



Structural Interpretive Model of Determining Factors in Social Media Marketing for E-Sport Businesses

Ziba Mohammad Rezaei¹, Korosh Veisi^{2*}, Samira Aliabadi³, Mohsen Esmaeili⁴

1. PhD Student of Sport Management, Department of Physical Education and Sport Sciences, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran
2. Assistant Professor of Sport Management, Department of Physical Education and Sport Sciences, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran
3. Assistant Professor of Sport Management, Department of Physical Education and Sport Sciences, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran
4. Associate Professor of Sports Management, Sports Management and Policy Research Group, Sports and Society Research Institute, Physical Education and Sport Sciences Research Institute, Tehran, Iran

Corresponding Author Email: koroshveisi@iau.ac.ir



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ABSTRACT

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Social Media Marketing, Digital Environment Growth, E-Sport Businesses, Grounded Theory, Structural Interpretive Model

The research method employed a mixed approach (qualitative-quantitative), with participants consisting of experts in sports marketing, media, and e-sport businesses. The selection criteria for participants in the qualitative section were theoretical saturation, and a purposive sampling method along with snowball sampling strategy resulted in the selection of 18 individuals. The identified individuals from the qualitative section were then used for structural-interpretive analysis. Data collection tools included semi-structured interviews for the qualitative section and a 14x14 matrix for the quantitative section. To ensure validity and reliability, the coding process utilized strategies such as credibility, transferability, conformability, process audit, and agreement within the subject. The qualitative data analysis involved two stages: initial coding and focused coding, while the quantitative data analysis employed the structural interpretive modeling and the MICMAC analysis. The findings revealed 14 determinant factors related to social media marketing in e-sport businesses. Based on the structural interpretive analysis, the relationships between these factors were categorized into 7 levels, forming a hierarchical relationship model. This model demonstrates that social media marketing in e-sport businesses leads to changes in consumer behavior and the effectiveness of marketing activities. The underlying cause of this transformation is the growth of the digital environment, followed by the widespread penetration of social media networks. Based on these results, it can be concluded that social media marketing in e-sport businesses is a complex multifaceted process, with interconnected components that create interactions and reactions in social media marketing.

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1. INTRODUCTION

With the rapid advancement of digital technologies, social media has emerged as one of the most critical tools for modern marketing (Klepek & Starzyczna, 2018). This is especially evident in the e-sport industry, where digital dependency is inherent, and platforms serve as vital tools for branding, outreach, and audience engagement (Sjöblom et al., 2018; Mohammadi et al., 2023). Over the past decades, electronic business models have been widely adopted by companies aiming to enhance competitiveness (Alsheidi, 2022), facilitate commercial interactions (Rahmadhani et al., 2022), and drive national economic growth (Prifti & Aranitasi, 2022). Businesses—defined as organizations delivering goods or services for profit (Prira et al., 2022)—fall into three categories: service, manufacturing, and retail (Nickels & McHugh, 2019).

In contrast, electronic business (e-business) refers to managing business operations via digital technologies, especially the internet (Brzozowska & Bubel, 2015), enabling both fully online and hybrid enterprises to boost productivity. These businesses rely on internet-based strategies for customer interaction and service delivery (Susanto, 2022), making them strategic priorities, especially for SMEs (Neykov, 2019; Alshanqiti et al., 2022).

Responding to evolving consumer demands and increasing competitiveness, many businesses now adopt innovative marketing mechanisms, notably social media marketing (SMM) (Melero et al., 2016; Bell et al., 2014; Jayasingh et al., 2022). SMM, a form of internet marketing, enables companies to achieve marketing goals through content creation and sharing on social platforms (Trattner & Kappe, 2013). Global investments in social media marketing are projected to reach USD 563.153 billion, with over 90% of marketers using social media—highlighting its centrality in modern marketing (Ali Abbasi et al., 2022; Duff & Segijn, 2019). In e-sport businesses, social media is a strategic tool for event coverage and sport promotion (Piché & Naraine, 2022), capitalizing on

millions of active users. Prior research indicates that successful SMM depends on several technological and managerial factors. For instance, Internet of Things (IoT), block chain, and cloud computing are key enablers (Shafei et al., 2023), while leadership, product quality, and customer service are critical for business growth (Dehghan et al., 2022; Fasanqari et al., 2022). Additionally, knowledge management, customer engagement, and need identification are foundational for effective SMM (Abdoli et al., 2021).

Several studies have emphasized success factors in e-businesses, such as secure online transactions, UX design, customer trust, supply chain efficiency, and digital marketing (Kargeti, 2023; Agarwal et al., 2023). Social media significantly contributes to brand awareness, traffic generation, and customer relationship management (Gomez et al., 2022). Despite the growing role of digital platforms, traditional marketing retains credibility among some audiences (Korkko, 2022). Sustainable value creation depends on consumer behavior analysis and competitive positioning (Atker et al., 2022), though many e-sport firms underutilize viral marketing capabilities (Kowalski, 2022). In the e-sport context, the digital nature of the industry heightens the impact of social media marketing. Yet, most previous studies have focused on isolated determinants without exploring inter-factor dynamics within a holistic model. This gap hinders optimal SMM strategy development in e-sport businesses. Although the influence of social media on sports marketing is established, there remains a need for a comprehensive framework mapping the interaction and hierarchy of relevant factors.

As one of the fastest-growing digital sectors, e-sports is deeply affected by technological shifts. Technologies like IoT, block chain, and cloud computing have revolutionized business operations, yet a lack of integrated understanding of their interplay with marketing determinants poses challenges. IoT, by connecting gaming equipment

and platforms, enables real-time data collection and behavioral analysis. Block chain enhances transaction security, digital ownership, and loyalty systems, fostering consumer trust. Cloud computing supports scalable service delivery and strategic targeting. However, the absence of a comprehensive model capturing these relationships has impeded the strategic integration of such technologies into Social Media Marketing strategies. In this way, the use of interpretive structural model allows researchers to better understand the complexities of this system

2. Methodology

This research is of a mixed type (qualitative-quantitative) and within the framework of interpretative paradigm. The philosophy of interpretive research focuses on understanding social phenomena from the perspective of participants. The research approach is inductive and data observation is used to develop a theoretical model. The qualitative strategy of the research is based on the data base theory of the structuralize approach and interpretive structural modeling has been used in the quantitative part. This research is cross-sectional and the data were collected and analyzed in a specific period of time. The purpose of the descriptive-analytical research is to identify and level the determinants of social network marketing in electronic sports businesses and to analyze the cause-and-effect relationships between these factors. Interpretive structural modeling is

and formulate strategies for more success in marketing based on it. This model can also help business owners to formulate more effective and efficient strategies for exploiting social networks and ultimately have more success in their marketing. Therefore, the current research tries to answer the question that what are the structural interpretive model of social network marketing determinants in electronic sports businesses and how do they interact with each other?

chosen because of its ability to analyze complex and hierarchical relationships among marketing determinants. and it helps to provide a clear and structured model for improving marketing strategies. (Habiib & Afridi 2022) Because the determinants of social network marketing in e-sports businesses were identified using foundational data theory and the interrelationships and influence and dependence of these factors were interpreted and analyzed using structural modeling. The participants of this research were experts in the field of sports marketing, media and electronic sports businesses. The criteria for selecting experts in the qualitative part was theoretical saturation and 18 people were selected by the purposeful sampling method, then the people identified in the qualitative part were used for structural-interpretive analysis in the quantitative part (Table1).

Table 1. Characteristics of participants in this research

Work experience	age	education	Activity	Row
7	35	Master	CEO Ditak company	1
16	47	Bachelor	Media manager	2
10	39	PhD	University faculty	3
6	41	PhD	University faculty	5
15	46	PhD	University faculty	5
5	44	PhD	Varzshop Store Manager	6
6	39	Master	Manager of the news page	7
17	41	Master	Marketing Manager easy life Pishtazan	8
6	28	PhD	The Owner of the capital sports cooperative store	9
13	39	Master	Sales Manager Makan charkh	10
19	47	PhD	University faculty	11
7	38	Bachelor	Shahsavand Market Manager	12

3	29	Master	Karv Vision company Manager	13
14	41	PhD	University Faculty	14
5	27	Master	Owner of Eisha Sport online store	15
6	38	Master	Rad Sport Company Owner of	16
9	33	Bachelor	Sales Manager of tolo Sport Iranian Company	17
21	51	P.H.D	University faculty	18

The data collection tool in the qualitative part was a face-to-face semi-structured interview. The interview questions were set based on the goals and research questions. The questions were asked both in general and sub-questions. The secondary questions were in line with the main questions and to get more information. For example, in the main question section, one of the questions that was asked

was: What are the factors affecting the marketing of social networks in electronic businesses? In the sub-questions section, the content of the question was: Why are these factors effective? A square 16x16 matrix was also used in the quantitative section. To evaluate the validity and reliability of the results in the qualitative section, the following measures were taken (Table 2).

Table 2. Validity and reliability of result

Method	Strategy	Validity/Reliability
Verification of the research process by 3 university professors with additional expertise in sport marketing	Validity Believability	Validity
Using two coders to code several interview samples		
The opinions of three experts who did not participate in the research	Transferability	
Record all interviews	Confirmability	Reliability
Providing information to 5 participants in the research	Process Audit Study	
Analysis of two interview by the researcher and another analysis and identification of codes similar and dissimilar and obtaining and agreement 80%	Intra-subject agreement two coders	

But no action was taken to evaluate the validity and reliability of the matrix. Because the questionnaire used in interpretive structural modeling is a standard matrix and it is different from attitude measurement questionnaires with a Likert scale, as a result concept like Validity and reliability are also not relevant for this matrix (Habibi & Sanham 2022). However, the presentation of an interpretive structural model includes a number of steps as follows, and their compliance ensures the results obtained (Almofateh et al., 2018; Attri et al., 2013).

Step 1. Identifying the determinants of social network marketing in e-sports businesses: Traditionally, variables can be identified by reviewing research literature or asking opinions from experts. In this study, concepts related to the research topic were extracted by asking opinions from experts and the data theory of the foundation

Step 2. Examining and interpreting the relationship of contextual (textual) relationships:

The contextual relationships between the factors were investigated, such as if the factor "growth of the digital environment" has an effect on "expansion of the influence of social networks", this relationship should be recorded. In addition, an interpretation of the relationship should also be done to show how the "growth of the digital environment" affects the "expansion of the influence of social networks".

Step 3. Creating a structural self-interaction matrix (primary access matrix): using four symbols (O, X, A, V) causal relationships between variables are determined.

Step 4. Development of an initial access matrix and the final access matrix: to extract the received matrix, in each row of the self-interaction matrix, the number one is used instead of the X and V signs and the number zero is used instead of the A and O signs, and they are displayed in the accessibility matrix to make the final access matrix.

Step 5. Dividing the final attainment matrix into different levels: Leveling of the final attainment matrix is done to place the elements in a wise level by the agents.

Step 6. Drawing the initial diagram: based on the relationships between the determinants in the cone matrix, an initial diagram of the relationships between the determinants is drawn.

Step 7. Drawing a direct diagram and removing primary relationships: Based on the relationships obtained in the accessibility matrix and the primary diagram, a direct diagram is drawn and the primary relationships are removed.

3. Findings of the Research

In the initial coding stage, 67 initial concepts were identified from the data, which included important comments or concepts that were frequently raised. In the focused coding stage, these primary concepts, which had similar underlying ideas, were combined and divided into 14 categories.

These categories include: changing consumer behavior, creating value, effective interactions,

Step 8: The framework developed in step 7 is reviewed to ensure conceptual consistency and modifications are made if needed.

Step 9. Determining the determining variables: The determining factors affecting the marketing of social networks in electronic sports businesses are determined based on the power of influence and dependence.

It is worth mentioning that the [Charms \(2014\)](#) coding guidelines, which have two main stages of primary coding and focused coding, were used to analyze the qualitative data. Also, structural equation modeling method was used to analyze the data and ISM Warfield software was used to perform this analysis.

determining the platform, the effectiveness of marketing actions, knowing the customer, determining marketing achievements, analyzing competitors, determining tactics and policies, financing, determining content production strategy, legislation, growing the digital environment, and expanding the influence of social networks (Table 3).

Table 3. Factors affecting social network marketing in electronic sports business

Focused Codes	Initial Codes	Interview code
Changing consumer behavior	Increase consumer loyalty	P6, P7, P18
	Provide word of mouth advertising	P13, P17
	Gaining consumer trust	P3, P10, P8, P9, P17
	Increasing consumer satisfaction	P5, P16, P2
Create Value	Get more Value	P8
	Improve brand credibility	P15, P12, P14
	Increase brand awareness	P9, P11, P16
	Creating a personality for the brand	P7, P9
	Market leadership and thought leadership	P9
Effective Section	Approaching the customer	P5, P9
	Establishing deep, long -term and two-way relationships with audiences	P9
	Keeping Customers	P1
	Receiving audience information and followers	P1, P2
	Analyzing competitors and learning from them	P1, P9, P14, P13
	Generating quality leads	P1, P0
	More Sales	P1, P9, P16, P18
Brand audience growth	P7, P11, P12, P14	
Reduce marketing cost	P3, P4, P9, P11	
	Increasing the effectiveness of content	P7, P11, P12, P15

	Increasing the effectiveness of marketing processes	P9, P18
Determine the platform	Facebook	P6, P9, P17
	Instagram	P4, P6, P9, P16
	Twitter	P4, P5, P16
	LinkedIn	P10, P12, P13
Determining marketing achievements	Special and unique	P1, P4, P12, P16
	Measurable	P4, P3, P7, P9
	Realistic	P1, P11, P14, P12
	On Time	P10, P15
	Accessible	P10
Knowing the customer	Age	P10, P17
	Job	P1, P2, P5
	Income	P14
	Habits and impulses	P1, P8, P11, P13
	Issues and Problems	P10, P15, P17, P18
	Favorites	P10
Competitor analysis	Preparing a list of competitors	P2, P5, P6, P10, P13, P14
	Identifying close competitors	P2, P3, P8, P18
	Modeling successful competitors	P10, P14, P15
	Analysis of competitors production content strategy	P10
	Analysis of competitors service type	P10, P15, P17
Determining tactics and policy	Evaluating all types of social media	P10, P15
	Choosing the right social media	P10
	Determining primary and secondary social media	P2, P5, P6
	Adopting the best practices for each platform	P2, P3, P8, P11
Determining the strategy content production	Consider video content	P10, P14, P15
	Continuity in producing and publishing content especially video content	P10
	Determine the type of content	P10, P15, P17
	Show attractive aspects of business	P3, P11, P15
	Using statistics figures and infographics	P1, P3, P7, P11, P12, P13
	Coverage of business news	P10
	Attention to the time of posting content	P10, P11
	Content monitoring	P10
Provide appropriate content	P3, P9	
Financing	Add the annual cost of the project	P4
	Fit between the adjusted budget and tactics and strategy	P1, P2, P5
	Cost concentration for the not producing sectors	P2, P6, P9
Legislation	Determination of roles	P2, P4, P9, P11, P12, P13
	Determine the time table	P1, P2
	Dividing tasks, Regular and purposeful	P1, P2, P3, P6, P7, P9, P11
	Set daily and weekly schedule	P3, P5, P6, P9, P11
growth of the digital environment	The spread of smart phones	P3
	The growth of advertising demand in social networks	P1, P2, P4
	Growing demand for digital services	P1, P10
	Increasing social networks	P3
Expansion of influence social networks	Influence of social media in society	P5, P6, P7, P9, P13, P16
	The membership of many people in social networks	P12, P15, P16
	Pandemic use of social networks around the world	P9, P13, P14, P17

After identifying the determinants of social network marketing in electronic sports businesses, the correlation between both factors (i and j) was

investigated. To evaluate the correlation between the determining factors, four symbols (O, X, A, V) were used.

V = if factor i affects factor j.

A = if agent i is influenced by agent j.

X = if factor i and j affect each other



O = if factor i and j do not affect each other.

Table 4 shows the structural autocorrelation matrix. Based on this table, it can be seen that the "change in consumer behavior (S1)" factor can be

increased with the "effective interactions (S3)" factor. O = if factor i and j do not affect each other.

Table 4. Structural autocorrelation matrix

S ₁₄	S ₁₃	S ₁₂	S ₁₁	S ₁₀	S ₉	S ₈	S ₇	S ₆	S ₅	S ₄	S ₃	S ₂	representative	Factor
O	O	O	O	O	O	A	A	O	O	X	A	O	S ₁	Changing consumer behavior
A	A	V	V	V	V	V	V	V	V	O	O		S ₂	Creating Value
O	O	A	A	A	A	A	A	A	A	V			S ₃	Effective interactions
O	O	O	O	O	O	A	A	O	O				S ₄	Effective of Marketing measures
A	O	X	X	X	X	V	V	X					S ₅	Determine the platform
A	O	X	X	X	X	V	V						S ₆	Determining marketing achievements
O	O	A	A	A	A	X							S ₇	knowing the customer
O	O	A	A	A	A								S ₈	Competitor analysis
A	O	X	X	X									S ₉	Determining tactics and polices
O	O	X	X										S ₁₀	Determining content production strategies
A	O	X											S ₁₁	Financing
A	O												S ₁₂	legislation
V													S ₁₃	The growth of the digital environment
													S ₁₄	Expanding the influence of arbitrary websites

Once the structural self-interaction matrix is obtained, the (O, X, A, V) symbols are converted into a two-by-two matrix (i.e., 1S and 0S), which is called the initial access matrix. The rules for transferring symbols to binary digits were as follows:

If entry (i, j) in structural self-interaction matrix V, then entry (i, j) in accessibility matrix will be 1 and entry (j, i) will be zero.

If the entry (i, j) in the self-interaction matrix is structural A, the entry (i, j) in the access matrix will be zero and the entry (j, i) will be 1.

If the entry (i, j) in the structural self-interaction matrix is X, the entry (i, j) in the access matrix will be 1 and the entry (j, i) will be 1.

If the entry (i, j) in the structural self-interaction matrix is O, the entry (i, j) in the access matrix will be zero and the entry (j, i) will be zero.

Based on the above rules, the relationship symbols for all factors in the structural self-interaction matrix completely changed the binary numbers 0 and 1 (Table 5).

Table 5. Primary access Matrix

Penetration Power	S ₁₄	S ₁₃	S ₁₂	S ₁₁	S ₁₀	S ₉	S ₈	S ₇	S ₆	S ₅	S ₄	S ₃	S ₂	S ₁	Factor
2	0	0	0	0	0	0	0	0	0	0	1	0	0	1	S ₁
9	0	0	1	1	1	1	1	1	1	1	0	0	1	0	S ₂
3	0	0	0	0	0	0	0	0	0	0	1	1	0	1	S ₃
2	0	0	0	0	0	0	0	0	0	0	1	0	0	1	S ₄
9	0	0	1	1	1	1	1	1	1	1	0	1	0	0	S ₅
9	0	0	1	1	1	1	1	1	1	1	0	1	0	0	S ₆
5	0	0	0	0	0	0	1	1	0	0	1	1	0	1	S ₇
5	0	0	0	0	0	0	1	1	0	0	1	1	0	1	S ₈
9	0	0	1	1	1	1	1	1	1	1	0	1	0	0	S ₉
9	0	0	1	1	1	1	1	1	1	1	0	1	0	0	S ₁₀
9	0	0	1	1	1	1	1	1	1	1	0	1	0	0	S ₁₁

9	0	0	1	1	1	1	1	1	1	1	1	0	1	0	0	S ₁₂
3	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	S ₁₃
8	1	0	1	1	1	1	0	0	1	1	0	0	1	0		S ₁₄
	2	1	8	8	8	8	9	9	8	8	5	9	3	5		Power of dependence

Then the final achievement matrix was calculated by combining transferability. Transferability means a contextual relationship in which if variable A is related to B and B is related

to C, then A is necessarily related to C. The measure of transferability was calculated by performing power repetition analysis (Table 6).

Table 6. The ultimate access matrix

Penetration power	S ₁₄	S ₁₃	S ₁₂	S ₁₁	S ₁₀	S ₉	S ₈	S ₇	S ₆	S ₅	S ₄	S ₃	S ₂	S ₁	Factor
2	0	0	0	0	0	0	0	0	0	0	1	0	0	1	S ₁
12	0	0	1	1	1	1	1	1	1	1	1*	1	1	1*	S ₂
3	0	0	0	0	0	0	0	0	0	0	1	1	0	1	S ₃
2	0	0	0	0	0	0	0	0	0	0	1	0	0	1	S ₄
11	0	0	1	1	1	1	1	1	1	1	1*	1	0	1*	S ₅
11	0	0	1	1	1	1	1	1	1	1	1*	1	0	1*	S ₆
5	0	0	0	0	0	0	1	1	0	0	1	1	0	1	S ₇
5	0	0	0	0	0	0	1	1	0	0	1	1	0	1	S ₈
11	0	0	1	1	1	1	1	1	1	1	1*	1	0	1*	S ₉
11	0	0	1	1	1	1	1	1	1	1	1*	1	0	1*	S ₁₀
11	0	0	1	1	1	1	1	1	1	1	1*	1	0	1*	S ₁₁
11	0	0	1	1	1	1	1	1	1	1	1*	1	0	1*	S ₁₂
14	1	1	1*	1*	1*	1*	1*	1*	1*	1*	1*	1*	1	1*	S ₁₃
13	1	0	1	1	1	1	1*	1*	1	1	1*	1*	1	1*	S ₁₄
	2	1	9	9	9	9	11	11	9	9	14	12	3	14	The Power of dependency

In the access matrix, each factor has a dependency set and an influence set. Next, leveling is done to find the level of each factor, and then the cone matrix is produced. Sharing between factors was determined in terms of achievement (impact or

output) and prerequisite (impact or inputs). The first variable for which the commonality of two sets is equal to the attainable set will be the first level. Therefore, the elements of the first level will have the most influence in the model (Table 7).

Table 7. Final Reach Matrix Division into Different Levels

Level	Subscription	Prerequisite	Access	Factor
1	1,4	1,2,3,4,5,6,7,8,9,10,11,12,13,14	1,4	S ₁
5	2	2,13,14	2	S ₂
2	3	2,3,5,6,7,8,9,10,11,12,13,14	3	S ₃
1	1,4	1,2,3,4,5,6,7,8,9,10,11,12,13,14	1,4	S ₄
4	5,6,9,10,11,12	2,5,6,9,10,11,12,13,14	5,6,9,10,11,12	S ₅
4	5,6,9,10,11,12	2,5,6,9,10,11,12,13,14	5,6,9,10,11,12	S ₆
3	7,8	2,3,4,5,6,7,8,9,10,11,12,13,14	7,8	S ₇
3	7,8	2,3,4,5,6,7,8,9,10,11,12,13,14	7,8	S ₈
4	5,6,9,10,11,12	2,5,6,9,10,11,12,13,14	5,6,9,10,11,12	S ₉
4	5,6,9,10,11,12	2,5,6,9,10,11,12,13,14	5,6,9,10,11,12	S ₁₀
4	5,6,9,10,11,12	2,5,6,9,10,11,12,13,14	5,6,9,10,11,12	S ₁₁
4	5,6,9,10,11,12	2,5,6,9,10,11,12,13,14	5,6,9,10,11,12	S ₁₂
7	13	13	13	S ₁₃
6	14	14,13	14	S ₁₄

Next, the cone matrix was calculated. This matrix is determined based on the ranks of the levels of factors identified in the leveling stage. Also, the

levels of each factor are recorded at the end of the column and row of each level (Table 8).

Table 8. Conical matrix

Level	S ₁₃	S ₁₄	S ₂	S ₁₂	S ₁₁	S ₁₀	S ₉	S ₆	S ₅	S ₈	S ₇	S ₃	S ₄	S ₁	Factor
1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	S ₁
1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	S ₄
2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	S ₃
3	0	0	0	0	0	0	0	0	0	1	1	1	1	1	S ₇
3	0	0	0	0	0	0	0	0	0	1	1	1	1	1	S ₈
4	0	0	0	1	1	1	1	1	1	1	1	1	1*	1*	S ₅
4	0	0	0	1	1	1	1	1	1	1	1	1	1*	1*	S ₆
4	0	0	0	1	1	1	1	1	1	1	1	1	1*	1*	S ₉
4	0	0	0	1	1	1	1	1	1	1	1	1	1*	1*	S ₁₀
4	0	0	0	1	1	1	1	1	1	1	1	1	1*	1*	S ₁₁
4	0	0	0	1	1	1	1	1	1	1	1	1	1*	1*	S ₁₂
5	0	0	1	1	1	1	1	1	1	1	1	1*	1*	1*	S ₂
6	0	1	1	1	1	1	1	1	1	1*	1*	1*	1*	1*	S ₁₄
7	1	1	1	1*	1*	1*	1*	1*	1*	1*	1*	1*	1*	1*	S ₁₃
	7	6	5	4	4	4	4	4	4	3	3	2	1	1	level

Next, the cone matrix was used to obtain the first visual output of the hierarchical directional structure of the variables (Figure 1).

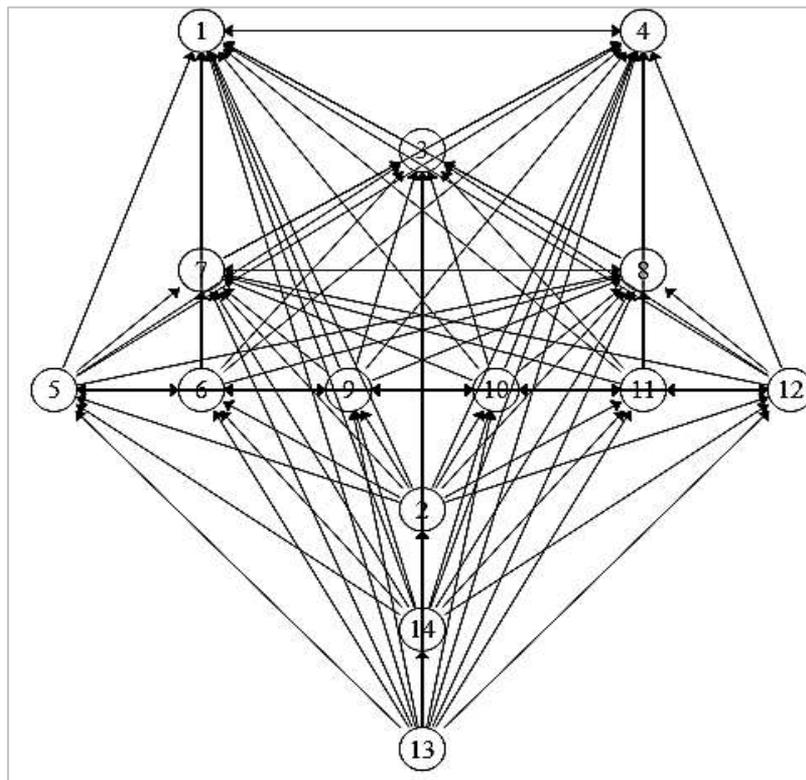


Figure 1. Initial visual output of the directional structure of the hierarchy of variables

The initial visual output of the structure was transformed into the final model by replacing numbers with variable names and representing vertices in rectangular shapes in the reduced cone matrix step. In this regard, to improve the

readability of the model, additional paths were made by maintaining the levels and structures of the factors and access to the factors, and the final model was presented (Figure 2).

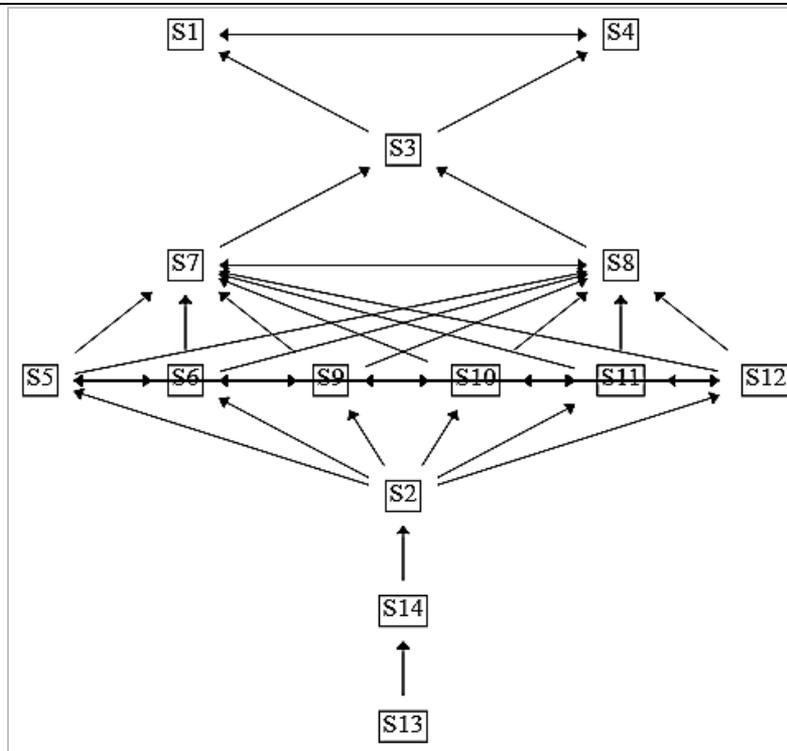


Figure 2. The final model of social network marketing determinants in electronic sports businesses

Finally, to determine the determining variables, MICMAC analysis was used, which was created by Duperrin & Godet (1973). Using Mi'kmaq analysis, the factors can be classified into four clusters, namely: (1) the autonomous cluster, which includes factors that have weak influence and dependence.

(2) Dependent cluster, which has low power of influence but high power of dependence. (3) The independent cluster, consisting of factors that have strong influence and weak dependence, and (4) the link cluster that includes factors that have strong influence and dependence (Figure 3).

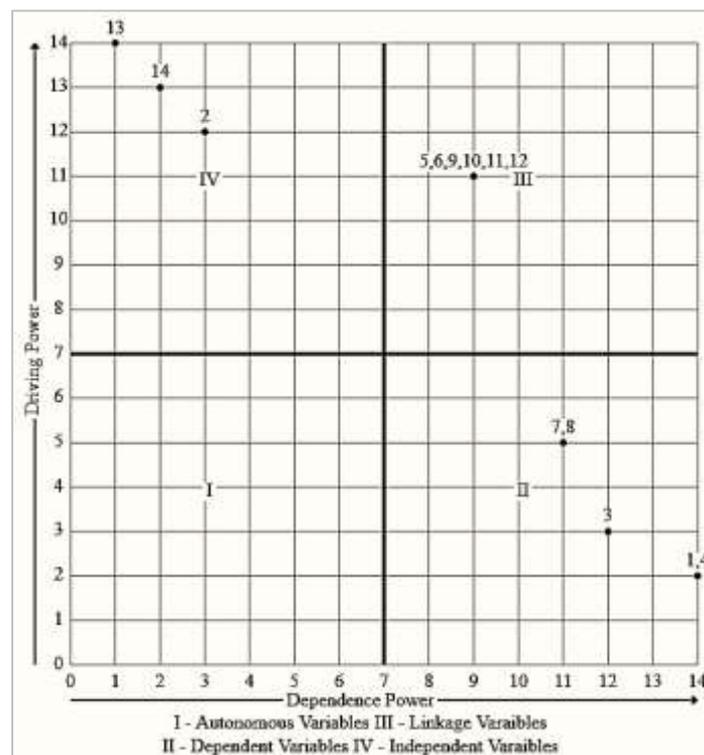


Figure 3. The output of Micmac analysis

By using Micmac analysis, 14 factors related to social network marketing in electronic sports businesses can be classified into three clusters according to their power of influence and dependence (Figure 3).

The influence dependence diagram shows that there is no agent in the autonomous cluster, which means that no agent is completely isolated from this system. The second cluster of dependent factors includes "customer knowledge", "competitor analysis", "effective interactions", "change in consumer behavior" and "effectiveness of marketing measures". These factors have strong dependence power and weak influence power and are located at the high levels of the interpretive structural model hierarchy. Because of their strong

4. Discussion and conclusion

This research identified and analyzed the determinants of social media marketing in electronic sports businesses. Through the use of data base theory and a survey of experts, 14 determining factors were identified, including consumer behavior change, value creation, effective interactions, Determining the platform, the effectiveness of marketing measures, knowing the customer, analyzing competitors, determining the content production strategy, financing and legislation. Based on interpretative structural analysis, these factors were categorized into 7 levels and the hierarchical model of social network marketing was formed. Compared to previous studies, the results of this study are consistent with the results of [Shafei NikAbadi et al \(2023\)](#); [Fasanqari et al \(2021\)](#); [Elahi, Fathi & Saffari \(2016\)](#) and [Amanati et al \(2020\)](#). Specifically, the study ([Shafei NikAbadi et al., 2023](#)) points to the value provided in business, which is in line with the importance of value creation in social media marketing discussed in this research. Also, ([Fasanqari et al., 2021](#)) has mentioned market science and market orientation, which is consistent

dependence, other factors are needed to advance the dependent factors in achieving the system goal. It was also found that the factors "Determining the platform", "Determining marketing achievements", "Determining tactics and policy", "Determining content production strategies" and "Financing and legislation" are in the link cluster. It was also found that the factors "creating value", "spreading the influence of social networks" and "growing the digital environment" are in the independent cluster. It should be noted that these factors have strong influence and weak dependence power, which shows that they have a great influence on other factors in the dependent cluster. In general, these factors can be considered as the axis of strategy adjustment for decision makers.

with the findings of this research regarding the importance of knowing the customer and analyzing competitors. In addition, ([Amanati et al., 2020](#)) pointed out the role of the power of social media and the trend towards digital systems in marketing, which is consistent with the impact of the growth of the digital environment and the expansion of the influence of social networks in this research. Also, ([Fasanqari et al., 2021](#); [Zarei, Varmaghani, & Varmaghani, 2020](#)) has mentioned market science and market orientation, which is consistent with the findings of this research regarding the importance of knowing the customer and analyzing competitors. In addition, ([Amanati et al., 2020](#)) pointed out the role of the power of social media and the trend towards digital systems in marketing, which is consistent with the impact of the growth of the digital environment and the expansion of the influence of social networks in this research. On the contrary, this research is inconsistent with the study ([Shafei NikAbadi et al., 2023](#)) that introduced "type of technology" as the most effective factor. According to the findings of this research, technology alone is not the determining factor of

social network marketing; Rather, there are more complex interactions between different factors that are influential. The results of this research showed that the change in consumer behavior and the effectiveness of marketing measures are at the highest level of the hierarchical model. These two factors are considered as the main objectives of marketing in social networks, because changing consumer behavior is a sign of success in meeting his needs through effective marketing measures. This result is consistent with research (Agarwal et al., 2023) that pointed to the effect of customer relationship management in social networks and improving customer satisfaction. In other words, social network marketing, like general marketing, puts its main goal in changing consumer behavior and increasing his satisfaction, it is worth mentioning that changing consumer behavior is known as one of the main marketing goals in social networks. The reason for this is that in the space of social networks, consumers are continuously exposed to marketing and advertising content. This space allows companies to deeply influence consumer preferences and purchasing decisions through personalized interactions and ongoing customer relationship management. The obtained results show that these changes are not only due to the provision of useful and attractive information by sports businesses, but also due to the instant access to the opinions and feedback of other consumers in social networks. Specifically, when consumers feel that their needs are well understood and answered through marketing messages, they are more likely to change their purchasing behavior. The effectiveness of marketing measures in social networks has also been placed at the highest level of the model due to the possibility of measuring and following the feedbacks and consumer data accurately. Through analytical tools available on social media platforms, sports businesses can immediately evaluate the success of their campaigns and improve their actions based on real data. This finding is in line with the results of previous researches that have addressed the importance of measuring feedback and data in digital marketing. Effective interactions

are also an important factor in the success of social media marketing. Deep and continuous interactions with customers make sports businesses able to provide better services and products. This is consistent with the findings of (Agarwal et al., 2023) who pointed out personal interactions and their impact on customer satisfaction. For this reason, effective interactions are known as one of the most effective factors in social media marketing, and unless a detailed understanding of the customer and competitor analysis is done, these interactions cannot be fully successful. Because these interactions create stronger bonds between businesses and customers. Continuous and meaningful communication in social networks allows companies to continuously examine the needs, preferences, and feedback of customers and take appropriate actions in response to them. This leads to personalized experiences and improved customer satisfaction. According to the findings of Agarwal et al (2023) and Mirmohammadian Toutkaleh, & Ghorbanighahfarokhi (2022), personal interactions can directly affect customer satisfaction and loyalty, because customers feel that the business pays special attention to their needs and opinions. Determining the platform, determining marketing achievements, determining content production strategy, financing, and legislation are in the fourth level of the model, and these factors are affected by value creation. Value creation is one of the determining policies in the modeling of electronic sports businesses and helps to establish a link between these factors and higher levels of the model. In other words, creating value acts as a driving engine in social network marketing and helps to strengthen the relationship between different factors. Value creation is one of the determining principles in the development of e-sports businesses, because it leads to the creation of added value for customers and businesses, improving the user experience and increasing the attractiveness of services and products. This added value can be realized through the correct determination of the right platforms to advertise and communicate with the target audience, accurate



content creation strategies, sustainable financing, and compliance with the rules and regulations related to digital marketing. In other words, this determining factor leads to facilitating interactions between these components and increasing their effectiveness. For example, the right marketing platforms can only achieve the desired results when the content produced fits the needs of the customer and the culture of each platform. Also, proper financing and correct legislation also play a decisive role in supporting marketing measures and improving their effectiveness. The findings of the research show that the spread of influence of social networks is at the sixth level of the model and is influenced by the rapid growth of the digital environment. This shows that with the increase in access to the Internet and digital technologies, social networks have become the main platform for communication and advertising for sports businesses. The more social media penetration, the more sports businesses can leverage these platforms to create value, engage with customers, and promote their brands. These platforms play an important role in creating value and strengthening business relationships with customers, especially due to the wide and immediate access to consumers, the possibility of analyzing their behavior and personalized interactions. However, [Kurco \(2022\)](#) and [Safarian, Nasimi, & Rahmaty \(2024\)](#) believes that despite the high influence of social networks, traditional marketing still has more credibility and integrity than marketing in social networks. This can be seen as a potential weakness for social media marketing. Because some consumers still trust traditional methods more. This greater trust may be due to their views and long-term experiences of traditional marketing, which relies more on direct and personal relationships. Therefore, although the spread of social media influence has provided many opportunities for sports businesses, this potential weakness shows that marketers must adopt comprehensive strategies that, while exploiting the capacities of social networks, maintain the credibility and trust established in traditional

marketing. The results of this research show that the growth of the digital environment plays a role as the main and underlying factor in social network marketing. This fundamental factor has provided numerous opportunities for sports businesses to take advantage of digital possibilities to enhance their marketing strategies. The rapid growth of digital technologies such as high-speed Internet, smartphones, and social networking platforms have made these platforms the primary venues for advertising, customer interactions, and brand development. These findings are consistent with the results of [Mohammadi & Salem Hasan \(2024\)](#) and [Amanati et al \(2020\)](#), which showed that the growth of digital systems serves as a basis for the expansion of marketing in social networks. By providing the necessary infrastructure, the digital environment first helps to increase the influence of social networks, and then, using these platforms, sports businesses can start marketing processes. Digital growth enhances the ability of businesses to reach larger audiences and perform detailed analysis of customer behavior. And this allows them to implement their marketing strategies in a more effective and targeted way. This finding shows that the digital environment not only provides a platform for the growth of social networks, but also acts as the main driver in the success and promotion of marketing strategies in these platforms. The results of the MICMAC analysis showed that the factors of "value creation", "expanding the influence of social networks" and "growth of the digital environment" are in the cluster of independent factors. This means that these factors have a great influence on other factors related to social network marketing, but they themselves are less influenced by other factors. These three factors are known as critical indicators in the success of social media marketing in sports businesses. Value creation, as the main driving force, allows businesses to build deeper relationships with customers by improving the customer experience and creating value propositions. On the other hand, the expansion of social media influence shows the vast capacity of

these platforms to reach new audiences and increase brand awareness. The growth of the digital environment also provides a suitable platform for enhancing marketing strategies and enables businesses to quickly adapt to changes in technology and consumer behavior. On the other hand, the expansion of social media influence shows the vast capacity of these platforms to reach new audiences and increase brand awareness. The growth of the digital environment also provides a suitable platform for enhancing marketing strategies and enables businesses to quickly adapt to changes in technology and consumer behavior. Therefore, these factors should be recognized as the determining forces affecting the future of social network marketing, and businesses should strengthen their ability to adapt and respond to changes in order to be successful in the digital competitive environment. The findings of the MICMAC analysis show that the factors "determining the platform", "determining tactics and policy", and "determining the content production strategy" are in the linked cluster. These factors are very unstable due to their strong influence and high dependence. This means that any change in these factors can have far-reaching effects on other social media marketing factors and strongly influence marketing trends. Determining the platform as one of the main components of marketing plays a vital role in determining the position and reaching the target audience. Determining tactics and policies helps businesses achieve their marketing goals using specific strategies. Determining the content production strategy is also a determining factor in attracting and retaining audiences. Because attractive and targeted content can create effective interactions and strengthen brands. Since these factors both have a strong influence on other factors and are highly dependent on them, the smallest change in them can have significant effects on the whole. Create a marketing structure This instability causes these factors to be considered as target and risk variables. In designing and implementing social network marketing programs, special attention to these

factors is necessary, because strategic changes in these areas can determine the success or failure of marketing campaigns. The research findings showed that changing consumer behavior and the effectiveness of marketing measures are known as the most important factors in social network marketing in electronic sports businesses. These factors indicate the ability of businesses to directly influence customer behavior through targeted marketing and effective interactions. Changing consumer behavior is usually seen as a sign of marketing success, as consumers respond to marketing content and are driven to take actions such as purchasing or engaging more with the brand. The effectiveness of marketing measures also means the ability of the business to achieve the specified goals through marketing campaigns, which is usually evaluated by detailed analysis of data and customer behavior. These two factors (change in consumer behavior and effectiveness of marketing actions) are reinforced by three other determinants, namely effective interactions, competitor analysis, and accurate customer knowledge. Effective interactions help businesses to establish continuous and meaningful communication with their customers. As a result, it leads to improved customer experience and increased loyalty. Competitor analysis also makes businesses aware of their competitors' strategies and can adopt more efficient and differentiated strategies. Knowing the customer is also one of the most important success factors in marketing, because by accurately understanding the needs, preferences, and behavior of customers, businesses can better target their marketing content. The research findings also showed that the growth of the digital environment, as one of the determining factors, helps to expand the influence of social networks. With the increasing access to digital technologies and the development of online infrastructure, social networks have become a vital platform for business and marketing interactions. This expansion not only enables reaching a larger audience, but also enables eSports businesses to design and implement more effective marketing

strategies using digital methods. As a result, the growth of the digital environment directly affects the success of social network marketing and plays an important role in ensuring it. Based on this, managers, trustees and relevant officials are suggested to have a special focus on changing consumer behavior through social media marketing strategies and to increase customer loyalty by creating effective interactions and providing attractive content. Also, intelligent use of customer data and detailed analysis of consumer behavior can help optimize the effectiveness of marketing actions. Continuous and effective interactions with customers through customer relationship management tools are essential to improve communication and strengthen customer trust. In addition, regular analysis of competitors and accurate understanding of the market is vital to improve marketing strategies and attract new audiences. Investing in the growth of the digital environment is also recommended as a determining factor for better exploitation of the influence of social networks. Finally, choosing the right platforms and designing content production

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There is no conflict of interest.

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strategies suitable for each platform can lead to increasing the effectiveness of advertisements and the success of e-sports businesses. It is worth mentioning that this research has also been associated with limitations that need to be considered in generalizing the results. The first limitation is that this research has reflected the opinions of 18 experts based on their expertise; Therefore, the views of these people may differ from the actual opinions of users and audiences of electronic sports businesses. Another limitation is the use of interpretive structural model and mik-mak analysis to evaluate the interrelationships between the identified factors. These methods are based on complex mathematical equations that may be difficult for some to understand the relationships between factors. Therefore, future researchers are suggested to investigate the model presented in this research using survey methods and surveys of the audience of e-sports businesses and use other methods such as hierarchical analysis and fuzzy dimethyl to analyze the mutual relationships between factors so that the results are more accurate and understandable.

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