INFLUENCE OF CORPORATE ENTREPRENEURSHIP ON BUSINESS MODEL INNOVATION OF COMPANIES IN BOSNIA AND HERZEGOVINA AFTER THE COVID-19 PANDEMIC*

1. INTRODUCTION

The COVID-19 pandemic has damaged economies around the world, although the extent of the damage is difficult to assess. Economic development slowdown is evident in developed and developing countries such as B&H. Compared to previous crises, the COVID-19 pandemic caused comparable shocks to supply and demand (del Rio-Chanona et al., 2020) and numerous changes in the business environment. These changes are primarily related to various effects such as government intervention, social distancing and the “islanding” of economies, differences in industry structure, customer behavior, technological progress, digital transformation, accessibility to resources, and an increase in the intensity of innovation.

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The study presented in this paper explored the relationship between corporate entrepreneurship and business model innovation of companies in Bosnia and Herzegovina (B&H) after the COVID-19 pandemic. In particular, the authors aimed to analyze how the individual dimensions of corporate entrepreneurship influence business model innovation by using the dynamic capabilities view. The study empirically analysed a sample of 100 companies using regression analysis. The findings revealed that each dimension of corporate entrepreneurship positively and significantly impacts business model innovation. Innovativeness, proactiveness, risk-taking, autonomy, and competitive aggressiveness positively affected the innovation of the business model. The results of this study confirm that entrepreneurial initiative is a good predictor of a company’s ability to innovate business models. The implication for management is to deepen the understanding of how corporate entrepreneurship promotes and shapes an innovative business model. This increases companies’ success and overall well-being in B&H after the COVID-19 pandemic.

KEYWORDS: corporate entrepreneurship, business model innovation, innovativeness, proactiveness, risk-taking, autonomy, competitive aggressiveness, dynamic capabilities view.

1. INTRODUCTION

The COVID-19 pandemic has damaged economies around the world, although the extent of the damage is difficult to assess. Economic development slowdown is evident in developed and developing countries such as B&H. Compared to previous crises, the COVID-19 pandemic caused comparable shocks to supply and demand (del Rio-Chanona et al., 2020) and numerous changes in the business environment. These changes are primarily related to various effects such as government intervention, social distancing and the “islanding” of economies, differences in industry structure, customer behavior, technological progress, digital transformation, accessibility to resources, and an increase in the intensity of innovation.
in the workplace (Baghiu, 2020), as well as changing employee relationships and ways of working (working from home, online and face-to-face interactions) (Gerdeman, 2020). For many companies, the lockdown and restrictions on freedom of movement posed a major challenge to existing business models (Ritter & Pedersen, 2020). In response to the COVID-19 pandemic, national governments took extensive measures to stabilize the economy, and companies tried to adapt to the different needs of their employees, suppliers, and customers.

The above challenges in corporate business operations have forced both micro, small, and medium-sized enterprises as well as large, well-established companies to rethink their conventional way of operating and adopt new ways of doing business that enable the creation, appropriation, and distribution of new value spaces in the wake of the global COVID-19 pandemic (Osterwalder & Pigneur, 2010). In response to the above challenges, interest in the scientific study and relevance of business model innovation (Baghiu, 2020; Breier et al., 2021; Clauss et al., 2020) as an organization’s response to the COVID-19 pandemic has increased.

The COVID-19 pandemic has done more to reshape business models than the business world has since the 1990s, when the Internet and information and communication technologies enabled organizations to fundamentally change how they do business, suggesting that business model innovation is a broad field of research. Business model innovation is considered a critical organizational competency for companies facing a highly volatile environment (Zott & Amit, 2010) and a powerful tool to ensure business resilience and growth in times of pronounced instability and crisis (Lindgardt et al., 2012). The business model represents the fundamental core of a company’s business logic and strategic decisions related to creating and appropriating value and delivery within the value network (Shafer et al., 2005). The business model is generally considered a tool to describe the economic activities of a company as a driver for product sales, a service process, or the commercialization of new technologies (Chesbrough & Rosenbloom, 2002). Since business models aim to create economic value by exploiting entrepreneurial opportunities, managers contribute to realizing this goal by effectively combining and shaping internal and external resources.

Since business models depend primarily on the company resources and capabilities (Barringer & Ireland, 2010, p. 179), managers logically face a dilemma when it comes to making decisions about which resources and capabilities will contribute most to the improvement and innovation of the business model and ultimately lead to the success of the company (Poljić, 2019). Today’s successful companies find the answer to the dilemmas mentioned above in the continuous innovation process, i.e., in implementing so-called “creative destruction” (Schumpeter, 1934). Innovativeness, proactiveness, and a willingness to take risks are the fundamental characteristics of successful companies where employees invest their expertise and competencies, develop new products and services, and create new business opportunities. In this way, they achieve a higher level of innovation and consequently better competitive advantages, i.e., they engage in entrepreneurial activities within companies, better known as corporate entrepreneurship. This approach explains why some companies are more innovative than others. Therefore, corporate entrepreneurship is one of the business model’s most important determinants of company innovation.

Corporate entrepreneurship is an important means of embedding innovation, increasing productivity, and revitalizing organizations (Zahra, 2015). Innovation can mean decisive changes to the strategies, products, markets, organizational structures, processes, capabilities, or business models companies have had in the past (Kuratko, 2010). Entrepreneurial orientation is considered an important concept of corporate entrepreneurship (Covin & Wales, 2012). Entrepreneurial orientation refers to the operations, procedures, and activities by which companies or entrepreneurial ventures take actions that lead to innovation and market entry decisions (Lumpkin & Dess, 1996). Entrepreneurial orientation can be explained as management’s pursuit of entrepreneurial opportunities in the face of risk and lack of certainty (Krauss et al., 2005). Entrepreneurial orientation has five dimensions: innovativeness, risk-taking, proactiveness, competitive aggressiveness, and autonomy (Lumpkin & Dess, 1996). Organizational factors such as entrepreneurial thinking and strategy are the most important elements for business model innovation and are decisive for a company’s business model (Kraus, Filser et al., 2020).

According to the Global Innovation Index (GII), Bosnia and Herzegovina (B&H) ranked 75th out of 132 countries in 2021 (WIPO, 2021). Regarding the innovative capacity of the economic sector in Bosnia and Herzegovina, statistical data show that in the period 2020-2022, out of the total number of companies, only 34.7% introduced at least one of the innovative activities, including product innovation, process innovation or ecological innovation (Institute for Statistics of the Federation of Bosnia and Herzegovina, 2023). If we also look at the total number of enterprises that have introduced innovations, 69.1% were small enterprises, 23.5% were medium-sized enterprises, and 7.4% were large enterprises (Institute of Sta-
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This research paper is structured as follows. First, a literature review with a theoretical framework is provided. It includes the concepts of corporate entrepreneurship, business model and business model innovation, and the elaboration of the research hypotheses. The methodology follows in the next chapter. Finally, our study's results, discussion, contributions, and limitations are presented.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Dynamic capabilities view

While proponents of resource-based theory (Barney, 1991) argue that differences in company performance are determined by the resources, capabilities, and knowledge that companies possess, little attention has been paid to how companies develop, acquire new assets, and manage them over time (Teece, 2023). The dynamic capabilities view represents a continuation of the resource-based view of building superior performance and competitive advantage, which focuses on resources (Barney, 1991) that have a dynamic character, i.e., the ability to renew resources, capabilities, and competencies to adapt to the changing business environment (Daraboš, 2015, p. 5). The dynamic capabilities theory is based on "a company's ability to integrate, build, and reconfigure internal and external competencies to operate in an extremely dynamic environment" (Teece et al., 1997, p. 516). Dynamic capabilities consist of perceiving and exploiting opportunities to maintain competitiveness by enhancing, combining, protecting, and transforming the organization's tangible and intangible resources (Teece, 2007). Eisenhardt and Martin (2000) define dynamic capabilities as organizational and strategic routines that managers use to change a company's resource base and develop new strategies. Adner and Helfat (2003) emphasize that the dynamic capabilities of managers are based on three factors: human capital, managers' social capital, and managers' knowledge. Human capital comprises the skills individuals have acquired through education, experience, or general knowledge acquisition (Daraboš, 2015, p. 54), which ultimately contributes to the heterogeneity of managerial skills (Adner & Helfat, 2003).

Managers' social capital manifests itself through social relationships that can promote authority, influence, and control. Managerial knowledge refers to managers' beliefs and "mental models" that serve as the basis for decision-making (Adner & Helfat, 2003). For dynamic capabilities to be developed, management must be entrepreneurial, i.e., managers must...
make and test assumptions about new technologies and market trends, develop new business models, and tap the necessary resources within and outside the organization (Teece, 2023). The ability of management to create and improve business models is the most important foundation of dynamic capabilities. Empirical findings in innovation, corporate entrepreneurship, and organizational behavior also contribute to the theoretical strength of the dynamic capabilities framework (Teece, 2023). Therefore, we can conclude that dynamic capabilities theory can provide a theoretical foundation for examining the relationship between corporate entrepreneurship and business model innovation.

2.2. Corporate entrepreneurship

The key issues that deserve greater attention are the theoretical and empirical knowledge of corporate entrepreneurship and its underlying entrepreneurial behavior (Kuratko, 2010). Corporate entrepreneurship is significant to a company’s attempts to capitalize on its existing competitive advantages and explore new opportunities and competencies required for its successful implementation (Urban et al., 2022). It refers to the function, initiative, or organizational behavior related to those innovations that determine the development of organizations and increase their productivity (Antoncic & Hisrich, 2001; Covin & Wales, 2019; Karimi & Walter, 2016). According to the traditional conceptualization, Covin and Wales (2019) believe corporate entrepreneurship is an independent entrepreneurial activity within an organization. It is a strategic phenomenon in which organizations deploy individuals to use their resources for specific actions (Duygan et al., 2019).

Entrepreneurial orientation appeared as an important concept of corporate entrepreneurship (Covin & Wales, 2012, 2019). The most widely accepted conceptualizations of entrepreneurial orientation refer to the conceptualization developed by Covin and Slevin (1989), according to which entrepreneurial orientation is characterized by a combination of innovation, risk-taking, and proactivity, and the conceptualization developed by Lumpkin and Dess (1996), according to which entrepreneurial orientation is a multidimensional construct consisting of the dimensions of innovativeness, proactivity and risk-taking, autonomy and competitiveness, and aggressiveness. Innovative ness refers to an organization’s propensity to adopt and support new ideas, innovations, experiments, and creative processes that can lead to technological or non-technological innovation (Hughes & Morgan, 2007; Lumpkin & Dess, 1996). Proactiveness refers to a forward-looking view in which companies actively seek to anticipate opportunities to create and introduce new products to gain breakthrough advantages. It is characterized by intentional change (Hughes & Morgan, 2007). Risk-taking refers to accepting uncertainty and risk associated with the original activity. It is typically characterized by the commitment of resources to uncertain outcomes and activities (Hughes & Morgan, 2007). Autonomy is the power and autonomy granted to an individual or team in a company to develop and complete business concepts and visions (Lumpkin & Dess, 1996). In an organizational context, autonomy encompasses actions free from representational organizational constraints (Zellweger & Sieger, 2012). It is a driving force for creating entrepreneurial value and adopting entrepreneurial initiatives (Karimi & Walter, 2016). By gaining autonomy, managers demonstrate to employees their confidence in their ability to successfully perform tasks outside the constraints of the organization (Hughes & Morgan, 2007).

Lumpkin and Dess (1996) view entrepreneurial orientation as a multidimensional construct and emphasize that the dimensions that define it vary independently depending on context and can affect performance differently. Using the measurement scale developed by Lumpkin and Dess, the empirical study by Hughes and Morgan (2007) confirms the independent effect of the individual dimensions of entrepreneurial orientation on organizational performance. As this study analyses the impact of the individual dimensions of corporate entrepreneurship on business model innovation, the measurement scale developed by Hughes and Morgan (2007) is used to measure the dimensions of corporate entrepreneurship.

2.3. Business model

Business models have been an integral part of the economy since pre-classical times, but the interest of academics and practitioners has changed over time. In the mid-1990s, with the advent of information and communication technology and the Internet revolution, the concept of business model emerged in many variations, such as “new business model,” “e-business model,” and “Internet business model,” and scholars and entrepreneurs associated it with Internet commerce, start-up businesses, and high-tech companies. In today’s competitive environment, the business model concept is a critical element in modern companies’ efforts to achieve organizational success based on creating, appropriating, and delivering value.
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Teece (2010) states that “business model innovation is not looked “heroic” (however) without it, the expected “reward” for start-ups, companies and nations would most likely not be realized” (Teece, 2010, p. 186). Successful business model innovation enables companies to survive and adapt to changes in the market (Kraus, Clauss, et al., 2020; Kraus, Filser, et al., 2020). Business model innovations can arise from the rediscovery of the existing value proposition, the existing user base, the “breaking” of the traditional value network, and the role of a company in the existing value chain (Margretta, 2002). This paper uses the measurement scale developed by Zott and Amit (2017), according to which business model innovation arises from the redefinition of one or all aspects of the business model, namely: a) content (adding new activities), b) structure (combining different activities) and c) management (changing parties, performing activities), and is found to consist of two dimensions: efficiency-oriented business model innovation and novelty-oriented business model innovation (Guo et al., 2017).

2.4. Business model innovation

The literature on business model innovation can be classified according to these three research approaches: 1) requirements for business model innovation; 2) essential elements and processes of business model innovation; and 3) main outcomes of business model innovation (Schneider & Spieth, 2013b). Business model innovation is extremely important for managers, entrepreneurs, and researchers for the following three reasons (Amit & Zott, 2012):

- Firstly, business model innovations today are often untapped sources of future value creation aimed at creating new revenues and profits for the company or preserving existing ones.
- Secondly, it is much more difficult for competitors to imitate the entire system of value creation (and all its activities) than the innovation activities of a product or a process in general. Because it is easier to lose the return achieved through technological innovation (product and process innovation), business model innovation is considered extremely important for gaining a competitive advantage for a company.
- Thirdly, managers should never underestimate the efforts of competitors to innovate business models as they are a powerful competitive tool.

A study by the Economic Intelligence Unit (EIU) shows that more than half of the managers surveyed believe that the innovation of business models is becoming even more important for corporate success than the innovation of products or services (Johnson et al., 2008).

On the necessity of innovating business models, Teece (2010) states that “business model innovation does not look “heroic” (however) without it, the expected “reward” for start-ups, companies and nations would most likely not be realized” (Teece, 2010, p. 186). Successful business model innovation enables companies to survive and adapt to changes in the market (Kraus, Clauss, et al., 2020; Kraus, Filser, et al., 2020). Business model innovations can arise from the rediscovery of the existing value proposition, the existing user base, the “breaking” of the traditional value network, and the role of a company in the existing value chain (Margretta, 2002). This paper uses the measurement scale developed by Zott and Amit (2017), according to which business model innovation arises from the redefinition of one or all aspects of the business model, namely: a) content (adding new activities), b) structure (combining different activities) and c) management (changing parties, performing activities), and is found to consist of two dimensions: efficiency-oriented business model innovation and novelty-oriented business model innovation (Guo et al., 2017).

2.5. Hypotheses development

Corporate entrepreneurship represents one of the most important drivers of innovation (McFadzean et al., 2005). As a construct of corporate entrepreneurship, entrepreneurial orientation acts as a dynamic capability that creates value and a value proposition for a company’s business model (Bouncken et al., 2016). Prior research has mainly focused on the relationship between entrepreneurial orientation and performance (Hughes & Morgan, 2007), innovation generation and adoption (Pérez-Luño et al., 2011), and the mediating role of business model innovation between product development performance and entrepreneurial orientation (Ferreras-Méndez et al., 2021).

Covin and Wales (2019) noted that innovativeness has many manifestations beyond the introduction of new products/services (e.g., entering a new market or creating and developing a business strategy and introducing new business models) and that more of what “being entrepreneurial” means should be the focus of future research.

Observing corporate entrepreneurship through four dimensions, innovation, proactivity, risk-taking, and autonomy, Karimi and Walter (2016) investigated the effect of corporate entrepreneurship dimensions on disruptive business model innovation and business performance in the newspaper industry. The positive impact on business model innovation was confirmed for the dimensions of autonomy, risk-taking, and proactiveness, while the impact of innovativeness on business innovation was not confirmed. Turulja and Smajlović (2021) discussed the importance of entrepreneurial competencies and their impact on the value proposition dimension of business mod-
### Table 1. Overview of business model definitions and elements

<table>
<thead>
<tr>
<th>Author</th>
<th>Business model definition</th>
<th>Business model elements</th>
</tr>
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</table>
| Amit & Zott (2001)            | “Business model is a representation of the content, structure and management of transactions, designed to create value by exploiting business opportunities” (p. 511).  | • Content  
• Structure  
• Management                                                                                                           |
| Chesbrough & Rosenbloom, (2002)| “Business model represents a research logic that connects technical potential with the realization of economic value” (p. 529).                                                                                   | • The proposition of the value  
• Market segments  
• Value chain  
• Income generating mechanism  
• Structure of the costs  
• Potential for the profit  
• Company’s position in the network (connections with suppliers and consumers)  
• Competitive strategy identification                                                        |
| Margretta (2002)              | “Business models are stories that explain how companies operate” (p. 87).                                                                                                                                               | • Activities connected to creation: design, procurement, manufacture, etc.  
• Activities connected to sales: target consumers, product distribution, and provision of services |
| Morris et al. (2005)          | “Business model is a concise presentation of how an interrelated set of decision variables in the field of corporate strategy, architecture, and economic value is designed to create a sustainable competitive advantage in defined markets” (p. 727). | • Value proposition  
• Consumers  
• Internal processes/competencies  
• External positioning  
• Economic model  
• Personal/investment factors                                                                  |
| Johnson et al. (2008)        | “Business models consist of four interconnected elements that, acting together, create and deliver value” (p. 52).                                                                                                  | • The value proposition for consumers  
• Profit formula  
• Key resources  
• Key processes                                                                                       |
| Casadesus Masanell & Ricart (2010) | “Business model reflects a company’s realized strategy” (p. 195).                                                                                                                                                      | • Concrete choices (policies, assets, and management structures) of management and consequences of those choices |
| Demil & Lecocq (2010)         | “In the business model, the company’s resources and competencies, its organizational system and value proposition it offers create a permanent interaction, in such a way that they increase or decrease performance” (p. 230). | • Resources and competencies  
• Organizational structure  
• Value provision proposition                                                                        |
| Osterwalder & Pigneur (2010) | “Business model represents how a company creates, delivers and obtains value” (p. 14).                                                                                                                                   | • Consumer segments  
• Value proposition  
• Distribution channels  
• Consumer relations  
• Revenue sources  
• Key resources  
• Key activities  
• Key partnership network  
• Cost structure                                                                                     |
| Teece (2010)                 | “Business model describes the logic, data, and other evidence that supports a value proposition for consumers, and a sustainable revenue and cost structure for the company that delivers that value” (p. 173). | • Technology  
• Benefits for consumers  
• Target market segment  
• Revenue flow  
• Profit-generating mechanism design                                                                     |
| Zott & Amit (2010)           | The business model represents “a system of interconnected activities that “go beyond” a company and encompass its borders” (p. 216).                                                                                  | • Activity system  
• Structure of activity system  
• Managing activity system                                                                            |

**Source:** Authors.
el innovation, which consists of the sub-dimensions of new channels, new markets, new offers, and new relationships with consumers. The authors confirmed that each dimension of entrepreneurial competencies positively impacts one of the sub-dimensions of the value proposition of business model innovation, with innovation competence positively influencing two sub-dimensions, namely new offers and new markets. Teece (2007) found that companies need risk-taking behavior to transform their business efficiently. Changing the essential business processes that drive growth, innovation activities, proactiveness, and the ability to make risky decisions define the degree of creating new and unique processes and are an important driver of business model innovation (Asemokha et al., 2019). Based on the discussion presented, the following hypothesis was formulated:

H1: Corporate entrepreneurship influences business model innovations of companies in B&H.

In addition to the main hypothesis, the auxiliary hypotheses were developed for research purposes:

H1.1: Innovativeness influences business model innovation
H1.2: Risk-taking influences business model innovation
H1.3: Proactiveness influences business model innovation
H1.4: Autonomy influences business model innovation
H1.5: Competitive aggressiveness influences business model innovation

3. METHODS

The data used in this paper were collected using the survey method (a structured survey). The questionnaire consisted of fourteen questions, ten related to demographic indicators and the remaining questions to the independent and dependent variables. All questions in the questionnaire were closed-ended and captured managers’ attitudes towards representing the dimensions of corporate entrepreneurship and business model innovation in their companies. The population consisted of companies whose turnover in 2021 was more than 8,000,000.00 BAM. The general managers of these companies were identified as respondents. The primary data collection was conducted from July to October 2023 through field and online research. In this research, 154 questionnaires were collected. After verifying their accuracy, the total number of observations analysed in this study was 100.

The variable items were adopted from the existing literature. The corporate entrepreneurship measurement model was developed using the indicators proposed by Hughes and Morgan (2007). It consists of five first-order reflection dimensions: innovativeness, proactiveness, risk-taking, autonomy, and competitive aggressiveness, which comprise eighteen items. Business model innovation is the second-order reflective construct consisting of two first-order dimensions: efficiency-oriented business model innovation and novelty-oriented business model innovation, with twenty-four manifest variables adopted from Zott and Amit (2007). The items were measured using a seven-point Likert scale ranging from (1) “strongly disagree” to (7) “strongly agree.” Regression analysis was used as a statistical method to test the hypotheses, and the SPSS package was used as software support.

4. RESULTS AND DISCUSSION

In order to test the research hypotheses, business model innovation was defined as the dependent variable and corporate entrepreneurship as the independent variable. Business model innovation was operationalized based on two dimensions. The first innovation dimension comprised thirteen indicators, and the second eleven. The value of business model innovation resulted from the sum of the measured values of all associated indicators. As an independent variable, corporate entrepreneurship included five dimensions: innovativeness, proactiveness, risk-taking, autonomy, and competitive aggressiveness. Each of these dimensions comprised a non-unified number of indicators, which were also measured using a Likert scale with seven response levels so that the value of each dimension represents the sum of the respondent’s answers to the corresponding indicators. Table 2 provides an overview of the socio-economic characteristics of the companies in the sample.

The reliability of the measurement scales was checked before the calculations were carried out. In general, the reliability of a measurement scale indicates the degree to which it is resistant to random error. Two indicators often used to check the reliability of a measurement scale are time stability, i.e., the stability of the results when repeatedly applied to the same sample, and internal consistency. Temporal stability is measured by applying the same scale to the same respondents twice. A higher correlation coefficient, based on the correlation between the results obtained in this way, subsequently confirms the greater reliability of the scale itself. In our study, primary data collection was carried out on a single occasion, so we were not interested in stability over time.

Another way to check the reliability of the measurement scale is to assess its internal consistency, i.e., the extent to which the values that make
up the scale measure the same related attribute (i.e., the extent to which they are related). It is measured in various ways, with the Cronbach’s alpha coefficient ($\alpha$) being the most commonly used method. This coefficient represents the average correlation between all values of the scale and ranges between 0 and 1, with a value closer to 1 indicating a higher scale reliability. Depending on the type of scale and its purpose, different approaches for an acceptable level of reliability can be found in the literature. As a rule, however, it is not advisable to accept the reliability of a scale whose Cronbach’s alpha coefficient is below 0.7. The reliability of the measurement scales was tested using Cronbach’s alpha coefficient (see Table 3).

The values of Cronbach’s alpha coefficient of more than 0.7, listed in Table 3, confirm the reliability of the basic measurement scales used in the study. Statistical analysis was done using regression, with results in Table 4. Model 1 refers to the results of the influence of risk-taking as a dimension of corporate governance, Model 2 is related to the results of the impact of innovativeness, Model 3 to the results of the impact of proactiveness, Model 4 to the results of the impact of competitive aggressiveness, and Model 5 refers to the results of the impact of autonomy on business model innovation.

### Table 2. Overview of characteristics of companies included in the sample

<table>
<thead>
<tr>
<th>Criteria/characteristic</th>
<th>Number of respondents</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Economic activity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture, forestry, and fishing</td>
<td>4</td>
<td>4.00</td>
</tr>
<tr>
<td>Extraction of ores and stone</td>
<td>4</td>
<td>4.00</td>
</tr>
<tr>
<td>Manufacturing industry (production)</td>
<td>35</td>
<td>35.00</td>
</tr>
<tr>
<td>Production and supply of electricity, gas, steam and air conditioning</td>
<td>3</td>
<td>3.00</td>
</tr>
<tr>
<td>Water supply, wastewater removal, waste management, and environmental remediation activities</td>
<td>7</td>
<td>7.00</td>
</tr>
<tr>
<td>Construction</td>
<td>17</td>
<td>17.00</td>
</tr>
<tr>
<td>Wholesale and retail trade: repair of motor vehicles and motorcycles</td>
<td>9</td>
<td>9.00</td>
</tr>
<tr>
<td>Transportation and storage</td>
<td>1</td>
<td>1.00</td>
</tr>
<tr>
<td>The activity of providing accommodation and preparing and serving food (hotel and catering)</td>
<td>1</td>
<td>1.00</td>
</tr>
<tr>
<td>Information and communication</td>
<td>4</td>
<td>4.00</td>
</tr>
<tr>
<td>Financial and insurance activities</td>
<td>1</td>
<td>1.00</td>
</tr>
<tr>
<td>Professional, scientific, and technical activities</td>
<td>2</td>
<td>2.00</td>
</tr>
<tr>
<td>Health and social protection</td>
<td>5</td>
<td>5.00</td>
</tr>
<tr>
<td>Other service activities</td>
<td>7</td>
<td>7.00</td>
</tr>
<tr>
<td><strong>Organizational form</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joint-stock company (JSCo)</td>
<td>10</td>
<td>10.00</td>
</tr>
<tr>
<td>Limited liability company (LLC)</td>
<td>90</td>
<td>90.00</td>
</tr>
<tr>
<td><strong>Ownership structure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private ownership</td>
<td>90</td>
<td>90.00</td>
</tr>
<tr>
<td>State ownership</td>
<td>5</td>
<td>5.00</td>
</tr>
<tr>
<td>Mixed ownership</td>
<td>5</td>
<td>5.00</td>
</tr>
<tr>
<td><strong>Entity/District</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FB&amp;H</td>
<td>53</td>
<td>53.00</td>
</tr>
<tr>
<td>Republic of Srpska</td>
<td>45</td>
<td>45.00</td>
</tr>
<tr>
<td>Brčko District B&amp;H</td>
<td>2</td>
<td>2.00</td>
</tr>
</tbody>
</table>

**Source:** Authors, based on the classification of sectors taken from the statistical classification of economic activities of the European Community - NACE, Rev. 2
TABLE 3. Reliability statistics of the measurement scales

<table>
<thead>
<tr>
<th>Measurement scale</th>
<th>Cronbach’s alpha coefficient</th>
<th>Cronbach’s alpha coefficient calculated based on standardized items</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk-taking</td>
<td>0.868</td>
<td>0.869</td>
<td>3</td>
</tr>
<tr>
<td>Innovativeness</td>
<td>0.946</td>
<td>0.946</td>
<td>3</td>
</tr>
<tr>
<td>Proactiveness</td>
<td>0.855</td>
<td>0.860</td>
<td>3</td>
</tr>
<tr>
<td>Competitive aggressiveness</td>
<td>0.891</td>
<td>0.891</td>
<td>3</td>
</tr>
<tr>
<td>Autonomy</td>
<td>0.906</td>
<td>0.911</td>
<td>6</td>
</tr>
<tr>
<td>Business model innovations</td>
<td>0.960</td>
<td>0.964</td>
<td>24</td>
</tr>
</tbody>
</table>

Source: Authors

TABLE 4. Evaluating the model of the influence of corporate entrepreneurship on business model innovation

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>Determination coefficient</th>
<th>Corrected determination coefficient</th>
<th>Standard error of estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.413a</td>
<td>0.171</td>
<td>0.162</td>
<td>18.096</td>
</tr>
<tr>
<td>2</td>
<td>0.504a</td>
<td>0.254</td>
<td>0.246</td>
<td>17.167</td>
</tr>
<tr>
<td>3</td>
<td>0.580a</td>
<td>0.336</td>
<td>0.329</td>
<td>16.192</td>
</tr>
<tr>
<td>4</td>
<td>0.356a</td>
<td>0.127</td>
<td>0.118</td>
<td>18.570</td>
</tr>
<tr>
<td>5</td>
<td>0.431a</td>
<td>0.186</td>
<td>0.177</td>
<td>17.933</td>
</tr>
</tbody>
</table>

a. Predictors: (const.) risk-taking, innovativeness, proactiveness, competitive aggressiveness, autonomy
b. Dependent variable: Business model innovations

Source: Authors

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>Df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression part</td>
<td>6,605.960</td>
<td>1</td>
<td>6,605.960</td>
<td>20.174</td>
</tr>
<tr>
<td>2</td>
<td>Regression part</td>
<td>9,815.713</td>
<td>1</td>
<td>9,815.713</td>
<td>33.308</td>
</tr>
<tr>
<td>3</td>
<td>Regression part</td>
<td>13,003.277</td>
<td>1</td>
<td>13,003.277</td>
<td>49.598</td>
</tr>
<tr>
<td>4</td>
<td>Regression part</td>
<td>4,900.228</td>
<td>1</td>
<td>4,900.228</td>
<td>14.209</td>
</tr>
<tr>
<td>5</td>
<td>Regression part</td>
<td>7,181.567</td>
<td>1</td>
<td>7,181.567</td>
<td>22.332</td>
</tr>
</tbody>
</table>

Source: Authors
The first model explains 17.1%, the second 25.4%, the third 33.6%, the fourth 12.7%, and the fifth 18.6% of the variance of the business model innovation. The statistical significance of these indicators is presented in the ANOVA table (Sig.<0.05) and shows that each of the five models analyzed achieved statistical significance. The next step was to determine how much the model's independent variables contribute to the dependent variable's prediction. This is shown by the beta indicator (\(\beta\)) in the part of Table 5 that represents the standardized coefficients.

Each of the five dimensions of corporate entrepreneurship significantly contributed to the prediction of business model innovation, leading to the acceptance of the hypotheses and the conclusion that corporate entrepreneurship influences the innovation of business models in B&H after the COVID-19 pandemic.

### 5. CONCLUSIONS

Corporate entrepreneurship was observed based on innovativeness, proactiveness, risk-taking, autonomy, and competitive aggressiveness, while business model innovation was comprised of efficiency-oriented and novelty-oriented business model innovation. As mentioned above, corporate entrepreneurship influenced business model innovation in companies from B&H after the COVID-19 pandemic. According to the regression analysis results, proactiveness as a dimension of entrepreneurship influenced business model innovation with a standardized beta coefficient of 0.580 (Sig.<0.05). All other observed dimensions of corporate entrepreneurship also influenced business model innovation. Innovativeness, with a value of the standardized beta coefficient \(\beta=0.504\) (Sig.<0.05), significantly influenced business model innovation, while autonomy as a dimension of corporate entrepreneurship was in third place with a standardized beta coefficient of 0.431 (Sig.<0.05).

Furthermore, if we consider risk-taking as a dimension of corporate entrepreneurship, the beta coefficient of 0.413 (Sig.<0.05) indicates that this dimension also has a significant influence on business model innovation. However, the results show that competitive aggressiveness has a positive but slightly weaker influence on business model innovation than the other observed dimensions (standardized beta coefficient of 0.356, Sig.<0.05). The results of this study confirm that corporate entrepreneurship is a good predictor of organizational capability for business model innovation. These results are consistent with previous research. Karimi and Walter (2016) point out that autonomy, risk-taking, and proactiveness are directly related to the degree of adoption of disruptive business model innovation. Craig et al. (2014) confirm that proactivity and risk-taking significantly affect the innovation of family and non-family businesses. An innovative manager helps in the creation of new

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>St. error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>84.651</td>
<td>10.111</td>
<td>8.372</td>
</tr>
<tr>
<td></td>
<td>Risk-taking</td>
<td>2.760</td>
<td>0.614</td>
<td>0.413</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>80.705</td>
<td>8.598</td>
<td>9.386</td>
</tr>
<tr>
<td></td>
<td>Innovation</td>
<td>2.903</td>
<td>0.503</td>
<td>0.504</td>
</tr>
<tr>
<td>3</td>
<td>(Constant)</td>
<td>65.157</td>
<td>9.255</td>
<td>7.040</td>
</tr>
<tr>
<td></td>
<td>Proactiveness</td>
<td>3.811</td>
<td>0.541</td>
<td>0.580</td>
</tr>
<tr>
<td>4</td>
<td>(Constant)</td>
<td>91.854</td>
<td>10.114</td>
<td>9.082</td>
</tr>
<tr>
<td></td>
<td>Competitive aggressiveness</td>
<td>2.139</td>
<td>0.567</td>
<td>0.356</td>
</tr>
<tr>
<td>5</td>
<td>(Constant)</td>
<td>88.951</td>
<td>8.731</td>
<td>0.431</td>
</tr>
<tr>
<td></td>
<td>Autonomy</td>
<td>1.256</td>
<td>0.266</td>
<td>4.726</td>
</tr>
</tbody>
</table>

Dependent variable: Business model innovations
Source: Authors
products and services as well as in the development of new market segments (Turulja & Smajlović, 2021).

The implications for management are reflected in a deeper understanding of how corporate entrepreneurship promotes and shapes an innovative business model. This increases companies’ success and overall well-being in B&H after the COVID-19 pandemic. The practical contribution of this paper is also reflected in creating an image of a successful manager with a strong entrepreneurial orientation. This image is primarily that of a proactive and innovative person who has predispositions and a desire to act creatively to create new products and services and improve processes, who has freedom of action and decision-making in creating new value, and who can take calculated risks. Possessing the dimensions mentioned above of corporate entrepreneurship contributes to the ability to innovate in the context of innovative business models.

Regarding the limitations of the study, we can classify them as follows: the time frame in which the study was conducted, which covers the period from July to October 2023, as well as the use of subjective judgments of the respondents in the measurement of the dependent and independent variables. In addition, the innovative business model and activities within corporate entrepreneurship were measured at a specific time, which may be a limitation if we consider that these activities and behaviours are dynamic. Future studies should aim to confirm the research carried out on a different sample or in a different country. In addition, future research could emphasize conducting a longitudinal study, which could help identify internal and external sources of business model innovation.
REFERENCES


The influence of corporate entrepreneurship on business model innovation of companies in Bosnia and Herzegovina after the COVID-19 pandemic

Selma Smajlović, Alma Muratović, Bahrija Umihanić

ies, game changers, and challengers (Vol. 1). John Wiley & Sons.


**KLIJUČNE RIJEČI:** korporativno poduzetništvo, inovacije poslovnog modela, inovativnost, proaktivnost, preuzimanje rizika, autonomija, konkurentska agresivnost, pristup dinamičkih sposobnosti.