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Key Resources in Game Developers' Business Models

ABSTRACT

This paper presents the results of the research on key resources exploited under business models of video game developers. The main attention is paid to the identification and hierarchizing of key resources, as well as their specific types. It should be noticed that the reported study takes into account diversification of video game developers in terms of monetization models exploited, i.e. premium, freemium, or hybrid, which seems to be novel.

In general, the findings locate people together with their tacit, experience-based knowledge at the top of the key resources hierarchy. Nevertheless, the results show that there are differences in perception and exploitation of the key resources among the considered types of game developers. Interestingly, only those with the premium monetization model point at tacit organizational knowledge as a specific type of key resources exploited under their business model. Moreover, the identified relational resources – although not considered in the business model canvas approach – are acknowledged only by developers using the hybrid monetization model. Last but not least, physical resources are seen as non-key ones by all the considered types of game developers.

Keywords: business models, BMC, key resources, value creation, creative industries, video game industry, video game developers

JEL Classification Codes: M21, L21

1. Introduction

This paper pays attention to one component of business models' canvas [Osterwalder, Pigneur, 2010], namely key resources which (together with the remaining eight components) co-create value generated by the firm and provided to its customers. The focus on this particular component is seen as of special importance as the resource approach remains dominant in strategic management [Czakoń, 2012; Niemczyk, 2015; Zakrzewska-Bielawska, 2014]. Similarly, the resource view is also appreciated in business model literature as the majority of theoretical propositions applying the structural approach point at resources as a generic component of profitable business models. It should be noted, however, that the resource-related building blocks of business models are included into business models under different labels like: internal competencies and assets [Morris et al., 2005], core competencies and complementary resources [Rayna, Striukova, 2014], or key resources [Johnson et al., 2008; Osterwalder, Pigneur, 2010; Davidovici-Nora, 2014; Rayna, Striukova, 2014] (the most common one).

Furthermore, Obłój [2002, p. 98] claims that a business model is a connection of a company's strategic concept with its technological implementation in business practice, understood together as a creation of value chain, which allows the company to successfully and efficiently allocate, exploit and revive both resources and skills. This shows that the significance of key resources can be considered for both suitable structuration of the business model [Osterwalder, Pigneur, 2010] but also for its definition and conceptualization [Obłój, 2002; Nogalski, 2009].

The aims of this article are to recognize the key resources exploited by video game developers (VGDs) and to identify possible differences in those key resources regarding the type of the revenue (monetization) model adopted by particular companies. As revenue streams do influence the generic structure of business models, VGDs do differ regarding the monetization model adopted [Davidovici-Nora, 2014; Klimas, 2017a]. Therefore, we see it as important to find out if there are any differences among the key resources utilized by video game developers exploiting the premium, freemium, or hybrid revenue model. Regarding the explorative nature of the research aims, our study adopts a qualitative approach using semi-structural interviews carried out among Polish video game developers.

The research was intentionally conducted on video game developers,¹ as they still remain under-researched [Clements, Ohashi, 2005], their business models have been changing dramatically in recent years [Davidovici-Nora, 2014; Rayna, Striukova, 2014], whilst those changes are perceived as foretaste of changes in other – less dynamic, less digital and less complex – industries [Heitmann, Tidten, 2011]. Moreover, business models are expressed as industry-dependent [Nogalski, 2009], which makes one-industry-based research reasoned.

¹ In this paper, under the term "video games" we consider all types of digital (i.e. computer, console, mobile) and video games.

This paper takes a common structure. First, a brief theoretical background accompanied by a short justification for research is presented. Second, the main research assumptions and short description of thirteen interviewed video game developers is outlined. Third, the main findings are shown regarding the identified differences in the significance of resources exploited by particular types of VGDs. On the one hand, the different resource hierarchies are presented. On the other, the key resources and their specific types are identified. Fourth, at the end of the paper we discuss the main findings in the light of prior literature, indicate main contributions, outline the research limitations and indicate some of the valuable future research directions.

2. Theoretical lenses

Among the current issues in management science one can find business models. It is highlighted that their further exploration and research are desired to complete and develop the theory, which still remains fragmentary and limited [Baden-Fuller, Morgan, 2015; Markides, 2015]. Given a strategic management perspective, it seems to be important, as business models may be utilized for both conceptual and practical purposes targeting protection, creation, or enhancement of competitive advantage [Zott et al., 2011; Drzewiecki, 2013].

In strategic management literature, the most popular approach explaining the mechanisms of creation, maintenance, protection, and increasing of the competitive advantage, there is resource-based view (RBV), outlined by Penrose in 1959, and developed by Wernerfelt in 1989, hence refined and detailed by Barney in 1991. As shown by the results of extensive literature reviews on business models, the RBV perspective remains one of the most popular theoretical background providing sound reasoning for the importance, role, utility, and profitability of business models [Shafer et al., 2005; Zott et al., 2011; George, Bock, 2011].

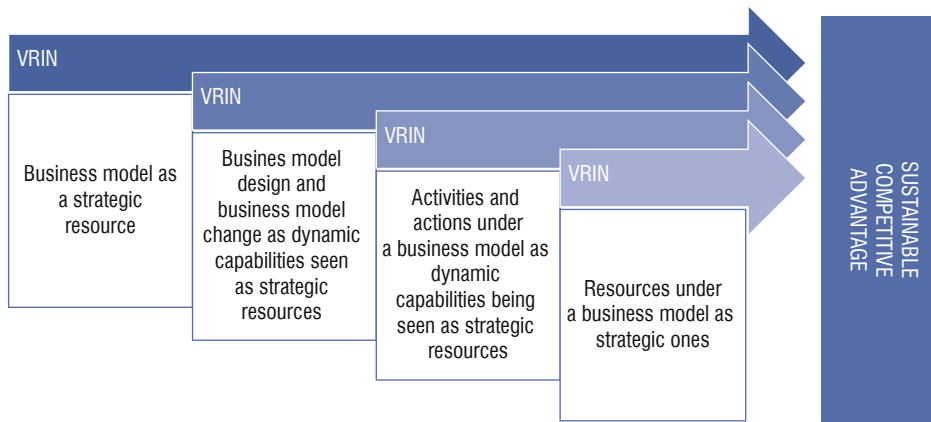
We claim, however, the resources perspective on the competitive advantage of the firm might be adapted in several ways, leading us – through the Barney's VRIN criteria² – to sustainable competitive advantage (figure 1). First, from the widest perspective, business models may be seen as strategic resources *per se* [Magretta, 2002; Morris et al., 2005]. As shown by Gassmann, Frankenberger, Csik, if a business model is newly created, focused on delivering new value proposition or at least prior value proposition but in a new way, then it can be seen as an innovative business model. It is claimed that until the models are seen as innovative (it is noteworthy that we refer to new business models, not to business models aimed at delivering innovations), they will allow a company to achieve and sustain its competitive advantage³ as well as take benefits labeled as first mover advantage. Nonetheless, it is claimed that in the

² As claimed by Barney, a resource provides a sustainable market success if it meets all of the VRIN criteria simultaneously, i.e. value, rarity, non-imitability, and non-substitutability [Barney, 1991].

³ Note that the authors discuss 55 innovative business models proving that until they have been exploited by one organization, they were providing competitive advantage at the global scale [Gassmann et al., 2014].

long-term business models are not a sufficient source of competitive advantage based on VRIN criteria, as it is hard to protect them against duplication [Teece, 2010].

Figure 1. Business models from the RBV perspective



Source: the author's own elaboration.

Second, as a wide range of modern markets have become more and more dynamic, revolutionized by significant technological changes and rapidly re-shaped by growing innovation pressure, the strategic management literature following the RBV perspective more often points at the significance of dynamic capabilities for gaining sustainable competitive advantage [Eisenhardt, Martin, 2000]. Naturally, the above circumstances do not remain neutral for business models adopted. Indeed, in dynamic markets (e.g. ICT) the business models are more likely to be changed, or at least re-designed, re-configured, re-built in order to remain profitable in future. Therefore, the recent literature shows that both business model design (including observing, synthesizing, generating, refining, implementing of a new business model) [Amit, Zott, 2016] and business model change (including sensing, seizing, managing threats, and transforming opportunities) [Juntunen, 2017] have become desired dynamic capabilities of the firm [Eisenhardt, Martin, 2000; Teece, 2018].

Third, a vast majority of the prior literature assumes that a business model outlines the way in which a wide range of components (including not only the tangible and intangible assets) are combined, utilized and converted in order to generate profits and deliver the most profitable value proposition to the market [Teece, 2010]. From this perspective, competitive advantage results from dynamic capabilities of the firm utilized in order to successfully combine resources included in the business model adopted by the company [Teece, 2018].

Last but not least, following the most popular approach – namely the structural one – to conceptualization and definition of business models, it is claimed that they may be linked with longitudinal competitive advantage if they cover strategic (those meeting the VRIN criteria) resources.

It is acknowledged that business models are a complex and ambiguous theoretical construct. Indeed, a vast majority of scholars instead of providing a transparent definition of a business model, present the conceptualization supported by different sets of its components, parts, or building blocks explaining the essence, meaning, and importance of business models. Given Shafer, Smith, and Linder's [2005] as well as Zott, Amit, and Massa's [2011] seminal articles presenting the results of critical literature reviews on business models, we claim that (still) there is no agreement about the definition or even about the main components of business models. Nonetheless, as Shafer, Smith, and Linder show,⁴ among 12 different definitions of business models developed between 1998 and 2002 it is possible to identify 42 different building blocks. Among those which do appear the most frequently there are resources (assets). Similarly, Zott, Amit, and Massa,⁵ who analyzed 103 academic papers published between 1995 and 2010, point at resources as a component of business models appearing in the most popular and most often cited conceptualizations and definitions.

In the literature, the key resources – similarly to other building blocks – are perceived as needed to make a business model profitable. In particular, they are understood as any assets: required to create and provide value proposition to customers, making it possible to use particular distribution channels, allowing the firm to establish and maintain customer relationships, optimizing revenue streams and costs, undertaking the key activities, as well as reaching the target customer segments [Osterwalder, Pigneur, 2010, pp. 34–35]. Given the strategic management standpoint, key resources may be seen as those allowing the company to create competitive advantage [Rokita, 2005, pp. 139–140] based on value creation [Markides, 2015] or gain collaborative advantage based on value co-creation [Caridà et al., 2017].

3. Research design⁶

The key resources have been identified as a significant – from a relational perspective – component of business models adopted by VGDs [Klimas, 2017a], nonetheless, they have not been explored in detail so far. Therefore, this paper focuses on key resources and targets two research aims:

1. Identification and specification of key resources used by video game developers within their business models.

⁴ See Figure 1 in Shafer et al. [2005, p. 202].

⁵ See Table 1 and Table 2, Zott et al. [2011, pp. 1025, 1027].

⁶ The presented results refer to a wider project aimed at investigation of all business models' components exploited by video game developers. As some of prior findings related to other building blocks of business models have been presented in earlier publications [Klimas, 2017a, 2017b] there you can find a more detailed description of the main methodological aspects.

A two-year project realized under financial support granted by the Ministry of Science and Higher Education in 2016 and 2017 (Young Scholars' Development Programme).

2. Identification of differences in key resources used by video game developers utilizing the premium, freemium, or hybrid revenue (monetization) model.

The research project follows a qualitative and explorative approach using semi-structured interviews as a research technique. The interviews were carried out from May 2016 to January 2017 and ranged from 90 up to 160 minutes. The empirical material was gathered through 13 interviews with owners, CEOs, and top managers representing large, medium-sized, small, and micro companies.

In order to reach the above-mentioned and resource-related aims, the interviewees were asked to propose their hierarchical order of resources types (including the following ones: financial, material, human, and information/knowledge) regarding their importance for: the profitability of their business model(s); the value created and captured by the company, as well as the value offered to customers; and/or the creation, protection, development of competitive advantage. Furthermore, to show our interviewees the broader context and ensure an appropriate way of understanding the following auxiliary questions were asked [Osterwalder, Pigneur, 2010]: what sort of resources do you need to offer the value to customers; what kind of resources are required to use (distributions, sale) channels, what kind of resources are desired to establish and exploit customer relationships? To ensure basic reliability requirements, the interviews were recorded with a permission of the interviewees, transcribed, coded, and analysed using sematic and content analyses supported by a quantitative and more objective analysis of frequency.

This paper not only investigates the essence of key resources but also reveals differences in them among different types of VGDs. Thus, we claim it directly corresponds, expands and deepens prior findings being restricted to developers utilizing premium and freemium revenue models only [e.g. Rayna, Striukova, 2014]. In our study, we support Davidovici-Nora [2014], who argues that both premium and freemium models are changing right now, which results in a growing trend of hybridizing of the monetization models adopted by VGDs.

Given the chronological order, video game developers were using the premium (also labelled as paid, pay-to-play, P2P) revenue model based on the value created from development and sales of paid games.⁷ However, around the mid-1990s, together with an increasing Internet accessibility and development of ICT, the second business model emerged. This new one was labelled as the freemium (also named F2P, Free-to-Play) monetization model, based on the value created from games provided to customers for free, hence including in-game ads or micro payments for additional features or functionalities.⁸

For a few years VGDs were divided into two, separate types, those adopting the premium and another adopting freemium revenue model. Nevertheless, the very rapid expansion of mobile games and dynamically growing popularity of F2P games (i.e. the increasing share

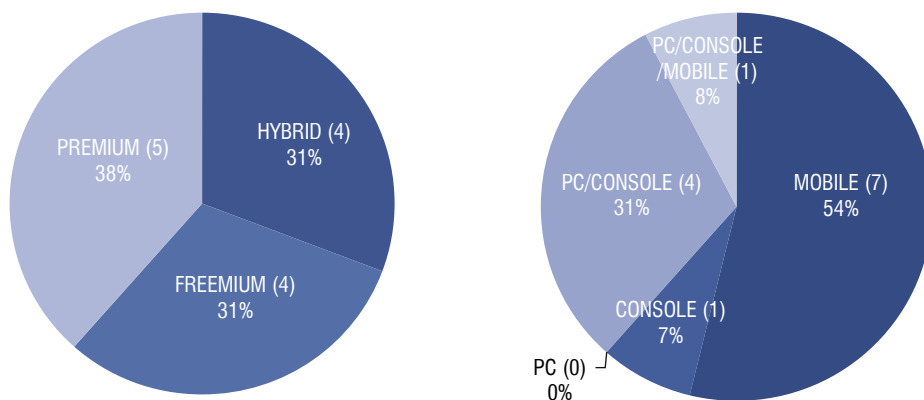
⁷ At the early beginning under this model only the paid games for computer and consoles were developed, hence nowadays this model covers also mobile games sold for a particular price.

⁸ At the early beginning utilization of the freemium model was restricted to browser games only, later on developers started to provide free mobile games, hence nowadays they develop also free console games.

of casual gamers playing mainly F2P games on smartphones and tablets) have resulted in significant changes in the market structure and distribution of the market share. All in all, more and more companies initially using only the premium model have started to adopt the freemium model as the second one. What is more, as the monetization models used in F2P games have started to differentiate in terms of the utilized revenue streams,⁹ also those game developers that initially exploited the freemium model have started to adopt the premium one. Therefore, nowadays VGDs can be divided into three (not two as before) types regarding the source of financial value utilized from delivered games, namely those adopting the **premium, freemium, or hybrid** (simultaneous activity in paid and free market segments, simultaneous exploitation of revenues from freemium and premium models) **monetization model**. To give an example, French *Ubisoft* (one of the global market leaders) adopts the hybrid revenue model as it develops both types of games, sometimes even within one particular game series, e.g. *Rayman* (an adventure game for children) primarily developed as a paid game, now it is developed and sold in a box and paid version, in a mobile and free version, but also in a mobile and paid version.¹⁰

As the business practice differentiates video game developers according to revenue (monetization) models and targeted game segments, it is worth describing the researched companies regarding these two aspects – see figure 2.

Figure 2. Interviewed game developers regarding the adopted revenue models and targeted game segments



Source: the author's original study.

Given both criteria, the structure of our “*research sample*” does reflect global and regional industry structures,¹¹ in which development of mobile games is the most common, hence the premium model does not show significant dominance any more.

⁹ More details about monetization models can be found in Klimas [2017a]

¹⁰ See other examples of hybrid business models are provided by Davidovici-Nora, [2014, pp. 98–99].

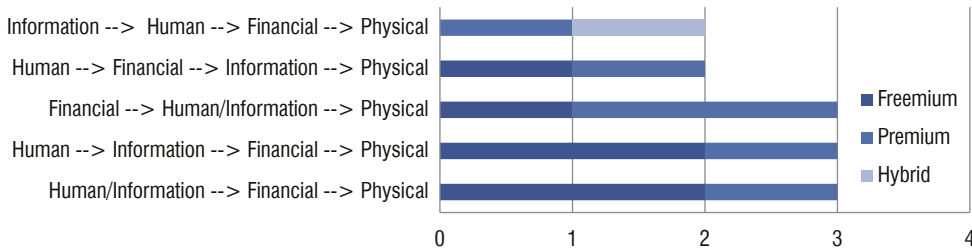
¹¹ See the free version of “Global Games Market Report. Trends, Insights, and Projections toward 2020” prepared by NewZoo – free version is available on request here: <http://newzoo.com>

4. Results

4.1. Hierarchical order of resources exploited by video game developers

First and foremost, the results show that for game developers it is hard to differentiate human and information (knowledge) resources. 5 out of 13 interviewees admitted that information, knowledge and people are unbreakable, inseparable, hence fully integrated to each other. All in all, this kind of resources (human/information) is appreciated the most by VGDs. Regardless of the business model adapted or the developed type of games, people together with their knowledge are the most often perceived as the most important type of resources identified at the top of the resources hierarchy (see figures 3 and 4). As expressed by the CEO of a small company developing F2P mobile games: *“only the staff with experience matters, the rest is not the key one – all of them, money, equipment, technical knowledge, and licensees are neither hard to acquire, expensive nor unavailable. Thus, they do not create competitive advantage in this industry”*.

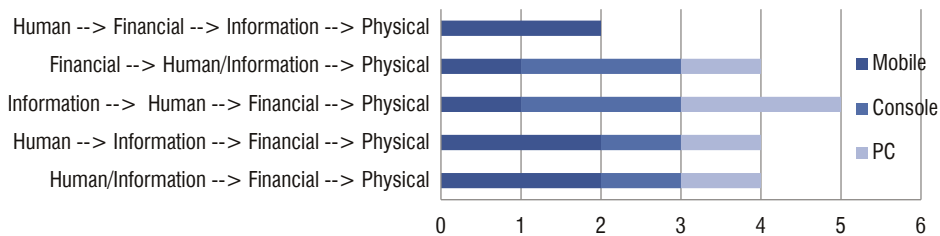
Figure 3. Hierarchical order of resources regarding the adapted generic business model



Source: the author’s original study.

In general, there seems to be no differences in the resources hierarchy among the considered types of developers, nonetheless, note that any developer utilizing the freemium monetization model indicates information resources at the first place.

Figure 4. Hierarchical order of resources regarding the type of games provided to the market



Source: the author’s original study.

Similarly, given the developed types of games, there seem to be no differences among developers. One should bear in mind, however, that only developers providing mobile games locate financial resources between human and information ones. It may result from great importance of monetization and customer retention in case of mobile games.¹² Furthermore, for some of VGDs information resources (2 out of 13) are insignificant – “*Information and knowledge are of low value as they are not rare, but widely available, even for free (...) believe me, if you want to have information, it is the matter of an ability to search for information while the accessibility is extremely wide*” – as said the CEO of a medium company developing paid, mobile games.

Secondly, although human resources seem to be the most important (the first place in the majority of resources hierarchies), for some developers the leading role is played by financial assets (4 out of 13). As explained by our interviewees, financial resources allow companies to get access or acquire the remaining ones, also the people – “*we (ref. video game developers in general) have a problem with employees, with the game-dev labour market, a shortage of employees as well as of a limited number of graduates. That is why money has become the most important. More and more often, you need to have money to pay enough and attract appropriate people, but also sometimes to take over the desired staff from another company* (the CEO of a medium-sized company developing paid PC and console games). Similar reasoning has been given by the owner of a micro company developing paid console games: “*financial resources allow us to get valuable people while such people are in deficit now*”.

Thirdly, all of the interviewees locate physical resources at the end of the hierarchical list of key resources types. In particular, our findings show physical resources as the least important, hence insignificant (9 out of 13) or even not needed (2 out of 13) to develop video games (table 1).

Last but not least, the research has revealed one missing type of key resource exploited by game developers, namely relational ones. Interestingly, all four companies (all of them developing mobile, hence one developing also PC and console games) utilizing the hybrid monetization model added the fifth – not considered in the interview scenario, thus not asked by the researcher – type of resource related to external (business and social) relationships and networking. All of them have placed these kinds of resources in the middle of the resources' hierarchy, namely between human/information and financial assets.

¹² Developers providing mobile games pay extraordinary attention to the metrics related to short-term profitability and customer retention. Among constantly monitored indicators there are the following ones: CPI (Cost Per Install), LTV (Life Time Value), ARPU (Average Revenue Per User); ARPDau (Average Revenue Per Daily Active User).

Table 1. The trifling role of physical resources for video game developers

| Interviewee | Business Model | Market segment | Reasoning for the lack of importance of physical resources |
|-------------------|----------------|----------------|--|
| Owner | Premium | Console | "Nowadays we have so many contacts with a wide range of hardware manufacturers, that is why we do not have to buy equipment, we get everything for free. What is more important, we get it much, much sooner than it will be available on the market. Nonetheless, from the moment when we send our request through e-mail, we have to wait a few days for delivery (laughing)". |
| CEO | Hybrid | Mobile | "Computers, electronic devices, physical equipment it is not the most important (...) those things you can get easily, even for free". |
| CEO | Premium | PC/Console | "Physical resources, computers, and other equipment owned by the company do not have value and significance if there is no people". |
| Managing director | Premium | PC/Console | "Neither physical nor financial resources they do not matter at all. On the one hand, it is possible to make games anywhere without the company's computers, desks, chairs, or offices. On the other, money is not important as the company's internal community, organizational culture, talented and creative staff, our prior experience cannot be bought for any money". |
| CEO | Hybrid | Mobile | "I do not know if I would like to list this kind of resources among those which are crucial. Naturally, it is impossible to make the game without computers, hence they are not so important. (...) Furthermore, those computers used by us are normal, it is generally available and usual equipment, not specialized nor specific one". |
| CEO | Freemium | Mobile | "Equipment is a secondary issue, you can simply buy it or get free of charge from hardware providers. Indeed, even technological aspects related to equipment seem to decrease their importance. Now, even the game engines are available for free". |

Source: the author's original study.

4.2. Specificity of key resources exploited by video game developers

The determination of key resources (human, information, financial, and relational) allowed us to consider specific forms of those resources used by different types of VGDs. Generally, our respondents have independently discussed 32 specific types of key resources, note, however, that 22 of them relate to employees, their knowledge, experience and skills – table 2. As one of the interviewed CEOs (a large company developing paid and free games for PCs and consoles) said: *"In this industry there are only people, people, people!!! Everything begins and lays inside people. Knowledge, creativity, ideas they are inside of them. If you have an idea it is not a problem to find and collect money. Equipment? Normal, home PCs would be enough to develop a game. So, human resources are not only the major but the sufficient ones"*.

The identification of the types of key resources has not revealed differences among video game developers using different approaches to monetization. The consideration of specific forms of those key resources shows several discrepancies, nonetheless all VGDs, using all monetization models, point especially at resources of tacit, experience-based knowledge and expertise accumulated in employees.

First, only developers using the freemium monetization model indicate a pool of ideas and creativity, managerial skills (related to general business, marketing, or promotion), general technological and technical skills. Second, only developers exploiting the premium revenue

model recognize the organizational and collective tacit knowledge collected through previously realized projects – “*in our company employees are seen as accelerators for achievement or enhancement of organizational knowledge*” (the CEO of a medium-sized developer providing all types of paid games). Moreover, as premium games are usually more requiring, laborious, expensive, and complex than freemium ones, it is no surprise that those developers highlight the value of interdisciplinarity. Third, it is quite interesting that only developers with the hybrid monetization model indicate the resources classified in the literature as relational ones, i.e. relationships maintained with their customers (considering individual players, individual gamers, gaming communities, and institutional customers), potential investors, and other industry players (e.g. other video game developers, distributors, publishers, etc.).

Table 2. Forms of key resources exploited by game developers

| Types and forms of key resources | | Business model | | |
|------------------------------------|--|----------------|---|---|
| | | F | P | H |
| Human resources | Abilities and skills regarding knowledge processing | 1 | | |
| | Abilities and skills to use the possessed knowledge | 1 | 1 | |
| | Business and marketing skills | 1 | | |
| | Interdisciplinary staff (programmers, graphic designers, analysts, experts in marketing and sales, screen writers, scenarists, etc.) | | 1 | |
| | Marketing and promotion skills | 1 | | |
| | Pool of ideas and creativity | 3 | | |
| | Tacit knowledge (marketing one – i.e. customers' needs) | 1 | | |
| | Tacit knowledge (technological one) | 1 | | |
| | Tacit knowledge in employees (experience-based) | 5 | 4 | |
| | Talented employees | | 1 | |
| Technological and technical skills | 1 | 1 | | |
| Information resources | Tacit organizational knowledge (technological one) | | 1 | |
| | Tacit organisational knowledge in employees (experience-based) | | 2 | |
| | Wide and interdisciplinary know-how | | 1 | |
| Financial resources | Cashflow and money | | 1 | |
| Relational resources | Relationships aimed at outsourcing of game production | | | 1 |
| | Relationships with gaming communities | | | 1 |
| | Relationships with our main customer (company outsourcing development activities) | | | 1 |
| | Relationships with potential investors | | | 1 |
| | Intra-industry relationships | | | 1 |
| Physical resources | Computers (used for game development) | | 1 | |
| | Computers, consoles, smartphones and tablets (used for game testing) | | 1 | |
| | Software development kits (SDKs; developers' kits) | | 1 | |

In grey there are shown those resources discussed by the interviewees as insignificant

Source: the author's original study.

5. Summary

This research aimed at the identification of key resources exploited by video game developers as well as recognition of possible differences among those resources exploited by companies adopting different monetization models.

We claim that by achieving these goals, our study provides several theoretical and managerial contributions.

First, in the case of VGDs, it seems to be useless to separately analyse human and information/knowledge resources. It supports Bratnicki's classification of resources [2000, pp. 50–52], who distinguishes people as firms' one of the main resources covering not only intelligence, creativity, social ties, skills, competencies, individual experience, but also knowledge, possessed information, and collective experience.

Second, the results indicate human and information/knowledge resources as the most important, strategic, and crucial for video game developers. It supports assumptions made by Osterwalder and Pigneur [2010, p. 35] about their extraordinarily important role in the case of knowledge-intensive and creative industries. This finding also remains in line with other claims, showing that all product-driven businesses (such as the video game industry) exploit mainly people and expertise in order to create and deliver value to the customer [Key Resources Building].

Third, the exploration of specific forms of key resources shows tacit and experience-based knowledge placed (mainly) in employees as of particular importance for Polish VGDs. It supports the prior results regarding German video game developers [Plum, Hassink, 2014], which show symbolic and synthetic types of knowledge (note that those types are much more tacit and hotter than analytical ones) as critical for development and competitiveness. Furthermore, it was possible to find out that although the leading role of tacit knowledge considered at the individual level does not differentiate game developers, the significance of tacit knowledge considered at the organizational level seems to be recognized only by developers adopting the premium monetization model. This finding may result from the fact that VGDs adopting the premium approach are rather medium-sized and large, hence a firm's size may be linked with the awareness about the role and the essence of knowledge management.

Fourth, in the light of our interviews, there is one type of key resource which seems to be missing in the original, four-dimensional proposition developed by Osterwalder and Pigneur, namely relational resources. Given the strategic management perspective, this finding supports the prior claims on the growing importance of relationships [Wójcik-Karpacz, 2011], relational resources [Krupski, 2014], relational strategies [Zakrzewska-Bielawska, 2014], as well as relational competitive advantage [Stańczyk-Hugiet, 2011; Niemczyk, 2015], and value created in cooperation [Światowiec-Szczyńska, 2013]. Furthermore, to some extent the identification of relational resources as a key one remains in line with the suggestions about

the extraordinary role of relationships and networking made by other scholars exploring the video game industry [Heitmann, Tidten, 2011; Rayna, Striukova, 2014; Klimas, 2017b].

Finally, we do believe that the identification of specific forms of key resources perceived by game developers as important for their activity, for their business models, for creation of the value provided to customers, and optimizing competitive advantage is valuable for practitioners, also those interested in entering this rapidly growing and profitable market.

Although this paper contributes to both the managerial theory and practice, it is not free from limitations. First and foremost, as the research adopts the qualitative and explorative approach, the findings and conclusions are exposed to risk of subjectivism of collected material, non-generalizability of findings, and other biases typical for such a methodological approach. In order to limit the above shortcomings, but also to verify the very first findings in the subject area, it is suggested to explore the issue of key resources using the quantitative and explanatory approach. Another limitation results from the fact that the interviews were carried out in Polish, hence English is not the first language of the author, which may influence the way of translation and coding, thus also the adequacy of the interpretation and concluding. However, the paper was proofread by a native speaker and discussed with two industry experts (non-game developers).

As the research field still remains as not fully explored [e.g. Clements, Ohashi, 2005; Davidovici-Nora, 2014], we see it reasoned to undertake further research efforts. First, we see interesting to recognize other components of business models remaining unexplored so far in the context of VGDs. In the next step, it would be valuable to test all qualitative results through quantitative research on the structure and components of business models adopted by video game developers. Finally, as building blocks of business models are claimed to be interrelated [Osterwalder, Pigneur, 2010], we recommend running explaining research aimed at the investigation of possible non-directional interdependencies, functional links, and directional relationships between considered components of business models.

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