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INVESTIGATION OF THE TRENDS OF ORGANIZATIONS FOR THE USE OF MARKETING INTELLIGENCE AND TECHNOLOGY IN THE SCOPE OF STRATEGIC MARKETING

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ABSTRACT

Marketing departments are like the heart of a business. To what extent they can benefit from marketing, and how much marketing focused they can think; It affects the life expectancy of the enterprises in the sector. Marketing requires being commercial, creative and strategic, and encourages thinking to focus on these points. At this point, marketing intelligence arises. Marketing intelligence is essential and essential for all large and small companies. Strategic marketing intelligence is aimed at identifying market opportunities, market penetration strategies and market development methods of businesses, as well as the process of collecting and analyzing market-related information. With the speed brought by the digital age, companies must constantly feed their marketing intelligence. Making new leaps in marketing, and generating revenue in this way, is essential for marketing success. This requires being aware of change, adapting to change, using new technologies, and having the ability to follow trends. In this study, the tendencies of the managers operating in the manufacturing and service sectors in the Kocaeli Organized Industrial Zone towards the use of marketing intelligence and marketing intelligence tools and technologies in the context of strategic marketing were examined using a survey method. The findings of the study were obtained by analyzing the data collected from 403 managers using an approach which includes an unsupervised fuzzy clustering algorithm. In the results of this study, the correlations between strategic marketing and marketing intelligence were revealed for sub-data in each cluster generated by fuzzy clustering algorithm with 97.0% accuracy-rate and overall-data, and recommendations were made to researchers and managers.

Key words: Strategic Marketing, Marketing Intelligence, Marketing Intelligence Tools, Technology, Technology Usage, Fuzzy clustering, Correlation

1. INTRODUCTION

Marketing consists of special techniques that require creative solutions and involve innovation approaches. Strategic marketing is the management process that businesses develop regarding marketing in the medium and long term, which includes strategies and their implementation. Managers working in the field of marketing should know the market share of the business, know the market ecosystem of their competitors, have detailed knowledge about the characteristic structure of the region, have knowledge about their business product ranges, be able to analyze the sectoral needs, have a high level of customer communication, have a solution-oriented approach to problems, reactive and proactive studies. should be ready to act in accordance with the cultural structure of its location, and be able to receive individual demands in accordance with the needs and demands of the sector. If they have detailed ideas about the demographic structure of the countries, managers in the market ecosystem can make difference-making strategic studies by using marketing intelligence.

Marketing intelligence is the right decision of businesses to determine market opportunities, market penetration strategies, and market development methods; and in particular, the process of collecting and analyzing market-related information in order to achieve marketing objectives. It can be said

that marketing intelligence is a skill that creates competitive advantage for businesses (Papatya, 2007: 99).

In recent years, when technology has entered an upward trend, new developments and R&D studies have gained momentum. As of 2020, the transition from digital technology to the age of artificial intelligence is taking place at soft and applicable levels. Today, when changes are experienced in time and conditions, some problems that deeply affect the life of society may also have negative effects in these transition periods. The change in business life, which has affected the life of society, has also affected the whole world. These include concordat, company bankruptcies, niche investment areas, new sectoral studies, increase in startups, new economic solution methods, the rise of virtual money use and e-commerce, the contraction in the production sector, the loss of the attractiveness of the office model, the rising momentum of flexible working order, automation. such as the rapid transition and the development of the use of 5G technology. Accordingly, businesses develop technology-based, difference-making sales strategies as a result of their financial and R&D studies. Customer and consumer groups, from the marketing intelligence creative techniques developed to the potential target audiences of the product and product groups; It offers technologies such as artificial intelligence (AI), hologram, augmented virtual reality (AVR), data mining, enterprise resource planning, customer relationship management (CRM), competitive intelligence, information management, scenario planning, online analytical processing (OLAP).

It is thought that the strategies and resources of enterprises play an important role in creating and maintaining competitive advantage in the activation of marketing intelligence (Kotler, 2001: 94). In this study, the tendencies of the managers of the manufacturing and service sector towards the use of marketing intelligence, marketing intelligence tools, and technologies in strategic marketing were examined using a survey method. A novel framework was proposed in order to comprehensively analyze the survey-data. Manager-evaluations related to the strategic marketing-based competitive-advantage were exhibited using unsupervised fuzzy clustering algorithm also known as a machine learning technique and statistical methods in the proposed framework. Thus, a comprehensive-assessment based on relations between strategic marketing and marketing intelligence/marketing intelligence technologies was carried out to investigate competitive-advantages of organizations.

2. CONCEPTUAL FRAMEWORK

In this section, after marketing and strategic marketing concepts are explained, marketing intelligence and marketing intelligence tools and technologies are examined.

2.1. Strategic Marketing

Marketing concept is a concept that occurs in line with human needs. Marketing of goods and services changes and develops depending on the prosperity of the consumers and the opportunities provided by technology. First, the first goal in marketing for businesses is to meet customer needs. Secondly, it means the collection of transactions related to marketing decisions and marketing plans to be used in business management decisions (Akdemir, 2017: 34). Marketing is an action that starts before production and continues during production, before, during and after sales. Marketing is not just an activity that starts after production (Uygur, 2020). In general, marketing is the relationship and activities between consumers who want and need goods and services and businesses that want to meet them (Aksoy, 2006: 23). Marketing is special techniques that require creative solutions and where innovation-oriented work is done.

Globally, it is stated that the marketing mix is 200 and above. In the international market ecosystem, the main reason for the strategy to be seen at 200 and above is that the marketing mix is viewed collectively. When the details are examined, the marketing mix consists of 4P. Promotion, which is included in 4P, is divided into many sections. In the light of these evaluations, the marketing mix consists of 4P, the Promotion is divided into divisions within itself, reaching 200 and above. During the time we came to 2020, new additions were made to the subsections of the Promotion function, and technology and some strategies were added (Uygur, 2020). Generally,

strategic marketing management; It is a management process for businesses to direct their future, related In dynamic market conditions, analyzing current talent and resources, creating the vision and mission, determining strategic options to achieve marketing goals, regulation, implementation and control of marketing programs (Torlak and Altunışık, 2012: 51).

Modern marketing methods have renewed themselves as a result of technological changes and have evolved into strategic marketing methods. Strategic marketing methods can be collected in 6 groups (Uygur, 2020):

- ✓ Classic Marketing Methods,
- ✓ Traditional Marketing Methods,
- ✓ Modern Marketing Methods,
- ✓ Social Media Marketing Methods,
- ✓ Digital Marketing Methods,
- ✓ Artificial Intelligence Marketing Methods,

The general features of strategic marketing management can be listed as follows (Pekcan, 1997: 17-18):

The state of the market in which we operate is taken into account: It is essential to make decisions according to the expectations of the consumers and the situation of the competitors.

Impressive strategies are applied: The aim here is In periods when external forces emerge, it is to be in a position to affect these forces, rather than to be the side that reacts.

The information system is important: For the development of various strategies, determining the information needs, how to access this information, where it will be used and how to store it is important.

It is imperative to establish a system for strategic decision-making: This system should be planned in a way that will affect decision-making in times of uncertainty, help make a strategic choice, and can be implemented in dynamic conditions.

Entrepreneurship tendency is important: Especially in large-scale businesses operating in more than one field and businesses that continue to operate in rapidly changing markets, the entrepreneurial tendency is of great importance. Strategies to be created in such environments should reveal the elements that will enable the development of entrepreneurs.

Strategies should be compatible with the business: Implementation of the strategies determined is a critical issue. The important point here is whether these strategies are suitable for the structure, system and culture of the enterprise or whether the enterprise changes in order to adapt to the strategies.

Global realities are impressive: Globalization significantly affects business strategies. Most businesses are no longer alien to global markets. On the contrary, it can be said that businesses are affected by all developments occurring in global markets. For example; Worldwide reductions for a raw material have an impact on the strategies of businesses using that raw material.

It includes long-term goals and strategies: One of the problems faced by many businesses is the determination of long-term goals and strategies. However, sustaining the success of businesses requires long-term thinking. Therefore, the need for methods that will reveal a long-term perspective is increasing. Strategic marketing management focuses on well-chosen strategies to achieve future goals.

Marketing strategies have gained a strategic importance as of 2015. The most important reason for this situation; In production goods, consumer goods, service sector product groups, diversity has increased, and total supply has started to take place in total demand by appealing to more customers and consumer groups (Uygur, 2020). By improving time management in decision making mechanism; focusing on profit has accelerated and the producers have improved their studies in

marketing intelligence; they have accelerated the technology and the transition to individual production. The most important factor that ensures the continuity of the activities of businesses is the application of effective marketing strategies. Marketing strategies include determination of customer requests and preferences, after-sales activities such as distribution, advertising, promotion activities, service and maintenance, planning and market research as well as sales of goods and services. Marketing covers a wide spectrum from production to sales, from advertisement to promotion. Today, many businesses fail because of the wrong marketing strategies they implement in their activities, and even end their activities (Nar and Gök, 2016: 135).

2.2. Marketing Intelligence

Today, businesses continue their activities in the rapid organizational change that emerged as a result of technological developments and economic and social changes (Aaby and Discenza, 1995: 30-35; Raymond, 2003: 260-269).

Rapid organizational change is the result of what Chakravarthy (1997: 69-82) described as hyper competition. Hyper competition; It means that although sectors have high production capacity, they cannot use it because there is no demand (Öncel, 2005). In such a complex and unstable structure, businesses need an intellectual power to minimize risk (Hannula and Pirttimaki, 2003: 593-599). In this context, marketing intelligence can be described as the intellectual power and capital required by businesses. Nowadays, the factor that plays a key role in companies to compete by doing the necessary work, that is to innovate, is their intellectual capital. Intellectual capital is a term that expresses the ensemble of implicit values. Intellectual capital includes human, organizational and relational capitals (Baktır, 2009: 43).

The process of thinking, reasoning, perceiving the facts, judging, and drawing a conclusion from these processes is called intelligence. Marketing intelligence, Zikmund (1996) defines it as “the network created to obtain continuous information about the unrepeatable developments in the marketing environment”. In other words, marketing intelligence requires collecting broad and versatile information about competitors' positions, abilities, and intentions to stay one step ahead of the competition (Sammon et al., 1984). Marketing intelligence in its most general form; “It is a measure that reveals how close a person stands to marketing, how seriously a person can absorb it, how seriously a person can take into account marketing, how accurately a person can perceive marketing, to what extent a person can benefit from the power of marketing and similarly, and unfortunately, its standards have not yet been developed. " (Kaya, 2005).

Ettorre (1995) marketing intelligence; competitors, through the process of gathering important information about competitors' position in the market, and their core competencies. In all definitions, the strategic importance of marketing intelligence is emphasized, and its role in building the future of businesses is also indicated.

Strategic perspective in marketing has revealed the concept of marketing intelligence. Huster (2005: 13) defined marketing intelligence; as “The ability to fully understand, analyze and evaluate the internal and external environment about the customers, competitors, market and sector in order to improve the tactical and strategic decision-making processes of the enterprise” (Papatya and Papatya, 2006: 55-68). According to this explanation, marketing intelligence is the proof of the fact that marketing plays a very important role in the decision-making process and helps to facilitate information sharing within the organization (Trim and Lee, 2008: 731-733).

Businesses with marketing intelligence need to keep their relationships with their customers strong. Businesses should create loyal customers who can persuade people around them to buy products. In Figure 1, it is seen that as the relationships increase, the loyal customers of the business turn into their advocates.

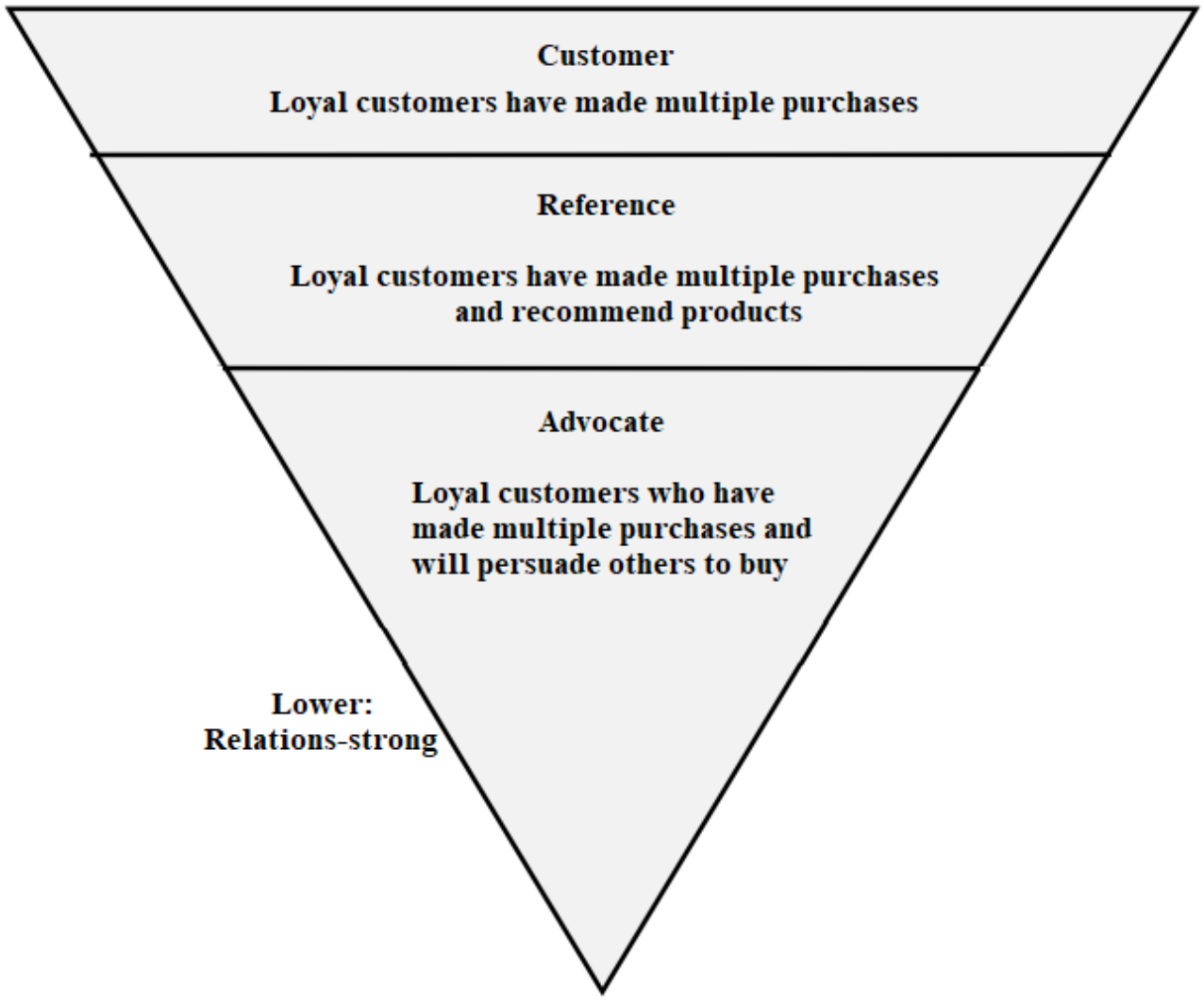

Figure 1. Customers and Relationships
Source: Okumuş and Mutlu, 2012: 54.

Marketing intelligence requires strategic, innovative, and creative thinking (Bernhardt, 1994: 12-13). The set of marketing values, the pursuit of change, always asks businesses the question of how to nurture marketing intelligence. For this reason, enterprises develop strategies and tactics to manage the change process through continuous observation and research of change (Gilad, 1991: 20-25; Lackman et al., 2000: 6-9). Marketing intelligence is shaped by the continuous change of processes that evaluate competitor movements in the market and sector forces (Prescott and Gibbons, 1993: 4-11).

Marketing intelligence is the basis of competitive intelligence (Wright and Calof, 2006: 453-465; Calof and Wright, 2008: 717-730; Kinsinger, 2007: 535-541). For this reason, marketing intelligence draws attention with its critical role in determining and sustaining the competitive advantage of businesses (Papatya, 2011). Marketing intelligence; It is the sum of the efforts to convince the customers and consumer groups, how the products will be presented, and by presenting the solutions suitable for individual needs with interaction, and the customer experience and the time-oriented strategies of each group. Enterprises, technological products developed in accordance with the demographic and cultural structures of the society, through to integrate with the customer experience, to appeal to the emotions of people, and to provide individuals with experience, finally to ensure that the product is triggered by purchasing behavior. This process; It is a result of strategy studies and structuring marketing intelligence (Uygur, 2020).

Gathering marketing information can be thought of as a long and difficult process. Marketing intelligence draws attention with its systematic structure that facilitates this process (Harrigan et al.,

2008; Tüfekci, 2011: 56-57). The information in the market may have been gathered with marketing intelligence. Marketing intelligence and the use of marketing information are not in the same sense, but the use of these two concepts is interdependent. Marketing intelligence is the act of collecting marketing data. According to this data, useful information will be used selectively by the business. Therefore, businesses that use marketing intelligence show a better performance in the market (Kırca et al., 2005: 25). Marketing intelligence of a business depends on the effective use of market information and market orientation (Shapiro, 1988: 121).

3. METHODOLOGY

Strategic marketing (SM) is a key indicator for an organization to provide competitive-advantage in market. As a result of technological developments and innovations, top/smart companies need to focus on marketing intelligence (MI) and related-technologies in order to evaluate their SM-plans.

In this study, we investigated SM-evaluations and developments in top-companies of Kocaeli Industry. The main focus of this study revolved around evaluation of SM-based competitive-advantage by taking the advantages of expert-perspectives. Thus, we prepared a comprehensive-survey and conducted it to 403 randomly-selected experts from the top-organizations of Kocaeli Industry.

The comprehensive-survey includes the following scales with 21-items prepared using five-level Likert scale and 17-items related to the usage of MI-technologies.

- ✓ SM-perception scale: This scale was developed by Venter and Rensburg (with reference to McDonald and Dunbar, 2004) and consisted of 10 items based on evaluating SM-perceptions of experts.
- ✓ MI-availability scale: This scale (Venter and Rensburg, 2014) involves four essential headings (Market intelligence, Political and regulatory intelligence, Business intelligence, Macro-environmental intelligence) with totally 11 items related to MI-availability in companies.
- ✓ The usage of MI-technologies (MIT): This subject is related to whether companies use 17 MI-tools and technologies in decision-making processes.

For above-mentioned purpose, we generated 403×6 dimensional data matrix from the survey-responses. This data matrix includes SM-perception, MI-headings and MIT-usage scores which were calculated from expert-responses. A novel framework for SM-based competition-evaluations is proposed as in Figure 2; where SM_{ji} is the ith item-response of jth expert for SM-perception scale, SM_j is the score calculated for jth expert using her/his responses for each SM-item, MI_{ji} is the ith item-response of jth expert for MI-availability scale, MI_j^k (k=1,2,3,4) is the score calculated for jth expert using her/his responses for each MI-heading, MIT_{ji} is the usage-status of ith MI-technology, MIT_j is the jth expert-score calculated by MIT-usage rate. The 403×6 dimensional data matrix and its uncertainties were analyzed using fuzzy clustering algorithm in order to determine overall and intra-relationships of SM and MI scales.

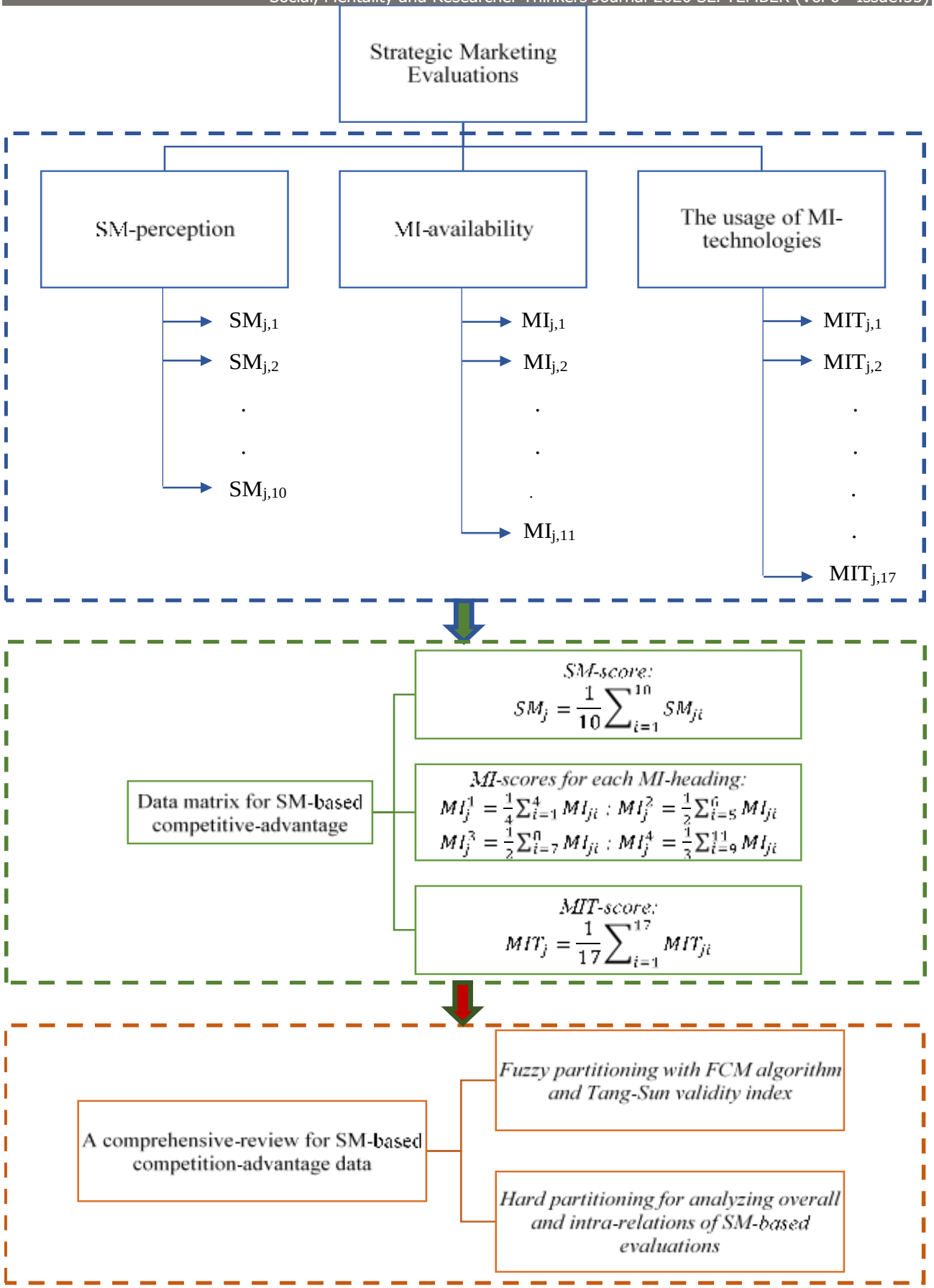

Figure 2. The Proposed Framework for SM-Based Evaluations

3.1. Unsupervised Clustering Technique

Clustering is a fundamental technique of machine learning to analyze the structure of the complicated and big-business data. Besides, business-data includes several uncertainties regarding to expert-judgements, measurement and evaluation instruments. In this study, we used fuzzy c-means (FCM) algorithm, as the centroid-based fuzzy clustering technique in machine learning, to analyze SM-based evaluation data matrix and its uncertainties. FCM developed by Bezdek (1981) is an optimization problem as in Eq. (1):

$$\begin{aligned} &\min J(U,V) = \sum_{k=1}^{n}\sum_{i=1}^{c} u_{ik}^{m}\left(\left\|x_k - v_i\right\|\right) \\ &\text{subject to: } 0 \le u_{ik} \le 1,\ \forall i,k;\ \sum_{i=1}^{c} u_{ik} = 1,\ \forall k;\ 0 \le \sum_{k=1}^{n} u_{ik} \le n,\ \forall i \end{aligned} \tag{1}$$

where J is an objective function; $X = \{x_1, x_2, ..., x_n\}$ is a data set with n data-points in p-dimensional space; c and m are cluster-number and fuzziness-order, respectively; $V = [v_1, v_2, ..., v_c]$ is the cluster-center vector; $U = [u_{ik}]_{cxn}$ is the membership matrix; ||.|| is Euclidean norm.

The membership function and cluster-center, as the solutions of Eq. (1) using Lagrange multiplier method, are given as in Eqs. (2)-(3):

Membership function:

$$u_{ik,t} = \left[\sum_{j=1}^{c}\left(\frac{\left\|x_k - v_{i,t-1}\right\|_A}{\left\|x_k - v_{j,t-1}\right\|_A}\right)^{2/(m-1)}\right]^{-1} \tag{2}$$

Cluster-center:

$$v_{i,t} = \frac{\sum_{k=1}^{n}(u_{ik})^m x_k}{\sum_{k=1}^{n}(u_{ik})^m} \tag{3}$$

FCM-steps are given as follows:

Algorithm 1. The steps of FCM algorithm

Inputs: *X:* data-matrix***,*** *c:* cluster-number, *m:* fuzziness-order, *iter:* iteration-number, *ε:* error

Outputs: *U*: membership-matrix, *V*: cluster-center vector

Step 1. *Initialize cluster-centers randomly*

Step 2. for *t=1* to *iter*.

- ✓ Calculate Euclidean distances as follows:

  $$d(x_j, v_i) = \left\|x_j - v_i\right\|$$

- ✓ Calculate membership values using Eq. (2)
- ✓ Calculate cluster-centers using Eq. (3)
- ✓ If $\left\|v_{i,t} - v_{i,t-1}\right\| \le \varepsilon$ then END else go to Step 2.

FCM is also known as the unsupervised clustering algorithm. Hence, cluster validity indices are used for determining the optimal fuzzy partitioning of any given data. In this study, we utilized Tang-Sun's (2005) validity index in Eq. (4) which includes add-hoc punishing functions.

$$CVI_{TS}(u)=\left\{\frac{\sum_{i=1}^{c}\sum_{k=1}^{n}u_{ik}^{2}\left\|x_k-v_i\right\|^2+\frac{1}{c(c-1)}\sum_{i=1}^{c}\sum_{j=1,\,j\neq i}^{c}\left\|v_i-v_j\right\|^2}{\min_{i\neq j}\left\{\left\|v_i-v_j\right\|^2\right\}+1/c}\right\} \tag{4}$$

The hard-partitioning rule is carried out as follows:

IF $(u_{ik} > u_{jk})$, $i, j = 1,...,c, i \neq j$ THEN kth data-point (x_k) belongs to ith cluster

OR (5)

IF $(v_i > v_j)$, $i, j = 1,...,c, i \neq j$ THEN kth data-point (x_k) belongs to ith cluster

After hard-partitioning, the validity of FCM was evaluated using the accuracy-rate in Eq. (6):

$$accuracy = \frac{number\ of\ correct\ assessments}{number\ of\ all\ assessments} \tag{6}$$

3. RESULTS

The comprehensive-survey was conducted to 403 randomly-selected experts from Kocaeli Industry. Experts (respondents) were selected from senior-level (32.51%), middle-level (39.45%) and low-level management (28.04%). On the basis of sector, respondent-profiles are illustrated in Figure 3.

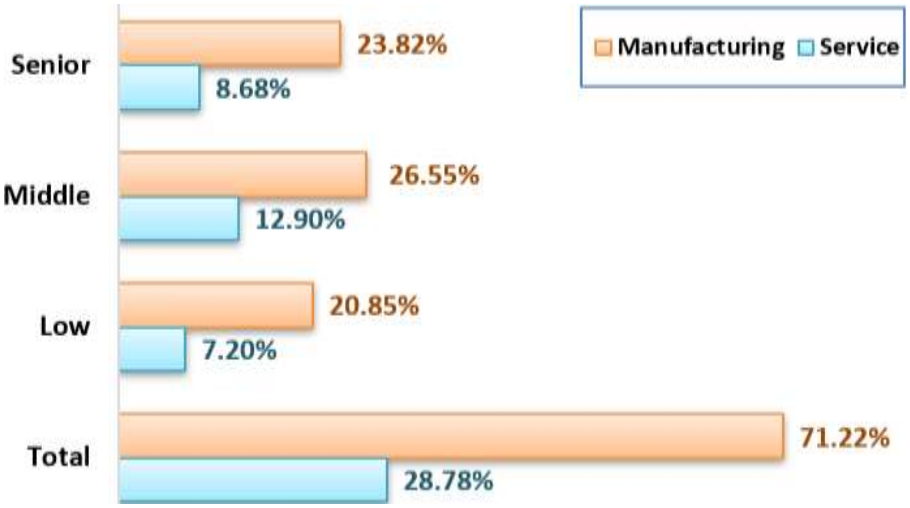

Figure 3. Respondent-Profile by Sectors

Approximately 33.75% of respondents were women, 66.25% of them were men. Besides, approximately 22.83% and 10.92% of female-managers were in manufacturing and service, respectively; approximately 48.39% and 17.86% of male-managers were in manufacturing and service, respectively. According to interaction of gender and sector, total work experiences (TWEs) of respondents are shown in Figure 4.

Figure 4. TWEs by Sector-Gender Interaction

Cronbach-α reliability coefficients for SM-perception and heading of MI availability scales in the survey are given in table 1:

Table 1. Internal-Consistency of the Survey

Scale	Abbreviation	# of item	Cronbach-α
Strategic marketing	SM	10	0.9169
Marketing intelligence	MI^1	4	0.8645
Political and regulatory intelligence	MI^2	2	0.8111
Business intelligence	MI^3	2	0.7920
Macro-environmental intelligence	MI^4	3	0.8520
Availability of marketing intelligence-general	(MI^1, MI^2, MI^3, MI^4)	11	0.9136
Availability of both strategic marketing and marketing intelligence	(SM,MI)_general	21	0.9519

To select the optimal fuzzy partitioning for 403×6 dimensional data matrix (namely SM-based evaluation-data), we utilized CVI_{TS} in Eq. (4). According to CVI_{TS}-results in Table 2, the optimal cluster-number (c^*) and fuzziness-order (m^*) can be selected as $c^*=3$ and $m^*=2.0$.

Table 2. CVI_{TS} Results for SM-Based Evaluation-Data

c\m	1.4	1.6	1.8	2	2.2	2.4	2.6
2	1.724722	1.71213	1.710333	**1.717188**	1.730173	1.747158	1.766601
3	**1.343657**	**1.351996**	**1.388454**	**1.419076**	**1.454018**	**1.497491**	**1.550106**
4	2.509657	2.459803	2.42409	**2.351329**	2.227347	2.131744	2.111175
5	4.08081	4.22717	4.406911	**4.585435**	4.710223	4.829736	5.048319
6	4.192252	4.725297	5.209171	**5.575924**	5.887533	6.156043	6.718271
7	4.60121	7.899776	8.751844	**10.63577**	14.43613	22.72988	28.52754
8	5.458215	6.540768	8.77133	**17.30222**	39.54181	36.96839	32.23368

As the result of FCM algorithm for ($c^*=3$, $m^*=2.0$), the optimal fuzzy-partitioning for SM-based evaluation-data is illustrated in Figure 4. According to figure 4, clusters of the SM-based evaluations can be linguistically identified as the levels of *low*, *medium* and *high* SM-competitive advantage in market.

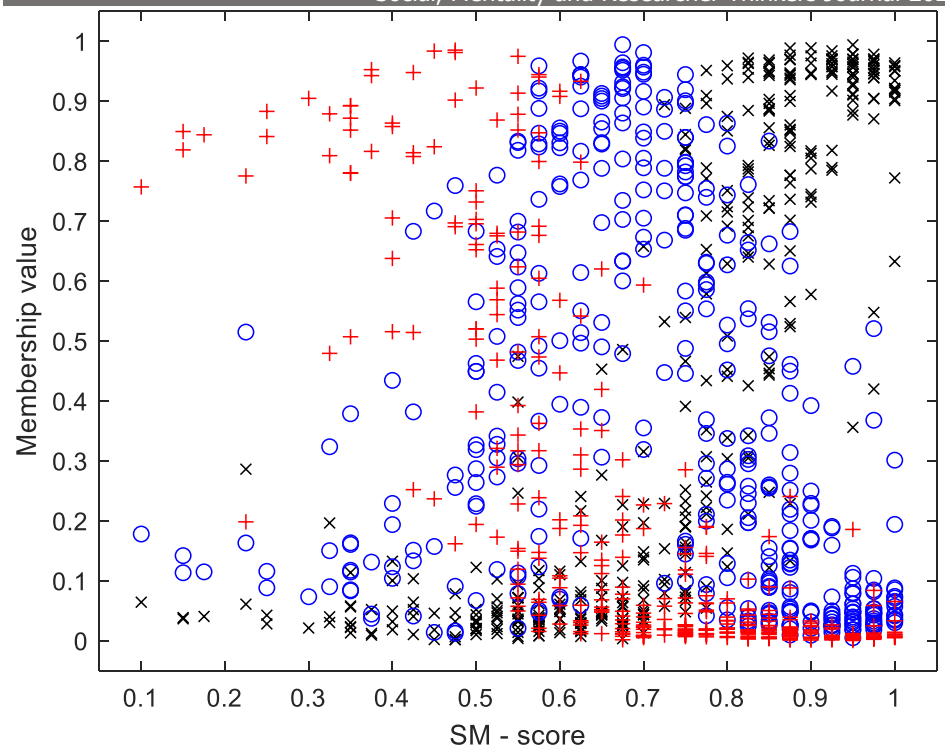

Figure 4. The fuzzy clustering of the SM-based competitive advantage evaluations (+ : Cluster-1, o : Cluster-2, × : Cluster-3)

After performing hard-partitioning in Eq. (5), the summary-statistics for SM-, MI- and MIT-scores are given in table 3. The accuracy-rate of fuzzy clustering was computed as 97.0%.

Table 3. Summaries for SM-Based Evaluations

		N	Mean	Std Deviation	Min	Max
SM-score	Cluster-1 (+) *"Low"*	94	0.478	0.123	0.100	0.700
	Cluster-2 (o) *"Medium"*	146	0.699	0.106	0.225	0.975
	Cluster-3 (×) *"High"*	163	0.890	0.071	0.700	1.000
	Total	403	0.725	0.187	0.100	1.000
MI^1-score	Cluster-1 (+) *"Low"*	94	0.516	0.182	0.000	1.000
	Cluster-2 (o) *"Medium"*	146	0.665	0.143	0.188	1.000
	Cluster-3 (×) *"High"*	163	0.876	0.135	0.250	1.000
	Total	403	0.716	0.207	0.000	1.000
MI^2-score	Cluster-1 (+) *"Low"*	94	0.454	0.176	0.000	1.000
	Cluster-2 (o) *"Medium"*	146	0.676	0.167	0.000	1.000
	Cluster-3 (×) *"High"*	163	0.877	0.127	0.500	1.000
	Total	403	0.705	0.225	0.000	1.000
MI^3-score	Cluster-1 (+)*"Low"*	94	0.456	0.160	0.125	0.750
	Cluster-2 (o)*"Medium"*	146	0.706	0.133	0.250	1.000
	Cluster-3 (×)*"High"*	163	0.899	0.118	0.375	1.000
	Total	403	0.726	0.217	0.125	1.000
MI^4-score	Cluster-1 (+)*"Low"*	94	0.460	0.180	0.000	0.917
	Cluster-2 (o)*"Medium"*	146	0.708	0.115	0.417	1.000
	Cluster-3 (×)*"High"*	163	0.913	0.095	0.583	1.000
	Total	403	0.733	0.216	0.000	1.000
MIT-score	Cluster-1 (+)*"Low"*	94	0.698	0.155	0.177	0.941
	Cluster-2 (o)*"Medium"*	146	0.830	0.087	0.471	1.000
	Cluster-3 (×)*"High"*	163	0.834	0.083	0.529	1.000
	Total	403	0.801	0.120	0.177	1.000

SM-, MI- and MIT-data in each cluster are not taken from normally distributed populations (*p*-values < 0.01). Thus, Spearman's correlation coefficients were used for assessing the relationships between SM and MI/MIT based on i) overall SM-based competitive advantage and ii) each levels of *low*, *medium* and *high* SM-based competitive advantage (each cluster). The correlation-results for overall-data and sub-data in each cluster are given in table 4. It can be seen from the OVERALL-results in table 4 that the scores of all MI-headings (MI^1-, MI^2-, MI^3-, MI^4-scores) and MIT-scores have considerable influence on SM-scores. Besides, MI^3-, MI^4- and MIT-scores in Cluster-1, MI^3-scores in Cluster-2 have strong effect on SM-scores, while other scores have small influence (MI^1-scores in Cluster-2, MI^2- and MI^3-scores in Cluster-3) or no significant influence (MI^1-, MI^2-scores in Cluster-1, MI^2-, MI^3-, MI^4-, MIT-scores in Cluster-2, MI^1-, MI^4-, MIT-scores in Cluster-3) on SM-scores.

Table 4. Correlation-Results for SM-Based Evaluations

Overall

	SM	MI_1	MI_2	MI_3	MI_4
MI_1	0,668*				
	0,000				
MI_2	0,667*	0,570*			
	0,000	0,000			
MI_3	0,755*	0,565*	0,595*		
	0,000	0,000	0,000		
MI_4	0,757*	0,585*	0,620*	0,712*	
	0,000	0,000	0,000	0,000	
MIT	0,305*	0,215*	0,308*	0,277*	0,263*
	0,000	0,000	0,000	0,000	0,000

Cluster-1

	SM	MI_1	MI_2	MI_3	MI_4
MI_1	0,065				
	0,533				
MI_2	0,129	0,181			
	0,216	0,081			
MI_3	0,365*	0,029	0,063		
	0,000	0,784	0,546		
MI_4	0,492*	0,062	0,072	0,420*	
	0,000	0,553	0,492	0,000	
MIT	0,360*	0,078	0,183	0,267*	0,274*
	0,000	0,457	0,078	0,009	0,008

Cluster-2

	SM	MI_1	MI_2	MI_3	MI_4
MI_1	0,205**				
	0,013				
MI_2	0,029	-0,050			
	0,729	0,550			
MI_3	0,283*	0,019	0,062		
	0,001	0,821	0,456		
MI_4	0,147	-0,048	0,040	0,168**	
	0,076	0,568	0,636	0,043	
MIT	-0,048	-0,134	0,071	-0,014	-0,145
	0,564	0,106	0,394	0,869	0,080

Cluster-3

	SM	MI_1	MI_2	MI_3	MI_4
MI_1	0,121				
	0,124				
MI_2	0,198**	0,179**			
	0,011	0,022			
MI_3	0,166**	0,052	-0,004		
	0,034	0,507	0,956		
MI_4	0,105	0,054	0,089	0,169**	
	0,184	0,497	0,259	0,032	
MIT	0,011	0,032	0,148	-0,065	0,011
	0,885	0,681	0,059	0,407	0,894

Cell Contents: Spearman rho
P-Value

** Correlation is significant at the 0.01 level*
***Correlation is significant at the 0.05 level*

4. CONCLUSION AND RECOMMENDATIONS

Marketing intelligence requires strategic, creative, and business thinking. In a business, every subject that falls within the field of marketing should be shared with all employees with every new development, search meetings, and brainstorming. From data to information, from knowledge to idea, from idea to plan, from plan to implementation, from implementation to decision must be reached.

Considering the results regarding customer orientation; Although it did not give meaningful results with the type of information and the source of the information, it gave meaningful results regarding the use of information. These results reveal the necessity of today's information systems to be thoroughly integrated with technological developments in order to create customer orientation. The formation of effective information systems and marketing intelligence should always be supported by strong technologies. Therefore, businesses need to improve their technical customer-oriented competencies and make the necessary investments in technology.

Marketing intelligence is not just a feature that should be sought in marketing professionals. Employees at all levels must have knowledge of marketing and pay attention to marketing. In order to create marketing intelligence, it depends on the harmony between the applications, resources, and customer orientation of enterprises in information systems and technologies. Resources and customer orientation can be considered as the creator of sustainable competitive advantage.

The other important issue is that organizations need to prioritize strategic marketing intelligence based on both scientific methods and technological developments. In this study, a comprehensive and effective decision-making process are attained for organizations and their managers using the proposed framework including its statistical and unsupervised learning tools. The proposed framework presents an innovative aspect relevant to create the several levels of relationships between strategic marketing and marketing intelligence or marketing intelligence technologies in market-competitiveness.

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