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The Impact of Entrepreneurial Orientation and Organizational Factors Influencing Intrapreneurship on Firm Performance

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Abstract

Background/purpose. The literature contains studies that examine the distinct impacts of entrepreneurial orientation and intrapreneurship on various forms of functional performance. This study aims to investigate the effects of the interplay between the concept of entrepreneurial orientation and the notion of intrapreneurship, defined as the embrace of entrepreneurial attitudes and behaviors by employees —two concepts that share similarities yet differ in key aspects— on the overall performance of the firm.

Materials/methods. The data was gathered from 106 firms operating in the software sector, located within six technology development zones on the Asian side of Istanbul. The evaluation of the acquired data was conducted using the IBM SPSS 17.0 software.

Results. The findings indicate that the dimensions of entrepreneurial orientation (excluding competitive aggressiveness) and intrapreneurship (excluding autonomy and time allocation) within an organization are positively correlated with the overall performance of the firm in various manners.

Conclusion. This paper attempts to fill a gap in the literature by measuring the entrepreneurial levels of Turkish software sector firms, whose numbers have been increasing day by day. Furthermore, it seeks to enhance the existing international literature on these relationships by utilizing a sample from Türkiye. The findings of this research are anticipated to provide valuable insights for managers in the software industry as well as for scholars who will conduct further studies in this area.

1. Introduction

In the current era, the significance of the skills and capabilities of individuals and organizations has become increasingly apparent (Tuzcuoğlu et al., 2024). The coronavirus pandemic had a significant impact on numerous sectors, including education, artificial intelligence, nutrition and consumption habits too (Karakose et al., 2023; Ayseli et al., 2020). These sectors have been compelled to adapt to the changing circumstances (Akin and Aslan, 2021). In order to navigate this challenging environment, it has become imperative for educators to adapt their approach to ensure that students possess the requisite knowledge and skills to become future entrepreneurs, taking into account their unique developmental characteristics from childhood onwards (Aslan, 2023). As we approach the conclusion of the initial decade of the 21st century, individuals and organizations are compelled to modify their practices in order to align themselves with contemporary management trends. This is driven by rapid advancements in technology, environmental considerations, shifting market behaviors, and highly dynamic competitive conditions that evolve at a pace surpassing that of traditional bureaucratic structures. Even the relationship between creative thinking and art attitudes from an early age can have a significant impact on the development of future skills (Polat et al., 2022). The intrapreneurship strategy seeks to harness the creative potential of every employee within the organization. Its objective is to invigorate and rejuvenate an existing entity, regardless of its scale, by fostering proactive, competitive aggressive, innovative, and risk-taking behaviors. This approach aims to establish new initiatives, refresh the core mission of the organization, and facilitate its transformation (Zahra and Covin, 1995). Viewed from this angle, intrapreneurship significantly contributes to enhancing business performance in the current global market environment, particularly regarding profitability, efficiency, and economic growth. A significant agreement exists among scholars (e.g.: Zahra and Covin, 1995; Dess et al., 1997; Alpkhan et al., 2010) in various fields of study that the ultimate objective of entrepreneurial endeavors within organizations is enhanced performance, and that elevated levels of intrapreneurial activities are likely to result in superior performance over the long term.

Analyses of entrepreneurship indicate that the definitions of the term frequently differ when viewed from economic and management standpoints. A significant number of studies concerning these two concepts, which denote a strategic orientation as a defining feature of the decision-making styles and practices employed by a firm senior management, indicate that evaluating specific entrepreneurial elements can provide measurable insights. These studies unfold that the integration of intrapreneurship and dimensions of entrepreneurial orientation within firms can facilitate the achievement or maintenance of elevated performance levels.

2. LITERATURE

2.1 Dimensions of Entrepreneurial Orientation

Numerous dimensions of entrepreneurial orientation have been identified in the literature. Entrepreneurial orientation dimensions are characterized as an organizational trait that reflects the extent to which an organization fosters and demonstrates a consistent pattern of entrepreneurial behavior, particularly through proactive new market entries. While entrepreneurial orientation and intrapreneurship are closely interconnected, they remain distinct concepts. The former pertains to the organizational characteristic itself and does not specify the various forms that entrepreneurial actions may assume within the organization. In contrast, intrapreneurship focuses on the specific manifestations of entrepreneurial activities, including venturing, innovation, and strategic renewal (Covin and Wales 2019). The foremost and most significant dimension is innovativeness, which encompasses the novel ideas, products, technological frameworks, and inventive solutions that organizations create to secure a competitive edge in their respective markets. Innovativeness

embodies the technological advancements that lead to developing new products and services (Astrini et al., 2020). This dimension of Innovativeness can be classified into four distinct categories as follows:

New business venturing describes the establishment of autonomous or semi-autonomous new units or new firms (Gartner et al., 1989). New business venturing has also been referred to by different names in the literature, such as incubative entrepreneurship (Schollhammer, 1982), internal venturing (Hisrich and Peters, 1984), new venturing activities and corporate start-ups (MacMillan et al., 1986), autonomous business unit (Vesper, 1984), new streams (Kanter and Richardson, 1991), and corporate venturing (Sharma and Chrisman, 1999). In both large corporations and established small businesses, the pursuit of entrepreneurship for new business development manifests as highly formalized autonomous or semi-autonomous units or firms. These newly established units are categorized as internal venturing when they operate within the current organizational domain, and as external venturing when they function outside of this domain (Reimsbach and Hauschild, 2012). A firm's involvement in technoparks represents a key activity within this context. The presence of such trends within the organization is a highly significant indicator of intrapreneurship.

New business area pertains to the exploration or engagement in novel business sectors that are associated with current products or markets (Rule and Irwin, 1988). For organizations of all sizes, the phrase 'new business venture dimension' refers to the creation of a new unit or company, while the 'new business area' dimension indicates the expansion into new business sectors through the existing organization, eliminating the need to develop a new organizational structure (Antoncic and Hisrich, 2004). In this context, the reassessment of the firm's products or services entails a thorough revision of the existing business model, which involves the creation of innovative products, services, and technologies. This business revision involves the expansion of the firm's portfolio by incorporating new ventures through mergers, acquisitions, joint ventures, the introduction of new product lines or the exploration of new markets (Zahra, 1991).

Product/Service and Technology/Process Innovation signifies a firm's inclination to endorse novel ideas and experiments that can lead to the development of new products, services, and technologies (Nylén and Holmström, 2015). Researchers in the field of strategic innovation and change argue that organizational innovation encompasses both product-based innovation (product innovation) and technical advancement (process innovation) (Damanpour and Gopalakrishnan, 2001). While innovation pertains to the commercial viability of an invention—whether it be a product, service, or process—as a transformative process into a marketable offering, it also involves the enhancement of production and distribution systems or the introduction of new social services (Sathe, 1988). Furthermore, innovation is characterized as a "new marketable good, service, or method" that arises from this transformation process (Gebhardt et al., 2006). In the field of innovation studies, it is acknowledged that firms not only have the capacity to develop new products and services but also adapt their existing offerings in response to anticipated market trends or changes in consumer preferences too (Heinonen and Korvela, 2003). To ensure long-term survival and sustain a competitive edge, business management must cultivate a management philosophy (organizational structure) that prioritizes the consideration of innovative ideas and the support of such initiatives (Moneva and Ortas, 2010). The development of new ideas and initiatives among employees is strongly influenced by the personality, beliefs, principles and aspirations of the organization's leaders. Covin and Miles (1999) highlight that a propensity for innovation positively impacts various qualitative and quantitative performance metrics within firms, including cost efficiency, production capabilities, distribution effectiveness, quality management, and customer service.

Strategic or Self-renewal refers to the transformation of corporations through the renewal of the basic ideas that form the framework of organizations. In the context of the essential traits of an entrepreneurial organization, the ongoing renewal of its business sectors and operations, along with

the promotion of adaptability and flexibility, are critical organizational necessities. This is because internal and external demands force the firm to constantly renew its existing strategies (Muzyka et al., 1995). Activities related to intrapreneurship are regarded as a vital resource that maintains the competitive edge of businesses. Intrapreneurship enhances and reshapes the competitive capabilities of organizations and the markets they serve, facilitating the implementation of innovations that generate value within their respective industries (Covin and Miles, 1999). Innovation serves as a crucial mechanism for businesses to maintain their competitive advantage, establish market leadership, and shape the competitive landscape, while also acting as a catalyst for strategic renewal. According to Stopford and Baden-Fuller (1994), the literature on strategy encompasses three distinct definitions of intrapreneurship: (1) the generation of new employment opportunities within existing organizations, (2) broader initiatives aimed at transforming or revitalizing existing organizations; and (3) endeavors focused on altering the competitive dynamics within the industry, collectively referred to as intrapreneurship. In this framework, sustaining the renewal process requires the involvement of a greater number of key stakeholders and the finance function, as well as initiatives that permeate the entire organization.

Risk-taking involves embracing initiative without hesitation, even in the face of incurred losses during the process, and accepting predetermined losses in pursuit of potential benefits (Kuratko et al., 2014). The propensity of firms with entrepreneurial characteristics to engage in risky behaviors, such as incurring substantial debt or investing significant resources to capitalize on lucrative market opportunities, serves as a reflection of their inclination towards risk-taking. Consequently, organizational risk-taking necessitates prompt assessment of market opportunities, swift integration of resources, and the execution of audacious strategies (Astrini et al., 2020). Conversely, an organization's perception of risk is intricately linked to the intensity of competitive landscapes and the unpredictability of the market (Chen and Miller, 2012). The inclination to embark on new initiatives, without exhibiting the risk-taking behavior typically associated with entrepreneurial or proactive (pioneering) activities, could lead the organization to forfeit its competitive edge or potentially exit the market, contingent upon the prevailing market conditions in the medium to long term (Slater and Narver, 1995). In an organization that successfully harnesses the principles of entrepreneurship, it is essential for managers to embrace a leadership approach that fosters an entrepreneurial mindset among their employees. This involves creating an environment that encourages innovation and empowers individuals to pursue calculated risks in their work. For risk-taking behavior to be fostered within the organization, it is essential that managers establish trust in their employees. They must explicitly communicate their willingness to accept potential losses that may result from well-meaning errors and actively promote a culture of encouragement. In work environments characterized by managerial trust and support, employees experience heightened job satisfaction and commitment to the organization, even in the face of external changes and crises (Moghaddas et al., 2020). Consequently, this leads to the development of organizational citizenship behavior among employees, enhances their capacity to take initiative, and improves both individual and collective performance levels. The counterpart to the propensity for risk-taking within the internal environment shaped by the desired entrepreneurial orientation is the aspiration for innovation. Employees engage in the exploration and assessment of opportunities both within the organization and in the external environment, utilizing diverse information sources. This encouragement of risk-taking behavior to pursue ideas and projects perceived as profitable among various options enhances the inclination towards innovation and overall innovation performance (Allal-Chérif and Bidan, 2017).

Proactiveness, as articulated by Lumpkin and Dess (1996), refers to the act of anticipating future challenges, requirements, and transformations by actively seeking new opportunities or initiating entry into emerging markets ahead of competitors. Entering the market ahead of competitors offers two significant advantages regarding the success of new products. First, the firm has the opportunity

to select distribution channels prior to its competitors. Second, there is a higher customer switching cost for those companies that enter the market at a later stage. Consequently, intellectual properties, including patents, provide firms with technological and market benefits, significantly influencing their capacity for innovation, willingness to take risks, and proactive behaviors. The ability to identify and assess opportunities in the environment, to influence the competitive landscape, to formulate appropriate strategies in response to the challenges that arise during the change process, to actively participate in market transformation, to be a pioneer in launching new products or services and in advancing the product life cycle, and to discontinue products and activities during the exit phases illustrate the proactive characteristics and actions of an entrepreneurial organization (Zahra and Garvis, 2000). Proactiveness interacting with risk taking and innovation components positively influences organizational performance. In this regard, proactive actions enable firms to secure a leading position in the competitive landscape through various forms of innovation (Siedel and Haapio, 2016). Research on strategic entrepreneurship behaviors indicates that this concept is used to express a "continuous pursuit of market opportunities and experiences, alongside an adaptive response to evolving environmental trends" (Anderson et al., 2019). Consequently, the behaviors anticipated to arise from the implementation of proactivity include (Kuratko et al., 2014): (1) the exploration of new opportunities that diverge from the firm's existing operational focus, (2) the development of innovative products and brands that outpace competitors, and (3) the strategic discontinuation of activities that have reached maturity or are in decline within their life cycle.

Competitive aggressiveness is characterized by a firm's inclination to confront its competitors directly and assertively, whether by entering new markets or enhancing its current market position (Covin and Covin, 1990). Competitive aggressiveness is also an expression of a desire to be unorthodox rather than use traditional methods of competition. Instances of competitive aggressiveness relevant to first-to-market entrants encompass the implementation of unconventional strategies to confront industry leaders, the examination and targeting of competitors' vulnerabilities, and the emphasis on products that offer significant added value. Additionally, three strategies are recommended for firms embracing a competitive aggressiveness mindset: (1) 'doing things differently than usual' in the sense of reorganizing resource components, (2) 'changing the content' in the sense of redefining products, services and marketing channels or the related field, and (3) 'spending or investing more than the industry leader'. Therefore, competitive aggression, which implies competing head-to-head to gain a 'competitive advantage', is an essential dimension of entrepreneurship at the firm level. Research (Lumpkin and Dess, 1996) indicates that a large portion of the positive changes that occur in these firms as a result of intrapreneurship are due to competitive aggressiveness efforts. Some researchers (e.g. Knight, 1997) who have adopted the entrepreneurial orientation approach has not made a clear distinction between competitive aggressiveness and proactivity, and academics who have adopted the intrapreneurship approach (e.g. Zahra, 1991) have generally not taken these two dimensions of intrapreneurship into consideration. Nonetheless, it is emphasized that a crucial distinction must be made between the dimensions of proactivity and competitive aggressiveness (e.g. Antoncic and Hisrich, 2004). Consequently, while proactivity pertains to the initiative of being a pioneer in capitalizing on market opportunities, competitive aggressiveness refers to a firm's assertive stance in relation to its competitors. Additionally, Dess et al. (1997) define proactivity as a response to opportunities, whereas they define competitive aggressiveness as a response to threats. Their work provides empirical support for the distinction between these two concepts.

2.2. Definition of Intrapreneurship

It is challenging to assert that a consensus exists regarding the definition of intrapreneurship within the academic literature. Since its first introduction in 1978 by Gifford and Elizabeth Pinchot in a white paper titled "Intra-Corporate Entrepreneurship", the phenomenon of entrepreneurial activity

within established organizations has been defined with a variety of terms such as organizational entrepreneurship (Peterson and Berger, 1971), entrepreneurial orientation (Lessner and Knapp, 1974), intra–corporate entrepreneurship (Rothwell 1975), internal corporate entrepreneurship (Shils and Zucker, 1979), corporate venturing (Fast, 1981), intrapreneurship (Pinchot, 1983), and corporate entrepreneurship (Burgelman, 1983). However, it can be asserted that the concept that garners the greatest attention and emphasis in international academic literature is **corporate entrepreneurship**.

Entrepreneurship, often referred to as independent entrepreneurship, pertains to individual entrepreneurial activities that occur outside of established businesses, whereas intrapreneurship refers to entrepreneurial efforts inside an existing, operating organization. At this point, the primary distinction that sets independent entrepreneurship apart from intrapreneurship is fundamentally linked to the environment in which the entrepreneurial activities take place (Antoncic and Hisrich, 2003). Having said that, it is argued that, despite the fact that entrepreneurial behaviors are similar to intrapreneurial behaviors, some notable differences exist: Both forms of entrepreneurship are fundamentally rooted in innovation processes, with the objective of achieving high productivity and added value; however, they vary in the overall conditions under which they operate. It is contended that these disparities arise in a systematic manner concerning the capacity to acquire and utilize resources, the development of strategies, and the level of performance (Covin and Slevin, 1991). An intrapreneur may face challenges like established rigid control mechanisms, budget limitations, and conventional business rules of the firm, regardless of the specific department they belong to (Hisrich and Peters, 1984). Intrapreneurs are influenced by factors such as organizational structure, processes, procedures, and the prevailing culture within their firm. Consequently, they must prioritize integration and coordination within their workplace to a greater extent than entrepreneurs do.

While it has been noted that independent entrepreneurs and intrapreneurs share numerous similarities regarding innovation, risk-taking, change orientation, opportunity focus, and creativity (Johnson and Hayes, 1996), significant differences exist between these two categories of entrepreneurs, largely stemming from factors related to organizational structure. Entrepreneurs and corporate entrepreneurs exhibit notable distinctions regarding their approach to risk, the scope of their responsibilities and authority, the origins of the capital they utilize, their managerial motivations, as well as their tendencies in personnel and functional matters. Table 1 summarizes the differences between independent entrepreneurs and corporate entrepreneurs.

Table 1. Differences between Entrepreneurs and Intrapreneurs

Independent Entrepreneurs	Corporate Entrepreneurs
take more risks.	prefer to take relatively less risk
are developers and innovate for themselves.	are catalysts and innovate on behalf of others in the existing organization
engage in entrepreneurial activity of their own volition and almost from scratch.	are chosen by others within the organization and imposes themselves on the organization
risk preferences aim at gaining money & prestige.	risk preferences are career and business oriented
are motivated by the idea of starting a new business, starting their own firm, & making financial gains.	are motivated by factors such as promotions, bonuses, higher wages and revenue growth
are autonomous and not subject to bureaucratic inertia. Have ability to act quickly.	the parent firm, which sponsors the internal initiative, imposes strict cost controls and sets clear short-term targets
The endeavor is focused on market orientation and aims to surmount challenges within the marketplace.	The effort is directed towards enhancing the organizational culture and aims to surmount internal challenges for improvement

business plan includes the ownership section. May need external resources. Resources are limited.	business plan does not need the ownership section. Not seek external resources, uses existing funds
risks their own capital in terms of capital. Because ownership and control are in their own hands.	risk the capital of the firm they work for as an entrepreneurial employee and access to more capital
focus on the success of the initiative in terms of managerial motivations and try to catch the difference in new products/services, processes, and management techniques.	have to balance different political and institutional objectives in the business. are dependent on the business plan and subject to frequent evaluation. try to capture the difference like an independent entrepreneur
have higher accessibility to entrepreneurial managers.	have easy access to senior managers in different functional areas and attaches importance to the marketing function.

Source: Adapted by the author from the study of Kayış (2010)

Table 1 illustrates that the distinctions between intrapreneurship and independent entrepreneurship primarily lie in their respective entrepreneurial tendencies and behaviors. Intrapreneurship is fundamentally different from independent entrepreneurship regarding the capacity to acquire and utilize resources effectively. This distinction persists in the selection of various business strategies and the establishment of differing performance metrics. Notably, independent entrepreneurs experience a more pronounced lack of organizational legitimacy compared to intrapreneurs when it comes to generating new resources. Furthermore, intrapreneurs benefit from effective distribution networks and cost-efficient access to sales personnel, thanks to the advantages afforded by their parent firm. They also enjoy greater control over input suppliers as a result of their affiliation with the parent organization and can leverage economies of scale by utilizing the excess capacity available within the parent firm.

2.3. Importance of Intrapreneurship

Examining the establishments basic entrepreneurial personality of corporate undertakings in order to seize openings in competitive situations has gotten to be an important investigate and consider subject within the field of administration sciences. Intrapreneurship has gained prominence as innovation and differentiation have become essential for maintaining competitive advantage. This concept seeks to sustain the spirit of entrepreneurship within established organizations. Research aimed at understanding the behaviors of companies that proactively identify and assess opportunities, as well as swiftly adapt to potential threats arising from rapid environmental changes, underscores the growing significance of intrapreneurship. With its increasing importance, the problem of how to create intrapreneurship in an enterprise and how to manage it effectively comes to the agenda (Popowska, 2020).

The significance of intrapreneurship is evident in its capacity to rejuvenate businesses, enhancing both profitability and economic expansion while simultaneously improving overall performance. The primary objective of intrapreneurship is to establish a dynamic, adaptable, risk-embracing, innovative, and competitive organizational framework that can capitalize on opportunities presented by rapidly evolving markets during the execution of business strategies, particularly in shaping the competitive landscape (Covin and Covin, 1990). This innovative and organizational aspect of intrapreneurship facilitates the development of new commercial ventures (Zahra, 1993) and the establishment of additional revenue streams from both domestic and international markets (Zahra et al., 2005).

In conclusion, the advantages that companies excelling in intrapreneurship will experience are as follows:

a) The implementation of intrapreneurship fosters innovation and differentiation, which in turn offers a considerable competitive edge for the organization. This advantage can be realized through various means, including unique positioning, cost efficiency, swift adaptation to changes, enhanced organizational learning, novel business methodologies, and the exploration of new strategic pathways (Heinonen and Korvela, 2003).

b) Intrapreneurship serves as a crucial factor in enhancing a firm's adaptability. The pace of change in the business environment has rendered attributes such as creativity, flexibility, and speed essential for organizational success. However, large corporations often struggle to meet these demands due to a focus on short-term profitability, rigid bureaucratic structures that stifle creativity, and intricate processes coupled with hierarchical challenges. Consequently, intrapreneurship is regarded as a valuable approach for revitalizing large organizations that have become stagnant, enabling them to regain their flexibility and innovative capacity (Thornberry, 2001).

c) Intrapreneurship refers to a systematic approach that enables organizations to foster the development of new business ventures, rejuvenate their operations, lead in market innovation, embrace risk-taking, and improve the development of innovative products, services, manufacturing methods, and operational processes (Antoncic and Hisrich, 2001).

d) Intrapreneurship ensures the effective use of internal resources; and enhances employee satisfaction through the opportunities for growth and learning it provides. Accordingly, this approach not only retains employees within the organization but also contributes to the overall continuity of the organization (Setiawati et al., 2022).

e) The practice of intrapreneurship enhances the financial and non-financial performance of organizations, including aspects such as business efficiency and customer satisfaction (Chitimiea et al., 2021). Consequently, this improved performance leads to an increase in growth and profits.

f) Intrapreneurship significantly helps to identify or anticipate threats and opportunities that arise or may arise due to changes in the external environment (Barringer and Bluedorn, 1999).

In conclusion, organizations that excel in fostering intrapreneurship will experience a range of significant advantages. These benefits not only enhance the internal dynamics of the firm but also contribute to its adaptation to environmental changes, overall growth, and sustainability in a competitive market. By encouraging innovative thinking and entrepreneurial behavior among employees, businesses can unlock new opportunities and drive progress.

2.4. Organizational Factors Influencing/Supporting/or Hindering Intrapreneurship

A culture that promotes entrepreneurship is essential for organizations to cultivate a robust entrepreneurial spirit. The goals set by the organization must be consistent with its cultural framework, ethical considerations, and HR management strategies. The culture of an organization is manifested through its underlying philosophy, regulations, norms, and values. It is evident in the ceremonies, traditions, and behaviors that characterize the organization. Consequently, it is clear that each organization possesses a unique style. The entrepreneurial organizational culture, distinct from conventional bureaucratic culture, prioritizes a forward-thinking approach, innovation, creativity, risk-taking, and the recognition of opportunities and potential. Within this framework, employees experience a sense of autonomy in managing their own responsibilities and schedules (Urbano et al., 2022). A traditional organizational culture is fundamentally hierarchical, with defined permissions and established legal protocols for large projects. In such an environment, individual autonomy is limited, accompanied by a reporting framework and reward system that tends to encourage conservative decision making. This structure features clear lines of authority and responsibility, along with stringent control mechanisms (Eisenhardt and Martin, 2000). In an

organization aiming to foster entrepreneurial behavior, it is essential to avoid practices that impede the cultivation of entrepreneurial thinking and discourage employees from engaging in entrepreneurial activities. Consequently, it is crucial to discard traditional management practices that include directives such as “adhere strictly to instructions,” “avoid making mistakes,” “take initiative but await further instructions,” “remain in your designated position,” and “be cautious of others.” Additionally, rigid long-term planning, risk aversion, assessing new initiatives based solely on past experiences, and promoting only those employees who fit a specific mold must also be eliminated. The culture within entrepreneurial organizations stands in stark contrast to traditional models. Rather than adhering to a hierarchical framework, an intrapreneurial environment promotes a flat organizational structure characterized by networking, collaboration, sponsorship, and numerous mentorship opportunities. These close working relationships foster a climate of trust, which is essential for achieving shared visions and objectives. Daily responsibilities are perceived as engaging activities rather than tedious tasks. Instead of erecting barriers to safeguard their domains, individuals actively contribute suggestions that encourage the exchange of ideas across their respective service areas (Nylén and Holmström, 2015). The effective execution of intrapreneurship initiatives within a firm, along with the anticipated advantages of such endeavors, is contingent upon the organizational factors that facilitate these activities. Numerous factors, including a culture that encourages risk-taking, innovation, continuous learning, and adaptability, as well as practices that empower employees, a flexible organizational structure, administrative backing, autonomy, appropriate time allocation, a robust reward system, efficient communication, and accessible resources, are essential components for the successful realization of Intrapreneurship (McFadzean et al., 2005).

Management support, that is, managers' enabling of entrepreneurial activities within the firm or encouraging entrepreneurial employees, is considered as the most important intra-organizational factor. What is meant by management support refers to the approach and conduct of senior management in fostering an environment where employees are motivated to generate innovative ideas, efficiently develop and execute the most significant of these concepts, and reduce potential organizational barriers and internal bureaucracy that may arise at different phases of the innovation process (Kuratko et al., 1990). Management support is in the form of developing creative ideas, supplying the essential sources and proficiency, or institutionalizing entrepreneurial events and integrating them into the organization's systems and processes (Alpkan et al., 2010). The fundamental idea underlying management support is to motivate and persuade employees that innovation is integral to their responsibilities. Employees perceive supportive management as a 'sponsor' that equips them with various resources (Christensen, 2005). Managerial support manifests in various forms, including the endorsement of novel ideas and initiatives, the provision of necessary resources for innovation, and the design of organizational systems and processes that facilitate entrepreneurial endeavors (Hornsby et al., 2002). It is essential for employees to view the resources allocated for innovation as both accessible and usable. Notably, when managers exhibit a willingness to embrace risks and demonstrate tolerance for errors, it significantly enhances the prospects for intrapreneurship (Carrier, 1996). Additionally, flexible and organic organizational structures are believed to positively affect intrapreneurship (Parboteeah, 2000). For intrapreneurship to gain acceptance among all employees, it is crucial for top management to exhibit both consistency and commitment in the support they have pledged to the employees. This approach will encourage employees to undertake calculated risks associated with the firm's proactive initiatives and to recognize and appreciate the importance of a commitment to innovation for both their personal growth and the organization's success. To foster an environment conducive to entrepreneurship, it is important to enhance intrinsic rewards, minimize stringent control measures, and delegate management responsibilities to capable employees. Otherwise, conservative and risk-averse attitudes will discourage corporate entrepreneurs and reduce innovative efforts (Gupta et al., 2004).

Nevertheless, with a managerial framework that promotes entrepreneurship, the experiences acquired by employees will gradually evolve into organizational memory and knowledge, thereby bolstering internal innovation (Barham et al., 2020).

Autonomy refers to the capacity of an individual or a team to engage in independent actions aimed at developing and completing an idea or vision (Lumpkin and Dess, 1996). In a more specific context, job autonomy, which is explored and enhanced through job design, encompasses aspects such as the selection of work methods, management of the work schedule, and the individual's discretion in determining performance criteria, among others. It is essential for employees to be empowered in order to enhance quality, capitalize on emerging opportunities, and swiftly address customer requirements (Parboteeah, 2000). An empowered individual is characterized by a desire to engage in business and a willingness to accept responsibility. When this trait is nurtured within an environment that permits employees to make independent decisions regarding their work, the effectiveness of intrapreneurship is significantly enhanced. By involving innovative team members from various levels of the hierarchy in strategic planning and decision-making, and by assigning them roles in these processes, organizations can bolster employees' motivation for intrapreneurship and their sense of ownership over objectives. Concurrently, management will benefit from a broader understanding of innovation and change through diverse viewpoints (Amabile and Conti, 1999). Intra-firm innovation necessitates individual initiative and a reasonable degree of work flexibility within an organizational framework that allows employees to experiment with new ideas for processes and initiatives. The presence of individual autonomy within the organization enhances employees' efforts to refine their work, fosters their capacity to generate innovative ideas, and improves their ability to effectively implement these concepts (Bulut et al., 2008). To promote intrapreneurship within their organizations, companies must modify their organizational structures by minimizing hierarchical levels and empowering operational units with greater authority. In this regard, it is essential to establish genuine autonomy and to support employees in exercising this autonomy in practice. Additionally, during this transformation, organizations should ensure the presence of advocates for entrepreneurial activities who can shield innovative entrepreneurs from institutional norms or resource constraints that may hinder the acceptance of new initiatives (Weller and Wolff, 2005).

Time allocation refers to the manner in which employees distribute their time to implement new ideas, improve existing products and processes, and invest the requisite time for development of innovative products and procedures within their working hours. It serves as a resource for fostering innovation, as determined by the firm's management (Piva, 2018). The successful implementation of an initiative, whether pursued independently or within an organization, relies on the effective collection and management of various material and non-material resources. These resources include physical space, machinery, equipment, hardware, raw materials, and human capital, as well as knowledge and experience. The initiation and execution of an innovation initiative within a firm necessitate allocating time during working hours for the employees engaged in the process to articulate their ideas, conduct research, and experiment, alongside the aforementioned resources (Barney, 2001). Leisure time, in contrast to time allocation, signifies a period during which employees are free from their regular work obligations and can utilize this time to engage in activities pertinent to their roles and responsibilities. The intentional management of time, along with any surplus time available beyond standard working hours, creates a conducive environment for employees to strategize and enhance their work practices, as well as to participate in R&D initiatives aimed at fostering innovation. While it is inevitable that some individuals may misuse this leisure time, the benefits derived from employees who effectively utilize this time for innovative purposes will far outweigh any temporary decline in productivity (Piva, 2018). It is widely recognized that many successful entrepreneurs make crucial strides toward achieving their aspirations primarily when they have the freedom to do so, and this unencumbered time significantly contributes to their success.

For instance, at 3M, where intrapreneurship is effectively fostered, employees are motivated to dedicate 15% of their work hours to personal projects. The provision of free time during work hours for employees to cultivate innovative project concepts, refine these ideas, and subsequently launch and complete new initiatives is essential for fostering innovation within the firm.

Rewarding is another factor that is thought to be effective on entrepreneurial success in an existing organization. A well-structured reward system enhances employee motivation and fosters innovative behaviors. Additionally, it aids middle-level managers in anticipating risks associated with entrepreneurial initiatives, thereby contributing positively to the overall entrepreneurial environment (Christensen, 2005). The effectiveness of innovations is fundamentally assessed through financial returns. Consequently, providing specific rates or sums as rewards, incentives, and promotional opportunities to employees who successfully drive innovation within the organization will enhance employee motivation and foster a more entrepreneurial atmosphere within the firm (Nikolov and Urban, 2013). The consideration and implementation of innovative ideas can yield profits, but they also carry the risk of potential losses for shareholders and the overall future of the organization. If this risk does not deter upper management, it should similarly not discourage employees. While it is essential to promote successful initiatives, individuals engaged in well-meaning yet unsuccessful projects should not face penalties. Penalizing those who strive for innovation undermines the success of internal entrepreneurship. Therefore, by appropriately aligning reward and compensation policies, employees can be encouraged to embrace an entrepreneurial mindset and act as entrepreneurs (Bulut et al., 2008). A reward system that establishes explicit objectives and emphasizes outcomes encourages employees to embrace risks (Hornsby et al., 2002). It is crucial that rewards are delivered promptly and are commensurate with the significance of innovation. Employees who perceive the organization's reward system as equitable are more likely to feel that their achievements benefit both themselves and the organization; consequently, a well-structured reward system is vital in enhancing employees' confidence and motivation for innovation within their companies (Sitkin and Pablo, 1992). Incentives including consistent salary disbursements, bonuses, profit-sharing arrangements, job stability, opportunities for advancement, increased job responsibilities, autonomy, allocation of time for employees to engage in work-related initiatives, provision of financial support for research and business travel, and the awarding of royalties for patents are considered to enhance employee motivation in the context of intrapreneurship (Nikolov and Urban, 2013).

2.5. Comparison of the concepts of Intrapreneurship and Entrepreneurial Orientation

Entrepreneurial orientation is a crucial aspect of both entrepreneurship and strategic management, signifying the organizational inclination that influences the behavior and decision-making approaches of employees to foster entrepreneurial initiatives within the organization. The notion of entrepreneurial orientation, which pertains to a focus on entrepreneurial endeavors as discussed in academic literature, has been identified by several terms such as entrepreneurial intensity, style, stance, tendency, inclination, and occasionally, intrapreneurship (e.g., Zahra et al., 1999a). Given the diverse terminology associated with this concept, it's clear that scholars have not yet reached a consensus on a universally accepted definition of entrepreneurial orientation. Studies on entrepreneurship within established organizations have linked intrapreneurship to entrepreneurial orientation. The integration of both approaches at the organizational level is crucial to finding solutions to concept problems (Edú-Valsania et al., 2014). Intrapreneurship encompasses a range of entrepreneurial activities, processes, strategies, and behaviors undertaken by a collective of employees within an established organization. Its primary aim is to foster organizational growth and enhance competitiveness through innovative initiatives (Hosseini, 2016). The concepts of Intrapreneurship and Entrepreneurial Orientation are closely related, leading to considerable confusion in the current literature.

Numerous scholars have treated these terms as synonymous. However, it is important to note that Entrepreneurial Orientation pertains solely to the inclination towards entrepreneurship, rather than the execution of entrepreneurial activities. In contrast, Intrapreneurship emphasizes the tangible entrepreneurial behaviors exhibited by organizations. A more precise terminology would be to refer to the overarching concept as "entrepreneurship at the firm level," with Entrepreneurial Orientation and Intrapreneurship being defined as separate dimensions within this framework (Hosseini, 2016). Intrapreneurship is increasingly recognized as a powerful mechanism for rejuvenating organizations and enhancing their financial outcomes. Entrepreneurial orientation pertains to the strategic decision-making processes and approaches adopted by firms involved in entrepreneurial endeavors (Hakeem, 2023). Consequently, by exploring these interrelated concepts, it is posited that scholars can develop a more holistic understanding of entrepreneurship within firms. Furthermore, the term intrapreneurship can be understood to include a diverse array of entrepreneurial concepts, such as entrepreneurial orientation.

3. THEORETICAL FRAMEWORK and HYPOTHESIS DEVELOPMENT

3.1. Relationship between Entrepreneurial Orientation & Firm Performance

The literature indicates that the growing body of research on entrepreneurship is linked not only to the favorable macroeconomic outcomes of entrepreneurial behaviors and initiatives but also to enhancements in organizational performance. Typically, positive outcomes regarding profitability and growth are viewed as consequences of intrapreneurial efforts within established organizations (Covin and Slevin, 1991). While the influence of intrapreneurship on organizational performance may appear limited and negligible during the initial years, this effect is expected to increase progressively over time. Furthermore, the beneficial outcomes will become increasingly apparent under diverse environmental circumstances (Russel, 1999). It has been posited that intrapreneurial initiatives within organizations yield beneficial outcomes for firm performance, particularly in terms of profitability and growth, especially in highly competitive environments (Zahra and Covin, 1995). Furthermore, scholars such as Wiklund (1999) and Zahra and Covin (1995) have shown that a firm's propensity for intrapreneurship yields lasting benefits for both long-term growth and financial performance, alongside its short-term effects. The prevailing consensus is that organizations that actively pursue intrapreneurship are likely to experience greater growth and profitability compared to those that do not engage in such activities. Consequently, the degree of entrepreneurship within enterprises is positively correlated with organizational growth, profitability, and productivity (Fauzi et al., 2019). The biggest limitation of the studies examining the connection between entrepreneurial orientation and performance is the lack of sufficient theoretical explanations to answer the question of why a positive relationship is expected between them. Zahra et al. (1999b) posited that the anticipated positive correlation between entrepreneurial orientation and performance arises from the notion that entrepreneurship generates and utilizes knowledge, which serves as the fundamental resource that confers a competitive advantage to the organization. The generation of new knowledge not only enhances existing competencies but also facilitates the development of new ones. Consequently, firms characterized by entrepreneurial orientation are anticipated to exhibit better performance compared to their non-entrepreneurial counterparts.

Certain studies have indicated a minimal or nonexistent relationship between entrepreneurial orientation and performance outcomes. For example, Lee and Peterson (2000) found a very low positive relationship between entrepreneurial orientation and initial performance. Conversely, Slater and Narver (2000) reported no correlation between entrepreneurial orientation and business profitability, and similarly, Smart and Conant (1994) found no significant link between entrepreneurial orientation and overall firm performance. In contrast, Hart (1992) suggested that the challenging conditions faced by firms adopting an entrepreneurial strategy could result in diminished

performance. Variations in research findings may stem from discrepancies in research methodologies; contradictory outcomes could alter the assertion that 'entrepreneurial orientation positively affects performance.' Lumpkin and Dess (1996) contend that the connection between entrepreneurial orientation and performance is intricate and context-dependent, with the intensity of this relationship influenced by both internal and external organizational environmental factors.

Based on the findings in the literature, the following hypotheses have been formulated:

H1a: Innovativeness positively affects performance.

H1b: Risk-taking positively affects performance.

H1c: Proactiveness positively affects performance.

H1d: Competitive aggressiveness positively affects performance.

3.2. Relationship Between Organizational Factors Influencing Intrapreneurship and Performance

Intrapreneurship is regarded as a process engaged in by people or teams to establish new enterprises, rejuvenate and refresh existing organizations, or introduce innovations within current entities (Antoncic and Hisrich 2001). Zahra (1996) defines intrapreneurship as a combination of formal and informal initiatives designed to create new business opportunities within existing companies by innovating in areas such as products, processes, and market strategies. Furthermore, Zahra (1991) emphasizes that intrapreneurship involves the skill of developing innovative concepts within a firm and executing them to achieve profitability.

Organizational learning plays a crucial role in fostering intrapreneurship, as the accumulation of new knowledge within the organization enhances the autonomy of its various divisions. This increased autonomy allows for a more adaptable organizational structure, which is essential for nurturing intrapreneurship and encouraging employee creativity (Martín-Rojas et al., 2013). Consequently, this approach can lead to improved profits, sales, and market share for the organization (Antoncic and Prodan, 2008). Intrapreneurship proves advantageous for both SMEs and large corporations, as organizations that actively pursue entrepreneurial initiatives tend to experience greater growth and profitability compared to those that do not engage in such activities (Antoncic and Hisrich, 2001), thereby achieving superior performance.

The literature indicates that innovation ensures organizations adopt strategic measures to prioritize the integration of information and communication technology in their endeavors to fulfill the firm's strategic goals (Martín-Rojas et al., 2013). The various opportunities enabled by the Information and Communication Technologies utilized in the software industry, where this research was carried out, are distinctly evident in the realm of innovation. The implementation and utilization of information & communication technology have facilitated various innovations, including services like e-municipality, e-banking, and e-health. Firms who embrace these technologies at an early stage stand to gain significant advantages over those who are hesitant to adopt them and miss out on the associated benefits. Research indicates that intrapreneurship plays a mediator role in the connection between information & communication technology (ICT) and organizational performance, as noted by Todd and Javalgi (2007). To successfully invest in IT-driven innovations and leverage these technologies for the development of new products, services, and business models, it is essential to cultivate an organizational culture that prioritizes autonomy, embraces proactivity, fosters innovation, and supports risk-taking. Research in the literature highlights that intrapreneurship significantly enhances performance within technology firms (Martín-Rojas et al., 2013; Fauzi et al., 2019). It can be concluded that intrapreneurship facilitates the identification of knowledge-driven organizational opportunities and innovations, thereby contributing positively to both the financial and qualitative outcomes of companies.

Based on the findings in the literature, the following hypotheses have been formulated:

H2a: Management support positively affects performance.

H2b: Autonomy positively affects performance.

H2c: Time allocation positively affects performance.

H2d: Rewarding positively affects performance.

Figure 1 illustrates a framework that outlines the effect of organizational factors influencing intrapreneurship and entrepreneurial orientation on firm performance. Furthermore, in view of the observed dearth of scholarly research examining the interplay between intrapreneurship, entrepreneurial orientation and firm performance, this study aims to investigate this relationship in a comprehensive manner.

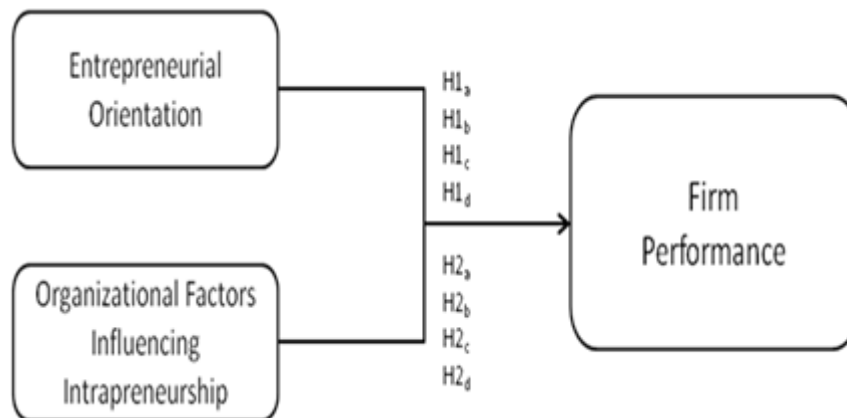


Figure 1. Conceptual Model

4. RESEARCH

4.1. Purpose of the Study

Certain studies have indicated a minimal or nonexistent relationship between entrepreneurial orientation and performance outcomes. The software industry, recognized as a crucial element of the knowledge economy, serves as a vital leverage point in the developmental frameworks of nations due to its potential in both domestic and international markets, which forms the foundation of our research. Despite a notable rise in scientific investigations within the entrepreneurship literature that empirically explore the connections between entrepreneurial orientation (dimensions of intrapreneurship), entrepreneurial climate, and firm performance—partially or fully elucidating these relationships—it is evident that research on this topic in Türkiye has been limited, particularly commencing after 2005, resulting in insufficient discourse on the matter.

This study seeks to delineate the various dimensions of intrapreneurship within the software sector. It aims to identify the elements that constitute the foundational infrastructure of these dimensions, as well as the organizational factors that influence intrapreneurship, including the obstacles that may hinder it. Furthermore, the research will examine the effectiveness of these factors, their interrelationships, and their impact on the performance of firms. Additionally, it will consider the demographic characteristics of the software companies and employees included in the selected sample for this investigation.

4.2. Research Method (Sampling & Measures)

This research employed a survey (questionnaire) methodology. A total of 106 software companies participated in this survey study, aimed at identifying the dimensions of intrapreneurship within the software industry and examining the impact of organizational factors influencing intrapreneurship on firm performance. The survey consisted of 52 questions; however, only 48 were

deemed relevant for analysis to ensure the extraction of meaningful results during the evaluation process.

The survey is divided into four sections. The initial section gathers personal information, comprising 7 questions, along with 3 questions pertaining to the company details of the participating managers. In the subsequent section, Entrepreneurial Orientation was assessed through a set of 18 questions categorized into four dimensions: (1) risk-taking (5 questions), (2) innovativeness (6 questions), (3) proactiveness (4 questions), and (4) competitive aggressiveness (3 questions). This assessment was grounded in Miller's (1983) entrepreneurial orientation scale, which is widely recognized in international literature and has been adapted to our language through correlation and structural equivalence modeling. In the third section, scales were employed to assess (1) management support (6 questions), (2) autonomy (6 questions), (3) time allocation (4 questions), and (4) reward system (6 questions). The statistical validity and reliability of these scales were established in the study conducted by Kuratko et al. (1990) through the Intrapreneurial Assessment Instrument, as well as in the corporate entrepreneurship scales utilized in the field studies by Hornsby et al. (2002) via the Corporate Entrepreneurship Assessment Instrument. The fourth section comprises 12 questions designed to assess the performance of the firm, as referenced by Ellinger et al. (2008).

All scales employed multiple items, utilizing a 5-point Likert-type equal interval measurement approach. Participants were instructed to assign a value ranging from 1 to 5 to these variables. In the 5-point Likert attitude scale utilized for the surveys conducted in this research, the values align with the subsequent perceptions: 1 represents strongly disagree, 2 indicates disagree, 3 signifies neither agree nor disagree, 4 denotes agree, and 5 stands for strongly agree.

The universe of this research encompasses 255 companies (Ministry of Industry and Technology, 2024) operating in the software sector, located within six technology development zones on the Asian side of Istanbul. To accurately depict the universe within the scope of the research, the quota sampling method was employed. A total of 253 survey forms were sent to the software sector companies that constitute the research sample via e-mail or delivered by hand. 106 of the survey forms sent were returned and the sample was formed by receiving feedback. The return rate of the surveys was 42%. Taking into account a 10% margin of error at a 95% confidence level, a sample size of 106 is deemed adequate and yields dependable results.

4.3. Data Analysis and Results

The research period was established as August to September 2024. The survey forms that were collected were assigned numbers, and the responses provided were coded accordingly. The evaluation of the acquired data was conducted using the SPSS 17.0 statistical analysis software. Prior to addressing statistical solutions, an analysis of frequency and percentage distributions is conducted to illustrate demographic characteristics. This encompasses distributions categorized by gender and age, marital status, educational attainment, job positions, the legal entities of the companies participating in the survey, and the employee count that constitutes the research group.

Table 2: Demographic Profile of the Software Industry Employees Constituting the Sample

Variable	Subcategories of Variable	Frequency	Percentage (%)
Gender	Female	16	15,1
	Male	90	84,9
Marital Status	Married	69	65,1
	Single	37	34,9
Age	30 and below	31	29,25

	31-40	59	55,65
	41-50	14	13,21
	50+	2	1,89
Title	Senior Manager	28	26,42
	Middle Manager	41	38,68
	Engineer	37	34,9
Educational Background	High School and below	11	10,38
	Bachelor's Degree	73	68,87
	Master's Degree	19	17,92
	PhD	3	2,83
Firm Legal Personality	Inc.	41	38,68
	Ltd. Co.	65	61,32
Number of Employees	0-10	51	48,11
	11-50	27	25,47
	51+	28	26,42

In this research, an initial 9-factor solution was identified. However, all survey questions underwent factor analysis, leading to the exclusion of 4 questions that did not align with the anticipated factor structure. Consequently, a model comprising 48 questions across 9 factors was established. Following the removal of the non-conforming questions, the survey included 18 inquiries related to entrepreneurial orientation, 22 inquiries concerning organizational factors influencing Intrapreneurship, and 8 inquiries aimed at assessing firm performance. Table 3 presents the following titles: RIT (Risk-taking), INN (Innovativeness), PRO (Proactiveness), COA (Competitive Aggressiveness), MAS (Managerial Support), AUT (Autonomy), TIA (Time Allocation), REW (Rewarding), and FIP (Firm Performance).

Table 3: Factor Analysis of Variables

	1	2	3	4	5	6	7	8	9
RIT3	0,810								
RIT1	0,804								
RIT4	0,788								
RIT5	0,678								
RIT2	0,678								
INN3		0,825							
INN4		0,807							
INN2		0,779							
INN6		0,757							
INN1		0,720							
INN5		0,684							
PRO3			0,904						
PRO1			0,893						
PRO2			0,872						
PRO4			0,813						
COA2				0,912					
COA3				0,895					
COA1				0,577					
MAS3					0,793				
MAS5					0,789				
MAS4					0,766				
MAS1					0,726				

MAS6	0,694									
MAS2	0,685									
AUT4		0,842								
AUT1		0,825								
AUT5		0,772								
AUT6		0,759								
AUT3		0,726								
AUT2		0,637								
TIA2			0,886							
TIA1			0,826							
TIA4			0,733							
TIA3			0,608							
REW3				0,876						
REW4				0,870						
REW5				0,785						
REW2				0,778						
REW1				0,753						
REW6				0,729						
IP6									0,802	
FIP5									0,800	
FIP4									0,782	
FIP8									0,780	
FIP7									0,756	
FIP10									0,671	
FIP12									0,645	
FIP1									0,561	

The analysis revealed that certain anticipated factors did not materialize, leading to the exclusion of the 2nd, 3rd, 9th, and 11th questions, which were inconsistent with the identified factors.

Table 4: Correlation Analysis Showing Relationships in the Research Model

	Mean	SD	1	2	3	4	5	6	7	8	9
1. Risk-taking	3,200 0	0,865 8	$\alpha = ,8091$								
2. Innovativeness	4,000 0	0,749 9	,527*	$\alpha = ,8536$							
3. Proactiveness	3,778 3	0,929 2	,262*	,615*	$\alpha = ,8915$						
4. Competitive Aggressiveness	3,122 6	0,919 3	,369*	,381*	,395*	$\alpha = ,7268$					
5. Managerial Support	3,827 0	0,694 6	,519*	,703*	,456*	,330*	$\alpha = ,8346$				
6. Autonomy	3,761 0	0,805 7	,389*	,619*	,412*	0,186	,639*	$\alpha = ,8530$			
7. Time Allocation	3,589 6	0,836 0	,346*	,520*	,567*	,402*	,418*	,558*	$\alpha = ,7604$		
8. Rewarding	3,595 9	0,820 6	,365*	,514*	,378*	,311*	,530*	,356*	,411*	$\alpha = ,8857$	
9. Firm Performance	3,610 8	0,725 8	,414*	,585*	,610*	,349*	,537*	,403*	,392*	,553*	$\alpha = ,8679$

* Significant at $p < 0.05$ (2-tailed)

** Significant at $p < 0.01$ (2-tailed)

The correlation analysis presented in Table 4 illustrates the correlation relationships between entrepreneurial orientation dimensions (risk taking, innovativeness, proactiveness, competitive

aggressiveness) and organizational factors / barriers influencing intrapreneurship (management support, autonomy, time allocation, rewarding), as well as their impact on firm performance. This analysis includes alpha values, standard deviations, and arithmetic means. The examination of correlation was conducted through two distinct relationships: first, the correlation between entrepreneurial orientation and firm performance, and second, the correlation between organizational factors that influence intrapreneurship (referred to as the entrepreneurial climate) and firm performance. The analysis focused on the one-to-one relationship with the dependent variable, aiming to ascertain the significance level and direction of this relationship. Table 4 demonstrates that all alpha values of the factors satisfy the acceptance threshold established in scientific literature. Given that the alpha coefficients for this variable are also near the threshold, the reliability of the scales has been confirmed. An examination of the interrelationship among the variables in the research model reveals the following observations:

A significant correlation was identified at the 1% level between risk-taking and firm performance (.414**), innovation and firm performance (.585**), proactiveness and firm performance (.610**), and competitive aggressiveness and firm performance (.349**). Among these relationships, the most pronounced is that of proactiveness with firm performance, closely followed by the link between innovation and firm performance. Additionally, a noteworthy relationship was observed between management support and firm performance (.537**), autonomy and firm performance (.403**), time allocation and firm performance (.392**), and reward and firm performance (.553**) at the same significance (at the 1%) level. The strongest correlation in this context is between rewarding and firm performance, with management support following closely. The correlation analysis presented in Table 4 highlights that the most significant relationship is between proactiveness and firm performance (.610**). This finding aligns with existing literature, which suggests that in the early stages of industry life cycles, high market opportunities and demands enable firms to enhance their performance through proactive strategies.

To evaluate the hypotheses presented in the research, a multiple regression analysis was conducted utilizing the SPSS software. This analytical method examines the influence of two or more independent variables on dependent variables through the parameters of the regression equation. The findings of the analysis are detailed in the corresponding tables.

Table 5 illustrates the degree to which intrapreneurship dimensions —namely risk-taking, innovativeness; proactiveness and competitive aggressiveness— serve as independent variables in explaining the dependent variable of firm performance.

Table 5: Regression Analysis Showing the Effects of Entrepreneurial Orientation on Firm Performance

Independent Variables	Dependent Variable	
	Firm Performance	
	β	Sig.
Risk-taking	,173*	,053
Innovativeness	,227**	,033
Proactiveness	,411***	,000
Competitive Aggressiveness	,036	,666
$R^2 = ,468, F = 22,198, \text{Sig.} = ,000$		

* Statistically significant at 10% ($p < .10$),

** at 5% ($p < .05$),

*** at 1% ($p < .01$).

A review of the regression analysis presented in Table 5 reveals that the overall regression model is statistically significant ($F = 22.198$, $\text{sig.} < 0.00$). The R^2 value, which indicates the proportion of variance in the dependent variable explained by the independent variables, was calculated to be 0.468, signifying that approximately 47% of the variance is accounted for. Analyzing the independent variables reveals that the variable of risk-taking ($\beta = .173$, $p < .10$) exhibits a very weak positive effect at the 10% significance level. Furthermore, Table 5 indicates that the independent variable of innovativeness ($\beta = .227$, $p < .05$) positively influences firm performance at the 5% significance level. Additionally, the independent variable of proactiveness ($\beta = .411$, $p < .01$) demonstrates a positive effect on firm performance at the 1% significance level. Consequently, the regression analysis supports the hypotheses: (H1a) "Innovativeness positively affects performance," (H1b) "Risk-taking positively affects performance," and (H1c) "Proactiveness positively affects performance," as illustrated in our theoretical model (Figure 1). However, it was determined that the tendency for competitive aggressiveness did not significantly impact firm performance ($\beta = 0.036$ – $p < 0.666$), leading to the conclusion that hypothesis (H1d) "There is a positive relationship between competitive aggressiveness tendency and firm performance" is not supported.

Table 6 illustrates the extent to which organizational factors influencing intrapreneurship—namely management support, autonomy, time allocation, and rewarding—function as independent variables in elucidating the concept of firm performance, which is represented as the dependent variable.

Table 6: Regression Analysis Showing the Effects of Organizational Factors Influencing Intrapreneurship on Firm Performance

Independent Variables	Dependent Variable	
	Firm Performance	
	β	Sig.
Management Support	,285**	,053
Autonomy	,036	,033
Time Allocation	,112	,000
Rewarding	,343***	,666
$R^2 = ,401$, $F = 16,884$, $\text{Sig.} = ,000$		

* Statistically significant at 10% ($p < .10$),

** at 5% ($p < .05$),

*** at 1% ($p < .01$).

Upon reviewing the results of the regression analysis (Table 6), it is clear that the overall regression model is statistically significant ($F = 16.884$, $\text{sig.} < 0.00$), with the model accounting for 40.1% of the variance in firm performance. Analyzing the independent variables reveals that management support ($\beta = .285$, $p < .05$) exerts a positive influence at a 5% significance level. Furthermore, the reward independent variable ($\beta = .343$, $p < .01$) demonstrates a positive impact on firm performance at a 1% significance level. Consequently, the hypotheses (H2a) asserting "Management support positively affects performance", as well as (H2d) positing "Rewarding positively affects performance", are validated within our theoretical framework (Figure 1). Conversely, the independent variable autonomy did not show a significant effect on firm performance ($\beta = .036$ – $p < .742$), leading to the rejection of the hypothesis (H2b) regarding "Autonomy positively affects performance". Similarly, time allocation also failed to demonstrate a significant effect on firm performance ($\beta = .036$ – $p < .742$) resulting in the rejection of hypothesis (H2c).

concerning “Time allocation positively affects performance”. The model illustrating the connections between entrepreneurial orientation, motivations influencing firm performance, and various organizational factors impacting intrapreneurship is depicted in Figure 2.

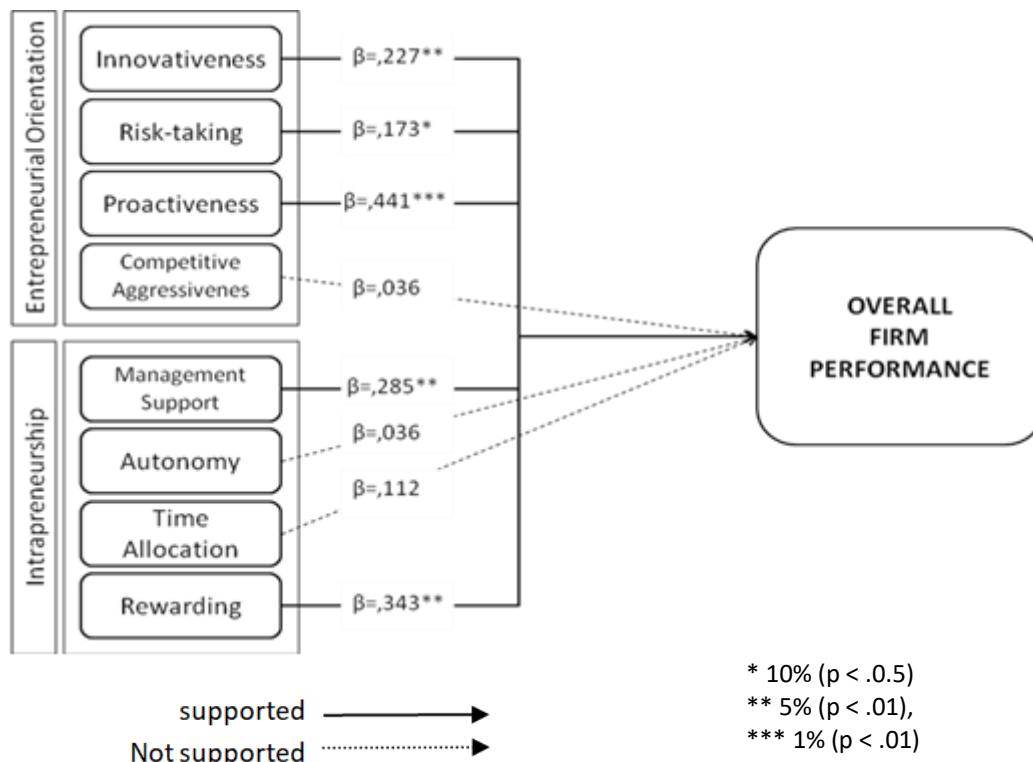


Figure 2. Research Result Model

The model illustrated in Figure 2 of this study posits a substantial relationship among the dimensions of entrepreneurial orientation, the organizational factors influencing intrapreneurship, and firm performance. Our empirical investigation, carried out within the firms included in this research, further substantiated this hypothesis. The robust correlation identified between these two variables indicates that the entrepreneurial traits of employees are likely to enhance as the dimensions of intrapreneurship contribute to improved firm performance.

5. DISCUSSION and CONCLUSION

This study seeks to investigate the impact of entrepreneurial orientation and the practices associated with the entrepreneurial climate on the behaviors of firms within the Turkish software sector, as well as their influence on firm performance. Additionally, it aims to enhance the existing international literature regarding these relationships by utilizing a Turkish sample. The findings of this research are anticipated to provide valuable insights for both managers in the software sector and scholars who may pursue further studies on this topic in the future. In the development of the entrepreneurial orientation and intrapreneurship scales, multiple scales were created through their integration. This approach aims to enhance the research by assessing various criteria from diverse sources and establishing a novel scale. The findings related to entrepreneurial orientation exhibit congruence with both the foundational literature and the scale factors that have been adapted for Turkey. The minimal discrepancies observed in the results can be attributed to the high factor loadings identified in the study, as well as the exclusion of a limited number of questions from the

scale. This indicates that the entrepreneurial orientation scale is likely to be effective for use in future research. Furthermore, relevant statistical analyses have demonstrated that the scales possess validity and reliability, yielding highly satisfactory outcomes for prospective studies. The results derived from the empirical research validated the primary hypothesis of the study, revealing a significant correlation between the dimensions of entrepreneurial orientation—namely risk-taking, innovativeness, proactiveness, and competitive aggressiveness—and the organizational factors influencing intrapreneurship, which include management support, autonomy, time allocation, and rewarding, as well as overall firm performance. The findings indicate that enhancing the organizational factors that impact intrapreneurship, along with fostering entrepreneurial dimensions within the organization, can lead to the development of a more creative and innovative workforce.

The correlation analysis results show that firm performance is positively related to the entrepreneurial orientation sub-dimensions except for competitive aggressiveness. According to these results, the strong relationship between firm performance and proactiveness, risk-taking and innovativeness dimensions may be due to firms' awareness of customer problems by using market information obtained through environmental scanning, understanding competitors' tendencies and their efforts to enter existing markets with new products by investing in unexplored technologies that have high risk factors. The findings from the correlation analysis indicate a positive relationship between firm performance and various organizational factors influencing intrapreneurship, excluding autonomy and time allocation. This suggests that elements such as rewarding and management support play crucial roles in fostering an entrepreneurial environment within the organization. The results imply that the strong connection between firm performance and the dimensions of management support and rewarding arises from the actions of middle and senior management, who provide employees with access to diverse resources for idea development, encourage innovation, and create conducive environments for developing new products and services. Although the specific incentives valued by corporate entrepreneurs remain unclear, rewarding that promote entrepreneurial initiatives and motivate intrapreneurs to embrace risk-taking and innovation can enhance overall firm performance. Given the extensive data available, it is essential for firms in today's information age to embrace innovation, proactivity, competitiveness, assertiveness, and a willingness to take risks, all supported by an organizational culture that fosters entrepreneurial endeavors. Numerous studies have demonstrated that managerial behaviors significantly influence corporate culture, while the personal traits of managers profoundly shape the values, norms, and overall culture experienced by employees. Consequently, for managers to effectively leverage their authority in cultivating an organizational characteristic belief or spirit aligned with the organization's objectives and strategies, it is advantageous for them to adopt various roles. These include promoting risk-taking and the development of new initiatives related to existing processes, products, and services, thereby facilitating a creative environment. Additionally, they should encourage a more flexible and open communication approach, moving away from excessive bureaucracy and rigid formalities. Allocating specific resources and time for entrepreneurial and innovative pursuits is also crucial, as is fostering team learning to generate organizational synergy. Furthermore, establishing a reward system to enhance motivation upon achieving success is vital. It is essential for senior management to actively listen to the insights, opinions and suggestions of employees at all levels, to consider critical feedback, to recognize and credit positive outcomes to the staff, and to view failures as opportunities for growth. This approach will contribute to the development of a robust corporate culture and enable the organization to adopt diverse perspectives in shaping future strategies.

In this study, there are some methodological limitations as well as theoretical and practical results that prevent the generalizability of the results: Throughout the analysis, a distinction was made between sectors; however, the outcomes may vary across different sectors. Furthermore, no differentiation was applied based on the size of the enterprises. A distinction between SMEs and large enterprises may play a role in determining how the technology transfer process takes place for large

enterprises and SMEs. This research concentrated solely on internal environmental factors, specifically organizational factors that influence intrapreneurship, while external environmental factors were excluded from the scope of the study. Finally, data collection process was ultimately conducted within companies engaged in the software industry, situated in 6 technology development zones on the Asian side of Istanbul. The analyses presented herein are derived from data obtained from 106 firms; it is important to highlight that a more uniform and larger sample size could produce results that are more generalizable and precise.

6. SUGGESTIONS

In this research, the intrapreneurial behaviors of participants were evaluated through a self-reported questionnaire. The subsequent recommendations are provided for researchers planning to undertake future investigations into intrapreneurship and its impact on firm performance:

a) It is advisable that the recommendations provided are particularly relevant to the firms involved in the study, that the sample population encompasses a broader geographic area, and that a more extensive and uniform sample population is utilized to enhance the generalizability of the study's findings across all organizations. Furthermore, it is essential to conduct additional research to improve the overall level of generalizability of the results.

b) To achieve more favorable outcomes in the studies and enhance the understanding of the subject, as well as to facilitate diverse interpretations, it is advisable to undertake long-term comparative research. This research should focus on assessing the entrepreneurial behaviors of individuals within the organization through direct observation, measuring factors such as the annual production of new ideas, the rates of accepted versus proposed projects, and the volume of process improvement suggestions etc.

c) It is essential to conduct more comprehensive analyses that consider the size of the firms and the sectors in which they operate. By comparing the results derived from various sectors with those of SMEs and large corporations, clearer conclusions can be drawn.

d) It is recommended to enhance the theory by incorporating additional variables, including organizational culture, organizational climate, organizational structure, and external environmental factors, among others, when examining the relationship between intrapreneurship and firm performance.

e) In addition to investigating the effects of different dimensions attributed to intrapreneurship and entrepreneurial orientation in the literature on performance, it is recommended that studies be conducted not only on the general performance of the firm but also on different functional performance types such as R&D, production, marketing and sales performance.

f) It is recommended that companies use tests such as independent samples t-test and one-way ANOVA test for statistical differentiation analyses according to the variables of legal personality and personal characteristics of managers, and use χ^2 test to investigate the demographic profile of the population to whom the survey was sent and their opinions about the application, as well as complementary Post-Hoc analysis techniques such as multiple comparison Scheffe test or multiple comparison LSD test, which are the techniques of determining the situation of the research.

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