Arabian context. Some of the demographic information that the study seeks to collect includes the age, gender, and position(s) held by the participant(s) in the target institutions.

Regarding data privacy and confidentiality, strong passwords will be used to store both the raw and analyzed data obtained by the study. Also, codes will be used (rather than personal details of the participants—such as the names of their business organizations and their contact addresses) to avoid fears of victimization. The latter step is projected to attract honest responses from the participants. Furthermore, the participants will be informed that the provision of data will be voluntary and that they could withdraw from the data collection process at any stage. Important to note is that there will be no provision of incentives to the participants who will agree to participate in the study, neither will there be a penalty for those who might opt out after commencing with the data provision process. Another aspect that is imperative to highlight is that the study will target individuals who will have stayed in Saudi Arabia and served their business firms for a significant period.

3.3. Data Analysis

Upon collecting and classifying primary data into themes such as their demographic features and the responses they might provide regarding the objectives under examination, this study will employ descriptive and inferential statistical approaches. Indeed, these approaches have been employed because they aid in giving meaning to the raw data obtained from participants [38]. Therefore, the primary data that will be obtained will be presented via statistical tables, graphs, and charts. The analysis process will precede the discussion and conclusion and recommendations sections.

All the variables are measured based on the questionnaires in which various questions were asked. Already developed measures were used in the current study. Regarding analysis techniques, results are extracted based on the profile of respondents. Majorly, results are drawn based on the questions asked in five-point Likert scale. It is estimated that how many participants are agreed with the statement, how many participants are strongly agreed, how many participants are disagreed, how many participants are strongly disagreed and how many participants are neutral. Moreover, data were analyzed by using partial least square-structure equation modeling (PLS-SEM).

4. RESULTS AND DISCUSSION

4.1. Primary Data Presentation

The main aim of presenting the secondary data was to lay a foundation for the collection of first-hand data and determine the degree of concurrence—if any. Imperative to indicate is that the study relied on a survey approach, with mailed questionnaires sent to selected business operators.

4.2. Demographic Information

In this study, 100 questionnaires were administered to the participants. Out of these, 22% of the participants did not return the questionnaires for analysis and interpretation. The implication is that the filled-in questionnaires were received from 78 participants. With the confidence interval set at 95%, the implication is that the results that were obtained from the study were statistically significant and relevant, having gained information from an adequate number of participants. One of the demographic aspects that were examined entailed the gender of the selected business operators.

The main aim of this option was to predict whether the variable was likely to determine their perception of AISMM, especially in relation to the role of computational technology in shaping the maintenance of the existing customers (and the realization of new customer bases), hence improved performance. From the results, the percentage of male individuals stood at 66.6700% (52 participants) while that of female individuals was found to be 33.3300% (26 participants). Figure 1 highlights the participants' demographic features.

Another demographic feature that was investigated involved the age of the participants. Similar to the factor of gender, this variable was investigated due to the need to predict whether it was likely to shape the Saudi Arabian business operators' perception of the impact of AISMM on the performance start-up businesses and SMEs, upon which relevant inferences would be made—and possible generalizations made based on whether the findings were likely (or otherwise) to concur with the previous literature.

Figure 2 shows the age profile of respondents. Notably, most of the participants had their ages range between 31 and 35 years. These participants were 34.6200% of the responses that were received, implying that they were 27 individuals. Individuals aged 26–30 years reflected 21.8000% of the resultant responses. Hence, the latter group involved 17 participants. Those who belonged to the age bracket of 36–40 years were 19.2300%, which implied that the data obtained from this group involved 15 individuals. Those who were aged between 20 and 25 years represented 6.4100% of the responses (five individuals) while business operators who were over 40 years of age reflected 17.9500% of the responses, which implied that they were 14 individuals.

The study proceeded to unearth the duration of working and the positions held by the participants. On these variables, mixed outcomes were obtained. Those who had worked for less than a year were 12.8200% while those who had served their firms for over 20 years were 19.2300%. In addition, participants who had worked for a period ranging from 11 to 20 years were 28.2100%, with the majority found to have worked for their business firms for a period ranging from 1 to 10 years. The latter group accounted for 39.74% of the responses that were received. From the findings, it was inferred that the majority of the participants from whom data were obtained had served their organizations for significant periods, an outcome that suggested further that the study gained insights from an experienced population—that was projected to offer crucial insights into the concept of AISMM and its relationship with the performance of Saudi Arabia's start-up businesses, as well as SMEs. Notably, most of the respondents were serving in the same positions that they had been hired in the respective organizations, rather than having undergone changes in terms of promotions or demotions. Figure 3 shows the duration of service for the respondents in the company.

As aforementioned, the study gained additional insights from the participants—regarding specific positions in which they served in their organizations. Indeed, the majority of the participants (50.0000%) stated that they were in the sales and marketing teams, while 30.7700% of the participants were found to be serving in the customer service positions. Others included senior managers (5.1300%) and middle managers (8.9700%). Moreover, percentage of the participants and the position held in the business organizations is highlighted in Figure 4.

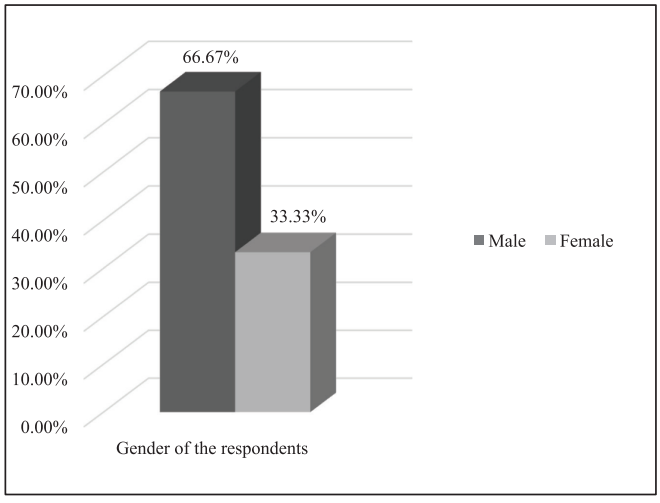

Figure 1 | Participants' demographic features (gender).

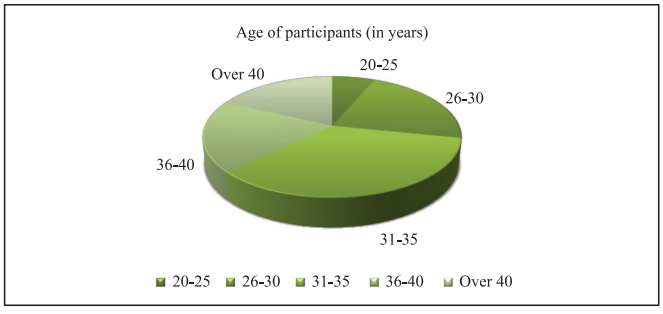

Figure 2 | Age of participants.

4.3. In Relation to the Study's Aim and Objectives

During business operations, companies have had to embrace highly responsive strategies that seek to align the role performance and task completion processes to the demands of industries in which they operate. Factors such as stiff competition, changing product and service user needs, and variations in the preferences of firm

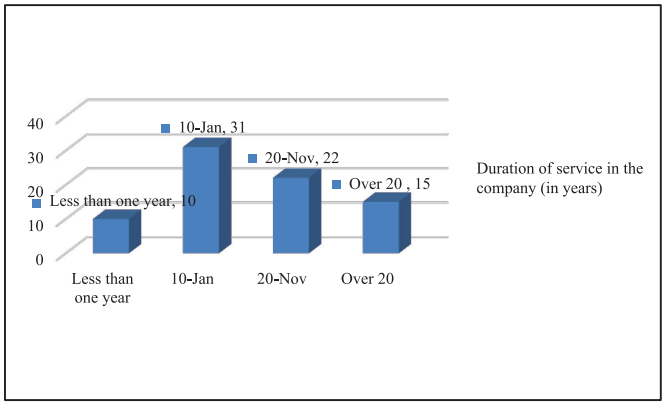

Figure 3 | Duration of service in the company.

stakeholders have prompted organizations to embrace strategies that promise competitiveness while seeking to prepare for future uncertainties in the global business arena [3]. Indeed, this trend has led to SMEs' (as well as start-up businesses') continuous quest to achieve and maintain a competitive advantage relative to its intra-industry and inter-industry competitors; stretching further to engage in AISMM. In the retail sector, it has also been asserted that companies continue to operate in a macro and microenvironment. This environment poses an impact on how the organizations' marketing teams conduct their business operations [2,9]. Given that, the firms are unlikely to change or influence the macro environment characterizing the industry to which they belong [7], it is expected that they adapt to prevailing changes or factors in the environment as they emerge.

Regarding the primary purpose of the study, the motivation was to find out the impact of AISMM on the performance of organizations in Saudi Arabia. Specific organizations included start-up businesses and SMEs. Using a five-point Likert Scale, the participants were expected to select the most appropriate choice relative to the degree to which their firms, which start-up businesses or SMEs, had embraced AISMM practices. From the findings, mixed results were obtained. For example, those who stated that their companies had embraced AISMM to a full extent were 58.9700% while those who stated that their firms had partially adopted AISMM accounted for 41.0300%. It is highlighted in Figure 5. The resultant inference was

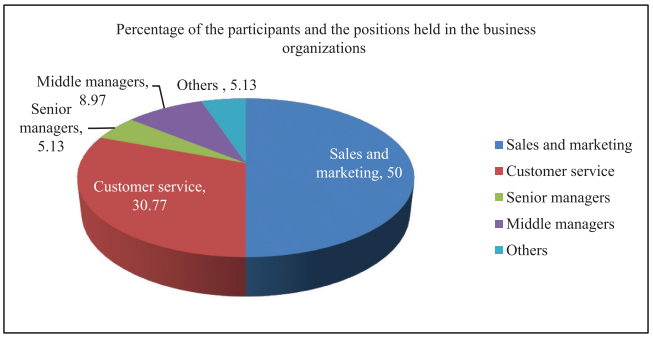

Figure 4 Percentage of the participants and the position held in the business organizations.

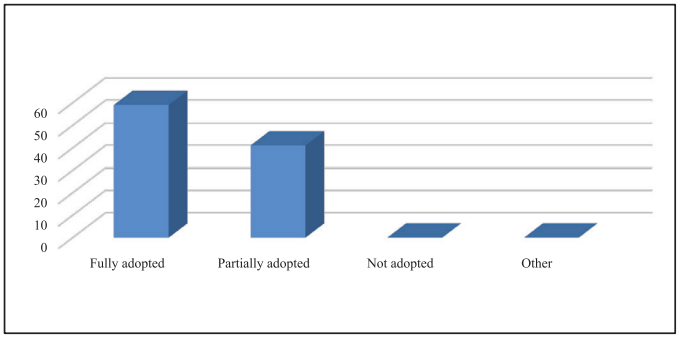

Figure 5 Start-up businesses in artificial intelligence (AI)-assisted social media marketing.

that in Saudi Arabia, the majority of start-up businesses and SMEs exhibited an increasing trend in the process of adopting and implementing AISMM programs.

Having gained insight into the extent to which the Saudi Arabian organizations to which the participants belonged had adopted and implemented the AISMM program, additional subjects that were investigated involved the beneficial effects accruing from the program, some of the challenges facing the huskiness management group in Saudi Arabia (in relation to the implementation of AISMM programs among start-up businesses and SMEs), and feasible solutions that are worth implementing. From the perspective of the Likert Scale, the participants' responses ranged from "in strong disagreement" to "in strong agreement." Table 1 shows the participants responses on Likert scale.

Positive effects accruing from the use of AISMM in Saudi Arabia from Table 1, technological advancement has improved user experience and increased the number of players in the business sector. In addition, exponential growth in e-retail has yielded a desirable degree of convenience. The implication for the future of the sector is that applications such as distributed intelligence, the Internet of things, and cloud computing are likely to dominate the retail sector at the global level. From the political perspective, government policies, regulations, and laws have had negative and positive effects on business operations in Saudi Arabia. Specific issues that the industry players face include taxation laws, employment laws, consumer protection, monetary policies, and interest rates on commodities. Indeed, responsiveness forms a predictor of successful company adjustment, including the use of AISMM. It is also evident that political and economic factors tend to overlap regarding areas such as inflation, export and import laws, and corporate taxation; leading to a decrease in the purchasing power of consumers; hence the need for aggressive marketing campaigns. Moreover, Figure 6 shows the challenges facing the implementation of AISMM.

From the findings, this study established that most of the participants advocated for the adoption and implementation of employee motivation programs, upon which problems such as conflicts or ideological differences and resistance to change might be minimized. Other dominant themes that were observed included the need for the collection (and response to) regular feedback through seminars and conferences, job redesigning to ensure that the business management groups respond to the needs of employees and customers, and the provision of room for the employees' new experiences, including actions such as job enlargement, job rotation, and job enrichment.

In line with the current study, social media marketing is increasing day by day [42]. It has significant importance in marketing activities [43] which effect positively on the performance of organizations. Consistent with the current study, it is also evident that AISMM is also increasing among the Saudi Arabian SMEs [16]. Because AISMM has many advantages which push the companies to deal with these practices of marketing. Studies also proved that it has the ability to increase the profitability of the companies [44]. Participation in the AISMM effect positively on the marketing operation, increase the profitability by decreasing time and financial cost. It also has the ability to increase the customer equity [4,44,45]. Therefore, the results of the current study are in line with the previous studies [46–48].

Table 1 | Participants response on Likert scale.

The Following Benefits Have Accrued from the Implementation of AISMM in Saudi Arabia	Frequency or Number of the Participants	Percentage
An increase in business profitability and growth		
In strong agreement	51.0000	65.3800
In agreement	24.0000	30.7700
Neutral position	3.0000	3.8500
Total	78.0000	100.0000
The use of organizational knowledge optimally		
In strong agreement	38.0000	48.7200
In agreement	21.0000	26.9200
Neutral position	19.0000	24.3600
Total	78.0000	100.0000
Better organizing capability at the firm level		
In strong agreement	42.0000	53.8500
In agreement	34.0000	43.5900
Neutral position	2.0000	2.5600
Total	78.0000	100.0000
The ability to attract and retain talented employees		
In strong agreement	46.0000	58.9700
In agreement	25.0000	32.0500
Neutral position	7.0000	8.9700
Total	78.0000	100.0000
The satisfaction and retention of customers		
In strong agreement	49.0000	62.8200
In agreement	20.0000	25.6400
Neutral position	9.0000	11.5400
Total	78.0000	100.0000
Reduction in the cost of employee retention and workforce training—due to reduced turnover		
In strong agreement	39.0000	50.0000
In agreement	27.0000	34.6200
Neutral position	11.0000	14.1000
Total	78.0000	100.0000

Note: AISMM = artificial intelligence-assisted social media marketing.

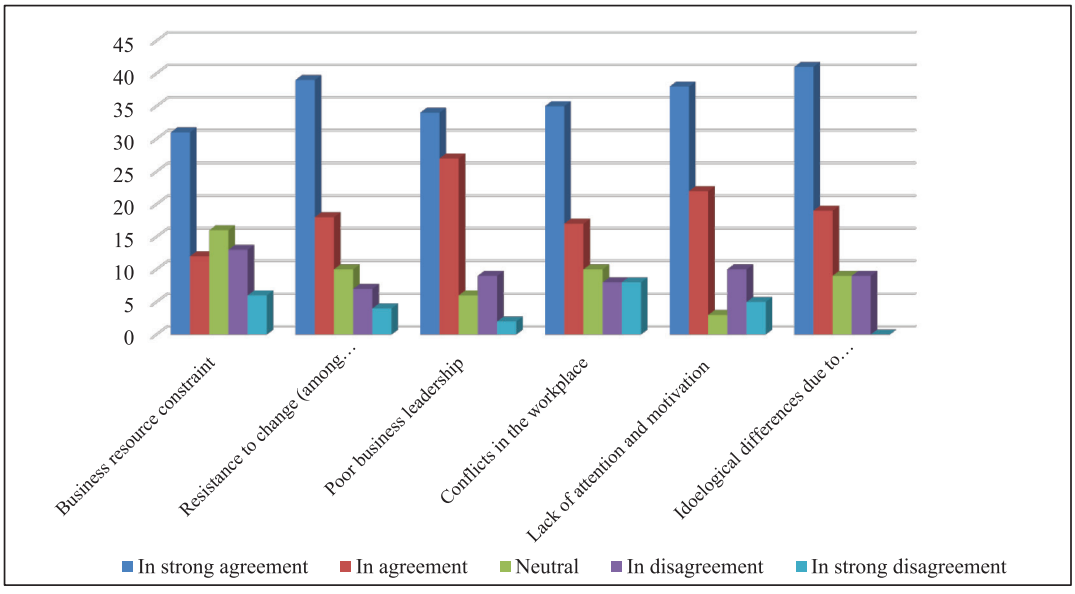

Figure 6 | Challenges facing the implementation of AI-assisted social media marketing.

4.4. Evidence Through Structural Equation Modeling (SEM)

Further analysis of this study is based on PLS-SEM. This is one of the most prominent techniques used in social sciences to analyze the primary data. Therefore, this study also used PLS-SEM and test the following hypotheses:

H_1: AISMM has positive effect on SMEP.

H_2: AISMM has positive effect on effective business management.

H_3: Effective business management has positive effect on SMEP.

H_4: Effective business management mediates the relationship between AISMM and SMEP.

While analyzing data through PLS-SEM, in first step, measurement model was assessed to test the reliability and validity. Confirmatory factor analysis (CFA) was performed which is shown in Figure 7. All the factor loadings are above 0.7. Composite reliability (CR) and average variance extracted (AVE) is also above 0.7 and 0.5, respectively, as shown in Table 2. Discriminant validity was examined by using cross-loadings, highlighted in Table 3.

Figure 8 shows the hypotheses testing and Table 4 shows the direct effect results. T-value 1.96 was considered to examine the significance level. It is found that H_1, H_2, and H_3 are supported. It indicates that AISMM increases the effective business management and SMEP. Moreover, effective business management increases the SMEP.

In addition, the indirect effect of effective business management is highlighted in Table 5. Same criteria of t-value were considered to examine the indirect effect. It is found that effective business management significantly mediates the relationship between AISMM and SMEP. Thus, these results supported H_4.

Furthermore, Indirect effect is also highlighted in Figure 9. Figure 7 shows the r-square value which is 0.921. It shows that AISMM and effective business management are expected to bring 92.1% change in SMEP. This r-square value is substantial.

5. CONCLUSION

Given the increasing pressure for organizations to become responsive to the changing needs of product and service users (as well

Table 2 | Construct reliability and validity.

	Alpha	rho_A	CR	AVE
AISMM	0.96	0.961	0.969	0.863
EBM	0.961	0.961	0.97	0.865
SMEP	0.959	0.959	0.968	0.859

Notes: AVE = average variance extracted; AISMM = artificial intelligence-assisted social media marketing; CR = composite reliability; EBM = effective business management; SMEP = SMEs performance.

Table 3 | Cross-loadings.

	AISMM	EBM	SMEP
AISMM1	0.926	0.857	0.844
AISMM2	0.931	0.803	0.835
AISMM3	0.93	0.828	0.872
AISMM4	0.912	0.821	0.871
AISMM5	0.946	0.847	0.9
EBM1	0.86	0.897	0.885
EBM2	0.815	0.927	0.85
EBM3	0.795	0.932	0.834
EBM4	0.849	0.948	0.892
EBM5	0.837	0.945	0.895
SMEP1	0.85	0.832	0.911
SMEP2	0.878	0.87	0.944
SMEP3	0.854	0.846	0.924
SMEP4	0.873	0.856	0.92
SMEP5	0.857	0.838	0.935

Notes: AISMM = artificial intelligence-assisted social media marketing; EBM = effective business management; SMEP = SMEs performance.

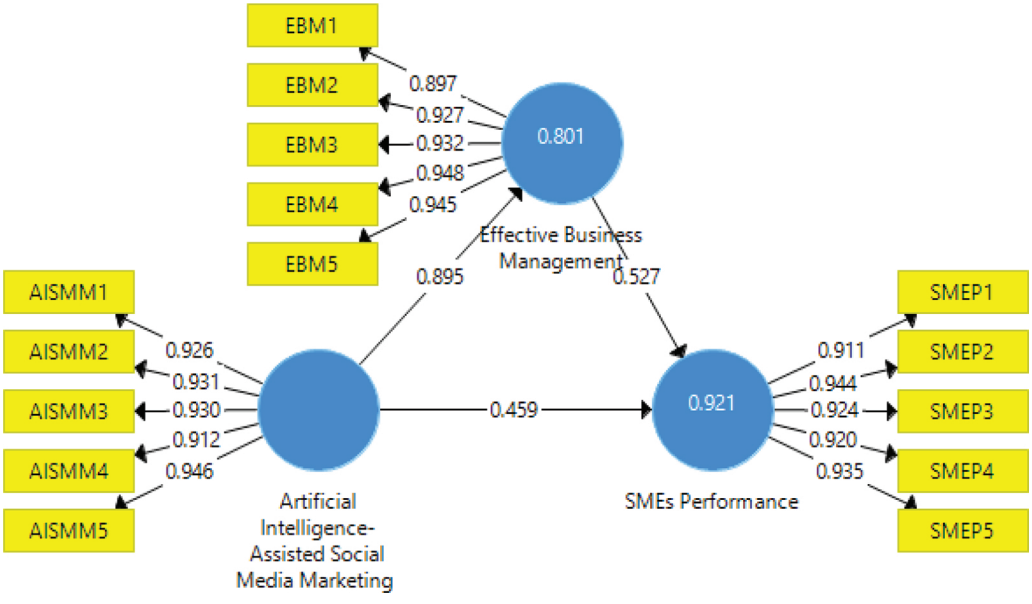

Figure 7 | PLS measurement model.

as competitiveness and the stakeholders' preferences), SMEs have evolved. The response comes in the wake of increasing pressure from social, political, and economic arenas, which have witnessed the frequency and duration of product and service users' online interaction and transactions increase significantly—especially due to the complementary role of technology. A question that arises is to what extent is AISMM risky or beneficial to Saudi Arabia's start-up businesses and SMEs? Also, what is the role of the management in maintaining any positive effects that might accrue from AISMM campaigns?

This study has established that AISMM forms a crucial pillar that shapes the stability, growth, and organizational operations of the majority of start-up businesses and SMEs in Saudi Arabia. From the findings, one of the notable themes is that AISMM exhibits an increasing trend and the eventuality is that there has been a direct and indirect increase in profitability (and improvement in the performance of workforces), outcomes that have concurred with most of the previous literature reporting issues surrounding this subject. Other beneficial effects with which AISMM is associated, based on the majority of the participants' responses, include creative thinking, improvements in workplace connectedness, and reduced rates of employee turnover. With the aforementioned positive attributes being predictors of increased business sales, this study's resultant inference is that AISMM, which exhibits an increasing trend among start-up businesses and SMEs in Saudi Arabia, accounts for an overall increase in the number of customers and customer bases, yielding an additional tertiary effect of increased profitability. In future, there is a need for scholarly investigations to focus on the efficacy of the proposed solutions in relation to their capacity to

Table 4 | Direct effect results.

	β	M	SD	T Statistics	p Values
AISMM-> EBM	0.895	0.894	0.026	34.936	0
AISMM-> SMEP	0.459	0.45	0.092	4.974	0
EBM-> SMEP	0.527	0.536	0.092	5.721	0

Notes: AISMM = artificial intelligence-assisted social media marketing; EBM = effective business management; SMEP = SMEs performance.

Table 5 | Direct in-effect results.

	β	M	SD	T Statistics	p Values
AISMM-> EBM-> SMEP	0.472	0.479	0.083	5.711	0

Notes: AISMM = artificial intelligence-assisted social media marketing; EBM = effective business management; SMEP = SMEs performance.

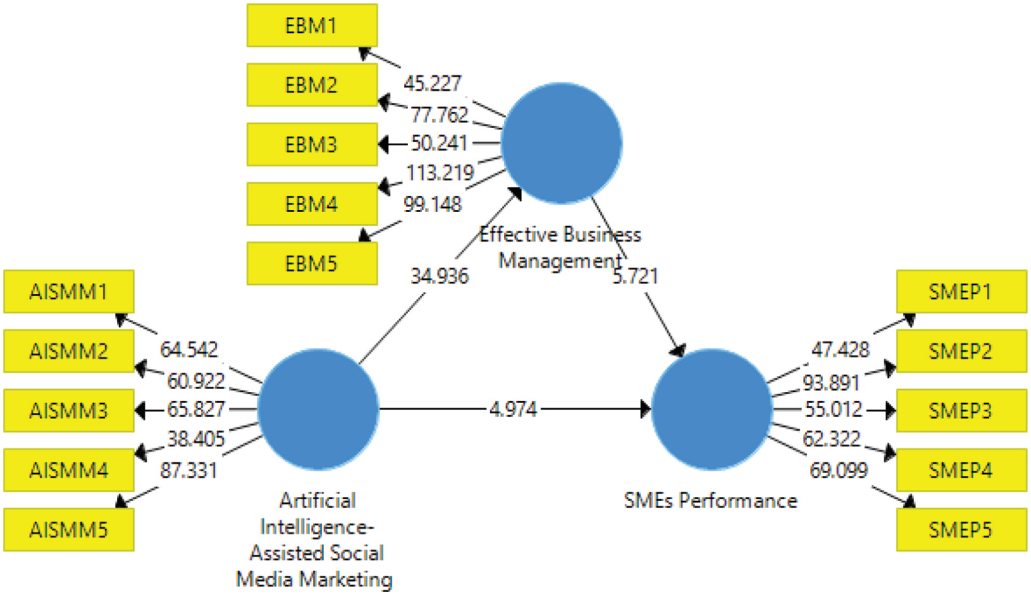

Figure 8 | PLS structural model.

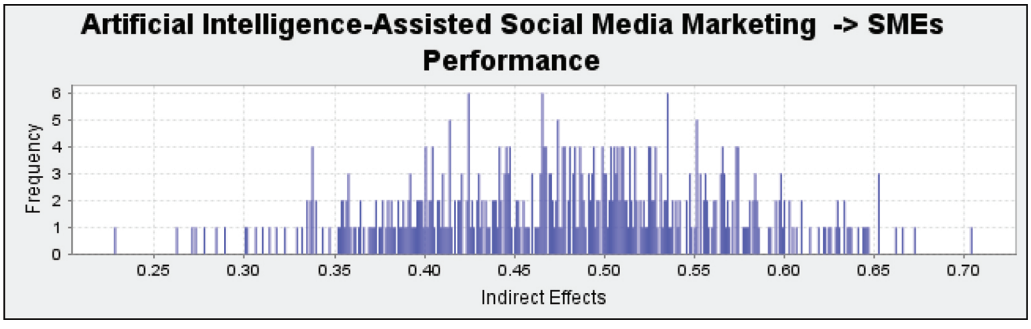

Figure 9 | Indirect effect of effective business management.

streamline AISMM in Saudi Arabia and other settings exhibiting similar geographic, social, cultural, political, economic, and demographic characteristics. Therefore, from the results of the study, it is recommended that Saudi Arabian SMEs should focus on AISMM practices to improve the marketing practices. It will automatically increase the performance by decreasing the issue in marketing practices.

5.1. Implications of the Study

This study is most significant for the Saudi Arabian SMEs to increase the company performance by increasing the marketing activities with the help of AISMM practices. It will help to decrease the various issues related to the marketing and increase the overall performance of these companies. This is one of the pioneer studies which discussed the AISMM practices in Saudi companies. Therefore, the practitioners can get help from this study to increase the performance by decreasing various problems of marketing [49–53].

5.2. Limitations and Future Directions

This study has major limitation in the analysis section. Most recent analysis technique is not followed by this study. It is based on the profile of respondents. The other part of analysis is based on survey and data were collected through questionnaire, however, not analyzed with the help of any statistical software. The response percentage was calculated of each question and results were obtained. Thus, the future research must include the latest analysis technique like SEM by using partial least square (PLS). Future research should also include various other factor which effect the social media marketing practices through AI. In addition, the study relies on both secondary and primary data, certain limitations are predicted. For instance, the use of questionnaires implies that there might be misunderstandings and misinterpretations on the part of the participants, upon which the validity of the results might be compromised. By stating questions in the questionnaires clearly and without subjective terms, the limitation is projected to be countered.

CONFLICT OF INTEREST

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