

# Entrepreneurial Orientation and Knowledge Integration: The Case of Mature Companies

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**Abstract:** The dynamically changing environment of companies, in addition to the continuous collection and analysis of information, forces adaptation to the internal and external conditions of the business environment. Adaptation of companies and maintaining a competitive advantage is possible thanks to appropriate actions of the organization, including knowledge management, which consists of a number of elements and actions. It can be indicated that the knowledge resources of the organization are the most important source allowing for gaining a competitive advantage, and knowledge management (KM) is an important element of the entire process of managing the organization. One of the areas in the process of managing the organization's knowledge is knowledge integration (KI). According to the literature review, KI is an important element influencing the company's results, the ability to collect and process the organization's characteristic information resources, and is of key importance, among others, for the innovativeness of companies. The literature review indicates that many organizational behaviors correlate with KM, including entrepreneurial orientation (EO). The EO concept describes strategic behaviors of enterprises expressed by the desire to implement innovations, take risks, and take proactive actions more intensively than competitors. The paper is based on a review of international literature and the results of own research on a group of mature companies. The aim of the article is to identify dimensions of EO that affect KI in organizations. The actual research was preceded by a pilot study. During the study, an original questionnaire was used. The study involved 280 randomly selected Polish enterprises. The analysis conducted using descriptive statistics and linear regression indicated the relationship between dimensions of EO and KI in the organization. In addition, it enabled the identification of EO dimensions, which dimensions influence the level of KI in the organization. The conducted study has limitations, but it also constitutes a contribution to science. The novelty of the article is the indication of dimensions of EO that correlate most strongly with the level of KI in the organization.

**Keywords:** Entrepreneurship, Entrepreneurial orientation, Knowledge management, Knowledge integration, Mature enterprises, Poland

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## 1. Introduction

There are many studies in the international literature on the relationship between entrepreneurial behaviors, including EO and KM. This prompted the authors to undertake both literature and empirical research in the area of the relationship between EO dimensions and specific activities in the field of KM, i.e., KI. EO has a significant impact on KM in companies because it shapes the way an organization makes decisions, uses its resources, and responds to changing market conditions (Cherbib, 2024; Zhou, 2011). EO is associated with high flexibility and the ability to quickly adapt to changing market conditions (Purkayastha and Gupta, 2022). In the context of KM, EO influences how a company collects, shares, processes, and uses knowledge to gain competitive advantage and achieve strategic goals. Entrepreneurial-oriented companies treat knowledge as a key resource that can provide them with a competitive advantage (Lattacher et al., 2021). Therefore, they invest in the development of KM systems and processes, including KI, which help them better use intellectual resources, as well as respond faster to business changes.

It can be indicated that EO in companies creates conditions for dynamic development and effective use of knowledge (Wiklund & Shepherd, 2003). Entrepreneurs in such organizations are more willing to invest in mechanisms that enable the collection, exchange, and integration of knowledge in everyday activities, which directly affects the company's success on the market. KI in companies is not only a matter of information management but also a key element supporting, among others, innovativeness, operational efficiency, and the ability to adapt to a changing market (Caridi-Zahav, Carmeli & Arazy, 2016). In mature companies that are going through change processes, KI is important for employees and managers to effectively manage this change. The flow of information about the goals, strategies, and change processes facilitates adaptation and minimizes resistance to new solutions. Through proper KI, organizations can better use their intellectual resources, which translates into long-term success and competitiveness.

The aim of the paper is to identify dimensions of EO that affect knowledge integration in organizations. The results of the research on a group of Polish mature enterprises allowed for an analysis using descriptive statistics and nonparametric statistics, adequate to the purpose of the study. The paper contributes to science by identifying dimensions of EO that positively affect activities in the area of KI in mature enterprises.

## **2. Literature Review**

### **2.1 Entrepreneurial Orientation**

Entrepreneurship understood as the pursuit of a goal by a company in a competitive market is one of the organizational features (Stevenson & Jarillo, 1990) that determine success in a changing business environment. One of the most common conceptualizations of entrepreneurship at the organizational level is entrepreneurial orientation. EO is a key concept that reflects the strategic attitude of a company towards entrepreneurial activities, as shown by its processes, practices, and business activities in a competitive environment (Jogaratham, 2017). The concept of EO developed by Miller (1983) and refined by Covin and Slevin (1989) was initially perceived as a construct reflecting a firm's propensity for innovation, proactivity, and openness to risk taking. Over time, these dimensions were enriched by two more, namely autonomy and aggressive competitiveness (Lumpkin & Dess, 1996). These dimensions reflect the willingness, propensity, or ability of a company to engage in entrepreneurial behavior and the type of decision-making that leads to strategic renewal (Kusa, Suder, & Duda, 2024). Accordingly, EO shows how a company is organized to best utilize its capabilities (Zhao et al., 2011). Furthermore, EO reflects a firm's willingness to undertake entrepreneurial activities, effectively respond to current needs, and anticipate future market needs (Hughes et al., 2018). It turns out that EO can be a source of value creation in an organization only when companies acquire, develop and use their strategic resources, developing a competitive advantage at the same time (Cherbib, 2024). Since EO is associated with both acquiring new resources and improving existing ones, it is necessary to implement simultaneous activities in both the areas of search and development (Lee & Kreiser, 2018). Success depends on the skills and competencies of team members who drive goal achievement and knowledge building (Borodulin, 2024).

Existing literature identifies EO and its implementation as the main strategies used to overcome the negative effects of the crisis. It emphasizes the key role of a firm's EO in operational and strategic performance in a turbulent and uncertain environment (Morgan & Anokhin, 2020). It turns out that EO activities allow overcoming uncertain and difficult business conditions and ensuring survival and success (Cegarra-Navarro et al., 2019). Therefore, companies implementing EO should monitor and analyze the business environment in order to detect new opportunities, new markets, and increase their resources (Kollmann et al., 2021). Moreover, companies that are simultaneously engaged in activities within the dimensions of EO are usually perceived as dynamic and flexible because they make proper use of new opportunities that emerge in the competitive market (Purkayastha & Gupta, 2022).

Entrepreneurship research (Kamble et al., 2023) has shown that start-ups cannot develop this type of EO because they lack strategic resources. Mature companies often have limited growth opportunities in the current market (Klepper, 1997), but through their experience and strategic resources they try to mitigate the traps of organizational maturity. This happens through increased competition or entering new markets (Zhou, 2011). One of the areas influencing the growth of organizational competitiveness in the case of this group of companies is proper KM, including activities in the area of KI in the organization.

### **2.2 Knowledge Integration in Enterprise Management**

The high level of competition in current markets, the variability and unpredictability of the business environment create conditions for the management of companies. This is the pressure that companies must overcome in order to compete and develop. The organizational behavior of companies, including flexibility, agility in learning and KM, allows companies to adapt to changing organizational conditions (Lyu et al. 2020).

Knowledge as a strategic resource of an organization is a source of lasting differentiation and thus competitive advantage. KM in a company (Wiklund & Shepherd, 2003) combines dynamic capabilities and possibilities, information and technological practices. Thanks to this, a company can more precisely predict the direction and potential of changes in the business environment. Moreover, a company can determine the adequacy of its actions in the current environment, both in the area of strategic and tactical actions.

Knowledge is difficult to measure or audit, and companies, as Di Vaio et al. (2021) point out, must effectively manage it to fully leverage the skills and experience inherent in organizational systems and structures and to combine and share the knowledge held by company employees. It is a process that helps organizations find, select, organize, disseminate, and transfer the key information and knowledge necessary to conduct business. As indicated by Omerzel and Gulev (2011), the method of action, speed of action and effectiveness of knowledge use in management are conditions for maintaining competitive advantage. It also turns out that the inability and inability to act in the area of KM determines obstacles in achieving and creating competitiveness of the company, as well as in the development of the company.

KM is defined as the ability to manage information, including collecting knowledge from internal and external sources, transforming it into new strategies or ideas, and implementing and preserving it (de Bem Machado et al., 2022). KM encompasses many activities, companies, among others, generate available knowledge from the business environment, systematically collect knowledge and optimally use it to achieve a competitive advantage, disseminate it among employees, enrich knowledge through its integration and dissemination (Brzostek, 2015). A number of processes are involved in collecting, sharing, transferring, or transforming knowledge, and then applying it in the organizational activities of the company. Knowledge creation is a key advantage of the KM approach, due to the fact that companies in contemporary market conditions must anticipate markets, be flexible and adapt to rapid market changes, and overcome development problems within the adopted competitive strategy (Galli & Lopez, 2018). The literature review confirms that KM can help achieve these goals (Chen et al., 2022).

The key to acquiring new opportunities lies not only in the effectiveness of individual knowledge management processes but also in the way knowledge is integrated (Shaw and Williams, 2025). KI is the ability to manage and use existing, but also newly acquired knowledge in enterprises (Caridi-Zahav, Carmeli & Arazy, 2016). KI allows enterprises to acquire new knowledge, share and use new and existing knowledge, and these activities are a prerequisite for achieving a market advantage (Eslami, Lakemond & Brusoni, 2018). KI includes the use of expertise to implement new initiatives, the integration of external knowledge with the company's existing knowledge, the integration and application of external knowledge in new projects, a shared understanding of roles and responsibilities in jointly carrying out a task, a shared understanding of the processes required to complete a task, and a shared interpretation of organizational rules (Caridi-Zahav, Carmeli & Arazy, 2016; Lyu et al., 2022). Organizational success requires the integration of systems, operations, people, customers, partners, and management. It is positively related to the ability to manage knowledge, which generates competitive advantage (Latilla et al., 2018).

The above arguments and observation of the business environment of companies allowed the formulation of the following research hypothesis: H1. Mature companies with a higher level of entrepreneurial orientation achieve a higher level of knowledge integration.

### **3. Methodology**

The aim of this article is to identify dimensions of EO that influence KI in organizations. The results presented in this paper are part of a larger study.

The actual research was carried out in stages and was preceded by pilot research. The pilot study involved 20 purposefully selected mature companies operating in southern Poland. Companies that have been operating on the market for over 5 years were selected for the study due to their development and organizational processes occurring during their operations. After the initial formal analysis and elimination of incorrectly completed survey questionnaires, 280 randomly selected production and trade companies participated in the actual study. Among the respondents according to the size of employment (classification in accordance with EU guidelines), 35.0% were microenterprises, 26.4% small enterprises, 17.5% medium-sized enterprises and 21.1% large enterprises.

The review of international literature and the results of the pilot study enabled the construction of an original research tool for quantitative research, a survey questionnaire. The survey questionnaire consisted of a metric and closed questions relating to selected aspects of management in the organization, including EO and activities in the area of KI in the enterprise. A direct method of data collection was used.

The research questions identified the level of EO in each of the five dimensions (Lumpkin & Dess, 1996), i.e., organizational autonomy (EO1), proactiveness (EO2), innovativeness (EO3), competitive aggressiveness (EO4), and risk taking (EO5). The level of KI was identified based on six subvariables, and the final KI variable is their average. The Carlile (2004) scale was used to assess KI, which refers to the communication pattern of company employees in order to understand individual roles, a common interpretation of company rules and processes required to complete a task. In addition, the Caridi-Zahav, Carmeli and Arazy (2016) and Lyu et al. (2022) KI assessment scale was used. Due to the social nature of management sciences, the managerial approach was used as indicated by Sheng, Zhou and Li (2011) and Peng and Luo (2000). The survey responses were on a 5-point Likert scale. The scale was constructed in such a way that 1 means "strongly disagree" and 5 means "strongly agree".

#### 4. Results

The first stage, before the analysis of the study results, was the evaluation of the research tool. For this purpose, internal consistency analysis was used using Cronbach's alpha coefficient (Tavakol & Dennick, 2011; Taber, 2018). The reliability tests performed showed that the scales constructed in the research tool meet the criteria presented by George and Mallery (2016). It turned out that all subscales for the EO scale achieved satisfactory reliability ( $\alpha > 0.70$ ), and all subscales for the KI scale achieved good ( $\alpha > 0.80$ ) or excellent reliability ( $\alpha > 0.90$ ) (Table 1).

**Table 1: Reliability**

Variable	Cronbach's $\alpha$
EO	0.777
EO1	0.755
EO2	0.743
EO3	0.703
EO4	0.742
EO5	0.738
KI	0.913
KI1	0.902
KI2	0.899
KI3	0.898
KI4	0.892
KI5	0.894
KI6	0.899

The research showed that the average level of KI in the surveyed companies was 4.057 on a 5-point Likert scale and this level deviates from the average value by +/- 0.703 points. In turn, the level of EO in general was 3.733 on a 5-point scale and this level deviates from the average value by +/- 0.813 points. The highest level of EO in the surveyed companies was indicated in the proactivity dimension at the level of 3.996; however, no significant differences were found between the distinguished dimensions.

In the next stage of the study, it was checked whether the individual dimensions of EO were related to KI activities. It was examined whether there was a linear relationship between the variables, for this purpose the Kendall tau-b correlation coefficient was used. Further data analysis showed that initially the correlations between the variables were identifying. It turned out that the relationships between the variables are statistically significant for the level of  $p < 0.05$ . The value of the index ranged from  $r = 0.281$  to  $r = 0.546$  (Table 2), which indicates a moderate to strong positive character. It can be concluded that the prepared regression analysis is correct.

**Table 2: Descriptive statistics and correlation analysis (n = 280; p < 0.05)**

	M	SD	EO1	EO2	EO3	EO4	EO5	KI
EO1	3.907	0.987	1.000					
EO2	3.996	0.993	0.417	1.000				
EO3	3.825	1.024	0.509	0.546	1.000			
EO4	3.514	1.270	0.281	0.337	0.469	1.000		
EO5	3.421	1.273	0.339	0.347	0.431	0.522	1.000	
KI	4.057	0.703	0.378	0.443	0.467	0.360	0.334	1.000

The impact of the four distinguished dimensions of EO on the implantation of KI in the surveyed companies was assessed using linear regression analysis. The KI level was included as a dependent variable in the regression. The multivariate linear regression analysis was conducted using the stepwise method, which allows for examining the significance of the next variable introduced, as well as examining a different ordering of variables

at each step (Montgomery, Peck & Vining, 2012). Table 3 presents the modeling results after entering all variables. The model ultimately left four variables: EO1, EO2, EO3, EO4, which are statistically significant ( $p < 0.05$ ). The fit of the model to the data was assessed by the  $R^2$  coefficient, which was 0.3036, so it can be indicated that the four variables that entered the model at  $p < 0.05$  explain it by 30.36%.

**Table 3: Modelling result, final model**

n = 280	b*	SD with b*	b	SD with b	T (274)	p
Intercept			2.199	0.178	12.349	0.000
EO1	0.130	0.060	0.093	0.043	2.159	0.031
EO2	0.218	0.062	0.154	0.044	3.517	0.000
EO3	0.196	0.069	0.135	0.047	2.843	0.004
EO4	0.124	0.062	0.069	0.035	1.988	0.047
EO5	0.065	0.062	0.036	0.034	1.045	0.296
Multiple R = 0.55100224; $R^2 = 0.30360346$ ; Adjusted R2 = 0.29089550; $F(5.274) = 23.891$ ; $p < 0.0000$ ; Standard error of estimation = 0.59220						

## 5. Discussion

Research on a group of mature companies has shown a positive relationship between the level of EO in the following dimensions: organizational autonomy, proactivity, innovativeness and competitive aggressiveness and the level of activities in the area of KM, including KI. The formulated hypothesis H1 was confirmed.

International research confirms the assumptions made in this paper that knowledge is necessary for the development of entrepreneurial attitudes and orientation (Bouguera et al., 2023). Moreover, knowledge is a key factor that positively moderates the entrepreneurship process (Lattacher et al., 2021). The entrepreneurship process is important and exposed to seek opportunities, and knowledge allows organizations to identify and exploit those opportunities that strengthen the entrepreneurship process (Hughes et al., 2022). On the other hand, EO, as a key concept for entrepreneurship (Jogaratham, 2017), promotes the use of market opportunities, taking action, and responding to market behaviors (Zhao et al., 2011; Hughes et al., 2018). In order for a company to develop and fully utilize its resources by creating value in the organization, it is necessary to acquire new knowledge or manage existing knowledge (Cherbib, 2024). KM, including the process of integrating knowledge and related mechanisms and practices, not only improves market competitiveness but also creates new space for entrepreneurial opportunities and activities (Paul et al., 2023). KM includes activities related to knowledge generation, knowledge storage, and knowledge use and sharing (Mao et al., 2016). Reus, Ranft and Adams (2009) assumed that knowledge is a key competitive advantage, i.e. the more effective actions in the area of KM the company undertakes, the greater the benefits for the company will be. Since the entrepreneurial approach supports actions in the area of knowledge management, it can be indicated that it leads to the improvement of the management of the company as a whole and supports the development of its entrepreneurial process. It can therefore be assumed that the entrepreneurial approach results in the development of processes in the organization that focus on actions in the area of acquiring necessary information and knowledge and actions in the area of KM.

## 6. Limitations and Future Research Directions

The research conducted by the authors is not free from limitations. Research limitations may affect the analysis and interpretation of research results. They may also affect future research directions. Among the limitations, the size of the group that operated in a given region of the country should be mentioned first and foremost. The selection of a broader research group and a nationwide or international study would allow for generalization of the results. In addition, the sectoral division of enterprises could allow for conducting analyses in several ways in the future, which may have a positive impact on the conclusions drawn. It is worth mentioning that the authors also plan to expand their research in the area of analyzing the conditions for the growth of entrepreneurial orientation, including in the aspect of digitalization, dynamic organizational capabilities, and knowledge management.

## 7. Conclusion and Implication

To sum up the research results, it should be emphasized that there is a bilateral relationship between the level of EO and the level of activities in the area of KI. Strengthening activities in the area of entrepreneurship at the organizational level, i.e. EO in the dimension of organizational autonomy, proactivity, innovation, and aggressive competitiveness, has a positive impact on the level of activities in the area of KM, including KI. In this context, it can be indicated that the authors have expanded the current state of knowledge regarding the relationship between EO and KI. The research results indicated which dimensions of EO positively influence the level of KI, causing implications for management practice. It turned out that EO positively influences:

- using specialist knowledge to implement new initiatives,
- integrating external knowledge with existing company knowledge,
- integrating and applying external knowledge in new projects,
- shared understanding of roles and responsibilities in jointly implementing a task,
- shared understanding of the processes required to complete a task,
- shared interpretation of organizational principles.

These are aspects, the strengthening of which, as indicated by the review of international literature, improves the functioning of enterprises in the currently changing business environment. The advantages of building a knowledge-based organization are now unquestionable, and entrepreneurs should adopt entrepreneurial attitudes, including processes, practices and business activities, in order to create the right combinations of company resources and use the acquired and integrated knowledge in a competitive market environment.

**AI declaration:** I confirm that no AI tools were used to the creation of this paper.

**Ethics declaration:** I declare that ethical clearance was not required for the research.

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