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A DESCRIPTION OF THE DEVELOPMENT OF HR TECH STARTUPS IN POLAND

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Abstract: This article presents the problem of development and survival of startups providing services in the field of human resources. Research on startup success factors indicates that many variables simultaneously determine the possibility of survival in the market. The data used for the analysis were sourced from the website: www.mamstartup.pl (a database of startups established in Poland) and other publicly available data. The results of the analysis indicate that HR Tech is an industry that includes specific services for entrepreneurs, employees, or labour market participants in general. In the period surveyed (2012–2020) about 44% of startups from this industry in Poland ceased their activities. There is a lack of detailed, publicly available data on their funding. The startups under study use business models focused on generating revenue from the user of a given IT solution. The analysis shows that the survival and development of HR Tech startups in Poland is quite difficult; the problem is probably the specificity of services and their questionable profitability in the industry studied.

Keywords: startups, e-business success factors, human resources, HR function, HR Tech.

1. INTRODUCTION

Nowadays, new ventures called “startups” are being established within the electronic business environment. These are specific types of businesses, focused on creating products and services using modern information technologies and innovations. Startups are emerging in almost every industry, filling specific market niches. Their key feature is the focus on rapid growth and capturing the market under uncertain conditions created by the environment. For various reasons, not all startups manage to survive. The most important period for startups is their initial phase of development.

In the analyses conducted so far, there are many factors that may determine a startup’s ability to survive in the market or make profits in a short period of time. Some research authors pay significant attention to the ecosystems in which startups

are created [*The Global Startup Ecosystem Report* 2018], others pay special attention to the business models on which the startup is built [Blank and Dorf 2013] and still others believe that the success of a startup depends on the leadership qualities of their creators [Szulc and Kobylański 2014]. Development of information and communication technologies (ICT) has increased the demand for innovative solutions in many industries. The above trends are also contributing to the strong growth of Human Resources (HR) startups. The industry has even gained its own term used primarily by practitioners - HR Tech. This term is used to describe young e-business ventures that are focused on supporting entrepreneurs and employees, and more generally candidates operating in the labour market, by creating tools that facilitate human resource processes and optimise management [Barman and Das 2018].

Over the past 15 years, many startups have emerged in Poland, including those that offer their products and services in the HR Tech market. The main objective of this article was to analyse the development of startups operating in the human resources industry in Poland. The data used for the study comes from various sources, available on websites related to the development of startups in the discussed industry in Poland. In order to characterise the development of startups in the industry under consideration, the following aspects were analysed: lifespan, financing methods and ability to raise capital, legal form and business models of the startup.

2. STARTUPS – DEFINITION AND DEVELOPMENT DETERMINANTS

Startups are specific organisations focused on finding a scalable, repeatable, and profitable business model [Blank and Dorf 2013]. It is emphasised that their main goal is to create a new, innovative product or service. An important problem of operating in startup markets is long-term survivability. The process of manufacturing products and providing services in startups occurs under conditions of extreme uncertainty [Ries 2011]. Creating new solutions in the field of ICT and offering innovative products or services in the markets may not be accepted well by the recipients. Most startups are by definition included in the e-business market and such are those analysed in this article. This market creates opportunities to create new, innovative ideas that can give companies competitive advantage [Bartczak 2016].

On an e-business level, startups are defined as young and risky ventures. This is also due to the specific nature of the business development cycle in electronic markets. The term “startups” sometimes refers to the development phase of a company from the moment of its initiation to achieving a certain growth [Gabryelczyk, Białek-Jaworska and Pugacewicz 2015]. The e-business life cycle model indicates that the first stage is the “seed” phase. The next stage is referred to as the “startup” phase, while during the next stages the company staying on the

market enters the "growth" phase. This model has been disseminated in the form of the J-curve [Love 2016]. Considering the development of a new e-business venture, the startup phase is the most important one in the model discussed. At this stage, the creators of the venture take decisions such as: the possibility of a further path of development, the profitability of the venture and the possibility of survival on the market in the context of acceptance of the proposed product or service. In this phase, the entrepreneur incurs the greatest costs related to the development of the company and planned investments. The startup phase of the business life cycle is also known as the "Valley of Death".

Contemporary research concerning startups focuses on distinguishing a group of factors that influence the possibility of survival of these e-business ventures in the market. Financial data (e.g.: income, assets, share capital) can determine the success of startup development, just like any other business venture. Analyses of the problem of bankruptcies and chances for development of enterprises indicate that the amount of share capital is the decisive factor for the credibility of a given enterprise. Given that startups are ventures with a high degree of uncertainty, the question of their credibility can be an important factor, especially in the long term. It acquires particular importance in relation to investments in modern, innovative and risky solutions, which are very often carried out by means of acquiring financial resources from external sources (e.g.: investors, business angels, EU subsidies).

The literature available indicates that the success or failure of a startup is usually determined by several key factors occurring simultaneously. Key success factors include [Boyer, Creech and Paas 2008]: leadership, partnership, innovative concept potential, planning and marketing, short and long-term profit management, community involvement, risk management. The group of factors contributing to failure include [Boyer, Creech and Paas 2008]: inadequate business planning, insufficient capital at the startup and development stage, misjudging the size of demand for a product or service, incompetent business management, inappropriate selection of advisers and business partners, ineffective launch of a product or service on the market, misunderstanding of investment requirements and conditions, irregularities in financial management, ill-considered business decisions. Another classification of factors determining the success of a startup indicates that the most important of them include: strong and committed leadership, information flow and a process approach in the implementation of tasks, ambitious and measurable goals, customer-oriented internal processes [Szulc and Kobylański 2014].

Both of the above classifications omit the startup environment, the importance of which is also important in assessing the chances of development of a given e-business venture. One developing research idea posits that the economic situation of startups is influenced by their ecosystem. According to this concept, there are a group of factors, especially those located in the environment that is close to startups, that affect their survival in the initial phase of development. These factors include: scientific and research centres, business incubators, favourable institutional and legal

conditions, availability of funding e.g. stock exchange [*The Global Startup Ecosystem Report* 2018].

Summarising the considerations of the factors determining the possibility of development and survival of startups, it should be emphasised that there is currently no single, coherent research approach in this area in the literature available.

Table 1 presents the factors identified by various authors of startup research.

Table 1. Factors determining the success of startups

Types of factors	
Internal factors	Financial data (e.g. income, assets, share capital) Potential and uniqueness of the proposed technological solution Marketing activities A team of employees, strong leadership, market research (demand, competition)
External factors	Availability of financial capital Institutional/legal framework Support for entrepreneurship Proximity of science and research centres

Source: our own study.

Considering a number of research findings concerning the factors affecting the success of a startup, the proposed items can be divided into two basic groups – internal factors and external factors. The former result from the activity of the company, while the latter have their source in the environment in which the business operates. One of the currently developing research directions is an attempt to identify and assess factors that may be specific to a given industry. This article aims to analyse the key factors and show the specificity of the development of startups in the HR industry in Poland.

5. DEVELOPMENT OF HUMAN RESOURCES BUSINESSES

The issue of employees in the organisation began to be addressed in the second half of the 19th century. At that time, efforts were made to guarantee progressive benefits to workers, i.e.: unemployment benefit, sick pay and housing allowance. After World War II, more emphasis was placed on personnel administration to assist management in recruitment, work discipline, working hours, payroll system and maintenance of personnel records [McKenna and Beeach 1999]. Thus, the human resources department ceased to play an auxiliary role, but instead was placed centrally and began to play an advisory role supporting directors and line managers [Kostera 2000].

In the 1960s and 1970s, as the need for a broader and more professional approach to personnel issues emerged, the number of staff involved in personnel work increased significantly. The idea of personnel management was to seek to combine the interests of the employer and employees. This was a significant advance over the previous approach, when people in the company were treated objectively and instrumentally and there was a deep asymmetry of interests between employer and employees [Oleksyn 1998]. In the 1980s, HR professionals began to play a greater role in setting the direction of the company, in defining goals and in improving ways to achieve them [McKenna and Beeach 1999]. Thus, the personnel function became a priority.

The personnel function is one of the core functions of a business. It occurs when workers are employed. Its area of focus is people as a component of the enterprise. The approach to the personnel function has evolved under the influence of changes occurring in organisations and their environments and the development of science, especially the science of organisation and management and other human-related sciences. Initially, it was "a collection of random techniques, not very consistent with one another" [Drucker 1998]. Over time, the concept of "human resource management" (HRM) [Miles 1965] emerged, which drew attention to the need for comprehensive management of people in an enterprise and the systemic approach to the implementation of the personnel function, i.e. combining individual decisions and personnel actions into a unified whole [Król and Ludwiczyński 2006]. As far as the implementation of the personnel function is concerned, the following activities can be distinguished: planning personnel needs, recruitment, selection, introduction to work, performance evaluation, training and development of employees, career planning, allocation, building teams, shaping organisational culture, conflict resolution, motivation, remuneration, valuation of work, maintaining employee records, social services, occupational health and safety [Król and Ludwiczyński 2006; Pocztowski 2008].

The concept of "human resources" includes all the characteristics and values of employees that enable them to perform different roles in the organisation, including among others: knowledge (education), abilities, skills, health, attitudes and values, motivation, experience, creativity and innovation, entrepreneurship, responsibility, communication, ability to cooperate, ethical conduct, etc. Thus, people are not a resource but rather they have these resources at their disposal and it is their decision to what extent they will engage them in performing work [Pocztowski 2008].

At present, human resources are seen as a resource of special importance. One of the reasons for this is that they are seen as a source of competitiveness. The recognition of employees as the most valuable component of a company is often emphasised. The quality of human resources determines the effective use of other organisation resources [Walkowiak 2007]. Such an approach to human resources and their skilful shaping contributes to the gaining of a competitive advantage by the company through having a valuable, hard-to-copy set of competencies.

Labour turnover (employee movements) is a natural phenomenon in a company. Its scope encompasses the processes of quantitative and qualitative changes in the state of employment as a result of changes in the content, scope and positions within the company, as well as through the admission and dismissal of employees regardless of the underlying reasons. Employee movements are associated with many economic, organisational, sociological and psychological issues [Pocztowski 2000]. It follows that labour turnover can have a negative impact on a company especially when it occurs among the most valuable employees. The company should be aware of the situation within the company and observe the mood of the employees. Moreover, it should monitor trends, changes occurring in the company's environment, especially in a given industry. Demographic changes, globalisation and the transformation of the economy into a knowledge-based one made companies notice a shortage of specialists in recent years, and so they have begun to compete for them. Dynamic socio-economic changes and intensive development of new technologies caused the emergence of specific problems and new needs in companies in the field of human resources management.

Companies that skilfully use modern ICTs to search for and collect, process, transmit and make available information in electronic form can operate more efficiently, reduce operating costs, stimulate change and increase flexibility of operation. Through the use of ICT, the number of operations performed can be dramatically multiplied, the time taken can be reduced, accuracy improved and errors minimised.

Thus, one can reduce the number of office workers or use their working time more efficiently. Implementation of IT systems, which are a separate, computerised part of the information system [Kisielnicki and Sroka 2005], enables the development of product, organisational or marketing innovations, e.g. opening new distribution channels and expanding sales markets. The use of appropriate IT systems enables the right people to access resources at different locations and at the same time. The use of information and communication technologies stimulates the learning process, which significantly affects the innovativeness of a company.

The importance of innovation and innovative enterprises, which respond to emerging market needs and measurably contribute to the development of the economy of individual countries, has significantly increased in recent years [Kamińska 2014].

Various companies, from small to large, try to meet the needs arising in the market and create new innovative products and services, for companies that are not always willing or able to carry out particular tasks on their own and also for individuals who need support in the labour market. The above trends thus contribute to the intensive development of HR startups using modern technologies.

4. HR TECH IN POLAND – INDUSTRY CHARACTERISTICS

The purpose of this article was to analyse the development of HR startups in Poland. The data on startups operating in this industry used for the study was taken from the website: www.mamstartup.pl. It records data on startups of various industries, the owners of which wish to promote their business. In addition, data from public registers of business activity in Poland (e.g. KRS, CEIDG) and the websites and fan pages (Facebook) of startups that have been operating in the industry in Poland since 2012 were used for the study. In order to characterise the development of startups in the industry under consideration, the following aspects were analysed: lifespan, financing sources and ability to raise capital, legal form and business models. In the context of theory on startup success factors, the data used for the prepared characterisation of HR Tech startups is quite limited. A major barrier to the analysability is both the quantity and quality of publicly available data.

Table 2 presents data collected concerning HR Tech startups that emerged in Poland after 2012.

During the period under study, 27 entrepreneurs submitted their activities oriented towards providing technological services in the field of human resources on the website: *www.mamsturtup.pl*. These startups were classified as ventures offering tools in the "career and recruitment" industry. The available data shows that the smallest number of startups (22%) directed their services to enterprises, a significant part of startups (37%) dedicated their offer to people looking for a job or wishing to change employers, while the largest number of startups (41%) offered services combining the needs of enterprises and employees. Furthermore, it can be noted that not all tasks within the HR function inspire new services within established startups. The majority of the emerging companies offer support in the area of recruitment, whether for candidates to prepare a resume or cover letter, or for a company to prepare and post a job offer. Startups that offer testing and interview tools are also an important group. At the same time, companies have emerged that offer services in other areas of the personnel function, such as data administration, working time accounting, financial settlements of employees, building the image of the employer, creating an effective organisational culture, training employees, career development and motivation. Some startups specialise in serving specific industries, such as the arts or IT. This demonstrates that they notice the specificity of the functioning of the employees of specific professions and the difference in the needs of different groups of employees. Employees of IT departments particularly involved in the creation of innovations are not only highly sought after in the labour market, but also their expectations are different compared to other groups of employees [Kamińska 2018]. Other startups focused on services concerning other forms of collaboration, targeting freelancers and those interested in casual work or internships.

Table 2. HR Tech startups developing in Poland 2012–2020

No.	Name	Launch date	Type of financing	Legal form	Year of termination	Business model
1	BudgetBee	2020	own	LLC	N/A	subscription
2	CV HOST	2020	own	business	N/A	freemium
3	JuniorJobsOnly	2017	own	LLC	N/A	other
4	Szukampracy	2016	own	LLC	N/A	freemium
5	IT-Leaders	2016	own	joint stock company	N/A	mediation
6	ifucha	2016	own	LLC	N/A	freemium
7	Jobesto	2016	own	business	N/A	mediation
8	Vendo	2016	own	LLC	2020	subscription
9	Bulldogjob	2016	own	LLC	N/A	subscription
10	STAPLER	2015	own	business	N/A	subscription
11	Gamereer	2015	business angels	LLC	2015	other
12	ITfind	2015	own	business	N/A	freemium
13	MySkills	2015	EU subsidy	LLC	N/A	subscription
14	Hrfactory	2015	private investor	LLC	N/A	mediation
15	Video2Career	2015	own	association	2015	freemium
16	LancerHub	2013	EU subsidy	LLC	2016	mediation
17	Code2Career	2015	own	sold	N/A	freemium
18	Calamari	2015	own	LLC	N/A	subscription
19	Szukamepracy.pl	2014	own	business	2016	premium services
20	InterviewMe	2017	own	registered abroad	N/A	other
21	Tests4job	2013	own	business	2014	subscription
22	Isivi	2014	EU subsidy	LLC	2019	subscription
23	VideoID.pl	2012	own	-	2012	other
24	FajneCV.pl	2012	own	-	2012	freemium
25	NieParzeKawy	2012	own	business	2015	premium services
26	eSelektio.com	2012	EU subsidy	business	2014	freemium
27	Jobiki.pl	2013	own	-	2013	premium services

*N/A – not applicable

Source: our own compilation based on data from www.mamstartup.pl accessed on 8 May 2021.

The largest number of new HR Tech startups in Poland were established in 2015–2016 (Fig. 1). During this period, unemployment rates began to drop significantly and new companies appeared on the market looking for employees. This probably created a greater demand for human resource services. The data collected shows that 44% of HR startups surveyed had gone out of business between 2012 and 2020 (Fig. 1). Compared to other industries, the percentage of companies that ceased their business operation is high.

For example, during the same period in Poland, 22% of startups in the advertising technology industry [Mańkowska 2019a] and 33% in the FinTECH industry [Mańkowska 2019b] were dissolved.

It can be concluded that despite the demand for such services, the great importance of work in people's lives and effective management of employees in the company, this activity probably fails to bring the profits expected. Another problem may also be too little innovation and competitiveness of the solutions offered.

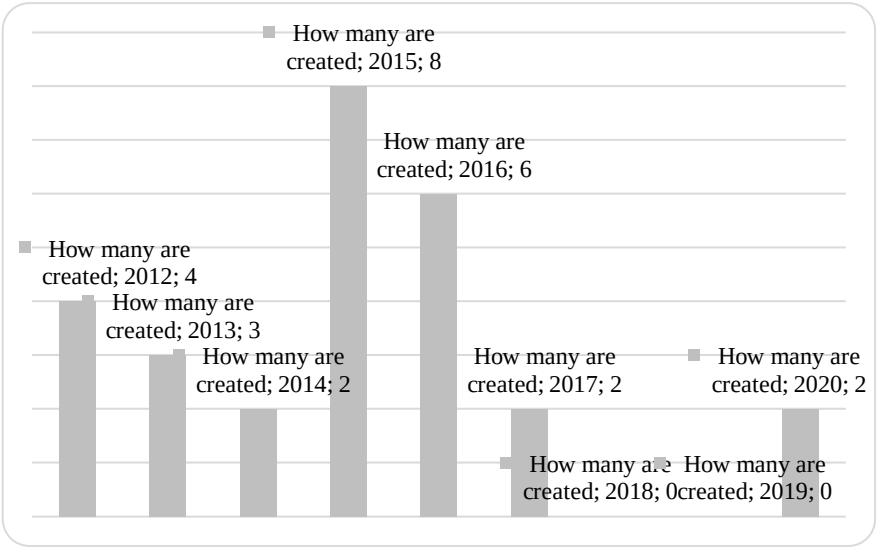

Fig. 2. Number of HR Tech startups launching by year

Source: our own compilation based on data from www.mamstartup.pl accessed on 8 May 2021.

Analysis of the above data shows that in most cases of the startups surveyed, the launch date is different from the company registration date. A noticeable discrepancy occurs in both directions; the vast majority first launched the business and then, after a year or even several years, officially registered it. This may result from the need to verify the idea, improve the tool, check the demand for a given service on the market or to acquire customers who will guarantee profits to cover the basic costs. At the same time, there is a group of startups that first registered the

company and after a long time launched the business. It should be concluded that these companies devoted this time to apply for financial support; some of them used EU funds or private investors' support. The data collected shows that 78% of the startups surveyed, however, use equity financing (Fig. 2). It may be difficult to obtain EU funding for such uncertain business ideas.

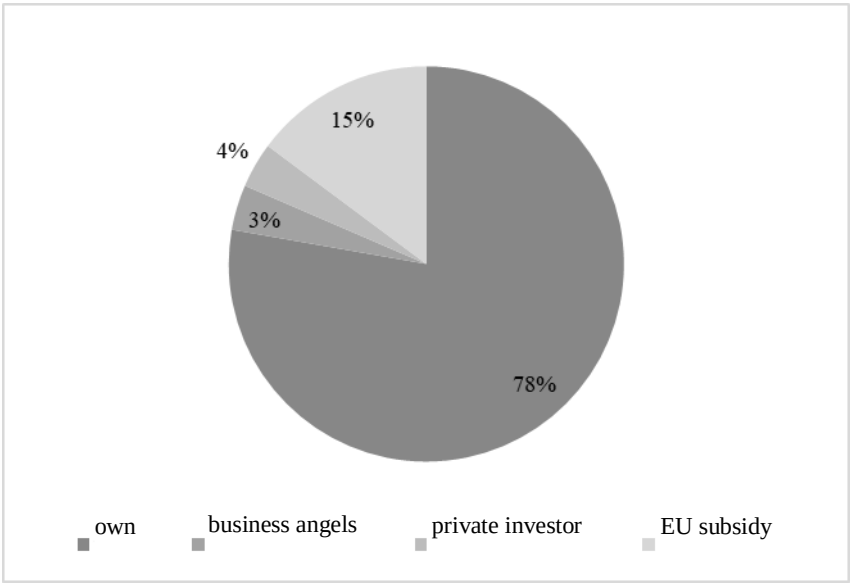

Fig. 2. Type of financing for HR Tech startups in Poland 2012–2020

Source: our own compilation based on data from www.mamstartup.pl accessed on 8 May 2021.

Data on the amount of money invested is difficult to access. Entrepreneurs do not want to share information about their own assets and only startups registered as a limited liability company or joint-stock company have made such data available due to legal requirements. The vast majority of startups analysed have a share capital of less than PLN 10,000 which is usually the minimum value needed to register a company. Nearly half of these startups are limited liability companies. It is a suitable solution for entrepreneurs who want to limit the financial risk to the amount of their own contribution, and the capital required to establish a limited liability company is at least PLN 5,000. Registering a limited liability company is not difficult, although more time-consuming than establishing a business based on sole proprietorship. Nevertheless, it is worth mentioning that since 2013 this type of company can be registered in Poland by electronic means. This significantly facilitates the registration procedure, especially for entrepreneurs operating in the e-business market, for whom electronic tools are the natural environment for the implementation of various business activities. At the same time, it can be concluded

that HR startups do not require large funding; this activity does not need hardware facilities or highly specialised software, the implementation of tasks is mainly based on a unique idea, knowledge of entrepreneurs and their IT skills.

One of the issues that is directly related to the revenue generated by startups is the business model they choose and follow.

Figure 3 presents data on the business models used in the HR Tech industry in Poland.

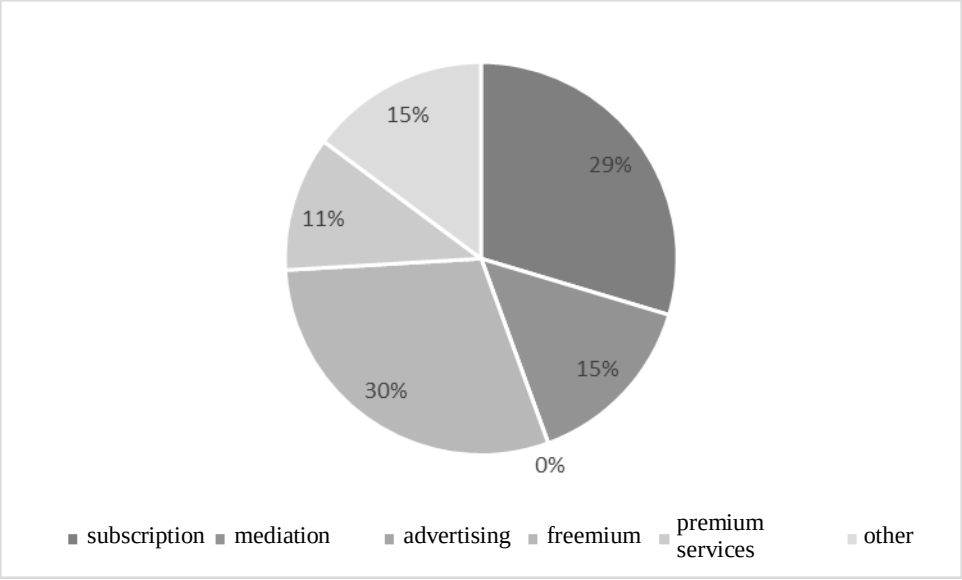

Fig. 3. Business models of HR Tech startups in Poland 2012–2020

Source: our own compilation based on data from www.mamstartup.pl accessed on 8 May 2021.

It is worth noting that in the period under study, the advertising model, quite commonly used in this type of young enterprise, was not used in HR Tech startups in Poland. The specifics of the industry and IT tools for the area of human resources probably provide no opportunity to apply this type of e-business model, which is focused on cooperation between business partners. In contrast to HR Tech, this model is used in the FinTech industry in Poland [Mańkowska 2019b]. The e-business models chosen by entrepreneurs for startups operating in the sphere of human resources are focused on generating revenue from the sale of services at a particular time, or the functionality of the IT solutions designed, and thus collecting fees from the user of a particular service.

5. CONCLUSIONS

The emergence of e-business ventures, referred to as "startups", in the HR Tech industry in Poland is closely related to the demand in the labour market for tools supporting the area of human resources. The main objective of this article was to characterise and analyse the development of startups operating in the said industry in Poland. Worldwide research on the key success factors determining the survival of startups indicates that there are many concurrent factors that determine the development of these types of businesses operating under conditions of uncertainty. Data on the industry surveyed indicates that these types of startups may not be very profitable. In the period analysed as many as 44% of HR Tech startups in Poland ceased their activities. Most of them relied on their own sources of funding, rarely succeeding in obtaining funding from external sources.

Publicly available data shows that a significant proportion of HR Tech startups in Poland have decided to set up as limited liability companies. In the case of most companies, their share capital did not exceed the amount required by law for this type of legal activity. A dominant group of startups generates revenues from e-business models focused on generating them from the end user of the IT solution offered on the market (e.g.: subscription model, freemium model, premium services model). The data used for the study shows that the HR Tech industry in Poland is not yet a very popular industry. This may be due to the limited number of services that can be offered in this market to entrepreneurs, their questionable profitability or their very specificity.

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