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Are regional airports economic effectiveness- oriented? Evidence from Poland¹

1. Introduction

In recent years, changes in the rules of competition in the airport industry have been observed, resulting from such phenomena as the liberalisation of airlines and the resulting changes in the competition of airlines (Pagliari and Graham, 2019). Because of the increase in the level of competitiveness of airlines, as well as the intensification of competitive pressure in the aviation industry, airport managers increasingly see the need to develop capacities to ensure effective management. The observed changes in the essence's perception and importance of airports are accompanied by such phenomena as the need for a reorientation towards developing market-oriented attitudes, considering the critical importance of good management practices, as well as appreciation of the essence of competence in airport management (Graham, 2008). The authors who have addressed this issue

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suggest that the assessment of airport effectiveness should cover a wide range of effectiveness indicators due to the diverse nature of activities undertaken within the framework of airport operation (Humphreys et al., 2002).

An analysis of the literature on public management shows a strong tendency to transfer business practices from the private sector to public entities (Box, 1999; Pablo et al., 2007). Although there is a discussion on the legitimacy of this trend, the emerging conclusions show the lack of an unequivocal approach in differentiating (or not) management procedures considering the public or private nature of an enterprise (Boyne, 2002).

Various policies are observed around the world for shaping the rules for the operation of airports (Pagliari and Graham, 2019). In Poland, these entities can be classified as the public entities, since the majority shareholders are local governments, or 'Polish Airports' State Enterprise. From the perspective of research on the significance of the type/structure of ownership, there are conclusions that airports with the majority share of private ownership perform better (Oum et al., 2006).

Within the current work, the theoretical framework of economic effectiveness airports is focused on the dynamic capabilities, since - according to Teece and Pisano (1994) this construct is useful for understanding the phenomenon of competition in global conditions and the many studies suggest dynamic capabilities affects the economic effectiveness (Dutta, 2019; Laaksonen and Peltoniemi, 2018; Li et al., 2019; Teece, 2018a; Wilhelm et al., 2015; Winter, 2003).

The purpose of this paper was to assess the economic effectiveness orientation of Polish airports and to explain how dynamic capabilities differentiate the level of economic effectiveness of private enterprises and public airports.

The empirical part presents the results of the study conducted in 2017-2019 using the structured interview technique (group of airports) and CAWI technique (group of enterprises). The answers got from 13 airport managers were referred to the results of a survey conducted on a sample of 458 companies from various industries and sectors of the economy.

This study makes several contributions. First, it investigates differences between the level of economic effectiveness of regional airports and that of enterprises. Second, by taking into account two types of enterprises, it discusses the relevance and intensity of the dynamic capabilities of regional airports compared to the dynamic capabilities of a group of enterprises. Third, the dynamic capabilities perspective was applied in the study (Teece and Pisano, 1994) to explain what are the differences between airports and enterprises.

The results suggest that although there was a similarity between the distribution of economic effectiveness assessments in both groups, the results of airports in all examined dimensions were lower than those got by enterprises. Additional findings are that, the intensity of activities in the processes of developing dynamic capabilities in the group of enterprises is much higher than in the group of regional airports, however, interestingly, respondents from the group of regional airports more strongly appreciate the importance of dynamic capabilities.

The paper is structured as follows: section 2 develops on dynamic capabilities, relationship between dynamic capabilities and economic effectiveness, and measured of enterprise effectiveness. Section 3 describes the research materials and methods. In section 4, the results of the empirical analysis are given and discussed. Section 5 summarises the main findings and consequences.

2. Theoretical framework

2.1. Construct of dynamic capabilities

Dynamic capabilities are a theoretical construct useful for understanding the phenomenon of competition in global conditions. The basic assumptions of the concept were developed by Teece and Pisano (1994), who, referring to the limitations of the resource approach, noted that when an organisation is treated as a set of resources it is not possible to explain convincingly the achievement of a high level of adaptability to change and implementing flexible product innovations. Furthermore, it is difficult to identify the organization's ability to coordinate and use internal and external competences. Emphasizing the dynamic nature of the environment and referring to the cases of enterprises which, despite initial successes, encountered problems in adapting to changes in the environment, Teece and Pisano (1994) pointed out that it is necessary to analyze the changing nature of the environment and to add value to the role of strategic management. The latter should be analyzed through the prism of adaptation, integration, reconstruction of internal and external organizational behavior, resources, and functional competences in a changing environment. According to Teece and Pisano (1994) in order to maintain competitive advantage, organizations should gain resources and dispose of them at the same speed at which the changes in the environment are taking place, which is facilitated by dynamic capabilities.

While addressing the problems which arise when dynamic capabilities are defined and identified, Zahra et al. (2006) note that the existence of dynamic capabilities is identified with environmental conditions. In this context, they refer to the article by Teece et al. (1997), who have defined dynamic capabilities as the ability of an organisation to respond to transforming environments. Zahra et al. (Zahra et al., 2006) conclude that the potential for the use (and usefulness) of dynamic capabilities is obviously greater in a dynamic environment, but one should not confuse the environment conditions with the capabilities of an organisation. In a dynamic environment, organizations can achieve greater benefits that change under the influence of the environment, which forces organizations to continuously reconfigure their resources in order to maintain their competitive advantage. However, it is inappropriate to infer the dynamics of capabilities based on the processes and pace of change in the environment, because the need to reconfigure resources or procedures may result from changes in the organization's interior, not in its environment. Proving the validity of the above statement Zahra et al. (Zahra et al., 2006) present an example of a developing enterprise which has to reconfigure its internal processes in order to achieve an appropriate level of functional specialization and improve this level through integration.

It should be noted that dynamic capabilities are not an ad hoc or spontaneous reaction of an organisation to problems in its environment, but must be a sort of routine activity (Ambrosini and Bowman, 2009). The value of repetitiveness is linked to the quality of sustainability, which means that an organization that adapts in a creative but chaotic way does not base its development on dynamic capabilities. Ambrosini and Bowman also argue that the factor of 'fortune' does not make up a dynamic capability, since the use of dynamic capabilities is, by definition, intentional. Although dynamic capabilities refer to strategic changes, they are not synonymous with strategy, but are related to a particular type of change, i.e. a deliberate change of a resource base. Moreover, strategic changes related to the creation or renewal of resources cannot be equated with dynamic capabilities, since changes may result from random actions. The differences between intentionality, purposefulness and repetitiveness of dynamic capabilities, which distinguish them from organizational routines, are also addressed by Helfat et al. (Helfat et al., 2007) who perceives dynamic capabilities in terms of enterprise resources and shows that dynamic capabilities create, expand and change an organization's ability to compete.

As management process recommendations for private entities are transferred to the public sector, the concept of dynamic capabilities has also attracted the

attention of public sector organisations (PSOs) researchers (Pablo et al., 2007; Piening, 2013). Some researchers (Boyne, 2002) suggest that public enterprises experience even more turbulent changes of business environment than private entities. This state of affairs results from frequent legal changes, and in some cases also from the election cycles. Thus, the replication of the concept of the dynamic capabilities on the issues of managing public entities appears to be justified (Pablo et al., 2007).

In the study, a model of the process of developing dynamic capabilities covering five activities was applied: searching for opportunities; knowledge management and learning; coordination; configuration and reconfiguration; and organizational adaptation (Cyfert, Glabiszewski, et al., 2021).

2.2. Dynamic capabilities and the effectiveness of enterprises

An analysis of the literature leads to the conclusion that there is a lack of an unambiguous approach to the existence of relationships between dynamic capabilities and the performance of enterprises, however fundamental studies on dynamic capabilities emphasise the impact of this category on an enterprise's effectiveness (Kelfat & Peteraf, 2009). According to Teece et al. (1997), dynamic capabilities determine an enterprise's extraordinary performance. Authors studying dynamic capabilities claim they allow for excellence in orchestrating the capabilities of an enterprise, which contributes to introduction of innovations and capture of values, and consequently leads to long-term financial returns (Teece, 2007). Zollo and Winter (2002) point out that dynamic capabilities, understood as the ability to learn common behaviors through which an organization generates and changes operational routines, contribute to improving the effectiveness of an organization. However, a more distanced approach can be observed in the perception of dynamic capabilities understood as critical factors which influence performance. Eisenhardt and Martin (2000) suggest that the effectiveness of enterprises depends on the configuration of resources rather than dynamic capabilities themselves. Arend and Bromiley (2009), while criticizing the concept of dynamic capabilities point to excessive simplifications in linking the category of dynamic capabilities to the category of performance.

According to Teece (2007), dynamic capabilities help to avoid the zero profit trap, because proper reconfiguration of the resource and competence base allows the organisation to increase effectiveness.

The combination of prospects of effectiveness and dynamic capabilities shows the need to consider both quantitative and qualitative measures together. In the

complexity's context of modern enterprises, it does not rely solely on data from financial statements. Researches who address the effectiveness of enterprises pay attention to the combination of quantitative and qualitative study perspectives, which on the one hand requires cooperation between a group of researchers and a group of practitioners, but benefits both groups (Lewin and Minton, 1986).

The adoption of a dynamic capability approach in the reflection process takes the scientific discussion of effectiveness issues to a higher level. On the one hand, it is a more general level, but such an approach shows the critical importance of the qualitative determinants of an organisation's effectiveness and thus fits in with the recently promoted holistic approach to the perception of an organization. The literature study allows us to conclude that the impact of dynamic capabilities at an enterprise level may differ from the impact of dynamic capabilities on results achieved at the process level (Drnevich and Kriauciunas, 2011).

2.3. Measuring enterprise effectiveness

Assessment of the global effectiveness of an enterprise in terms of zero-one evaluation is a hard task and, as Goodman et al. (1977) concludes, almost useless. In an attempt at proving the validity of the above argument, it is worth noting that in some aspects the organisation can be effective, while in other areas the actions taken can be highly ineffective.

The literature suggests that, besides financial measures, the effectiveness of an enterprise should be assessed using non-financial measures (Chien and Tsai, 2012; Herman and Renz, 2004; Pucci et al., 2017; Tseng and Lee, 2014). Financial indicators based on the financial statements that reflect the current situation describe what has already happened. Tseng and Lee (2014) note that the financial measures commonly used to assess the effectiveness of an enterprise, such as sales volume, profit, and return on investment, do not cover all significant areas of the effectiveness, which leads them to conclude that effectiveness should also be considered from the perspective of the level of quality of products/services offered, market share, launch of new products and other non-financial measures.

It should be noted that various authors point to different approaches to enterprise effectiveness, appreciating different dimensions of evaluation. Financial effectiveness is the most frequently used category of effectiveness, although focusing only on financial indicators significantly reduces the actual picture of the enterprise's performance. It is worth referring in this context to the proposal advanced by Campbell (Campbell, 1977), who, while distinguishing

thirty criteria for assessing the effectiveness, referring to different dimensions of the enterprise's functioning, stresses that making an assessment of the enterprise's effectiveness requires an appropriate selection of assessment criteria. Therefore, in studies on effectiveness, not only hard financial indicators are used, but more and more often also subjective evaluations of respondents concerning various perspectives of achieving results are analysed (Chien and Tsai, 2012; Pucci et al., 2017; Tseng and Lee, 2014).

Five economic effectiveness dimensions were adopted in the study conducted by the present authors. They refer not only to financial indicators, such as sales revenue and profitability, but also to other economic categories critical for the enterprise's functioning, such as employment, market share and customer loyalty. This approach was adopted as well by Cyfert et al. (2021).

3. Materials & Methods

The conducted literature review allowed to propose a list of 27 dynamic capabilities assigned to the five-step model of developing dynamic capabilities. This list was verified by a deliberately selected group of experts: (8 representatives of business practitioner involved in managerial processes and 7 representatives of the academic community who are experts of organizational resources and capabilities), after the recommendations of which it was finally expanded to 29 dynamic capabilities. Additionally, the survey took into account the economic effectiveness construct, including: employment growth, sales growth, increase in market share, profitability dynamics, and the level of customer loyalty. Perception measures on a five-point Likert scale (from 1 (strongly disagree) to 5 (strongly agree)) were used to assess dynamic capabilities, and the assessment of economic effectiveness was measured on a scale of -2 to 2 (where -2 meant an effectiveness far worse than that of competitors and 2 meant an effectiveness far better than that of competitors).

CAWI techniques were used in the research of enterprises. Invitations to complete the survey were sent to 717 respondents, who were presidents and managing directors. A total of 526 completed questionnaires were received, of which 86 were rejected because of the lack of complete answers (57 respondents did not answer all the questions) or failure to meet the age criterion (29 respondents showed their companies had existed for less than 5 years). It was assumed that the effectiveness of the 458 Polish enterprises assessed will make up a background for the assessment of the effectiveness of regional airports, and potential differences will be explained using the dynamic capability construct.

In the group of regional airports, the study was conducted on the full population, and representatives of the management staff took part in the study, including directors or board members participating in strategic management processes. In a survey a group of 13 Polish regional airports techniques PAPI (8 cases) and CAPI (5 cases) were used.

Because of the small number of the Polish regional airports group (although we did survey in 13 out of 16 regional airports in Poland), it was impossible to use advanced statistics and to analyse the data were used descriptive statistics. The maximum sign level indicator was used, defined as the product of the highest value on the scale in relation to a question and the number of entities taking part in the study.

4. Results and discussion

Table 1 summarises the results relating to the categories of economic effectiveness, significance of dynamic capabilities and intensity of dynamic capabilities for enterprises and airports.

Table 1 Categories of economic effectiveness, significance of dynamic capabilities and intensity of dynamic capabilities

Variables	Enterprises				Airports			
	Average	Median	Average deviation	Standard deviation	Average	Median	Average deviation	Standard deviation
<i>Categories of economic effectiveness (scale of -2 to 2)</i>								
Average annual growth in employment in the last three years compared to actual competitors	0.32	0	0.68	0.84	-0.15	0	0.67	0.90
Average annual growth in sales (net) in the last three years compared to actual competitors	0.71	1	0.64	0.79	0.31	0	0.84	1.11

Market share growth rate in the last three years compared to actual competitors	0.60	1	0.66	0.78	0.38	1	0.97	1.26
Profitability dynamics (net profit) in the last three years compared to actual competitors	0.53	1	0.65	0.76	0.54	1	1.27	1.45
Customer loyalty level in the last three years compared to actual competitors	0.76	1	0.63	0.78	0.31	0	0.58	0.58
<i>Significance of dynamic capabilities (scale of 1 to 5)</i>								
Opportunity seeking	3.52	4	0.80	0.95	3.38	5	0.76	0.96
Learning	3.62	4	0.75	0.89	3.54	5	0.50	0.52
Coordination	3.52	4	0.65	0.76	3.23	4	0.59	0.73
Configuration	3.32	3	0.66	0.80	2.85	4	0.52	0.69
Adaptation	3.41	3	0.71	0.84	3.38	4	0.47	0.51
<i>Intensity of dynamic capabilities (scale of 1 to 5)</i>								
Opportunity seeking	3.02	2.00	1.08	1.26	3.00	4	0.47	0.82
Learning	3.19	3.00	1.17	1.30	2.92	4	0.43	0.64
Coordination	3.06	3.00	1.08	1.25	2.69	4	0.43	0.48
Configuration	2.85	3.00	0.84	1.06	2.38	3	0.63	0.77
Adaptation	2.95	3.00	0.98	1.19	2.54	4	0.72	0.88

Source: own study

The results related to economic effectiveness enabled the identification of three general observations. First, there were different assessments in particular dimensions of economic effectiveness in both groups. The level of customer loyalty (0,76) was the dimension of economic effectiveness most highly rated by the respondents in the group of enterprises while in the group of airports the highest rated was the profitability dynamics (0,54). In both groups, the lowest valued dimension was the average annual increase in employment (in the group of enterprises (0,32), in the group of airports (-0,15)). Second, it should be noted that in almost all the dimensions of economic effectiveness analyzed, the results got by airports were at a level lower than those got by enterprises (except for the profitability dynamics, although in this dimension the difference between the results in the group of enterprises and those in the group of airports is negligible). However, in all dimensions, except for the average annual increase in employment in the group of airports, the results got were above zero, which allows us to conclude about the above-average level of economic effectiveness of the entities under examination. Third, a similarity between the distribution of economic effectiveness ratings in both groups can be observed (only in relation to the dynamics of profitability, some kind of deviation is seen), which shows the validity of the results.

The analysis showing a lower level of economic effectiveness of airports than enterprises makes up a premise for searching for answers to the question about the reasons for the existing state of affairs. To answer the above question, the study, referring to the discussion conducted in the literature, assumes that the observed deviation in the assessment of economic effectiveness results from the intensity of use of dynamic capabilities.

The results suggest that the importance of dynamic capabilities is significant for entities from both groups, which coincides with the results of Lieberherr & Truffer research showing that there is no clear-cut relationship between governance modes (public, public-private, private) and dynamic capabilities (Lieberherr and Truffer, 2015). It should be noted that respondents from the regional airport group appreciated the importance of dynamic opportunities more (except for the configuration where the ratings in both groups were exactly the same) than respondents from the group of enterprises. This observation (although is based on comparing two different groups as for size of the sample, which poses one of the research limitations) can be explained by reference to Piening's research suggesting that many public sector organizations (PSOs) face even greater changes rather than private sector companies (e.g. due to frequent policy changes), which is why

PSOs increasingly perceive dynamic capabilities as a critical success factor (Piening, 2013).

The intensity of activities in the processes of developing dynamic capabilities in the group of enterprises is much higher than in the group of regional airports. In the group of enterprises, the learning, coordination and opportunity-seeking stages are characterised by the highest level of intensity, while in the group of regional airports, the opportunity-seeking stage is a priority, so regional airports need to be more 'vigilant' about both weak and strong signals from their surroundings, because of their strong dependence (Horonjeff, 2010; Koo et al., 2016). The above observation means that the industry context is important for the development of dynamic capabilities, as also showed by the Piening study (Piening, 2013).

Comparing the assessment of the importance of individual categories of dynamic capabilities for economic effectiveness, it can be observed that managers of regional airports assess them lower than managers of enterprises. The same applies to the intensity of activities in developing individual categories of dynamic abilities. To sum up, in both categories, regional airports perform worse than enterprises.

Comparing the results relating to significance and the intensity, a greater discrepancy can be observed between the assessment of significance and the intensity of activities in the group of regional airports, which may show that despite the awareness of the importance, some actions are not taken by managers of regional airports. Therefore, this trend leads to the conclusion that managers of regional airports, despite being aware of the importance of dynamic capabilities, do not sufficiently use the potential of the dynamic capabilities. This lack of use of dynamic capabilities can be explained by reference to legal conditions which, by imposing the need to accept rigid regulations in the operation of regional airports, limit their level of flexibility.

5. Conclusions

In the article, the economic effectiveness orientation of Polish airports was assessed and it has been explained how dynamic capabilities differentiate the level of economic effectiveness of private enterprises and public airports. Referring to the discussion, conducted in the area of strategic management, it was assumed that dynamic capabilities affect the activities undertaken in various types of enterprises (Teece, 2018a, 2018b), which allows explaining the differences in the achieved levels of economic effectiveness.

This study has both theoretical and practical implications, showing the importance of dynamic capabilities in differentiating the level of economic effectiveness of private enterprises and public airports. The findings reveal that regional airports, as public entities, perform worse compared to the group of enterprises. Although this conclusion is limited by the size of the compared groups, it may constitute a contribution to further research on the improvement of management processes of PSO, such as regional airports in Poland. Therefore it can be concluded that airport managers incorporate dynamic capability concepts into management processes when seeking to increase economic effectiveness, bearing in mind that dynamic capabilities are impossible to get from the outside, but must be developed by the organization based on accumulated experiences (Teece et al., 1997)

This suggestion is supported by the results, showing that respondents from the group of regional airports appreciate the importance of dynamic capabilities more, although the intensity of activities in the processes of developing dynamic capabilities in the group of enterprises is much higher than in the group of regional airports.

Next to the above-mentioned limitations (different size of the compared groups and limited airport population), this study suffers from additional limitations. The study used a questionnaire that allowed the respondents to fill in on their own. Participants could complete the questionnaire to the best of their knowledge and skills, but may not have had all the information necessary to make the assessment, the responses may not be fully accurate or may be subjective because of the phenomenon of presenting a favorable self-image. It should be noted, however, that the respondents were CEOs; thus, people who were well versed in their dynamic abilities and had an excellent overview of the economic performance of the organization. In the future research, in order to ensure a greater level of objectivity and eliminate the risk of selective access to information, case studies should extend research. The use of the cross-sectional approach to data collection from private enterprises was another limitation. The diversity of sectors, which provided a broad background for the analysis, makes difficult to compare the results to sectors that are comparable from the point of view of environmental volatility. In the future research, while remaining in the mainstream of quantitative research, it would be worth limiting the research to one sector and carrying out longitudinal analysis.

Summary

Are regional airports economic effectiveness-oriented? Evidence from Poland

Striving for a satisfactory level of effectiveness, managers must take actions aimed at achieving the set objectives and at reacting flexibly to changes that take place in the environment. They can do it by referring to the concept of dynamic capabilities that draw attention to a specific category of competences. Assuming that dynamic capabilities can be developed in any type of organisation, the article attempts to answer the question about the reasons for the differences in economic effectiveness of 13 Polish regional airports and 458 private enterprises. The results suggest that the category of economic effectiveness is important not only for private enterprises but also for regional airports. The findings reveal that the development of dynamic capabilities is conditioned not only by the period of the enterprise's existence but also by the context of its operation, primarily the industry context.

Keywords: *economic effectiveness; dynamic capabilities; regional airports.*

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Classification: L21, L25, L93, M21

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