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Unveiling Organizational Rejuvenation: Insights from Fuzzy Interpretive Structural Modeling

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ABSTRACT

This study examines organizational rejuvenation in Iranian textile companies and identifies its key elements through a literature review and the application of Fuzzy Interpretive Structural Modeling (FISM). Expert perspectives from the textile industry were collected to explore the relationships among these elements. FISM analysis revealed ten components of organizational rejuvenation, including modification of business processes, organizational restructuring, development of organizational capabilities, changes in leadership, entrepreneurial leadership development, rejuvenation of organizational culture, business rebranding, implementation of turnaround strategies, fostering entrepreneurial attitudes, and promoting product innovation. The study provided practical recommendations, including selecting and appointing entrepreneurial senior managers, attracting and recruiting leaders with more entrepreneurial behavior, rewarding innovative ideas, engaging with startup entrepreneurs, and establishing startup business acceleration centers. Moreover, the study suggested creating a brand book, revising core work processes, adopting new organizational structures, providing specialized training, divesting unused assets, and supporting textile industry startups. The study also proposed future research directions, such as developing a strategic alignment model, exploring organizational restructuring with a startup approach, investigating entrepreneurial organizational culture, and studying startup activities within rejuvenation efforts. This study contributes to the understanding of organizational rejuvenation, providing theoretical insights and practical guidance for Iranian textile companies.

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1. Introduction

In many countries, companies in the textile industry are often traditional, which can lead to problems. They are mature firms that face a significant decline in performance at some point during their existence (Gotteiner et al., 2019). The problem that many mature organizations and industries, from multilateral institutions such as the World Health Organization to large businesses and textile companies, face is their renewal, and revitalization (Ahmad et al., 2023; Mahbubani, 2022; Tomita, 2025). For example, the Cotton, Textile and Apparel policy is designed to revitalize the once-thriving cotton industry in Kenya (Rutto et al., 2022), Korea (Hoon, 2024), and India (Imran et al., 2023). Domestic production in the Korean textiles and clothing industry has plummeted in recent years due to three key factors: sluggish domestic sales resulting from weak consumer sentiment following the COVID-19 pandemic, a sharp decline in exports amid slowing global economic growth, and weakened global competitiveness (Hoon, 2024). This industry has been in decline for decades, as most textile factories in Iran have been shut down (Farashah et al., 2019). The productivity and profitability of those firms have declined due to a lack of technological Innovation, reliance on low-value-added products, a dearth of export-oriented products, and an industrial structure dominated by small enterprises. In this situation, Iranian textile businesses need to rejuvenate. The trick in the real world of business is to make creative decisions with low risk and limited resources, a skill that only entrepreneurial organizations can achieve (Fuller & Stopford, 1994). When companies enter the decline stage in their life cycle, they primarily seek solutions to survive and continue their operations (Adizes, 2004; Can & Günay, 2022). At this stage, organizations must make difficult decisions such as organizational rejuvenation (Stopford & Baden-Fuller, 1990).

Furthermore, today's fast-paced and constantly evolving business environment presents new challenges for businesses in the market, as companies must engage in continuous innovation and rejuvenation to remain leaders and stay ahead of their competitors. However, the methods and activities through which the organizational rejuvenation and its associated capabilities are managed and developed are not distinguished in the existing literature. Therefore, this research seeks to fill this gap (Piehl, 2022). The process of organizational rejuvenation aims to revitalize and transform mature or stagnant organizations, enabling them to survive and succeed in a rapidly changing business environment in the long term. Prior research highlights the importance of proactively adapting, embracing innovation, and fostering a culture of continuous improvement for rejuvenating organizations (Adenfelt & Lagerström, 2006; Hitt et al., 2001). Stopford and Baden-Fuller (1990), Baden-Fuller and Stopford (1994), Miles (1999), and Kuratko et al. (2011) suggest stages of corporate rejuvenation, including building a top team, simplifying the organization, developing new competitive advantages, and leveraging unique strengths. Organizational rejuvenation, a type of entrepreneurial activity, can promote business growth at different levels (Wei & Duan, 2023).

However, it appears that organizational rejuvenation is beyond the scope of Covin and Miles's (1999) and Kuratko et al. (2011) perspective. They believe that organizational rejuvenation means just becoming more entrepreneurial by improving business processes, restructuring the organization, and developing organizational capabilities. However, the reality is that corporate entrepreneurial activities, such as the organizational rejuvenation, are more complex (Galanakis & Giourka, 2017) than the above mentioned perspectives. For instance, process and activities through which this organizational rejuvenation and the related capabilities are managed and developed are not distinguished in the existing literature of strategic entrepreneurship (Piehl, 2022). The current study aims to fill this research gap. In this research, we propose to expand the process of organizational rejuvenation in Iran's textile industry. Therefore, the research questions are: What are the drivers of organizational rejuvenation for Iranian textile companies? What are the dimensions of organizational rejuvenation? What are the outcomes of organizational rejuvenation in Iranian textile companies?

To answer the above questions, this research employs the Fuzzy Interpretive Structural Modeling (FISM) method. The FISM can analyze how the various factors that affect organizational rejuvenation are interrelated and dependent on one another. With this method, researchers can identify the primary factors that drive change, their hierarchical arrangement, and the extent to which they influence and depend on other dimensions. This way, they can create a structured model that illustrates how organizational rejuvenation operates in a specific context (Adenfelt & Lagerström, 2006). To conclude, further research is needed to gain a deeper understanding of organizational rejuvenation. By studying the

drivers, dimensions (elements), and outcomes of organizational rejuvenation, firms can make smart decisions and develop effective strategies to rejuvenate themselves. Using the FISM method can contribute to the existing knowledge of corporate rejuvenation and help those organizations that aim to embark on this entrepreneurial journey (Adenfelt & Lagerström, 2006; Hitt et al., 2001)

2. Literature Review

Organizational rejuvenation is a form of strategic entrepreneurship (Ireland et al., 2009; Kuratko & Audretsch, 2009). This organizational phenomenon is a strategic approach that enables businesses and firms to overcome decline and revitalize their capabilities and performance. For the first time, Stopford and Baden-Fuller (1990) proposed a framework that outlined the three key steps in the organizational rejuvenation process (simplification, recomplication, and Simplification). However, three years later, Fuller and Stopford (1994) stated four key steps for organizational rejuvenation (Figure 1).

The first stage is to prepare the management team (building a top team), which highlights the role of strong leadership in driving the rejuvenation efforts. A capable and committed management team is crucial for guiding the organization through the necessary changes and overcoming resistance to change. The second stage is to simplify the business (simplifying the organization), which involves making difficult decisions to end activities that have contributed to the decline of the organization. This stage demands a critical evaluation of the organization's operations and a focus on removing or restructuring activities that are no longer feasible or profitable. By allocating resources to a smaller program, the organization enhances its chances of achieving positive results in both the short and medium terms. The third stage is to create new business capabilities (building new competitive advantages), which emphasizes the need for the organization to invest in developing new skills, systems, databases, and knowledge. This stage involves enhancing existing capabilities, acquiring new ones, and fostering a culture of continuous learning and innovation. By developing new capabilities, the organization prepares itself for future growth and adaptation to changing market conditions.

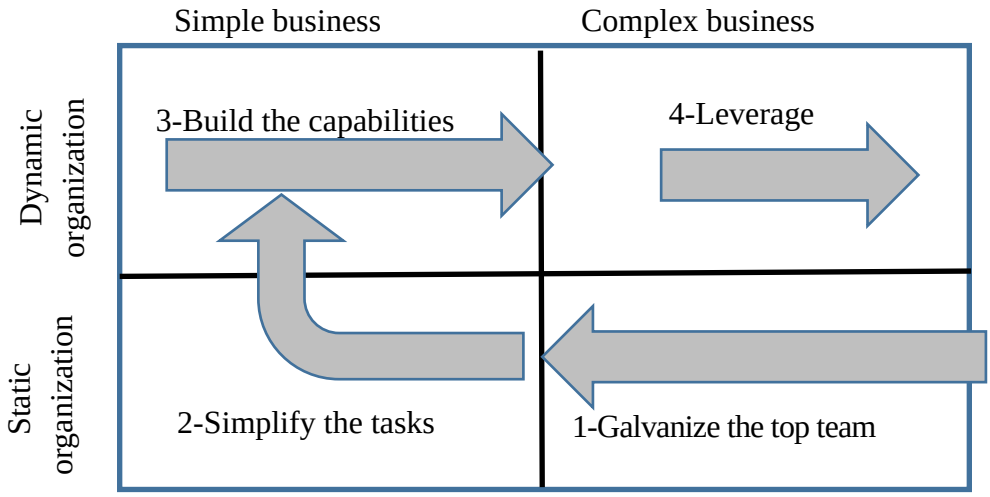

Fig. 1. Organizational Rejuvenation Process as Defined by Fuller and Stopford (1994)

In the fourth stage, the organization leverages its capabilities (leveraging unique strengths) to gain a competitive advantage. It leverages the capabilities it has developed or enhanced in previous stages to enter new markets or segments of the value chain. By doing so, it creates value and sets itself apart from its competitors based on its strengths. A key capability in this stage is the ability to create and transfer knowledge within the organization. This enables the organization to learn and adapt to the changing challenges and opportunities in its environment (Fuller & Stopford, 1994). However, these stages serve as a general guide, while the actual process of organizational rejuvenation may vary for each organization, depending on its unique characteristics and context. It is essential to adapt and customize the process to the organization's specific circumstances for successful rejuvenation efforts.

Covin and Miles (1999) and Kuratko et al. (2011) define organizational rejuvenation as the

entrepreneurial process (Figure 2) by which a company makes internal changes to its processes, structures, or capabilities to maintain or enhance its competitive position (Bostani et al., 2022; Kuratko et al., 2011; Morris et al., 2011). However, in the next years, they stated that organizational rejuvenation is internally focused on innovation for strategy improvement. Therefore, according to them, organizational rejuvenation encompasses strategy improvement, which extends beyond their original definition (Kuratko & Morris, 2018).

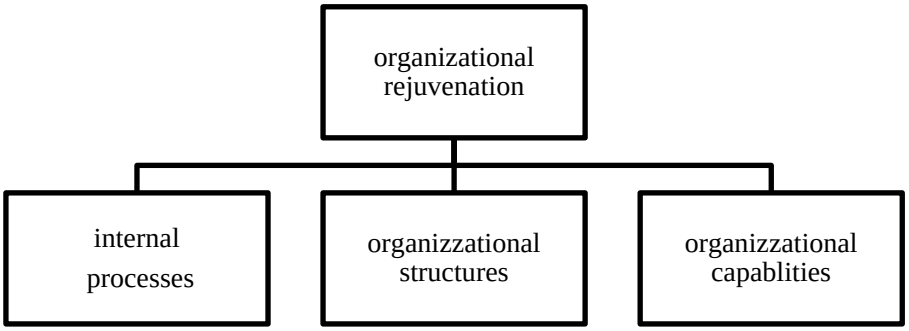

Fig. 2. Organizational Rejuvenation Process as Defined by Covin (1999) and Kuratko (2011)

Although Morris et al. (2011) distinguish rejuvenation from the 'turnaround' management, both involve managing change and share many of the same features. Earlier writing on the general case of turnarounds has emphasized the financial dimensions and shown how corrective actions have focused on eliminating loss-making activities and tightening control. While Gotteiner et al. (2019) propose the idea of "Organizational Anti-aging," which combines business turnaround strategies, such as changing the management, restructuring the finances, improving the working capital, reducing costs, focusing on the strategy, improving the processes, and changing the culture and the growth strategy, with identifying, analyzing, and evaluating the organizational risks. Therefore, they provide a framework for organizational rejuvenation.

While subsequent researchers have expanded the concept of organizational rejuvenation, Castriotta et al. (2021) state that organizational rejuvenation focuses on the firm's internal processes, structures, and capabilities to execute strategies, indicating that firms can become more entrepreneurial through processes and structures, as well as by introducing new products and/or entering new markets with existing products (Castriotta et al., 2021). Piehl (2022) states that five capabilities are particularly important for achieving organizational rejuvenation: organizational change, innovation, learning, leadership, and culture. The interplay of capabilities also impacts the organization's ability to rejuvenate, manage, or develop these capabilities.

Other aspects of the organizational rejuvenation process can be understood by looking at the experiences of entrepreneurial managers and leaders who guide and implement organizational transformation programs. Some models of organizational rejuvenation, such as those proposed by Stopford and Baden-Fuller (1990), Baden-Fuller and Stopford (1994), and Baden-Fuller and Volberda (1997), do not explicitly incorporate new and emerging categories and concepts, including entrepreneurial leadership and entrepreneurial organizational culture, into their approaches. Furthermore, later researchers indicated that the implementation of business rejuvenation strategies in the company of Mustika Ratu (within the beauty and wellness industry), including product innovation, market expansion, marketing campaigns, and strategic partnerships, revealed positive outcomes in terms of increased customer satisfaction, expanded market reach, and improved brand perception (Ahmad et al., 2023). While those new dimensions of business rejuvenation have not been included in the conceptual models of Baden-Fuller and Volberda (1997) and Kuratko and Morris (2018), Mustika Ratu's rejuvenation strategy has been successful. It is important to consider the broader context of business rejuvenation. For example, the concept of strategic renewal, as discussed in other industries, emphasizes the need for companies to adapt to dynamic market conditions by making strategic changes and avoiding mimetic behavior, which can lead to stagnation (Pitelis, 2014). Additionally, the importance of fostering an organizational climate and culture that encourages experimentation and entrepreneurial behavior is highlighted as a critical factor in achieving successful business rejuvenation. These insights suggest that

while Mustika Ratu's approach is practical, continuous innovation and adaptation remain crucial for sustaining long-term competitiveness (Ahmad et al., 2023).

However, other fields of study, such as organizational modernization and organizational improvement (Coovadia & Vorster, 2025), revitalization, business turnaround strategies (Baliouskas et al., 2023; Zhuang & Zhang, 2025), indicate that the current study presents valuable research findings that contribute to a comprehensive understanding of the drivers, dimensions, and outcomes of organizational rejuvenation.

3. Research Methodology

This study applies fuzzy set theory and Interpretive Structural Modeling (ISM) to evaluate subjective judgments and the mutual relationships between variables in a hierarchical structure, focusing on organizational rejuvenation in Iran's textile industries (Tseng, 2013). To highlight the intensity of relationships among constructs, Saxena and Vrat (1992) modified the ISM traditional method, naming it Fuzzy Interpretive Structural Modeling (FISM). Unlike traditional ISM, which only considers variables as interrelated, the FISM evaluates the strength of these relationships. The FISM acknowledges that variations exist in the relationships between variables. For this reason, the Fuzzy Interpretive Structural Modeling method has been employed in this study (Ajmera & Jain, 2020).

Therefore, the FISM incorporates fuzzy logic to handle ambiguity and uncertainty in entrepreneurial decision-making processes. For this reason, the FISM method has been used in this study. By integrating individual opinions, experiences, ideas, and motivations, linguistic judgments can be translated into fuzzy numbers, enabling decision-makers to better understand the level of influence between criteria. The Fuzzy theory is instrumental in managing ambiguity and uncertainty in human language and decision-making. Decision-makers often use vague or indefinite linguistic terms to express estimates, as influenced by their knowledge and past experiences. The ISM and fuzzy sets are combined to integrate these opinions and convert linguistic judgments into fuzzy numbers. This integration enables decision-makers to express the level of influence between criteria using fuzzy numbers, rather than being restricted to binary values (0 or 1). Fuzzy numbers allow for a more comprehensive ranking of dependencies, rather than simply indicating the presence or absence of an effect. They range from very low to very high levels of power. This approach represents the degree of influence, using numerical values between 0 and 1 (Razavisousan & Joshi, 2022). A suitable fuzzy aggregation method is essential for the effective application of fuzzy set theory. Moreover, a defuzzification method is needed to transform fuzzy numbers into crisp values. Defuzzification involves selecting a specific crisp element from the output fuzzy set, enabling the conversion of fuzzy linguistic variables into exact values (Tseng, 2013).

3-1. FISM Approach

The FISM is an extension of the ISM method that models abstract relationships between variables related to a relatively structured event, phenomenon, activity, or outcome. It provides a logical and simplified representation of these relationships (Abbas & Shirazi, 2015). Unlike the ISM method, which only considers the presence or absence of relationships between variables, the FISM also considers the strength of these relationships, recognizing their variability. In the ISM, precise and crisp values are used to represent the relationships between variables. However, where such precise values cannot be determined, the preferences of experts are decisive. Fuzzy logic is a more practical and effective approach for problems involving uncertainties and multiple decision-makers. The FISM replaces the binary values of 0 and 1, which indicate no relationship and a strong relationship between variables, respectively, with measurable values on a fuzzy scale. This scale, typically represented by triangular fuzzy numbers, provides a more accurate representation of the data (Ajmera & Jain, 2020). The Likert scale, presented in Table 1, is commonly used as the fuzzy scale in this research.

This study involved a group of ten textile industry experts (Senior managers and founders of textile industry companies) to determine the interrelationships between the variables influencing rejuvenation, using a fuzzy scale from 0 to 1. The main criteria for selecting textile industry experts included ownership or executive management experience in a textile company, sufficient familiarity with the textile industry, and practical experience in strategic transformation or organizational rejuvenation within their own company. The sufficiency of the number of participants was based on prior studies with

similar designs (Abbas et al., 2022). The FISM method consists of a series of stages, as illustrated in Figure 3, based on the models proposed by Tavakolan and Etemadinia (2017) and Wang et al. (2018). This flowchart describes the different steps involved in implementing the FISM approach.

Table 1. Triangular Fuzzy Numbers Equivalent to Linguistic Terms on a Likert Scale

Linguistic Term	Triangular Fuzzy Number
Very Low	0, 0, 0.25
Low	0, 0.25, 0.50
Medium	0.25, 0.50, 0.75
High	0.50, 0.75, 1
Very High	0.75, 1, 1

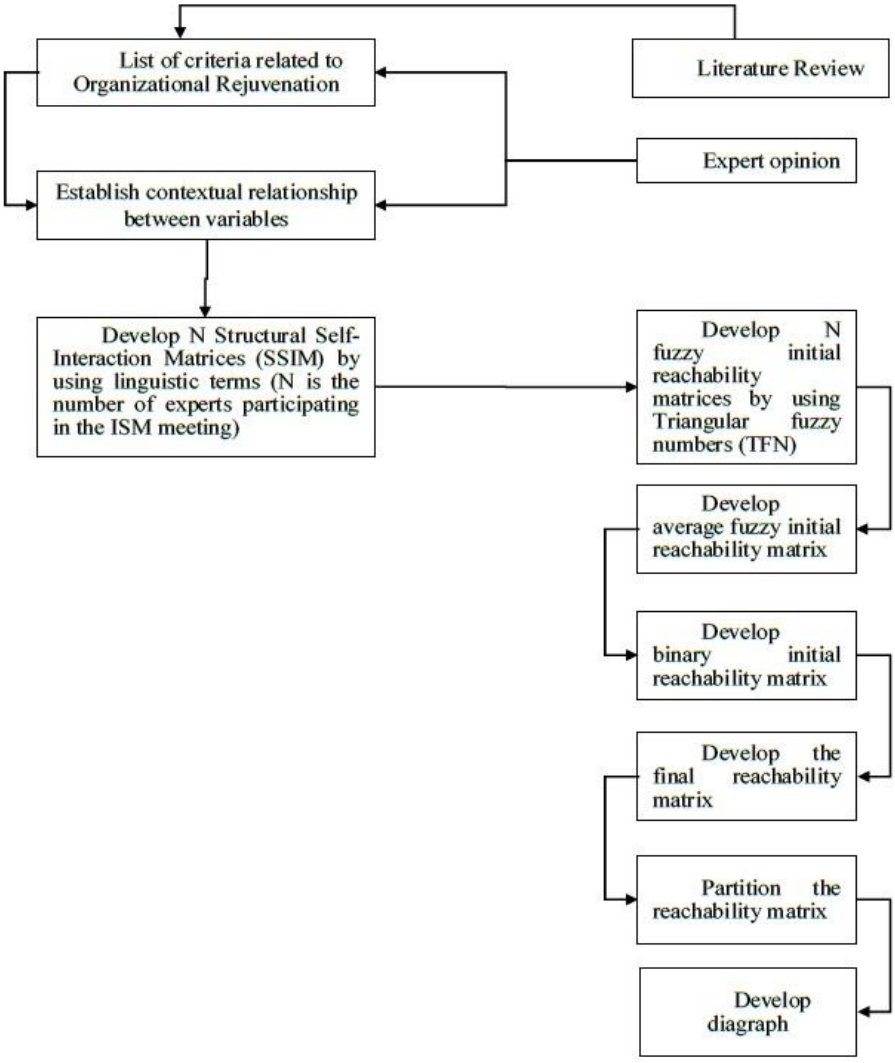

Fig. 3. Flow Chart of Different Stages of Implementation of the FISM Approach

3-1-1. Identification of Variables That Are Related to the Problem

The FISM process begins by identifying the elements relevant to organizational rejuvenation, including enablers, barriers, determinants, actors, and other pertinent factors. These elements were derived based on a comprehensive review of recent and relevant literature, as outlined in the protocol depicted in Figure 4.

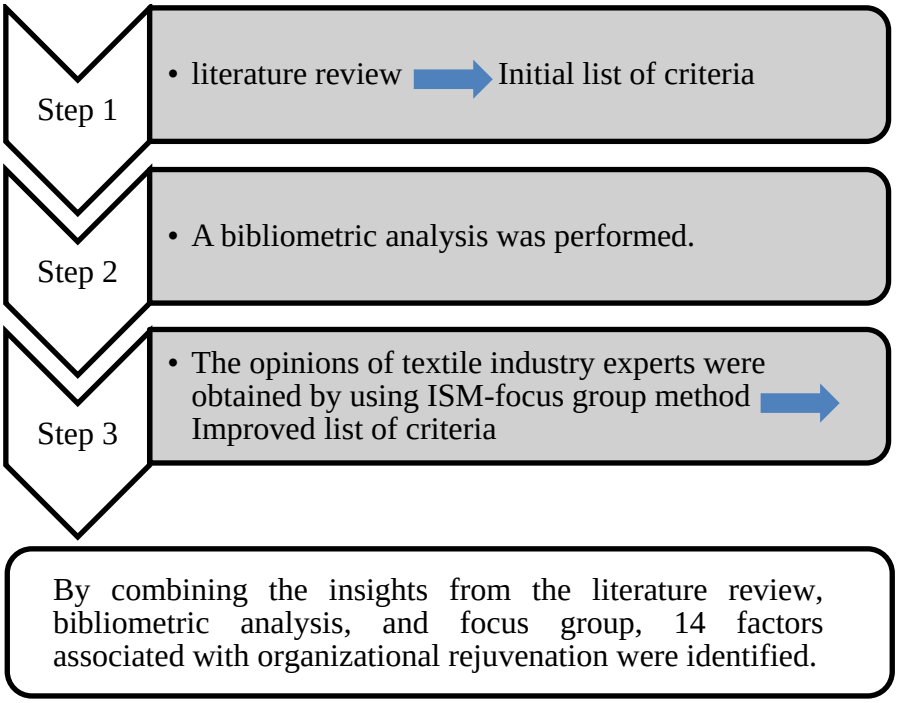

Fig. 4. Identification Protocol for Variables List (List of Criteria) Related to the Phenomenon of "Organizational Rejuvenation"

This research aimed to determine the factors that affect organizational rejuvenation. A literature review was conducted to collect information on the topic. The literature review provided a foundation for understanding the key elements of organizational rejuvenation.

Additionally, a bibliometric analysis was performed as part of the research methodology (Bostani et al., 2022). This analysis examines the literature to identify patterns, trends, and influential sources of information related to organizational rejuvenation. For this purpose, a systematic literature review was employed. Out of 400,698 articles, 7257 articles were selected using the Web of Science (WoS) database. In this research, VOSviewer software (Visualizing scientific landscapes) was utilized to analyze articles in the field of organizational rejuvenation and other relevant scientific domains.

Next, the focus group method was employed to collect expert opinions. For this purpose, several expert participants were brought together in a coordinated, formally invited session in the Faculty of Entrepreneurship, University of Tehran. Under the guidance of a facilitator, they engaged in a four-hour discussion on organizational rejuvenation. The primary goal of this focus group session was to gather diverse perspectives from textile industry entrepreneurs and experts, and to gain a deeper understanding of the dimensions of organizational rejuvenation. Generally, focus group members or participants had an average age of 54 years, with a mean of 18 years of experience within the company and 30 years in the textile industry. The majority were entrepreneurs, including seven shareholders and two owners, while only one individual held the position of CEO. In terms of education, most respondents held a bachelor's degree in management (four individuals), textile engineering (two individuals). In contrast, others specialized in applied chemistry, civil engineering, and one participant had a diploma. Additionally, the workforce size of their companies ranged from 15 to 1,000 employees, with an average of 217 employees per company.

By combining the insights from the literature review and focus group session, 14 factors associated with organizational rejuvenation were identified. These factors are presented in Table 2, which provides a consolidated overview of the key elements influencing organizational rejuvenation in the textile industry.

Table 2. Variables Related to the Phenomenon of "Organizational Rejuvenation"

Abbreviation	Variable/Component Title
C1	Environmental uncertainty
C2	Decrease in company performance
C3	Change of CEO or middle management team
C4	Entrepreneurial leadership development
C5	Rejuvenation of organizational culture
C6	Business rebranding
C7	Business process improvement
C8	Organizational restructuring
C9	Development of organizational capabilities
C10	Business turnaround strategies
C11	Creating and strengthening an entrepreneurial attitude
C12	Product innovation
C13	Gaining a competitive advantage
C14	Increasing productivity

3-1-2. Creating Structural Self-Interaction Matrices (SSIM)

In this stage, to determine the extent to which "A leads or contributes to B" for each positive relationship, each variable is compared to all other variables in terms of whether "A leads to or contributes to B." This is done by generating a Structural Self-Interaction Matrix (SSIM). To construct the SSIM, experts were asked to examine potential contextual relationships between each pair of identified variables and report their findings using the linguistic terms provided in Table 1. These terms are Very Low (VL), Low (L), Medium (M), High (H), and Very High (VH) to represent the degree of association between each pair of variables. In interviews, each of the ten experts was asked to assess the impact of the i-th row variable on the j-th column variable. Their responses, expressed using the linguistic terms, were recorded in the matrix in the i-th row and j-th column (Table 3). This process enabled the experts to provide their subjective judgments on the influence and relationships between various factors affecting organizational rejuvenation, and the resulting matrix provided a comprehensive overview of these associations.

Table 3. Structural Self-Interaction Matrix (SSIM) Related to an Interview with One of the Experts

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14
C1		VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL
C2	L		VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL
C3	L	H		H	M	H	M	H	M	H	L	L	L	M
C4	H	H	H		M	VH	H	L	H	H	L	M	H	L
C5	H	L	M	M		M	M	M	H	M	M	H	H	M
C6	L	H	H	H	H		H	H	VH	M	L	M	M	L
C7	H	L	H	M	M	H		M	M	M	L	M	L	M
C8	L	H	L	L	L	H	M		M	H	M	H	L	L
C9	H	H	M	M	M	H	L	M		L	M	H	H	M
C10	VH	VH	L	VH	H	L	H	M	M		L	L	H	M
C11	L	H	H	M	M	H	H	H	M	M		L	M	M
C12	H	H	M	M	H	H	H	VH	H	M	M		M	H
C13	VL	VL	M	H	L	VH	H	H	H	H	M	H		L
C14	VL	VL	H	H	H	M	M	H	M	L	H	M	M	

3-1-3. Creation of Fuzzy Initial Reachability Matrices

To obtain the Fuzzy Initial Reachability Matrices, the Structural Self-Interaction Matrices (SSIMs) are transformed using triangular fuzzy numbers. In the previous stage, experts expressed their opinions in linguistic terms on a Likert scale, creating the SSIMs (10 SSIMs). Instead of using the original values in the SSIMs, triangular fuzzy numbers (as per Table 1) are assigned to each element. The Fuzzy Initial Reachability Matrices are derived by replacing the elements of the SSIMs with their corresponding triangular fuzzy numbers. This transformation accounts for the uncertainty and variability inherent in experts' opinions, resulting in a more comprehensive representation of the relationships among the factors.

Table 4. The Fuzzy Initial Reachability Matrix Related to the Answer of One of the Experts

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14
C1		0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25
C2	0,0.25,0.5		0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25	0,0,0.25
C3	0,0.25,0.5	0.5,0.75,1		0.5,0.75,1	0.25,0.5,0.75	0.5,0.75,1	0.25,0.5,0.75	0.5,0.75,1	0.25,0.5,0.75	0.5,0.75,1	0,0.25,0.5	0,0.25,0.5	0,0.25,0.5	0.25,0.5,0.75
C4	0.5,0.75,1	0.5,0.75,1	0.5,0.75,1		0.25,0.5,0.75	0.75,1,1	0.5,0.75,1	0,0.25,0.5	0.5,0.75,1	0.5,0.75,1	0,0.25,0.5	0.25,0.5,0.75	0.5,0.75,1	0,0.25,0.5
C5	0.5,0.75,1	0,0.25,0.5	0.25,0.5,0.75	0.25,0.5,0.75		0.25,0.5,0.75	0.25,0.5,0.75	0.25,0.5,0.75	0.5,0.75,1	0.25,0.5,0.75	0.25,0.5,0.75	0.5,0.75,1	0.5,0.75,1	0.25,0.5,0.75
C6	0,0.25,0.5	0.5,0.75,1	0.5,0.75,1	0.5,0.75,1	0.5,0.75,1		0.5,0.75,1	0.5,0.75,1	0.75,1,1	0.25,0.5,0.75	0,0.25,0.5	0.25,0.5,0.75	0.25,0.5,0.75	0,0.25,0.5
C7	0.5,0.75,1	0,0.25,0.5	0.5,0.75,1	0.25,0.5,0.75	0.25,0.5,0.75	0.5,0.75,1		0.25,0.5,0.75	0.25,0.5,0.75	0.25,0.5,0.75	0,0.25,0.5	0.25,0.5,0.75	0,0.25,0.5	0.25,0.5,0.75
C8	0,0.25,0.5	0.5,0.75,1	0,0.25,0.5	0,0.25,0.5	0.5,0.75,1	0,0.25,0.5	0.25,0.5,0.75		0.25,0.5,0.75	0.5,0.75,1	0.25,0.5,0.75	0.5,0.75,1	0,0.25,0.5	0,0.25,0.5
C9	0.5,0.75,1	0.5,0.75,1	0.25,0.5,0.75	0.25,0.5,0.75	0.25,0.5,0.75	0.5,0.75,1	0,0.25,0.5	0.25,0.5,0.75		0,0.25,0.5	0.25,0.5,0.75	0.5,0.75,1	0.5,0.75,1	0.25,0.5,0.75
C10	0.75,1,1	0.75,1,1	0,0.25,0.5	0.75,1,1	0.5,0.75,1	0,0.25,0.5	0.5,0.75,1	0.25,0.5,0.75	0.25,0.5,0.75		0,0.25,0.5	0,0.25,0.5	0.5,0.75,1	0.25,0.5,0.75
C11	0,0.25,0.5	0.5,0.75,1	0.5,0.75,1	0.25,0.5,0.75	0.25,0.5,0.75	0.5,0.75,1	0.5,0.75,1	0.5,0.75,1	0.25,0.5,0.75	0.25,0.5,0.75		0,0.25,0.5	0.25,0.5,0.75	0.25,0.5,0.75
C12	0.5,0.75,1	0.5,0.75,1	0.25,0.5,0.75	0.25,0.5,0.75	0.5,0.75,1	0.5,0.75,1	0.5,0.75,1	0.75,1,1	0.5,0.75,1	0.25,0.5,0.75	0.25,0.5,0.75		0.25,0.5,0.75	0.5,0.75,1
C13	0,0,0.25	0,0,0.25	0.25,0.5,0.75	0.5,0.75,1	0,0.25,0.5	0.75,1,1	0.5,0.75,1	0.5,0.75,1	0.5,0.75,1	0.5,0.75,1	0.25,0.5,0.75	0.5,0.75,1		0,0.25,0.5
C14	0,0,0.25	0,0,0.25	0.5,0.75,1	0.5,0.75,1	0.5,0.75,1	0.25,0.5,0.75	0.25,0.5,0.75	0.5,0.75,1	0.25,0.5,0.75	0,0.25,0.5	0.5,0.75,1	0.25,0.5,0.75	0.25,0.5,0.75	

The final Fuzzy Initial Reachability Matrix, which contains fuzzy elements, is determined by the number of experts consulted (in this case, 10 experts). Each expert's contribution is considered in making the matrix. For example, the Fuzzy Initial Reachability Matrix related to the response of one expert is presented in Table 4. This matrix represents the expert's assessment of the reachability relationships between the variables using fuzzy numbers.

3-1-4. Creating the Average Fuzzy Initial Reachability Matrix A (i,j) (Average of Fuzzy Initial Reachability Matrices)

The Average Fuzzy Initial Reachability Matrix, presented in Table 5, is obtained by calculating and evaluating the average of experts' opinions expressed as fuzzy numbers. That is, for each element in the Average Fuzzy Initial Reachability Matrix, the value is obtained by averaging the corresponding elements from the fuzzy initial reachability matrices provided by all experts. By averaging the fuzzy numbers across the experts' opinions, the Average Fuzzy Initial Reachability Matrix provides a consolidated view of the reachability relationships between the variables, considering the collective insights from all experts.

Table 5. Average Fuzzy Initial Reachability Matrix A (I,J)

C14	C13	C12	C11	C10	C9	C8	C7	C6	C5	C4	C3	C2	C1	
	0.25,0.48,0.73	0.30,0.55,0.78	0.38,0.63,0.88	0.4,0.65,0.88	0.53,0.78,0.98	0.58,0.83,1.0	0.6,0.85,0.98	0.35,0.58,0.78	0.43,0.68,0.93	0.48,0.73,0.90	0.58,0.83,0.95	0.0,0.0,0.25	0.0,0.0,0.25	C14
0.23,0.48,0.73		0.55,0.80,1.0	0.45,0.70,0.93	0.45,0.70,0.90	0.55,0.80,1.0	0.48,0.73,0.93	0.50,0.75,0.95	0.45,0.70,0.85	0.4,0.65,0.88	0.48,0.73,0.93	0.45,0.70,0.90	0.0,0.0,0.25	0.0,0.0,0.25	C13
0.20,0.43,0.68	0.20,0.45,0.70		0.55,0.80,0.98	0.40,0.65,0.83	0.45,0.70,0.93	0.43,0.68,0.88	0.43,0.68,0.88	0.43,0.68,0.90	0.45,0.70,0.93	0.50,0.75,0.95	0.45,0.70,0.88	0.45,0.70,0.88	0.50,0.75,0.95	C12
0.33,0.58,0.80	0.28,0.53,0.78	0.35,0.60,0.83		0.35,0.60,0.80	0.40,0.65,0.88	0.38,0.63,0.88	0.45,0.70,0.90	0.43,0.68,0.93	0.45,0.70,0.93	0.48,0.73,0.90	0.48,0.73,0.95	0.53,0.78,0.98	0.45,0.70,0.90	C11
0.18,0.43,0.65	0.33,0.55,0.78	0.40,0.65,0.85	0.33,0.58,0.83		0.45,0.70,0.93	0.43,0.68,0.90	0.35,0.60,0.83	0.38,0.63,0.88	0.40,0.65,0.88	0.53,0.78,0.95	0.40,0.65,0.90	0.53,0.78,0.95	0.50,0.75,0.95	C10
0.30,0.53,0.78	0.40,0.65,0.90	0.45,0.70,0.93	0.48,0.73,0.95	0.45,0.70,0.90		0.50,0.75,0.93	0.45,0.70,0.90	0.43,0.68,0.90	0.40,0.65,0.88	0.50,0.75,0.98	0.45,0.70,0.90	0.43,0.68,0.90	0.48,0.73,0.95	C9
0.18,0.38,0.63	0.15,0.38,0.63	0.43,0.68,0.88	0.53,0.78,0.98	0.50,0.75,0.95	0.45,0.70,0.95		0.43,0.68,0.88	0.33,0.58,0.80	0.30,0.55,0.80	0.40,0.65,0.88	0.43,0.73,0.90	0.53,0.78,0.95	0.43,0.68,0.88	C8
0.18,0.43,0.68	0.28,0.53,0.75	0.45,0.70,0.93	0.43,0.68,0.93	0.45,0.70,0.93	0.48,0.73,0.95	0.53,0.78,0.95		0.38,0.60,0.83	0.35,0.6,0.85	0.50,0.75,090	0.50,0.75,0.93	0.48,0.73,0.90	0.53,0.78,0.95	C7

	C6	C5	C4	C3	C2	C1
C6		0.43,0.68,0.88	0.53,0.78,0.98	0.45,0.70,0.90	0.38,0.63,0.85	0.30,0.55,0.75
C5	0.28,0.53,0.78		0.50,0.75,0.93	0.48,0.73,0.95	0.35,0.60,0.85	0.38,0.63,0.88
C4	0.38,0.63,0.83	0.35,0.60,0.83		0.55,0.80,0.93	0.63,0.88,0.98	0.55,0.78,0.93
C3	0.25,0.50,0.75	0.33,0.58,0.83	0.55,0.80,0.95		0.60,0.85,0.98	0.45,0.70,0.90
C2	0.0,0.0,0.25	0.0,0.0,0.25	0.0,0.0,0.25	0.0,0.0,0.25		0.55,0.80,0.95
C1	0.0,0.0,0.25	0.0,0.0,0.25	0.0,0.0,0.25	0.0,0.0,0.25	0.0,0.0,0.25	
C2	0.0,0.0,0.25	0.0,0.0,0.25	0.0,0.0,0.25	0.0,0.0,0.25		0.0,0.0,0.25
C3	0.30,0.53,0.75	0.15,0.38,0.63	0.18,0.40,0.65	0.45,0.70,0.90	0.35,0.60,0.80	0.0,0.0,0.25
C4	0.35,0.60,0.83	0.38,0.63,0.88	0.43,0.68,0.90	0.48,0.73,0.93	0.45,0.70,0.88	0.0,0.0,0.25
C5	0.3,0.55,0.80	0.30,0.55,0.80	0.35,0.58,0.80	0.40,0.65,0.88	0.35,0.60,0.80	0.0,0.0,0.25
C6	0.25,0.48,0.70	0.30,0.55,0.80	0.50,0.75,0.95	0.38,0.63,0.88	0.38,0.63,0.83	0.0,0.0,0.25
	0.40,0.65,0.88	0.43,0.68,0.88	0.28,0.53,0.78	0.38,0.63,0.85	0.43,0.68,0.88	0.0,0.0,0.25

3-1-5. Creation of Binary Initial Reachability Matrix B(I,J) (De-Fuzzified):

In this step, the Binary Initial Reachability Matrix B(i,j) is obtained by defuzzifying the Average Fuzzy Initial Reachability Matrix A(i,j), which contains fuzzy elements. The defuzzification process converts the fuzzy values into binary values.

To defuzzify the Average Fuzzy Initial Reachability Matrix, the constant value R_{ave} needs to be calculated. The value of R_{ave} depends on the type of fuzzy numbers used. In this case, the fuzzy numbers are triangular, and the corresponding R_{ave} value is 0.707 (as presented in Table 6). Table 6 outlines the process for calculating Rave and provides the formula for determining the value based on the characteristics of triangular fuzzy numbers. Once the value of R_{ave} is determined, it is used in the defuzzification process to convert the fuzzy elements of the Average Fuzzy Initial Reachability Matrix into binary values. The defuzzification process establishes a threshold or criterion based on R_{ave}, where elements with a fuzzy value above the threshold are assigned a binary value of 1, indicating reachability. In contrast, elements below the threshold are assigned a binary value of 0, indicating non-reachability.

$$\bar{X}_A = \frac{a+b+c}{3} \qquad \bar{Y}_A = \frac{a+4b+c}{3a+6b+3b}$$

$$R_A = \sqrt{\bar{X}_A^2 + \bar{Y}_A^2}$$

$$A > B \; if \; R_A > R_B$$

$$A < B \; if \; R_A < R_B$$

Table 6. How to Calculate X_{ave}, Y_{ave}, and R_{ave} for Triangular Fuzzy Numbers

Linguistic Term	Triangular Fuzzy Number
Very Low	0,0,0.25
Low	0,0.25,0.50
Medium	0.25,0.50,0.75
High	0.50,0.75,1
Very High	0.75,1,1
Average	0.30,0.50,0.70
X_{ave}=0.50 & Y_{ave}=0.50 & R_{ave}=0.707	

Suppose we display any triangular fuzzy number as F(a,b,c). To defuzzify the Average fuzzy initial reachability matrix A(i,j) (Table 5), we calculate the value of the distance index (RA) of each fuzzy number from the above relationships and form the RA(i,j) matrix (Table 7).

Table 7. Table of R_A Values (R_A(i,j) Matrix)

C14	C13	C12	C11	C10	C9	C8	C7	C6	C5	C4	C3	C2	C1	
0.3436	0.3436	0.8892	0.8485	0.8892	0.8747	0.8286	0.9037	0.7337	0.8004	0.9037	0.8485	0.9182		C1
0.3436	0.3436	0.8428	0.9098	0.9037	0.8343	0.9037	0.8628	0.7950	.7810	0.9686	0.9538		0.3436	C2
0.9329	0.8485	0.8428	0.8747	0.8201	0.8485	0.8628	0.8831	0.8485	0.8747	0.9121		0.3436	0.3436	C3
0.8623	0.8687	0.8892	0.8628	0.9037	0.8952	0.8145	0.8771	0.9098	0.8831		0.9182	0.3436	0.3436	C4
0.8400	0.4145	0.8543	0.8543	0.8145	0.8145	0.7433	0.7810	0.8286		0.7758	0.7620	0.3436	0.3436	C5
0.7569	0.8371	0.8343	0.8400	0.8004	0.8343	0.7569	0.7810		0.7250	0.7896	0.7071	0.3436	0.3436	C6
0.9538	0.8892	0.8286	0.8485	0.7758	0.8485	0.8286		0.7250	0.7569	0.8145	0.8201	0.3436	0.3436	C7
0.9455	0.8687	0.8286	0.8004	0.8343	0.8831		0.9037	0.8286	0.7758	0.8428	0.7758	0.3436	0.3436	C8
0.9098	0.9307	0.8543	0.8145	0.8543		0.8602	0.8747	0.8145	0.7250	0.7810	0.8286	0.3436	0.3436	C9
0.8145	0.8485	0.8035	0.7706		0.8485	0.8892	0.8543	0.7896	0.7706	0.8428	0.7706	0.3436	0.3436	C10
0.8004	0.8543	0.9245		0.7620	0.8747	0.9098	0.8400	0.8004	0.8145	0.8687	0.8485	0.3436	0.3436	C11
0.7385	0.9307		0.7758	0.8089	0.8543	0.8286	0.8543	0.8892	0.7569	0.8343	0.6436	0.3436	0.3436	C12
0.6939		0.6727	0.7250	0.7433	0.8201	0.6279	0.7204	0.7433	0.7433	0.8004	0.6279	0.3436	0.3436	C13
	0.6897	0.6598	0.7569	0.6528	0.7297	0.6309	0.6562	0.6897	0.7433	0.7758	0.7250	0.3436	0.3436	C14

The Binary Initial Reachability Matrix B(i,j) (Table 8) is obtained from the Average Fuzzy Initial Reachability Matrix A(i,j) (Table 5) and the RA(i,j) matrix (Table 7) by comparing each element of A(i,j) and its corresponding element in RA(i,j) using the threshold value Rave=0.707.

Table 8. Binary Initial Reachability Matrix B(I, J)

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14
C1		0	0	0	0	0	0	0	0	0	0	0	0	0
C2	0		0	0	0	0	0	0	0	0	0	0	0	0
C3	1	1		1	1	1	1	1	1	1	1	0	0	1
C4	1	1	1		1	1	1	1	1	1	1	1	1	1
C5	1	1	1	1		1	1	1	1	1	1	1	1	1
C6	1	1	1	1	1		1	1	1	1	1	1	1	0
C7	1	1	1	1	1	1		1	1	1	1	1	1	0
C8	1	1	1	1	1	1	1		1	1	1	1	0	0
C9	1	1	1	1	1	1	1	1		1	1	1	1	1
C10	1	1	1	1	1	1	1	1	1		1	1	1	0
C11	1	1	1	1	1	1	1	1	1	1		1	1	1
C12	1	1	1	1	1	1	1	1	1	1	1		0	0
C13	0	0	1	1	1	1	1	1	1	1	1	1		0
C14	0	0	1	1	1	1	1	1	1	1	1	1	0	

The result is the determination of the elements of the Binary Initial Reachability Matrix B(i,j) (Table 8) based on the following relationships, as mentioned in Tavakolan and Etemadinia (2017).

$$If\ R_A(i,j) \geq R_{ave}\ then \rightarrow B(i,j) = 1$$

$$If\ R_A(i,j) < R_{ave}\ then \rightarrow B(i,j) = 0$$

3-1-6. Creating the Final Reachability Matrix

After obtaining the Binary initial reachability matrix B(i,j) (Table 8), the remaining steps are performed as the standard ISM. As mentioned earlier, the ISM software performed subsequent steps, and the Fuzzy ISM model of organizational rejuvenation was obtained from the output of this software, as presented in Figure 5.

3-1-7. Fuzzy ISM Model of Organizational Rejuvenation

The Fuzzy ISM model of organizational rejuvenation represents the various factors associated with organizational rejuvenation separately, allowing for a clear understanding of their roles and relationships within the model. The model highlights:

1. Drivers of organizational rejuvenation include environmental uncertainty and reduction of company performance. The factor of environmental uncertainty represents the level of uncertainty and volatility in the external environment that necessitates organizational rejuvenation. At the same time, a reduction of company performance indicates a decline in firm performance, which serves as a trigger for the need to rejuvenate the organization.

2. Dimensions of organizational rejuvenation contributing to the shaping of organizational rejuvenation are 10 dimensions, including development of organizational capabilities, modification of business processes, organizational restructuring, implementing business turnaround strategies, entrepreneurial leadership development, innovation (Gault, 2018), business rebranding, changing the CEO or middle management team, rejuvenating organizational culture, and creating and strengthening entrepreneurial attitudes.

3. The model also indicates the expected outcomes of successful organizational rejuvenation, which include: gaining competitive advantage and increasing business productivity.

By representing these factors separately in the Fuzzy ISM model, it becomes easier to understand and analyze the interconnectedness and impact of each factor on the overall process of organizational rejuvenation (Figure 5).

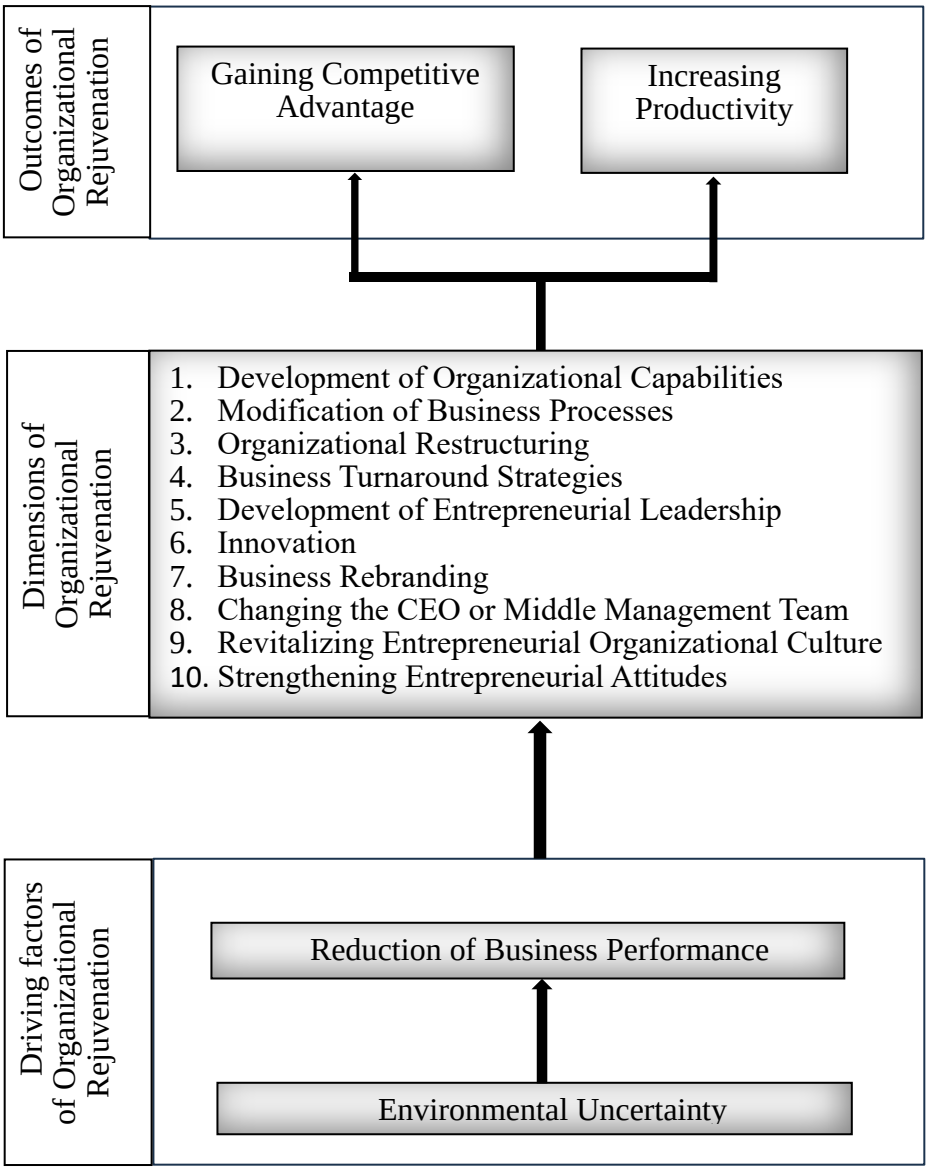

Fig. 5. Fuzzy ISM Model of organizational rejuvenation

3-2. Reliability and Validity of Research

The FISM not only supports the transfer of experts' linguistic preferences into quantitative measurements and reduces the number of items on the questionnaire to enhance its consistency and reliability but also structures the framework as a guideline for firms.

The Kappa method was used to assess confirmability. Based on the results of the Kappa test, the agreement coefficient was 0.63. Since the agreement coefficient is greater than 0.6, the results of the expert opinion survey have sufficient confirmability. In this study, to assess internal validity, the accuracy method was employed. For this purpose, conceptual definitions of the fourteen variables, along with their sources, were provided to the participants in writing so that they had a shared understanding of the research variables. In this way, the accuracy and reliability of the research results were increased. In this research, to achieve stability, the entire process of extracting the fourteen variables was documented from scientific sources and made available to experts. To ensure credibility, feedback was received from participants to verify that, with respect to their prior knowledge, the

research model was completely understandable and meaningful to them. In the current study, since participants perceived the model derived from FISM as applicable to their real-world business, this demonstrates transferability.

The model derived from FISM was adaptable to the real business world of the participants. To achieve truthfulness, the focus group management is led by a knowledgeable and expert person, known as a facilitator. Since most of the research experts were entrepreneurs with real-world experience in rejuvenation, they found the model and its resulting practical suggestions useful and realistic.

Table 9. Reliability and Validity of Research

Characteristic	Indexes	Done Actions
Reliability	Confirmability	Using the Kappa test to ensure confirmability
	Stability	Documenting the entire process of extracting the fourteen variables from scientific sources
Internal Validity	Truthfulness	The management of the focus group session is conducted by a knowledgeable and expert person, known as a facilitator.
	Accuracy	Conceptual definitions of the fourteen variables, along with their sources, were provided to the participants in writing.
External Validity	Transferability	The model derived from FISM was adaptable to the real business world of the participants.
	Credibility	The research model is suitable for the participants in the study.
	Usefulness	The resulting model and practical suggestions were useful and realistic.

3-3. Common Method Variance

Common Method Variance (CMV), known as common method bias (CMB), refers to the bias that can arise in studies when the same tool is used to measure multiple variables. This occurs when the measured relationship between two constructs may be inflated. In this study, we have used Harman's single-factor analysis. This score assesses the CMV, as all the research variables were loaded into a single common factor. In this study, we have used and imported Structural Self-Interaction Matrices (SSIM) into the SPSS file.

Table 10. Common Method Variance

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	%.77
Extraction Sums of Squared Loadings	%25.88

Table 10 indicates that the total variance of the sums of squared loadings is 25%. Since the total variance for a single factor in this study is less than 50%, it means that the research data is not significantly affected by the CMV (Podsakoff et al., 2012).

4. Discussion

The primary objective of this research is to redefine and advance the concept of "organizational rejuvenation" and propose a conceptual model based on the FISM approach. The Fuzzy ISM model of organizational rejuvenation identifies environmental uncertainty as the key driver influencing organizational rejuvenation.

A review of existing research indicates that as the number and dynamics of environmental factors increase, managers experience heightened uncertainty regarding competitive conditions. This aligns with interviews conducted with entrepreneurs and managers in the Iranian textile industry, particularly those utilizing traditional technologies and older equipment, who encounter numerous challenges in their operations. The second driver of organizational rejuvenation is the declining performance of active textile industry companies. This decrease in performance can be attributed to various factors,

including internal and environmental influences. Heightened environmental uncertainty, characterized by increased competition, expansions made by competitors (resulting in high competitiveness), foreign exchange rate fluctuations, technological progress, and other relevant factors, adversely impacts the performance of textile industry companies, particularly in terms of profitability.

Furthermore, the first dimension of organizational rejuvenation in the textile industry is found to be changing the CEO or the middle management team. According to the research conducted by Baden-Fuller and Stopford (1994), organizational rejuvenation necessitates significant and long-term changes within the organization. However, these changes cannot be effectively implemented without modifications in the company's board of directors, CEO, and even middle managers. The modeling of interpretive structural relationships also supports the notion that initiating organizational rejuvenation requires changing the CEO or certain members of the board of directors.

Research on corporate entrepreneurship highlights the role of managers as facilitators and generators of corporate entrepreneurship, particularly in the context of organizational rejuvenation. According to Teece (2016), managers play a pivotal role in organizations' development and transformational efforts, as well as in building capabilities. Entrepreneurial management is required to achieve sustainable financial success (Piehl, 2022).

The second key element of organizational rejuvenation found in the study is the development of entrepreneurial leadership. Contrary to the perspectives of Morris et al. (2011) and Baden-Fuller and Stopford (1994), organizational rejuvenation cannot be achieved solely at the operational level. Instead, it necessitates the presence of entrepreneurial managers at all levels of the organization, including employees with an entrepreneurial mindset, as fostering and sustaining an entrepreneurial spirit within the organization requires entrepreneurial leadership. Thornberry (2006) proposes four strategies of such entrepreneurial leadership, including accelerator, explorer, miner, and integrator. The leadership styles of explorers and miners primarily focus on operational staff and managers, whereas accelerator leaders focus on their operational units, and integrator leaders focus on the entire organization. Piehl (2022) identifies organizational leadership as one of five capabilities that are particularly important for achieving organizational rejuvenation.

The third element of organizational rejuvenation in textile industry companies pertains to the "rejuvenation of organizational culture." In contrast to Morris et al. (2011) and Baden-Fuller and Stopford (1994), who did not explicitly consider organizational rejuvenation to include cultural change and evolution, the results of the ISM interpretive relationship model incorporate organizational culture as part of the rejuvenation process. Research results indicated that rejuvenating the workplace leads to a better organizational climate. Rejuvenating a workplace means introducing new methods to create a more inclusive space for employees (George & Xavier, 2023). As some researchers suggest, organizational culture and leadership are interconnected (Santoso et al., 2024; Schein, 2010). Alongside entrepreneurial leadership development, textile industry companies need to foster new cultural values and beliefs to enhance their performance (Sawaean et al., 2021). Thornberry (2006) argues that as the company grows, its efforts often erode the mindset to rebuild and strengthen entrepreneurial thinking.

The fourth element of organizational rejuvenation in textile companies is "rebranding." Unlike previous models, active textile industry companies require not only a change in organizational culture but also a new branding strategy for rejuvenation. The perception and image that customers have of a company's products or services can significantly impact their willingness to purchase or engage with the company. Prior research suggests that during rebranding, the company's identity and the original identity of its products should be preserved. In rebranding campaigns, the focus is on articulating product benefits, quality assurances, and brand values that relate to target audiences. By aligning communication efforts with consumer needs and preferences, brands can enhance perceived quality, which leads to stronger emotional connections with consumers (Rose et al., 2025).

The fifth element of organizational rejuvenation is identified as organizational process improvement. This dimension, supported by Morris et al. (2011) and Baden-Fuller and Stopford (1994) emphasizes the importance of enhancing business processes as a fundamental aspect of rejuvenation. Business process improvement is considered an integral part of organizational rejuvenation.

The sixth element is organizational restructuring in textile companies. This dimension aligns with previous models, especially the views of Morris et al. (2011) and Baden-Fuller and Stopford (1994). As companies grow, their organizational structures tend to become more bureaucratic, formal, complex, and hierarchical. However, this can hinder their ability to compete, particularly in the global market. To implement organizational rejuvenation, traditional and outdated organizational structures need to be changed, and companies should transition to new formats, such as matrix structures. For example, a research finding indicated that high-tech firms can rejuvenate themselves by creating technological spin-out startups (Cirillo, 2012). Research findings underscore that collaborations between multinational enterprises (MNEs) and startups play a crucial role in rejuvenating business models. This is particularly evident in emerging markets, such as Turkey, where such partnerships significantly contribute to adaptability and innovation (Buyukbalci et al., 2024).

The seventh element focuses on developing organizational capabilities. According to Baden-Fuller and Stopford (1994) and Morris et al. (2011), rejuvenating organizations requires the development of its capabilities. As environmental uncertainty increases, particularly with the rapid technological advancements in the textile industry, older companies struggle to adapt to new technologies. Therefore, enhancing the organization's capabilities, including providing skill training to employees, particularly in new technologies, can improve the performance of textile companies. The interplay of organizational capabilities also impacts the firm's ability to rejuvenate or develop these capabilities (Piehl, 2022). Research results indicated that having technological capabilities, such as AI and IoT, affects the value chain and transforms the clothing industry (Safavi Jahromi & Ghazinoory, 2025).

The eighth element highlights the selection and application of business turnaround strategies. Traditional models of organizational rejuvenation assume that strategies are correctly designed and selected, and the problem lies in implementation. Bhattacharyya and Malik (2020) state that the authors proposed turnaround strategies for corporate rejuvenation targeting corporate functions and sub-functions. Finally, the authors presented the benefits that are gained post-implementation of corporate turnaround strategies. Gotteiner et al. (2019) believe that adopting early turnaround strategies can rejuvenate an organization without the damage typically associated with a critical situation. However, findings from interviews with managers and entrepreneurs in the textile sector underscore the need for new strategies, particularly business turnaround strategies, indicating that rejuvenation is not solely reliant on restructuring, process improvement, and enhancing capabilities.

The ninth element emphasizes the creation and strengthening of entrepreneurial attitudes. Although strategic entrepreneurship, such as organizational rejuvenation, does not require the establishment of a new department or corporate venture capital, it does necessitate entrepreneurial attitudes. Therefore, strengthening entrepreneurial attitudes through various means, such as attracting entrepreneurial employees, providing entrepreneurship training, appointing CEOs with an entrepreneurial spirit, and employing entrepreneurial leadership strategies, can foster entrepreneurial behavior within the organization.

The tenth element of organizational rejuvenation is innovation. Entrepreneurship and innovation are closely intertwined, as stated by Schumpeter, who viewed entrepreneurs as agents of creative destruction. Innovation is an integral part of entrepreneurship and should be included in the concept of strategic entrepreneurship. Innovation can manifest in various aspects, including processes, resources, organization, and products. Piehl (2022) identifies innovation as one of five capabilities that are particularly important for achieving organizational rejuvenation. The primary manifestation of organizational rejuvenation in entrepreneurial organizations is evidenced by the introduction of new process innovations as a means of creating and exploiting opportunities (Kreiser & Davis, 2009).

Overall, the process of organizational rejuvenation in Iranian textile companies can be further enriched by the additional elements that comprise rebranding, organizational process improvement, organizational restructuring, development of organizational capabilities, selection and application of business turnaround strategies, creation and strengthening of entrepreneurial attitudes, and fostering innovation.

However, the first output of the organizational rejuvenation process in the studied textile companies is the creation and acquisition of a sustainable competitive advantage. Successful companies differentiate themselves from unsuccessful ones by not only having competitive advantages but also sustainable competitive advantages. These advantages are rooted in the organization's core

competencies and are difficult for competitors to imitate. Interviews conducted with entrepreneurs in the textile industry reveal that successful companies have focused on producing new products that are of high quality and offered at a low price. The second output of the organizational rejuvenation process is the increase in productivity of textile companies. The entry of foreign competitors, such as Italian, Turkish, and Chinese companies, into the Iranian market, coupled with the obsolescence of weaving machines and the need for new textile production equipment, led to an increase in the cost of textile products domestically. This made it challenging for local companies to compete, especially against foreign counterparts. Consequently, their performance and productivity declined, and some companies, such as Mazandaran Textile Company, even went bankrupt.

5. Conclusion and Implications

The study aims to identify the drivers, dimensions, and outcomes of organizational rejuvenation in the Iranian textile industry. This industry, which is often found in countries such as Vietnam, Korea, India, Pakistan, Turkey, the USA, and even Iran, has a relatively long tradition (Goto, 2023; Hoon, 2024; Prakash et al., 2020; Thi Van Anh & Nguyen Dang, 2023). For this reason, most textile firms are traditional and declining. However, when textile companies enter the decline stage in their life cycle, they mainly look for solutions to survive and continue their business activities. Moreover, recent studies reveal that, contrary to traditional perspectives, the phenomenon of organizational rejuvenation is not limited to just three dimensions as stated by Baden-Fuller and Stopford (1994) (improvement of organizational capabilities, modification of business processes, and organizational restructuring). For example, the experience of Mustika Ratu's firm has shown that the business rejuvenation strategy includes product innovation, market expansion, marketing campaigns, and strategic partnerships (Ahmad et al., 2023).

Therefore, the results of the current research also indicated that the organizational rejuvenation in practice, such as the construct of organizational innovation as well as the strategic renewal (Alawamleh et al., 2023; Raoofian et al., 2025), is a multifaceted and complex concept (drivers, dimensions, and outcomes). This approach extends beyond the traditional perspectives of Stopford and Baden-Fuller (1990), Baden-Fuller and Stopford (1994), and Morris et al. (2011). They all consider organizational rejuvenation in only three dimensions: improvement of organizational capabilities, modification of business processes, and organizational restructuring, without considering its drivers and outcomes.

However, according to the study's results, the drivers of organizational rejuvenation are environmental uncertainty and a reduction in business performance. Increasing environmental uncertainty presents new challenges for Iranian entrepreneurs and business owners in the market, as large firms must engage in continuous innovation and rejuvenation to survive and stay ahead of the business competition (Piehl, 2022).

Moreover, according to the findings of current study, the ten dimensions of organizational rejuvenation include the improvement of organizational capabilities, modification of business processes, organizational restructuring, business turnaround strategies, development of entrepreneurial leadership, innovation, business rebranding, changing the CEO or middle management team, revitalizing entrepreneurial organizational culture, and creating and strengthening entrepreneurial attitudes. The first three dimensions (enhancing organizational capabilities, improving business processes, and restructuring), initially proposed by Kuratko et al. (2021), were confirmed in this research. However, dimensions of four to ten are considered new aspects of the phenomenon of organizational rejuvenation (including business turnaround strategies, development of entrepreneurial leadership, innovation, business rebranding, changing the CEO or middle management team, revitalizing entrepreneurial organizational culture, and strengthening entrepreneurial attitudes). Those new dimensions are unique research contributions of this study.

Those novelties of the study are highly significant for practitioners such as corporate entrepreneurs of businesses. In fact, unlike the early and later researchers' perspectives, such as Stopford and Baden-Fuller (1990) and Kuratko et al. (2021), business founders and corporate entrepreneurs should apply a systematic and comprehensive view to implement organizational rejuvenation in practice. For instance, corporate entrepreneurs cannot rejuvenate their businesses without altering their current business strategy, as well as without designing and implementing turnaround strategies for their

corporations. Furthermore, the famous quote "Culture eats strategy for breakfast" emphasizes the importance of aligning organizational culture with business strategy for achieving organizational transformation and success (Teasdale, 2002). In essence, if an organizational culture doesn't support the implementation of the turnaround strategy, it is likely to fail, regardless of its quality. This highlights the critical importance of aligning organizational culture with turnaround strategy for the successful implementation of organizational rejuvenation in businesses, which has not been considered in prior research.

However, considering the drivers, elements, and outputs of organizational rejuvenation, the following suggestions are presented for future research. First, future research can focus on developing a strategic alignment model for implementing organizational rejuvenation. Second, future studies can explore how established companies can adopt a startup approach to organizational restructuring and investigate how companies can leverage the principles of startups, such as agility, experimentation, and risk-taking, to drive successful restructuring efforts. Third, research can delve into the concept of entrepreneurial combinative capabilities, which involves combining existing organizational resources, knowledge, and networks with entrepreneurial initiatives to enhance their rejuvenation efforts. Fourth, organizational culture is one of the new conceptual dimensions of the "organizational rejuvenation" category in this study. However, the critical question is how to create and foster a startup culture within established and traditional companies. Sixth, these research results are limited to the textile industry. Therefore, it is recommended to study the process of organizational rejuvenation in other industries, such as agricultural firms and mining companies, in further research. Finally, considering the methodological limitations of the current study, it is suggested that cause-and-effect relationships between derivers, elements, and outcomes of organizational rejuvenation be investigated through the Structural Equations Modeling (SEM) method.

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