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**IMPACTS OF MODERN TECHNOLOGIES WHILE IDENTIFYING AND UNLEASHING
INTRAPRENEURS' POTENTIAL**

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Abstract. The scientific literature on intrapreneurship still has many areas for deeper investigation. In recent years, there has been an increasingly growing interest in intrapreneurship: companies came to an understanding of the importance of innovativeness and found new business models triggering innovative growth, along with the possibilities for the creation of new products or services. Intrapreneurs were described by Pinchot (1985) as people who focus on innovation and creativity, turning creative ideas into profitable businesses within an organisational environment, while modern technologies are a great medium to identify and unleash intrapreneurs' potential. The purpose of the present paper is to examine how modern technologies can help promote the intrapreneurial culture in companies which could lead to sustainable competitive advantages. To answer the research question 'How to unleash the potential of modern technologies while enhancing intrapreneurial activities', the literature review and case studies were conducted based on qualitative semi-structured expert interviews.

Keywords: intrapreneurship; modern technologies; effects, corporate performance; efficiency; effectiveness; international and domestic companies; technological intensity

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1. Introduction

Although various aspects of competitive advantages across different economies, industries and companies (via technology) have been receiving growing attention among scholars over the last few decades (for instance, Dodgson (1993) emphasised the role of technological collaboration in the industry; Brynjolfsson and McAfee (2014) focused on the automation of cognitive tasks; Yamakage and Maruyama (2018) scrutinised the role of AI and other cutting-edge technologies; Aithal & Aithal (2019) addressed the industry competitiveness via technology; Robertson et al. (2000) introduced the typology of industries, based on the technology application),

the impacts of modern technologies on intrapreneurship are tackled by a relatively smaller number of researchers (Okun et al., 2020; Pergelova et al., 2019; Elia et al., 2020), Kungu et al., 2020; or Kwilinski et al., 2019, etc.). Moreover, many scholars address the effects of technologies, liaising them to different conditions for intrapreneurship enhancement, such as effective/ efficient business model (Rachinger et al., 2019; Clinton and Whisnant, 2019; Ibarra et al., 2018; Loon and Chik, 2019), digitalisation (Radosavljeć et al., 2020), sustainability agenda (Haseeb et al., 2019), creativity and innovation (Wijngaarden et al., 2016), education (Handoyo and Anas, 2019) or a necessary ecosystem for entrepreneurship (Estrin, 2018).

The recent evidence by Bianchi and Mathews (2016) suggests that adopting digital technologies is crucial for internationalisation. Furthermore, the effects of modern technology on firms' competitive advantages should be tackled while focusing on productivity and strategy effectiveness (enabling firms to automate their processes and increase digital business security). Moreover, modern technology might lead to improved communication and consumer base, increased marketing capabilities and internationalisation. Von Briel et al. (2018) suggested that technologies not only contribute to the firms' productivity or the ability to expand but also enable the creation of new businesses and digital start-ups while enhancing entrepreneurial activities in the areas of digital products or services, digital platforms, digital tools and infrastructure, digital artefacts, and Internet-enabled service innovations (Aldrich, 2014).

This paper examines how modern technologies can help promote the intrapreneurial culture in companies, which could lead to sustainable competitive advantages. Intrapreneurship mainly focuses on employees' activities that lead to increased productivity/ effectiveness/ efficiency or volume/ profitability through innovation (Bosma et al., 2010). The main challenges for unleashing the intrapreneurial spirit within organisations are that the companies might still have stagnant business models while not being ready to delegate sufficient control of innovation processes to employees (Duncan et al., 1988). Moreover, the implementation process of modern technology might be imprisoned by the lack of resources and insufficient knowledge. Thus the governmental support for SMEs and the benefits of technology adaptation should be further emphasised. The present paper elaborates on the research question of how to unleash the potential of modern technologies while enhancing intrapreneurial activities. The literature review and case studies were conducted using qualitative semi-structured expert interviews, and a comparison of international and domestic companies was performed. This led to pertinent performance improvement recommendations and could be served as a conceptual pillar for further research in the same series. Comparing two industries (Automotive and Creative) revealed the critical suggestions related to the practical/ efficient combination of high- and low-tech business practices to be sustainable and stimulate the higher value-added-value for an organisation.

As claimed by (Kungu et al., 2020), innovation and intrapreneurship have become crucial for companies to survive in the technology-driven business world. In the less developed countries, the level of intrapreneurship is correspondingly lower, which is related to somewhat lower competition compared to the developed countries (Kaleem et al., 2019); however, severe competition makes it more difficult for companies to differentiate from other peers, while the demand for talented people is growing: the companies need to promote intrapreneurship inside its environment via creating an intrapreneurial climate and encouraging innovation processes. This is directly connected to the research question of the present study: digital solutions help companies stay innovative by attracting intrapreneurs and implementing modern technologies (Ali et al., 2020) and supporting e-learning and game simulations (Vakaliuk et al., 2020).

To understand how technologies are reshaping the business world, it is crucial to know the classification and differences/ similarities of the technologies in various fields of business. Industries have been facing many transformations in the last decade, which changed how companies connect business with their customers and how products are developed, manufactured, and delivered.

Driven by the growing importance of hybrid technologies, a set of modern technologies (such as Artificial Intelligence & Robotics, Big Data & Intelligence Technology, Blockchain, Cloud Computing Technology, Cyber Security Technology, 3D Printing Technology, Digital Marketing Technology, Internet & Internet of Things (IoT), Information Storage Technology, Optical Computing Technology, Online Education Technology, and Virtual and Augmented Reality, etc.) might be used to develop the technology which helps analyse, plan, and compare information better than employees could do. At the same time, those technologies help eliminate fraud and corruption by keeping track of financial transactions using blockchain technology. This phenomenon is called the Fourth Industrial Revolution, and it is predicted that it will be the most powerful force for innovation in technologies over the next few decades (Frank et al., 2019).

Thanks to the connectivity offered by the Internet, different industries are now facing a transformation towards the digitalised era, where machines, devices and products can relate to each other and be flexible to react to market changes quickly. The application of Information Technology is changing across various industries (including Car Manufacturing) while responding to the increasing needs of human societies in the 21st century and following new opportunities (Fournier, 2017). However, information technology projects have a high rate of failure, and the main reasons for these failures or unwillingness to invest in these stocks are the lack of transparent and integrated information technology, along with the lack of support of senior management of information technology projects and unfavourable short-term changes in teams of executive managers.

According to Abbasi et al. (2017), Communication and Computation Technology (ICCT) also heavily influences the creative industry. Technologies in this industry are often used as a means to directly enhance creativity and increase the interaction of technologies with other departments, leading to new genres of art, such as media art, digital art, and video art, as well as the reshaped understandings of creativity (for example museum, theatre, and gallery apps). It also contributes with new materials, processes and tools for creative practices, new business models, digital marketplaces, consumer groups and distribution channels, along with new ways of marketing and selling innovative products, tools, apps and services, new forms of user-producer interaction, new virtual communities of creators and innovators, along with the new forms of creativity, such as human-free and computational creativity (Abbasi et al., 2017). According to World Bank data, there are over 190 million registered businesses in the world; one of the ways how a company can stay competitive in the market is by aligning its innovativeness policy with the intrapreneurship enhancement initiatives.

Creativity, corporative entrepreneurship, and technological innovation orientation are critical factors for technological innovation. The main driver of technological innovation within an enterprise is the executives of a firm, which is in line with Hambrick's (2007) theory of Upper Echelons, according to which a manager's creativity is positively influential to various fields within the organisational innovation development. It helps achieve the technological innovation orientation and increase business performance. This idea that technological innovation depends on creative mindsets is furthermore analysed with the introduction of the technology-mindset matrix (Figure 1), which consists of four types of factors for technological innovation improvement: incremental innovation, radical technological innovation, radical mindset innovation and revolutionary innovation; showing how each type leads to the unique, innovative outcomes within the companies (Ringberg et al., 2019).

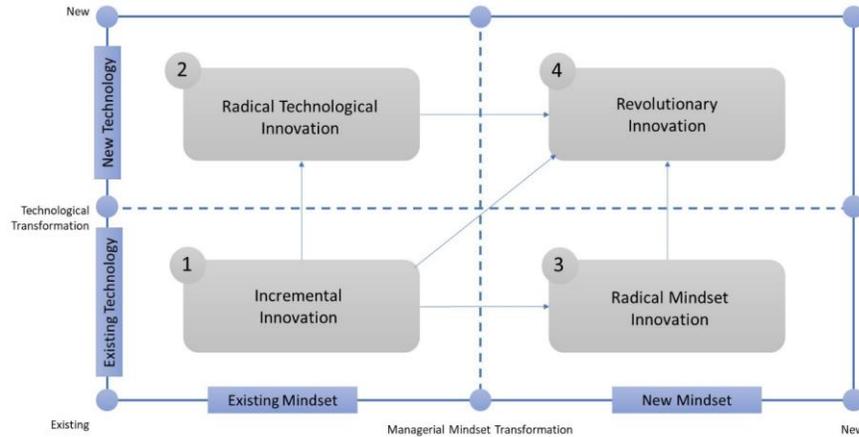


Figure 1. Technology-mindset matrix

Source: Ringberg et al., 2019

The first type (incremental innovation) represents a low-risk reward type of innovation and is the most popular across various industries. It is mainly driven by the need to identify new and exciting processes, services, or products to stay competitive. Therefore, the activities related to these types of innovation are typically reactive to the competitors' moves and involve the gradual development of the technology and managerial mindsets, also defined as 'muddling through technology' by Lindbloom (1959). However, the problems related to this type of technological innovation are the lack of resources, the complexity of internal cultures, legal requirements, and the situation when managers often being resistant to the change, have stagnant mindsets and prevent the acquisition of new ideas, so it is hard for big companies to make the necessary adjustments to new technological practices.

Radical technological innovation is based on a technological breakthrough. It represents the implementation of new products, processes and services which create fundamental change in business productivity and interaction with the market (Ringberg et al., 2019): the exploration of the potential of those revolutionary new technologies is only possible via innovative managerial mindsets as they carry huge risks, while the decisions to implement those technologies heavily influence firms' production, logistics and the ability to become more competitive in the market.

The firms' managerial innovation is critical to strive for businesses to stay competitive in the market. At the same time, Seung Hoon and Ahn Yeon (2016) further analysed the technological investment propensity factors: how they influence the technological competitive advantage and management performance (the study of 181 firms using technological innovation and information technology). The first group consisted of technology investment factors – market-oriented investments in the technology linked with customer needs, competitor responsiveness, market environment, and stakeholder strategies towards modern technologies. This factor relates to the technology, enabling innovative product and process creation and business model enhancement. Having analysed the first two factors, Seung Hoon and Ahn Yeon (2016) tackled the strategy oriented to investments in technology to dominate the market sustainably and consistently. The analysis identified the competitive advantage factors, such as technological excellence in new product commercialisation, market growth, internationalisation, and business profitability.

The importance of firms' efforts in organisational engineering, team operations and flexibility of innovativeness process should be further examined. At the same time, management performance should consist of financial and non-financial dimensions in the open and rapidly changing environment (marking the importance of mindsets and the correlation between technological advancement and business performance). Thus, a more ingenious

collaborative, relational diagnosis is necessary (Campos Vidal et al., 2017). Technology adoption is challenging for Small and Medium-sized Enterprises (SMEs) due to the lack of resources and marketing issues. SMEs face limitations when adopting the latest technology; thus, external factors, such as governmental incentives, covering part of their R&D costs, and minimising their financial risks are of significant help (Yigitcanlar et al., 2019). Many investors seek to obtain quick and safe returns on their investments, as investing in modern technologies is often risky; thus, governmental incentives are critical. To continue, adequate support for innovation in competencies, skills, knowledge, and experience should complement the financial support Yigitcanlar et al., 2019).

While using various technologies, small businesses can focus more on the cost-efficiency strategy via optimisation of OPEX, COGS and CAPEX, as well as using modern communication tools or enhancing the employees' competencies and productivity. Moreover, business technologies help outsource business functions to diverse markets, which leads to the reduction of costs and a more vital strategic direction. Therefore, many small businesses use the technology to outsource operations for which they lack resources, and the technology enables outsourcing in an effective and cost-reducing way, including foreign enterprises: digital technologies help diminish the number of barriers to market entry and increase the number of stakeholders engaged in the international market exchange (Aldrich, 2014).

Furthermore, digital technologies help SMEs in their internationalisation by increasing the efficiency of market intelligence and allowing firms better communicate with various stakeholders internationally (Bianchi and Mathews, 2016), while the adoption of Internet-based technologies are the most important aspect of internationalisation. The Internet also provides access to secondary data sources, individual country data (data about cultural differences), industry and legislation reports, and lists of potential suppliers, distributors, customers, and governmental agencies.

Modern technology tools and systems, such as data analytics or enterprise resource planning systems, help store information about customers, suppliers, and competitors and intensify market knowledge sharing within an organisation, liaising with local and international partners (Zhu and Kraemer, 2018). Modern digital technologies help develop market intelligence by making it easier to access high-quality market information in parallel with communication among customers and international partners. In line with its positive characteristics, modern technology not only increases the productivity of companies or their abilities to expand internationally but also enables the creation of new businesses and digital start-ups that use modern technologies as the main component of their business models and operations. It can be concluded that digital technologies are enablers of entrepreneurial activity (von Briel et al., 2018), and they manifest in various forms, such as digital products or services, digital platforms, digital tools, or infrastructure (Aldrich, 2014), digital artefacts, or Internet-enabled service innovations. Modern technologies change the entrepreneurial process thanks to combining those technologies and the reshaped entrepreneurial minds.

2. The Role of Intrapreneurship

The interpretation of intrapreneurship differs from one source to another. For instance, Shefiu (2019) describes it as a new and more hazardous activity of the organisation whose goal is to raise sales and productivity within a company. Several scholars, such as Bosma et al. (2010), associate the term 'Intrapreneurship' with employees who take the initiative to make new business activities within an organisation. Activities related to this term are perceived as an opportunity within the firm while planning, organising, and gathering resources.

The outcomes of intrapreneurship could be launching a new product or establishing a new subsidiary (Bosma et al., 2010). An intrapreneur could also be called an innovation executive, product developer, business developer or another type of employee. After analysing 106 articles, Neesen et al. (2019) found out that the term

'intrapreneurship' usually revolves around the creation of new products or businesses. According to their research, the Intrapreneurship definition entails six themes (see Figure 2).

First, intrapreneurship is directly coherent with the word 'Innovativeness'. When someone is called an intrapreneur, he is considered a creator of innovation (a product, service or process). Sometimes an intrapreneur could be a creator of a business venture. This term could also apply to an employee responsible for renewing his organisation. An intrapreneur needs to recognise an opportunity, and if given the required resources, that person can fulfil it. Innovation executives must not be afraid to initiate new projects with all the accompanying risks (Kokku, 2019).



Figure 2. The Roles of an Intrapreneur

Source: Neesen et al., 2019

To achieve the organisational competitive advantage, there should be a specific role of an intrapreneur specified and aligned within a company (Kokku, 2019): to take risks to increase productivity inside a firm and solve diverse challenges; initiate innovation via the technologies or applications (Seshadri and Tripathy, 2006); be focused on the creation of new products/services; new business venturing, self-renewal of an organisation, and opportunity recognition/ exploitation; have the specific skills to solve organisational problems, while focusing on the processes, learning and understanding market trends; inspire their team to be creative and support them (Seshadri and Tripathy, 2006).

Thus, intrapreneurship has a lot of similarities with entrepreneurship. Still, intrapreneurship is usually interpreted as specific activities inside a company by a lower hierarchy employee, whilst entrepreneurship is practised mainly by managers capable of mitigating risks throughout the innovation process. One of the main differences between entrepreneurship and intrapreneurship is that they do not have complete freedom to act as they depend on the company's financial strategy, organisational culture, and intellectual property rights. Intrapreneurship is also easier to sustain, manage and facilitate than entrepreneurship (Kaleem et al., 2019). Despite these differences, an entrepreneur and intrapreneurs are innovative while adding value to their products or services, facing risks, even though an intrapreneur doesn't risk his own money (Aina and Solikin, 2020).

Moreover, companies showed a growing interest in implementing intrapreneurship initiatives in practice (Duncan et al., 1988): intrapreneurship was considered a future phenomenon the companies, but the time was not right in 1988 because at that time, companies did not know what to do with intrapreneurs, often putting them into the management position while diminishing their potential to innovate; organisations were not ready to risk by delegating control over the product/service development to an employee.

Neesen et al. (2019), deriving from the analysis of 106 articles, witnessed the increasing attention to intrapreneurship after 2002, which indicates that companies have come to an understanding of the importance of

innovativeness: they continuously try to find different ways to complete the task or solve their problems, while thinking out of the box or finding new ways to create new services or products. One of these transformational outcomes is related to the intrapreneurship culture within an organisation. Laužikas et al. (2015) agreed that nowadays, intrapreneurship is crucial to thriving and growth: a lot of employees don't want to work only for the financial remuneration; the opportunity to contribute to strategy implementation and future growth is an important motivational factor, along with the transforming work-life balance or new exciting collaboration opportunities.

It is recognised in developed countries that intrapreneurship culture should be encouraged inside the organisation: intrapreneurship and innovation are the key drivers of sustainable growth (Kungu et al. 2020); however, more traditional and bureaucratic organisations might find these processes rather difficult to implement (Kaleem et al. 2019). On the other hand, the competitive environment in developed countries encourages companies to find new ways to promote their products or create innovative solutions which could differentiate them from other peers. Finding talented people and promoting intrapreneurship or new technologies are significant in high-tech organisations (Kaleem et al., 2019). Therefore, a specific environment and rules must be implemented (Ali et al., 2020) via training programs for employees and the opportunity to experiment. In parallel with the innovative climate, companies must be ready to invest financial and physical resources, enabling employees to learn and innovate, see new opportunities and feel valuable. Thus, a company which promotes intrapreneurship (Ali et al., 2020) should possess an adequate reward system for the employees' accomplishments while tolerating learning from the mistakes approach and encouraging them to take risks. Codrinlescu and Bolcas (2019) underlined the five most important factors which can promote the development of the intrapreneurial environment within a company (see Figure 3).



Figure 3. 5 factors which can favour the development of the intrapreneurial environment within a company.

Source. Codrinlescu and Bolcas, 2019

Firstly, a company's objectives and missions must be clear for the employees. An intrapreneur must understand the path they need to take and which innovation they create. Without a clear goal, their creation may not be helpful for the company, and the time, money and other resources would have been spent on an unnecessary innovation or service for the organisation. An employee should also be provided with support by senior management (Ahmad et al., 2012). Besides the financial support, the superior management should accord their own time to assist the intrapreneur under challenging situations. Additionally, the administration should support entrepreneurial employees by creating social trust (Narayanan, 2019). A clear and smooth organisational structure is also significant to develop the intrapreneurial culture where employees are ready to enhance their competencies/ skills/ knowledge, be flexible and initiate their projects, accompanied by sufficient resources to commercialise innovations.

The technologies make the process of implementing the intrapreneurial culture in the organisation easier by diversifying the intrapreneurial environment and conducting training or learning programs (Ali et al., 2020), such as e-learning (Gethe and Hulage, 2020): e-learning provides opportunity to learn remotely or in the office, personalise the learning experience for different employees as well as unleash the intrapreneurial potential in a cost-saving way. The freed-up financial resources could be further allocated to various intrapreneurial projects or innovation activities. Various gamification tools and simulators might teach people to behave in specific situations (Vakaliuk et al., 2020) and manage their projects, resources, and risks, leading to a more effective strategy implementation process.

3. Research methodology: measuring impacts of modern technologies within the entrepreneurship dynamics

To examine how modern technology usage could unleash intrapreneurs' potential while strengthening a firm's competitive advantages, the qualitative semi-structured experts' interviews method was chosen: to explore some areas that could not be investigated with quantitative research, such as human behaviour. The in-depth experts' (the chief executive officers') observations were the focus of this study (Roshan and Deeptee, 2009). This helped to better understand the knowledge and perception of the top-level management about intrapreneurship and the implementation of modern technology while encouraging the intrapreneurial culture. It was expected to provide recommendations for performance improvement and strengthening corporate competitive advantages.

Similar data was conducted by other researchers (Kenney and Mujtaba, 2007), who interviewed intrapreneurs and tackled their valuable experiences. They gained insights through the emotional intrapreneurs' perspectives, but their research could not show how intrapreneurship affected the company's results. The same researchers wrote about their anticipated study where they could interview more intrapreneurs and combine it with the quantitative method. Manimala et al. (2006) also interviewed intrapreneurs to gain insights into the organisational perception of intrapreneurship; Rekha et al. (2015) interviewed employees from India to tackle the intrapreneurial mindset inside organisations.

Two types of top-level managers were interviewed: three of the managers were from international companies, and the other three were from domestic organisations. Due to confidentiality, all the respondents were coded. The interview questionnaire consisted of 11 questions and evaluated the importance of six factors for employees' intrapreneurship. The first questions were formed to understand the managers' depth of knowledge and perception regarding intrapreneurship. The following questions were to identify whether they encourage activities related to creating the intrapreneurial environment.

Furthermore, it was essential to tackle whether the experts sufficiently understand the connection between intrapreneurship and modern technologies and whether they use innovative solutions to stimulate intrapreneurship. Some of the questions were constructed to realise what resources the companies accord to talent development (financing staff training, examining and implementing the ideas created by the employees, etc.). Interviewees were also asked whether they had seen examples of intrapreneurship or at least some of its features. Finally, it was focused on top-level managers' opinions regarding the most important factors for employees to become intrapreneurs.

The selected method also helped reveal new theories or factors of the research topic (Matveev, 2002). The qualitative research has contributed to a better understanding of the culture and environment of the selected organisations, along with some practical individual experience illustration (Wrigley et al., 2010). Although the sample size of the qualitative research is somewhat limited, it helped explore the topic deeper while gathering more significant amounts of diverse information (Queirós et al., 2017) through professional interviews of sufficient time and value added to the research question. In the future, it is intended to continue scrutinising this

topic while using the quantitative method to gather the data from intrapreneurs and compare it with the qualitative data derived from the experts.

4. Research results: the comparative analysis of 6 cases

Company A

The first interrogated company is an international company with 12 employees specialising in online payment processing. It is an innovative company based in Lithuania but mostly orients operations to foreign customers. Internet-based technologies made it possible for intrapreneurial specialists like the CEO of this company to implement their business ideas: by using technologies, this company was able to use the outsourcing strategy in the fields such as accounting, human resource management, and IT maintenance. Therefore, reducing costs and focusing on its primary business activity was the main strategic priority of the analysed company. The research results revealed that this firm encourages creativity through various motivational systems, bonuses for productiveness, gifts during Christmas and birthdays and different creativity and learning sessions. This IT also combines diverse software to benefit their business processes: Microsoft teams and Jira (a program to track project progress and individual and group objectives) are the two leading technologies used to increase creativity. A horizontal business model supports the ideas generation session. Apart from daily meetings, managers discuss with employees about the technology preferences they are willing to use; employees can express their ideas and, in this way, not only contribute to the business benefits (for instance, increased productivity) but also to the harmonised relationships between management and employees. The importance of the horizontal business model was also expressed when the respondent evaluated how important the managers are for the intrapreneurship environment (on a scale of 1-10, the evaluation reads the maximal value).

Technologies within this company are used to increase creativity and encourage collaboration: this company outsources most of its activities. Some companies they are working with are domestic; some are international. Internet-based communication technologies make such collaboration among companies smoother and more efficient. One of the fields which are being outsourced within this company is human resource management (HRM). The company uses the services of a recruitment company, "people link", which is a domestic company; however, they do not communicate physically (face-to-face), as all the communication is happening online through Internet-based communication technologies. The second area, which is being outsourced for this company, is IT maintenance: the key strategic partners help provide services, such as fixing various malfunctions with hardware and software and providing computers for the company. Accounting is the third type of service being outsourced: currently, they are using foreign companies to perform on their behalf. Communication with all the companies is mostly happening through Microsoft teams. Even though it is a small business, it's challenging to communicate efficiently through physical face-to-face meetings. This is where communication technologies come to help, and this company uses a variety of them, such as Microsoft Teams; Confluence, which specialising in documents and constantly updates information relevant to employees; workplace, which is a web and mobile app aimed to keep team members connected, Facebook Work, Sharepoint (which stores information about employees and their status), CRM software called "Salesforce" (providing a single, shared view of every customer for all the departments).

When the expert evaluated the importance of employee training and its correlation with intrapreneurial mindset formation, the expert gave maximum importance to this subject. Various training methods are used in this company; some are not formal and constantly performed among employees and managers during lunch breaks and various workshops; however, the official training includes international business trips being organised several times a year. Moreover, cyber security simulation training is mandatory for everyone, as this firm is working with sensitive data, and data breaches would result in substantial financial and moral losses. Training enhances employees' skills and capabilities, correspondingly mitigating the risk of failure (creating a more robust intrapreneurial environment in the company).

The last but not the minor factor for intrapreneurship, mentioned by the interviewee, are competent leaders. The co-founders of this company are an example of intrapreneurs who were originally managers in similar types of companies abroad. They identified the opportunity to create a start-up in Lithuania, and with the financial help of their previous company, they managed to succeed. The current management has kept the same strategy to improve the intrapreneurial environment, and employees were able to get financial help to implement their business ideas. This confirms the previous observation that the main driver for innovation is an intrapreneur of a firm.

Company B

The second investigated company (via the interview with its CEO) is a domestic company specialising in the retail and wholesale of building materials with a headcount of 50 employees in four branches in the four most prominent cities of Lithuania. This company has a traditional vertical business model, with all four branches having separate regional managers in charge of 10-15 employees teams. In line with their insights regarding the internal programs to encourage employee creativity, the specificity of work does not entail the necessity to be creative; thus, no software is used to increase creativity. It can be suggested that intrapreneurial activities are not equally relevant to all types of businesses, especially those not driven by innovation. This is also preconditioned by choice of a traditional vertical business model. However, the interviewee marked the importance of the technologies, as they help increase productivity and improve internal and external communication. Moreover, this company does not use any specialised software for communication, while focusing more on traditional online communication means, such as emails, phone calls and social media (those means became extremely helpful for this company during the quarantine). Furthermore, this company uses the outsourcing strategy (in the fields such as accounting and IT security) and implements the same type of communication technologies for internal communication.

In response to the question of whether there were cases of intrapreneurial activities and the employees who created their ventures in the past, the respondent confirmed the transformation from an intrapreneur to an entrepreneur. Some employees decided to leave the firm and create their ventures. For this reason, the interviewee accentuated the risks coming from intrapreneurial people inside a firm. Those risks consisted of financial and human capital losses; however, there is a possibility for an employee to gain support from a company to implement their business idea. Only a few criteria must be fulfilled to find an effective consensus: it must be mutually beneficial and have legal acts that regulate its relationship with the mother company. This way, the risk of financial losses is reduced, and the employee can unleash their intrapreneurial potential.

Moreover, the CEO does not deny the correlation between employee motivation, skill set, or corporate results. For this reason, a couple of employee training programs are conducted annually. In addition, the company offers motivational programs for employees, such as bonuses for sales and social guarantees. Surprisingly, when revealing his/ her insights regarding the importance of the wage policy and motivational systems to create the intrapreneurial environment, the expert's position was rather pragmatic: indicating the willingness to not largely increase the expenditure for entrepreneurs and intrapreneurs while focusing more on the psychological support, along with the favourable work environment well-established.

Company C

The following company selected for the research is a domestic windows & doors company specialising in retail and wholesale all over the country. Its CEO is also an owner of two other businesses operating in the bars & nightclubs industry (only the windows & doors company is scrutinised within the present research).

Within this domestic company, the communication system is established internally and externally; however, it is not technologically intensive, and technologies used for this communication are more traditional and accessible in global markets for businesses and customers. This company uses outsourcing for diverse activities, such as HR,

accounting, and marketing – all three strategic partners are domestic; thus, the means of communication used to interact are phone calls, emails, and video calls. For instance, all the accounting information is kept in the cloud, so the CEO of this company can access this data anytime. Internal communication is also happening through phone calls, emails or in person.

The responses regarding the technologies used to enhance creativity were more of a negative character: this company does not use technologies for this purpose. However, the respondent had the knowledge and understanding of the term intrapreneurship as well as accentuated its importance. The motivational systems include rather simplistic and classical means (bonuses out of turnover and gifts during significant celebrations and birthdays) to increase the employees' motivation and ideas generation. Moreover, window installation teams have different ways to generate profit and unleash their intrapreneurial skills. One such method is related to the opportunity to provide additional services for clients, along with the corresponding other rewards for the employees.

Given that there are many unqualified workers in window installation teams, the firm provides them with a new income source and, in the same way, increases the employees' motivation. Another solution is getting financial support to implement their business ideas. While examining the performance of this firm over 15 years, it is found that two previous employees of the company have become significant suppliers thanks to the financial help of this company. It is a mutually beneficial relationship as it decreases the cost of the materials and helps employees create their own manufacturing business. However, according to the interviewee, this company does not require high technological intensiveness, as it is already a mature business, and the specialisation of this firm is relatively simple. Therefore, to maximise its profitability, this company is operating through the vertical business model, along with a friendly environment: most of the employees and managers are friends, and every week (during the Friday meetings), there are discussions among the leaders of the installation teams and managers, which leads to the increase of the firm's productivity and more excellent psychological climate.

Company D

Company D has been chosen because of its internationalisation strategy: founded in Lithuania, it also operates via offices in other countries, along with many employees working in this organisation. The general manager explained the meaning of intrapreneurship: 'employees acting as entrepreneurs. The expert revealed his positive attitude towards intrapreneurship while explaining the motivational system as a critical driver for entrepreneurial employment. Although it depends on the departmental specificity, it is essential that the employees feel appreciated and their hard work can always be compensated. All the employees can always expect a raise or promotion in line with their work contributions to the firm's overall performance. In addition, there are different motivational systems across departments. For instance, the employees working in the marketing department can expect a monetary incentive if their marketing program is successful: the Lithuanian office runs the Friday's meeting of the whole office, where people can present their ideas, or they can reveal their challenges and vulnerabilities.

According to the CEO, this company is highly dependent on modern technology: it is necessary for communication with employees from other countries; it helps manage all the data, while all the financial results of the company can be tracked via technologies. Every department has its way of managing the workload, but all of them must rely on technology. Based on the observation of the general manager, the technologies also help to invoke the employees' creativity as they can see most of the company's results on their computers or even on the TV screens on the wall. Based on this data, they can figure out new ideas that could contribute to the company's results. In addition, if they have a good idea, which could contribute to the company's welfare, the firm might be eager to invest in these initiatives. When asked whether there were people who created their businesses after leaving their company, the CEO admitted that the company is still very young. There were no exceptional intrapreneurship cases yet. Although according to the general manager, the employees are encouraged to lead

their projects if they are experts in the required field. However, they must be correctly taught. According to the needs of the employees, there can always be a training session (or a learning program arranged), particularly if the employees need to improve the usage of a program or complete a specific task on time. Lastly, the inefficient risk-taking and managing process is due to the fear of losing their jobs and reputation. They are constantly reminded that they shouldn't be afraid of that.

Company E

Company E is the opposite of company D: it is based in Lithuania, and its employees are only Lithuanians. Its activities are mostly related to manufacturing. The company's general manager reveals regrets regarding their limited knowledge of intrapreneurship. In contrast, the company's indicated types of motivational incentives were a raise or promotion for the employees' work. Given a big headcount, it is hard for all the employees to be engaged and supported. However, the technologies are crucial for this organisation: the technology helps communicate with each other and encourages the employees' creativity; the employees can receive the necessary training through the technology (for example, the digital program to teach safety, along with various safety videos). The CEO claimed that there are no significant cases where employees could be responsible for their projects. Still, their company would be ready to invest in the employee's ideas if they contribute to the company's welfare (only after quitting their job did one former employee create their own successful business).

Company F

Company F is an international company which has offices all around the world. Its activities are based on providing IT services. The company was established in Lithuania. One of its founders revealed that they are trying to motivate their employees in diverse and unique ways: a game room where the employees can play table football or video games in the Lithuanian office, happiness and optimism-oriented sessions, and various motivational incentives across different departments, etc. For instance, after each successful quarter, the best-performing departments can gain monetary incentives based on the results; the employees are heard and frequently interrogated about what might be different or what innovative solutions might be implemented. The employees develop a considerable number of products within this company. All the employees are stimulated to generate their ideas, and if they are relevant and beneficial, this company is eager to invest in these ideas. Moreover, the company's activities are very dependent on technologies; thus, to improve organisational communication, various technologies are implemented: this company seeks to make every process as easy as possible; all the newcomers must undergo training, although there is no additional training after that.

The comparison of the domestic companies

Drawing the conclusions, the three domestic companies have significant similarities: all of them are operating either in manufacturing or sales, both retail and wholesale; these sectors are less technologically intensive; moreover, these companies are based on a vertical business model. The chosen business model is effective for them but jeopardises innovation processes simultaneously. For example, none of those companies has specific creativity enhancement technologies. However, all interviewees of the domestic companies highlighted the importance of employees' intrapreneurship and creativity to increase the firm's productivity. Within companies C and E, considerable importance was accorded to the motivational systems (seen as the way to improve the intrapreneurial environment).

On the other hand, it has been found in company B that the motivation of employees does not correlate with the motivational systems (on a scale from 1 to 10, only a value of 4 was attributed). At the same time, firms C and E drew more importance to this factor (the value of 8). The low value accorded by the CEO of company B could be explained from the perspective of the efficiency of these systems: monetary bonuses for performance might only motivate unqualified employees. In contrast, employees in higher positions are more aware of their value added. In addition to this observation, bonuses do not often increase or decrease the employees' intrapreneurial potential. All three companies' motivation systems consist of bonuses when employees show results and behaviour above expectations, such as increased turnover or commitment.

As there is no suitable environment for intrapreneurial activities inside the researched domestic companies, employee training is perceived to increase the firms' productivity. The training policies are not conducted via the technologies in the B and C companies. In contrast, the employees of company E can enhance their skills via the use of technology in their training program. There was a significant positive correlation among those companies regarding the importance of communication technologies to enhance the employees' intrapreneurial traits and productivity. Technologies are used for internal and external communication in all the interrogated domestic companies. The most critical communication for companies B and C is related to the suppliers or outsourcing partners. The list of the outsourced fields consists of HRM, Accounting and IT maintenance.

Communication is crucial to be constantly up to date with the latest information, while Internet-based communication technologies are being used to collect that information from outsourcing partners. This leads to the increased productivity of the companies, as they can focus on their core business activity and leave room for innovative ideas generation. Similarities are also found in internal communication: face-to-face communication (which does not include modern technologies) and online communication (which would be impossible without technologies, such as Internet-based software and online phone calls). Modern technology increases the speed and quality of internal communication, leading to better productivity and a more suitable intrapreneurial environment, as ideas can be shared at the speed of light. At the same time, different departments can work together to achieve common goals. Communication between executives and employees was also marked as one of the fundamental ways employees' intrapreneurial capabilities can be identified and unleashed (with the corresponding values on a scale of 10: 7 for company B and a value of 10 for company C and E). The efficient relationship between a leader and an employee builds mutual trust, which is crucial for intrapreneurship incentives inside the company as it often requires financial funding. If there's no trust, this increases the risk because an employee might leave the company and start their own independent business. The CEOs of companies B and C mentioned this aspect of risk management in the context of intrapreneurship, as there were cases in the past when employees left the firm and started their businesses. In the case of company C, this resulted in gaining a new supply partner; however, in company C, the former employees' new businesses became competitors and even conquered their clients.

The analysis of the domestic companies led to the conclusion that the importance of intrapreneurship is understood as a pillar for employees' motivation and business productivity; however, intrapreneurial activities are being improved not through advanced technologies (which enable the creation of new products or services), but mostly through the increased quality of communication and motivational systems inside the company. The results share similarities with the findings of Hambrick (2007) in his theory of Upper Echelons, according to which the manager's creativity positively influences various fields within organisations in terms of innovation development: it helps achieve the technological innovation orientation and improves the business performance.

The comparison of the international companies

The interrogated international firms are also marked by a lot of similarities in terms of the perception of intrapreneurship (Companies A, D, F): the technologies are a compulsory precondition for their activities; they use it for communication among the employees, encouraging creativity, as well as tracking the results of the company. All these companies found ways to use modern technologies to make their work processes more accessible and efficient. Company A created a business strategy where technologies made outsourcing possible with reduced organisational costs. According to the CEO of company D, they could barely survive without technology because every job is based on technology, and they always keep tracking their results. Company F has offices in several countries while their clients are from around the world (including countries such as China and the United States of America); thus, they use various communication channels via modern technology.

One of the similarities between these international companies is that they all see the need to motivate their employees. Therefore, they created various motivational systems which stimulate the employees to work more efficiently: the increase in salary or promotion is the most common means to reward the best-performing employees. The research results also revealed that international companies are likelier to use a horizontal business model, where employees have engaged and everyone's opinion matters. Thus, these companies are notable examples of excellent communication. For instance, company D allows employees to express their insights and input every Friday; they also communicate via technology as they have offices in different countries.

The employees of company A have regular daily meetings where they can share their thoughts and ideas regarding the firm's business processes. In addition, they use various technologies to keep up with their colleagues' work. The company's F management repeatedly interrogates the employees regarding the strategies or operations they could improve or make more efficient. These communication methods can improve the intrapreneurial environment inside the company. Furthermore, as mentioned before, specific training programs should be introduced to create an intrapreneurial culture. It is well implemented within some of the international companies investigated in this research. For instance, company D allows employees to learn anything related to their job during the required training. It is in line with the experience of company A where employees are constantly trained, while modern technologies help implement successful training inside the organisation. On the other hand, the company F offers employees training only at the beginning of their career, and there is a limited number of training available later, which might be related to a relatively large number of employees with diverse and specific tasks (that are not often rotated and transferable from one department to another). Thus, to create an intrapreneurial environment, the employees need strong support from the management.

Some of the international companies within the present research were able to provide examples of intrapreneurship in their companies. The general manager of company F stated that some of their products were the results of their employees. They were responsible for fulfilling and creating these ideas from scratch. Without them, these products and ideas would probably not exist in these companies. The example of the intrapreneurial activity from company F is a bit different: the co-founders of this company were the founders of the start-up in a foreign country. However, the CEO of company D could not provide a specific example of an intrapreneurial activity because the company is still relatively young.

In conclusion, the international companies investigated in the present research use various modern technologies to make their processes more effective and to strengthen their communication among employees, management, and clients. In addition, they use technologies to boost their employees' creativity because modern technologies help improve the intrapreneurial business environment. By supporting and helping their employees, the technologies help create a culture where intrapreneurs can emerge.

Table 1. The importance of factors in creating intrapreneurial culture, according to the investigated companies, out of 10

Factor	Employees Trainings	Employees Education	Strong Leaders	Salary and Bonuses	Work Environment	Technology
Company A	10	7	9	10	10	10
Company B	7	8	7	4	7	7
Company C	6	7	10	5	8	8
Company D	9	8	10	9	7	9
Company E	7	10	10	8	5	9
Company F	7	7	10	10	8	8
International Companies Average	8.67	7.33	9.67	9.67	8.33	9
Domestic Companies Average	6.67	8.33	9	5.67	6.67	8
All Companies Average	7.67	7.83	9.33	7.67	7.5	8.5

Source: prepared by the authors of the present paper, based on the research results

While interviewing the general managers of the selected companies, they were asked to evaluate the importance of six factors for creating the intrapreneurial environment in the organisation. Table 1 depicts the evaluation of each factor by the companies from 1 to 10 (the average of these factors is counted for the international companies, domestic companies and all the interrogated companies).

In line with all the investigated companies, strong leadership is a critical factor in boosting the intrapreneurial environment inside an organisation. It is essential for both domestic and international companies. The importance of strong management was also mentioned in the theoretical part of this research. Based on the average of all the researched companies, technology is the second most emphasised factor while building the intrapreneurial environment: based on the interviews with the CEOs, and it was clear that the technologies are fundamental in most of the interviewed companies. The third crucial factor for intrapreneurs to emerge is the employees' education; however, international companies consider education less important, which might be related to their well-established learning and knowledge-sharing systems when education is part of the knowledge-sharing process. Within the examined domestic companies, employees' education is the second most crucial factor in creating an intrapreneurial culture. According to international companies, salary and motivational incentives are essential for intrapreneurship. Still, domestic companies indicated that it is the least important factor for promoting the intrapreneurial culture, which might be related to the effectiveness/ efficiency of the motivation systems when a company is preparing for growth or expansion. Moreover, according to the average results of the research, the domestic and international companies disagree regarding the importance of employee training to boost the intrapreneurial culture. The global companies evaluated the training higher than the domestic companies by two points (according to the average of all companies, the work environment is the least important factor for intrapreneurship).

The comparison of the international and domestic companies

Given that all the international companies were technologically intensive service businesses, this influenced their use of technologies to enhance intrapreneurship, whilst all the domestic companies were either from manufacturing or retail sectors. In contrast, the usage of modern technology in these firms is more limited. For instance, within the international companies A and B, the communication among employees and external partners is intensive; the means of the used communication technologies are rather diverse: communication in the company B is organised via phone calls or emails, which is still efficient for them, corresponding to the nature of their business (while communicating between different departments and outsourcing partners in the fields, such as HR, Accounting and IT maintenance). In the meantime, the company B (which focuses on international clients and all the business activities are carried out online) is using a huge variety of communication technologies (to transfer messages at different levels from the clients to the outsourcing partners, to track record of the employee's performance, and/ or maintain the systematic data on relationship with customers).

As expected, the intrapreneurship level also depends on the structure of the business and the mindsets inside a company. It was found that the horizontal business models are more prevalent in international organisations that are more open to innovation (each employee feels equally essential when creating value for the company, which motivates them to generate new ideas and innovations). The vertical business model is still more prevalent in domestic firms: it restricts innovations and limits intrapreneurship activities. However, the interviewees of the companies using the vertical business models still highlighted the importance of innovation and intrapreneurship and, in parallel, tried to encourage positive employee behaviour uniquely.

The horizontal management model companies use to encourage intrapreneurship by enhancing the employee's skills through training and workshops: training consists of simulations, which give the ability for an employee to experience an actual business problem situation without facing the risk of financial losses. In addition, intrapreneurship is encouraged through international business trips and workshops, where international experts in the same area can discuss and share their ideas.

Within the vertical business model, intrapreneurship is mostly encouraged through motivational systems (for instance, bonuses out of turnover or gifts) and communication technologies. To continue, company C, which is a domestic company, provides the employees with the possibility to get a loan without interest (to use these sources to implement a new business idea, beneficial for that firm). Thus, both types of companies understand the importance of intrapreneurship and use modern technologies to identify and unleash the hidden potential of the employees; however, *the main difference is related to the intensity and variety of those modern technologies used in business processes, particularly while creating the intrapreneurship environment.*

Firms are centred on implementing the intrapreneurial environment to strengthen or create a competitive advantage. At the same time, an intrapreneur plays a specific and unique role in a company, summarised in figure 4, where research results are structured and presented.

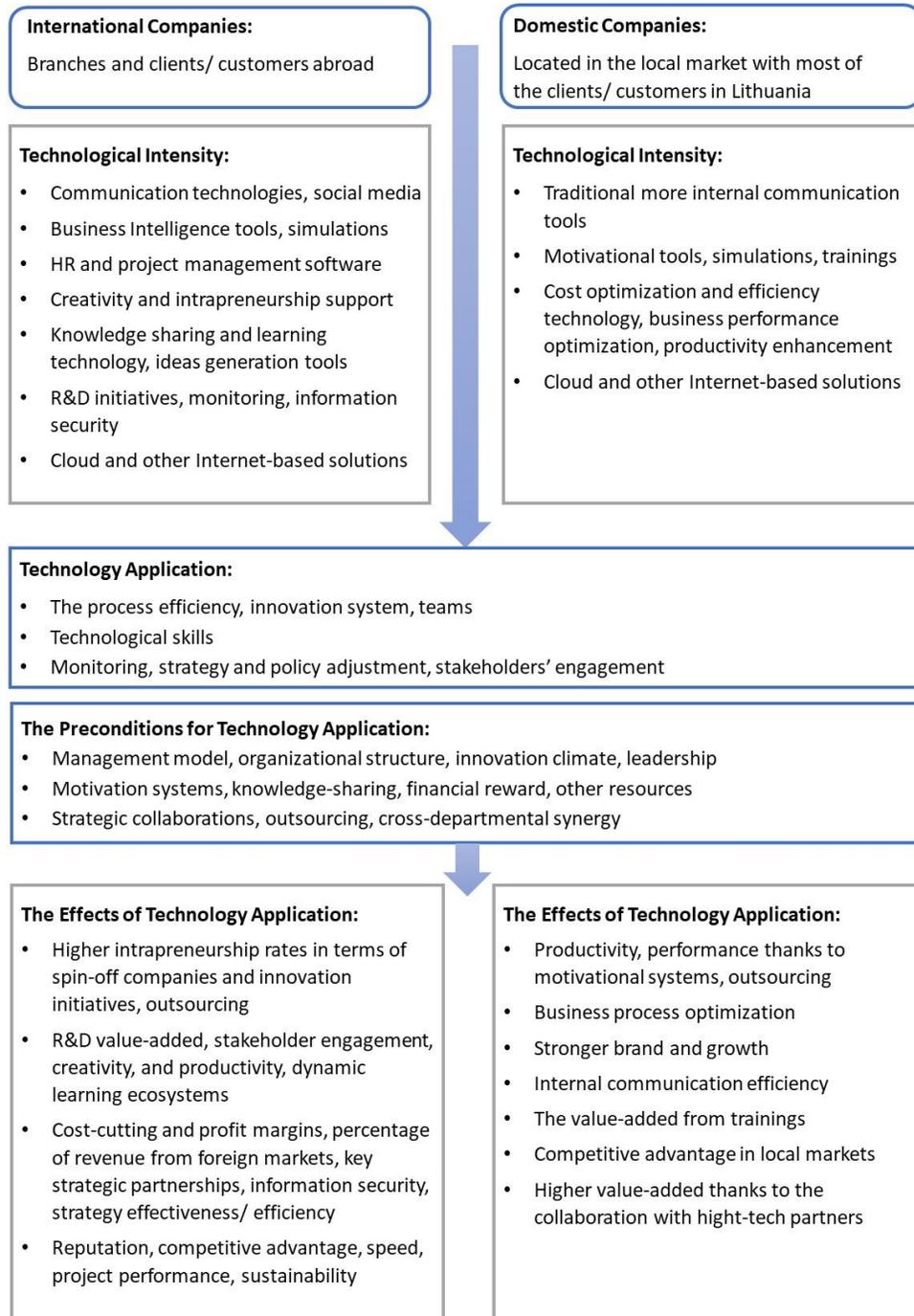


Figure 4. The role of modern technology while unleashing the intrapreneurship potential of international and domestic companies.
Source: prepared by the paper authors, based on the research results.

5. Conclusions and recommendations

Modern technologies help businesses complete their tasks more efficiently, reduce costs, increase productivity, secure sensitive information, and complete many tasks on time, which is related to the employees' productivity and technological efficiency (they can focus more on priority activities). An intrapreneur should be the one who brings new business opportunities to a company while opening new tactics for growth; however, the financial support should be accompanied by other diverse motivational initiatives and practices. Technologies can make implementing the intrapreneurial culture within a company more accessible. Thanks to the technologies, employees can enhance the skills required to become intrapreneurs.

The present research findings showed that international companies are using modern technologies to create an intrapreneurial environment; domestic companies are less dependent on technology, and their managers' attitude towards the need for intrapreneurship is not in favour of technological enhancement. Nevertheless, based on the scholars, strong leadership and technologies are the factors that might help improve the intrapreneurship dynamics while establishing a strong intrapreneurial culture. International companies see the need to motivate their employees while creating an intrapreneurial culture via motivational systems, while domestic companies are more reluctant to develop motivational incentives for the intrapreneurs. This is also related to the strategy development stage of the examined firms: the domestic firms are relatively young, belonging to the cost-focus and brand creation stage (many activities should be outsourced due to the limited resources and relatively high OPEX expenditure, the innovation processes are still not well-established, so the companies are focusing on productivity; the international companies are more involved in diverse differentiation strategies and alternative revenue generation tactics across various markets (they emphasise more new digital solutions, the performance of country specialists and a rich innovation/ creativity system). Both companies can apply modern technology to strengthen their competitive advantages; however, the effectiveness and efficiency depend on creative leadership, the entrepreneurship culture, the managerial model/ structure, and the knowledge-sharing system enhancing technological skills. Modern technologies help apply the principles of the shared-value economy, find attractive collaboration opportunities, and contribute to faster and more efficient ways to commercialise innovative ideas. Moreover, modern technology, such as AI or HR-based software, could help identify the intrapreneurs and track their performance in terms of ideas generation, operational performance, and the progress of new intrapreneurial initiatives.

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