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Strategic Orientation of Romanian Healthcare Organizations from a Contingency Theory Perspective Based on Porter's Generic Strategy Model

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Abstract: Under limited financial and human resources, factors such as technological progress, increased life expectancy, and increased medical needs argued that health organizations should define their strategic direction in line with these challenges. The purpose of this paper is to determine the types of competitive advantage that Romanian healthcare organizations seek, as well as the types of organizational strategy, according to Porter's Generic Strategy Model, from a Contingency Theory Perspective. For this purpose, the collection and analysis of primary data, resulting from the answers provided by a sample relevant to the topic addressed, respectively, employees from the health system were enrolled. Scales measuring the orientation of health organizations toward obtaining competitive advantages through differentiation and through costs, as well as the range of strategic activities, were validated by exploratory factor analysis, and for the analysis of the results used the independent samples t test; additionally, one-way multivariate analysis of variance (One-Way MANOVA) and Hotelling's T^2 test were also used. The results of the research highlighted that, in general, healthcare units aim to achieve superior performance compared to competitors by differentiating the products/services offered, rather than reducing costs, and the tendency to aim to achieve one (or both) type(s) of competitive advantage, as well as the scope of strategic activities in which it is achieved, differ according to several contingency factors, including location in a certain geographical area, the type of health organization, and their age and size.

Keywords: healthcare units; strategic orientation; Porter's Generic Strategies; cost leadership; differentiation; strategic activity scope; healthcare units' characteristics; strategic orientation scale



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1. Introduction

In the faster-than-ever changing global environment, healthcare systems around the world, while showing signs of recovery, are still facing challenges brought about by changes in population demographics, dramatic shifts in hardships caused by disease-spreading phenomena such as pandemics, skyrocketing healthcare costs, an increase in life expectancy, technological progress, as well as reduced human and financial resources [1]. The medical care system in Romania makes no exception.

The Romanian healthcare system is highly centralized, with a mandatory health insurance system administered and regulated by a single public payer, the National Health Insurance House. It provides a package of benefits that includes most generic medications, primary care, certain specialized healthcare services, and treatment for certain high-risk diseases [2], with patients having to pay a percentage of the medicine acquired in pharmacies outside the hospitals [3]. The healthcare system has witnessed several transformations, such as a decrease in the number of national hospitals and a raise in private investment in the provision of healthcare services [4].

Some strengths of the Romanian healthcare system can be identified in its equal provision of healthcare services to all its citizens, the high number and high skilled medical education graduates, as well as the strong network of private medical practices and clinics providing basic care [5]. On the downside, however, despite the increase in funds invested in the system, Romanians still have limited access to specialized healthcare (especially those in rural areas) and increased levels of poverty (which results in diminished health overall) [5], while healthcare units struggle with an insufficiency in medical personnel (due to migration of highly trained medical staff)..

To rise above such challenges, healthcare units in Romania are constrained to look for means to align their organization's goals with the fast-changing healthcare environment.

Strategic orientation represents the map an organization uses when choosing a path towards gaining a competitive advantage. It reflects its cognitive interpretation of both its internal resources and of the external environment it operates in [6]. It also points to an organization's decision-making process and to its approach on the use of its internal resources [7]. The organization makes certain strategic choices, finding new trading opportunities, and logically allocating its resources in response to the changes in the external environment, in order to meet the new market demands [8]. Adaptive marketing capabilities and strategic orientation have been identified as strategically determining factors of business model innovation [9]. For healthcare units, this implies paying specific attention to the strategies they adopt in leveraging their resources and capabilities to obtain a superior position on the market.

While various research have attempted to operationalize strategic orientation based on studies conducted by Miles, Snow, Meyer, and Coleman [10], Pleshko and Nickerson [11], Venkatraman [12], or Weinzimmer, Robin, and Michel [13], this research will focus on Michael Porter's [14] Generic Strategies in an attempt to develop a new measurement instrument for strategic orientation. Michael Porter's [14] Generic Strategies were chosen as the foundation of this study since his typology is more predominantly used in studies focusing on the healthcare industry [15–22]. Even though all the studies mentioned above have applied Porter's [14] Generic Strategies in their research (either measuring the effect these strategies had on performance or competitive advantage), very few have attempted to determine the strategic orientation of healthcare units [16,20], out of which only the latter one has addressed the competitive advantages aimed for, combined with the strategic activity scope, within which those competitive advantages are sought, rather than focusing on the resulting strategies.

The theoretical considerations presented above as well as the aspects not yet covered in the literature determine the formulation of the following research question:

RQ1. What is the type of competitive advantage Romanian healthcare institutions aim to achieve?

RQ2. How that specific type of competitive advantage is reflected in the types of strategies these institutions adopt, following Michael Porter's Generic Strategy Model?

This research has two main objectives: (1) it aims to identify the type of competitive advantage pursued by the Romanian institutions activating in the healthcare domain; and (2) to determine the typology of organizational strategies these institutions opt for, according to Porter's Generic Strategy Model.

Drawing on the fact that strategy, organizational environment, organizational characteristics (such as size, type, age), organizational structure, and superior performance (in the case of this research, competitive advantage) are often encountered as elements of Contingency Theory, this study will use Contingency Theory as a framework.

The research findings will enable policy makers as well as managers of healthcare institutions to make more informed strategic choices in terms of new healthcare institution developments, as well as managing the resources and capabilities of existing healthcare units in an attempt to attain a competitive advantage; a goal which has become not only mandatory but also a race against the clock. The study will also contribute to the extant

literature with the development of a new instrument to measure strategic orientation, which can become the foundation of a new body of research.

The remaining part of this paper is structured as follows: Section 2 introduces the conceptual framework and the theoretical concepts that serve as basis for the research hypotheses, followed by the research methodology, materials, and methods described in detail in Section 3. Then, the results are presented in Section 4, and their consistency or disagreement with other studies is analyzed and discussed in Section 5. Section 6 closes this research by highlighting the conclusions, implications and limitations of this study.

2. Theoretical Framework and Research Hypotheses

2.1. Contingency Theory

Contingent perspectives on strategy have been present in the literature since the 1960s. They were introduced by researchers in the field of institutional economics such as Bain [23], Caves [24], Porter [25], etc. Since the beginning of 1980s, Michael Porter [14] has pointed towards his Generic Strategies being contingent on the industry structure in order to be effective. This postulation was later supported by Day [26] and Hambrick [27] who saw the appropriateness of a contingent approach to Porter's Generic Strategies. Even more recent studies support the link between strategy and Contingency Theory [28], but they approach it at industry level. However, less attention has been paid to strategic contingencies at the organizational level [29].

Contingency Theory is the predominant concept used to analyze the connection between an organization's internal and external contexts and its performance. The school of thought set the foundation of this theory in that there is no one best strategy an organization can adopt to achieve superior performance [30]. Applying the contingency approach to Michael Porter's Generic Strategies, competitive advantage can be considered at the other end of this link, replacing performance. Competitive advantage is not a direct result of the organization processes or structure, but rather an outcome of the fit between an organization's functions and various contingency factors [31].

Several theories have been suggested, some related to organizations [32], some to business strategy [33], some to corporate financial reporting systems [34], some to management accounting [30,35], and some others to corporate planning [36,37]. The Contingency Theory stipulated that an organization must fit a given context in order to achieve high performance or, based on Porter's [14] Generic Strategy approach, a competitive advantage. Therefore, organizations which are in fit can achieve a competitive advantage while those in misfit cannot [38]. There are three types of fit mentioned in the extant literature: selection fit, interaction fit, and systems fit [32,38,39]. Selection fit stipulates that survival is only guaranteed to the organizations with the best results [40]. Empirical studies focusing on this type of fit, highlighting the idea of equilibrium, and only analyze the relation between organizational systems and contingent factors, ignoring the link to competitive advantage [38]. Interaction fit studies emphasize the existence of organizations in misfit, analyzing the effects related to superior performance resulting from the link between organizational systems and contingency factors [38]. These two types of fit only take into account one or two organizational characteristics as contingency factors [40]. Studies examining the system fit, however, base their assumptions on the existence of various contingency factors that lead to an organization's competitive advantage [38].

Such factors can be identified as strategy [25,41–45], size [43,46,47], age [48], type [49], technology [42,47], and structure (management structure, organization structure, industry structure) [44,50].

2.2. Competitive Advantage and Porter's Generic Strategies in the Healthcare Context

Gaining a competitive edge constitutes the goal of any organization. Introduced by Michael Porter in 1985 [51], the concept of competitive advantage has become the focus of countless research studies [15–22]. The interest in the competitive advantage of health organizations is reflected also in academic publications. A bibliometric analysis conducted

in 2022 [52] revealed that the first paper published in a Web of Science (WoS) indexed journal was in 1974. However, the subject was extensively approached only after 1990, rising up to 505 publications between 2010 and 2020.

Referring to an entity's advantage over its competitors, the concept of competitive advantage can be considered both at macro-level (a nation's advantage over other nations) or at micro-level (an organization's advantage over other organizations) [53]. While Porter did not clearly define competitive advantage, he did state that, at the institutional level, it is the core element of an organization's performance on any competitive market [54]. Porter [51] also mentioned it is important for organizations to continuously perform above average in a certain industry, calling this a sustainable competitive advantage. According to the same author, competitive advantages can be classified into two types: the one stemming from an organization's ability to offer lower prices than its competitors (the cost leadership competitive advantage), and the one resulting from the institution's ability to differentiate itself from its competitors, providing unique services/products, usually at higher prices (the differentiation competitive advantage). Thus, a sustainable competitive advantage is the result of either successful cost reduction over time or a prolonged product/service differentiation between businesses in the customers' perception [55]. Another important aspect brought up by Porter [51] is that an organization's selection of a certain competitive scope, or a certain range of strategic activities, means the advantage is sought for and can have a major impact in determining its competitive advantage. The scope they aim for could be either broad or narrow.

To attain one of these two types of competitive advantage, considering the scope of activities the advantage is sought for, Michael Porter [51] proposes three generic strategies: cost leadership, differentiation, and focus; the last one being split into two forms, cost focus and differentiation focus [56]. Porter [51] also suggests that the choice of one strategy or another leads organizations on completely different paths in their attempt to attain a competitive advantage, paths along which the organizations combine their selection of the type of competitive advantage aimed for with the scope of strategic activities. Generally speaking, the strategies involving cost leadership and differentiation are pursued by organizations with high-market share while those following cost focus and differentiation focus aim to attain a competitive advantage through market segmentation, relying on a small but lucrative market [57]. Porter [51] also points out that the exact actions each organization will need to implement these strategies depends on the specifics of the industry they belong to.

Cost leadership strategy: An organization following this type of strategy aims to provide the same services/products as their competitors but at lower prices [51]. Cost leaders concentrate on reducing their costs in operating budgets, personnel, R&D, as well as marketing [58]. In the medical field, healthcare units adopting cost control strategies tend to decrease their waste by removing procedures that are repetitive, in order to make personnel cuts, eliminate marginal services, upgrade their systems and use technology to become more efficient, have better coordination among hospital functions, and foster innovation [22]. Healthcare units, however, are not the sole determinant of their service/product prices. In the healthcare industry, it is mainly the insurance payers who have a say in this respect [59]. The same authors contend that although they do not entirely determine their service/product prices, healthcare units can benefit from higher profit margins adopting cost leadership strategies. Another benefit they could obtain from following cost control strategies is better preparedness in case of a crisis situation when treatment/medicine prices could be under pressure, like a pandemic [15].

Differentiation Strategy: organizations opting for this type of strategy look to differentiate themselves from their competitors by providing unique products or services [51]. Differentiators focus on providing a broad product or service range, utilizing high-end technology, and on improving their staff's capabilities to provide high-quality customer-service [14]. Organizations in the healthcare industry tend to differentiate themselves by providing either a broader range of medical services/products or unique services like open heart operations, or organ transplants, by equipping their facilities with state-of-the-art

equipment (e.g., high-end surgery robots), by utilizing top-notch technology such as the latest diagnostic imaging technology, or by providing high-quality hotel-like accommodation services or customized patient consultation services [16].

Focus Strategy: institutions opting for this type of strategy aim to obtain a competitive advantage by concentrating on a specific niche market and creating services and products to suit that particular niche [51]. They pay special attention to the specific needs of consumers in isolated geographic areas and tailor their services or products to meet those customers' demands [55]. The same authors contend that these organizations attain a competitive advantage by dedicating their resources to the implementation and delivery of a specific focused strategy by aligning their organizational culture with their corporate strategy, and by implementing clear performance management and evaluation systems. Porter [51] identified two types of focused strategies: focused cost leadership and focused differentiation. On the one hand, the firm adopting a focused cost leadership strategy will provide services or products at the lowest price on the market, whereas on the other hand, focused differentiation strategy will be adopted by firms aiming to provide the best value services or products to a niche target market [60]. In the healthcare industry these two types of strategies are adopted by healthcare organizations targeting either a certain geographic area or a niche group of patients (e.g., suffering from rare diseases, expecting high-end services or medical treatments, physically impaired, etc.).

One or several strategies? Michael Porter [14] mentioned that firms can only follow one of these three strategies in order to obtain a competitive edge, arguing that firms which adopt more than one strategy will end up stuck in the middle, not being able to attain any competitive advantage. However, this argument has been subject to debate. While certain studies [27,61,62] have provided arguments in support of Porter's theory, researchers such as Acquah and Ardekani [63], Campbell-Hunt [64], Hill [65], Jones and Butler [66], Kim, Nam, and Stimpert [67], Murray [41], Spanos, Zaralis, and Lioukas [68] contend that a combination or hybrid strategy is not only feasible, but also more profitable.

The strategic activity scope (broad or narrow), within which the competitive advantage is sought, can also determine an organization's path to competitive advantage [51]. In the healthcare industry, the choice of a certain competitive scope will also depend on the type of healthcare unit (whether it is a large hospital, private medical practice, medical center, or pharmacy), its location (urban or rural areas), its age (old or new), and its size (large or small).

2.3. Studies Based on Porter's Generic Strategy Model in Healthcare

In the extant literature, numerous studies have focused on Porter's Generic Strategies and their connection to either healthcare units' competitive advantage or their performance. From the multitude of those studies, this research will mention only those developed more recently while considering the drastic changes in the healthcare system alongside being careful not to undermine the value previous research has brought to this field.

Ombati and Muturi [19] conducted a case study at a hospital in Kenya examining the perceived extent of which two of Porter's [14] Generic Strategies (cost Leadership and differentiation) were being implemented at that hospital. They combined the two strategies with the market focus strategy, thus drawing similitude to the current study, except for the fact that the current study focused on the competitive advantage sought in its attempt to identify healthcare units' strategic orientation, rather than the resulting strategies and the perceived extent of their implementation. Another paper using Porter's [14] Competitive Strategies was the one conducted by Mwuangi and Ombui, in 2013 [18]. Similar to their fellow researchers, Ombati and Muturi [19], they also used the cost leadership, differentiation and market focus strategies in their research, aiming to identify the impact of competitive strategies on Kenyan mission hospitals' performance, but they added product/market development strategies to the scale they developed. A research study undergone by Eicher and Steiner [15] used secondary sources and linear regression to determine the relation between Porter's [14] Generic Strategies and the financial scope of action for the development

of Swiss hospital assets. Even this study focused on Porter's strategies (cost leadership, differentiation, and focus but they added one more variable, SAP (strategy as practice) in the scale they developed. Ghiasi et al. [16] examined secondary sources to determine the impact of strategic group orientation on hospital performance and used multiple regression in their data analysis. They too have based their analysis on Porter's [14] Generic Strategies, identifying four groups, based on their strategy choices: cost leadership, differentiation, hybrid, and stuck-in-the middle. The approach on strategic orientation based on the competitive advantage sought combined with the competitive scope within which the advantage is sought, is also mentioned in a study conducted in 2019 [20].

The competitive advantage sought, combined with the strategic activity scope within which the advantage is sought, can be considered a viable measurement of the strategic orientation based on Michael Porter's Generic Strategies, as they closely follow his indications on determining the three strategies, while placing a higher emphasis on the competitive advantage sought combined with the competitive scope.

2.4. Contingencies of Porter's Generic Strategies in Healthcare

In his study of the Contingency View of Porter's Generic Strategies, Murray [41] provided a view of Michael Porter's [14] Generic Strategies based on the Contingency Theory, pointing to the dependency of each of Porter's Generic Strategies' feasibility on the existence of various external circumstances.

Murray [41] formulated the conditions under which Generic Strategies can be feasible. Thus, according to the same author, the applicability of a focused strategy is conditional on the heterogeneity of customer needs, as well as on the zero or negative value of the synergies created between the value chains and the market offer in each industry segment. The feasibility of a cost leadership strategy depends on the existence of increased transaction costs or of differentials in production costs, as well as on the ability to overcome these challenges either through vertical integration or through several other methods. Other conditions for the viability of the Cost Leadership Strategy are the still achievable innovation level of the process technologies used in the value chain, the sufficient complexity level of the value chain so as to allow cost notable improvements resulting from learning processes, and/or whether certain segments of the value chain have an optimal scale higher than half of the market size [41]. The viability of a differentiation strategy is dependent on the value customers attribute to it, with regard to the still achievable innovation level of the process technologies used in the value chain, and/or the sufficient complexity level of the value chain so as to allow a sustainably high-quality level or differences in offered services when compared to those of the competitors' [41].

In the healthcare industry, the applicability of each Generic Strategy is heavily dependent on several preconditions. Cost leadership is feasible only if healthcare units are able to employ various cost reduction means other than just reduction in size, capacity, staffing or technology. The methods employed to achieve such cost savings will depend on the industry structure or on the organization structure. Differentiation competitive advantage can also be achieved through various strategies. New service developments present the highest potential to create unique value, which also implies the justifiability of high design, technology, and R&D costs. As the service reaches maturity, the potential gains may decrease, However, the rewards from a sustainable high-quality service delivery may increase [41].

Considering all the above, the first research hypothesis was developed:

Hypothesis 1 (H1). *The strategic orientation of healthcare institutions is a multidimensional construct, built on the basis of the interdependence relationships occurring among three dimensions: cost leadership, differentiation, and the scope of strategic activities.*

2.5. Healthcare Units' Strategic Choices Based on the Competitive Advantage Sought, According to Porter's Generic Strategies

The healthcare units' choice of a cost leadership competitive advantage, or a differentiation one, is of major importance since it will further determine the strategic activities that the organization will adopt to reach a competitive advantage. Previous studies on Porter's Generic Strategies, conducted more recently in the medical field, have focused on identifying which of these two advantages healthcare units opt for, and produced conflicting results. The study conducted by Ombati and Muturi [19] revealed that while both cost leadership and differentiation strategies had an influence on competitive advantage (with the differentiation strategy influencing it to a greater extent), the hospital opted for a focus strategy. However, the results from Mwangi and Ombui [18] were different, to some extent, in that they identified cost leadership strategy having the greatest influence on the performance of Kenyan mission hospitals, followed by product/market development strategies, market focus strategies, and only lastly by differentiation strategies. However, both the above-mentioned papers are limited to one hospital and to one geography (Kenya). In the paper they published in 2022, Ghiasi et al. [16] observed that 37% of the hospitals in the US opt for cost leadership strategy, while only 5% seek to obtain a competitive advantage through a differentiation strategy. However, their findings also suggested that hospitals adopting a hybrid strategy perform better than those adopting a cost leadership one, or those who are stuck in the middle. Another Western study was conducted in Switzerland by Eicher and Steiner [15]. Their research revealed more general conclusions, stating the worthwhileness for hospitals to follow any of the three Generic Strategies, without recommending one in particular, while also stating the major influence doctors have on hospital performance, which could be interpreted as a tendency towards differentiation strategies. Despite the large samples these two western studies focused on, it is also worth keeping in mind that they are limited to secondary sources. The pilot study conducted in 2019 by Ștefan and Popa [20], which focused on 284 employees working in Romanian healthcare units, revealed these organizations' tendency to aim for a competitive advantage obtained through differentiation, rather than for a cost leadership one. Despite the fact that this is the only empirical study found in Romania, which used Michael Porter's [14] Generic Strategies to explore the characteristics of healthcare units' competitive strategies, Romanian health organizations' preference for a differentiation competitive advantage is supported by one other study conducted in Romania: an explanatory study employing a mixture of qualitative and quantitative questionnaires to attempt to provide a recommended and refined strategy in healthcare [69], although the study is limited to the private medical sector.

The above arguments have led to the development of the second research hypothesis:

Hypothesis 2 (H2). *Healthcare organizations aim mainly at gaining a competitive advantage through medical service differentiation, rather than through cost reduction.*

2.6. Healthcare Units' Characteristics as Determinants of Their Strategic Orientation

According to the contingency theories focusing on the system fit, the existence of various contingency factors which lead to an organization's competitive advantage [38] can be assumed. Healthcare units' characteristics' impact their choice of a specific competitive advantage, and this has been studied by researchers at length [22,70–75]. Out of all the healthcare units' characteristics from the above-mentioned studies, four of them seem to be more predominant: location, age, size, and type.

Table 1 below presents the more recent studies conducted on healthcare units' characteristics related to strategic orientation, though not all were approached from Michael Porter's [14] Generic Strategy perspective.

Table 1. Recent studies conducted on healthcare units' characteristics related to strategic orientation.

Study	Main Theme	Porter's Generic Strategies	Healthcare Units' Organizational Characteristics			
			Location	Age	Size	Type
[74]	Determinants of hospital innovation and effect on performance	×	X	Study	Study	Study
[76]	Competitive advantage	×	X	X	Study	Study
[71]	Strategic orientation	✓	X	X	Control	Study
[73]	Strategic choices for competitive advantage	×	Study	X	Study	Control
[72]	Quality competition	×	Study		X	Study

The “✓” and “×” in the third column of the table show whether the studies introduced in the second column approached their research from Porter's Generic Strategies' perspective (✓) or not (×). In the columns under Healthcare Units' Organizational Characteristics, “study” and “control” show studies where variables were used as research variables or variables controlled for, and X shows that those variables have been neither studied nor controlled for. Source: Authors' own conceptualization based on the literature.

As shown in Table 1 above, only one research [71] has centered their analysis on Porter's [14] Generic Strategies. In their investigation of the effect of hospital privatization on financial performance, they only concentrated on the change in hospital type (from public to private) and controlled for size, while ignoring other healthcare unit characteristics, such as age and location, thus not providing a strong comparison foundation for this study. The other studies' results will be briefly commented on after a short description of the importance of each characteristic.

According to Goldstein et al. [70], a healthcare unit's location as well as its proximity to markets are a major element in determining the choice of a certain competitive advantage, since the largest percentage of their market derives from the area surrounding the hospital [77]. Goldstein et al. [70] also suggest that even the development of potential markets in the countryside could be hampered due to the healthcare units' proximity to a small population. The same authors point to a limitation of service provision due to a lack of funds. From the arguments mentioned above, it can be assumed that healthcare units located in rural areas would tend to focus on a narrow strategic activity scope in attaining a competitive advantage or on a cost leadership one. However, the studies mentioned above are fairly old. In more recent papers, studying the effects of the geographic distance between hospitals, Trinh's [73] results pointed to a positive relation between geographic distance and service duplication, mentioning a tendency for hospitals to provide the same services the farther apart they are located, which leads to the assumption that hospitals located in proximity with each other would opt for a differentiation competitive advantage. Takahara's [72] research results reveal that healthcare units' location changes can have a major impact on the competition environment. Considering the fact that Takahara's research focuses only on private hospitals, it can be assumed that the competitive advantage sought would be differentiation in this case as well.

While certain authors have decided to use control for the healthcare unit type [71,73], some others have analyzed this characteristic in their studies. For example, Takahara [72] focused on hospital ownership and analyzed the effects of privatization in relationship with the location the newly privatized hospitals are in, as well as the distance from other hospitals, concluding that privatized hospitals in municipal areas will improve in service quality, while rural private hospital quality will not suffer any changes. Weng et al. [74] also considered the hospital type in their research, focusing on for-profit organizations (or private ones) and public organizations. They concluded that, as private hospitals do not receive public funding and are not constrained by responsibilities to abide by certain policies, they would focus more on innovation in comparison with public hospitals, which would be more conservative, thus inferring private hospitals' tendency to choose a competitive advantage through differentiation. Another study involving hospital types in relation to competitive advantages was conducted by Huang et al. [76]. However, in this

paper, the relation between hospital ownership and competitive advantage did not prove statistically significant.

In their study on organizational aging, Sorensen and Stuart [75] mention that as an organization grows in age, it also develops and improves its infrastructure and resource management capabilities, which would deem it able to adopt new technology or create new services. In contrast, newer firms would struggle with inefficiency in developing new products or services, as well as in innovating, as a result of a lack of organizational knowledge. Weng et al. [74] adapted the above-mentioned arguments to the healthcare industry, concluding that an older hospital would develop better infrastructure, knowledge and increased capabilities to manage resources in a more efficient way so as to develop new services or adopt new technology, and also reduce expenses. While these theoretical arguments would lead to the assumption that older hospitals enjoy the liberty to either opt for one of the competitive advantage types or for both, in their 2011 study, Weng et al. [74] tried to prove only the hypothesis that hospital age would positively influence technological innovation (from which a tendency towards choosing a differentiation competitive advantage). However, that hypothesis was not supported.

In their research referring to hospital size, Wang, Wan, Burke, Bazzoli and Blossom [78] mentioned that larger healthcare units benefit from a higher availability of resources and have a higher ability to design, evaluate, and implement new strategies or technology. Weng et al. [74] added to this theory, mentioning that a larger-sized healthcare unit draws higher medical demand, and also that larger hospitals enjoy higher resource availability and increased internal demand. Huang et al.'s [76] paper confirmed a strong relationship between hospital size and perceived competitive advantage, though they did not specify which type of competitive advantage. Trinh's [73] results are in line with Weng et al.'s [74], pointing to a positive relation between size asymmetry among hospitals and service differentiation, and a negative relation between hospital size asymmetry and service duplication. All papers implied a direct connection between hospital size and a type of competitive advantage (while not necessarily based on Porter's [14] competitive strategies), with one specifically pointing to differentiation as an advantage [73], and another highlighting the relationship between size and technology adoption, from which a tendency of larger-sized hospitals towards gaining a competitive advantage through differentiation can be inferred.

Although all the studies mentioned above tackled one or several of the healthcare units' characteristics, this research decided to focus on (some using dependent or independent variables, others as control variables) only two of them [22,71], having approached these characteristics from Michael Porter's (1980) Generic Strategy perspective and looking into how they can determine these healthcare units' strategic orientation based on the type of competitive advantage, but only the latter one was conducted more recently, which suggests the necessity for further research into these characteristics. All the arguments stated above provided a strong base for the development of the third hypothesis:

Hypothesis 3 (H3). *Certain characteristics of health organizations, such as (a) the geography, (b) the type of healthcare unit, (c) age, and (d) the size, determine them to choose different strategic orientations in terms of the competitive advantage they aim to obtain, as well as the strategic activity scope.*

3. Materials and Methods

To meet the research objectives, we collected and analyzed primary data resulting from the answers of a selected sample pertaining to the approached theme, respectively, from employees in the healthcare system. For the dataset to accurately serve the aim and objectives of our research, it is necessary that, firstly, the data collection instrument be valid and reliable, and secondly, that the data collection process be conducted following a rigorous methodology. This chapter will introduce the scale generating process, the data collection method, as well as the validation of the data collection instrument in terms of validity and reliability.

3.1. Measures

The main research instrument (the questionnaire) has been designed to serve as a basis for collecting data to meet the research objectives. Thus, three measurement subscales corresponding to the concepts pertaining to the research interest were designed. Specifically, the sub-scales are: (1) competitive advantage through cost leadership; (2) competitive advantage through differentiation; and (3) strategic activity scope.

To ensure the correspondence between the items and the concepts they are supposed to measure, as well as their intelligibility, specialists in the management field and healthcare professionals with management knowledge have been consulted. Likewise, for pretesting purposes, the scales measuring the strategy concept were included in a different questionnaire, which was previously distributed and analyzed [20]. The data collection instrument was modified as a result of this process. The final version of the scales, together with the number of the initial items and the corresponding bibliographic references, are included in Table 2.

Table 2. The measurement scales used in the research.

Scale/Subscale	No. of Items	References
Competitive advantage through cost leadership	6	[20,51,79]
Competitive advantage through differentiation	9	
Strategic activity scope	4	

Source: Created by the author based on the above-mentioned sources.

The data collection instrument included: (1) subscales to allow the typological integration of the strategy (the typology considered in this context being Michael Porter's Generic Strategies [51], specifically cost leadership, differentiation, and focus (cost focus and differentiation focus), to which (2) questions pertaining to the demographic characteristics of the respondents and the organizations they belong to were added.

Although the majority of the items have been inspired from pre-existing scales, they were adapted to the specific characteristics of healthcare organizations. It must be specified that the above-mentioned scales, subscales, and initial items were in the version that was included in the questionnaire. Following the data collection process, the measurement scale validity required an exploratory factorial analysis (EFA), which will be presented in the Results Section.

3.2. Data Collection

The questionnaire was distributed in an online format using a non-probability sampling procedure, due to the necessity of collecting data from a specific population (the personnel working in the healthcare system) who would have been difficult to identify and approach in a face-to-face environment and, even more, in various regions of the country. Thus, the first group of respondents, working in the healthcare system, were asked to disseminate the questionnaire to their colleagues, who completed it through Google Forms. Another factor considered in the selection of the on-line medium was the possibility to export the response dataset in an EXCEL format, to later be imported into databases compatible with the applications utilized for the data analysis.

The survey took place between May and June of 2019, having 519 respondents selected through a non-probability sampling method. Out of the 519 filled-out questionnaires, 18 had to be eliminated since the respondents did not belong to healthcare units, thus not belonging to the researched population. Consequently, the subsequent analysis was conducted on a database containing 502 cases.

Out of the 502 respondents, the greater part (28.17%) work for healthcare units located in Bucharest and Ilfov county, most of whom (46.81%) are hospital employees. From the viewpoint of individual characteristics, most of the respondents were physicians (38.05%), all of whom held, in almost equal proportions, executive managerial positions. The health-

care organizations have been in business for an average of 20.135 years and employ on average 350.131 employees.

3.3. Data Analysis

The dataset resulting from the answers provided by the research sample respondents will firstly undergo the scale validation process by means of EFA to later be utilized in the specific analyses. Since the validation of the second research hypothesis requires a comparison between the mean score of the variables measuring the cost leadership competitive advantage and the one measuring the differentiation competitive advantage, the paired samples *t*-test will be utilized. Also, the third hypothesis imposes the comparison of two or *k* participant groups (formed based on the specific characteristics of the health organizations as they were presented in the previous chapter), regarding two or several variables considered simultaneously and having a common meaning as a group [80]. Consequently, to highlight these differences, the multivariate analysis of variance MANOVA and Hotelling's T^2 test will be used.

4. Results

4.1. Exploratory Factor Analysis

Prior to the actual analysis, it was verified that the dataset met the minimal conditions for the factorial analysis to be appropriately performed. According to Hair et al. [81], despite the importance that the statistical conditions be met, this fact would lack any significance unless the conceptual conditions were met prior.

Conceptual assumptions. The three subscales were developed based on the literature with careful attention being paid so that the items involved describe the theoretical concepts of interest for the research and that they can be represented by the factors expected to result from the factorial analysis. On the other hand, the population in which the sample was extracted from, which provided the data analyzed in this paper (the medical personnel working in the health system), can be considered homogenous in regard to the research theme.

Statistical assumptions. The most important of these assumptions refer to the correlation between variables, both regarding the absence of multicollinearity (correlations between variables greater than 0.9), and the existence of certain significant correlations among these variables, which can ensure the factor grouping. No multicollinearity conditions were identified in the correlation matrix for the strategic orientation scale. In the evaluation of the variable correlation, both the global and individual perspectives of the variables were considered, and the relevant information in this respect is presented in Table 3.

Table 3. The global KMO index and the Barlett test for the four scales.

Criteria	Strategic Orientation Scale
The global sample adequacy index	KMO = 0.922
Barlett test	$\chi^2_{(171)} = 7418.494; p < 0.001$

Note: KMO—The global sample adequacy index Kaiser-Meyer-Olkin. Source: analysis conducted by the authors using IBM SPSS Statistics 27.0 [82].

As shown in the table above, the Barlett test has significant value, and the global KMO index has the value of 0.922, characterized by Yong and Pearce [83] as meritorious, which suggests that the variables are sufficiently correlated so that they can generate factors.

The sample size. The sample size was projected from the methodology development phase in such a way that it would be sufficient for all the analyses to be conducted, including factor analysis. Thus, both from the global and from the individual perspectives of each variable, it can be stated that the dataset meets all the necessary conditions for factorial analysis (FA) to be performed.

FA was carried out for the entire scale; the factors being extracted using the “Principal axis factoring” method and obliquely rotated through the “Promax” method. This factor rotation method was preferred as [83]: (1) allowing the resulted factors to be correlated among each-other; (2) favoring the construction of simpler structures with few extreme loadings; and (3) being preferred due to its superior speed in case of large datasets.

At the first iteration, all the extracted factors having eigenvalues greater than 1 were considered. Although alternative solutions involving a smaller or greater factor number were also studied, these proved to be the most appropriate, not only from the view of meeting the statistic criteria specific to FA (the common variance extracted percentage, scree plot criterion, and the factor loadings), but especially from the interpretability perspective.

The three extracted factors correspond entirely to the concepts they have been constructed to represent, this situation being facilitated by the fact that the scales were adapted from existing scales and tested in previous studies. The resulted factors are presented in Table 4, together with the loadings of each variable on them, as well as the percentage of common variance extracted: (1) “the Differentiation” (STT DIF) and (2) “the Cost Leadership” (STT COS) representing the respondents perception regarding the degree to which the organization aims at attaining the two types of competitive advantage, as well as (3) “The Strategic Activity Scope” (STT GA). The strategic orientation of the healthcare units based on Porter’s Generic Strategies (Porter, 1985) [51] can be determined through the combination of these three factors.

Table 4. The results of the factorial analysis for the scale “Strategic Orientation” (SO).

Factors/Items	Variables	Loadings	CVE	Cronbach Alpha
Differentiation	(STT_DIF)		44.694%	0.955
The provision of medical services/medicine of superior quality to the ones provided by the competitors	Str_AC_Dif6	0.889		
Endowment with highly performant medical equipment	Str_AC_Dif4	0.889		
Possession of nationally and globally recognized state-of-the-art technical equipment	Str_AC_Dif5	0.868		
Professionalism and competence of the human resources	Str_AC_Dif9	0.839		
Building and maintaining a favorable image of the institution	Str_AC_Dif1	0.829		
Paying heightened attention to the creation and maintenance of a good institutional reputation	Str_AC_Dif2	0.828		
Paying special attention to the patients’ comfort (hotel-like conditions, ambience, etc.)	Str_AC_Dif7	0.790		
Facilitating patients’ access from the location, necessary formalities, etc. perspective	Str_AC_Dif8	0.760		
Attracting and keeping top specialists recognized at national and global levels	Str_AC_Dif3	0.757		
Cost Leadership	(STT_COST)		11.318%	0.890
Reducing the cost of medical services/medicine under the ones provided by the competitors	Str_AC_Cost1	0.899		
Decreasing the price of medical services/medicine offered under the ones provided by the competitors	Str_AC_Cost6	0.820		
Attracting as large a number of clients/patients as possible through the practice of lower prices than the competitors’	Str_AC_Cost5	0.783		
Reducing the medical service costs through efficient utilization of the resources	Str_AC_Cost2	0.731		
Eliminating all the cost sources which are not absolutely necessary	Str_AC_Cost3	0.619		
Tying contracts with health insurance providers for the reimbursement of expenses for medical services/medicine	Str_AC_Cost4	0.573		
Strategic Activity Scope	(STT_GAS)		7.927%	0.783
Provides a very narrow scope of medical services/medicine (1) ... Provides a very broad scope of medical services/medicine (5)	Str_GAct4	0.865		
Specializes in one medical field only (ex: cardiology, medical rehabilitation, infectious diseases, etc.) (1) ... Offers a vast scope of medical specialties (5)	Str_GAct3	0.844		
Addresses an extremely limited geographical area (1) ... Addresses a very large geographical area (5)	Str_GAct1	0.602		
Addresses a limited category of patients (ex. children, elderly people, etc.) (1) ... Addresses all the categories of patients (5)	Str_GAct2	0.444		

Note: All the variables were included in the final solution. CVE—Common variance extracted. Source: analysis conducted by the author using IBM SPSS Statistics 27.0 [82].

The scale reliability resulted after factorial analysis was evaluated using the Cronbach Alpha coefficient [84], both for the entire scale “Strategic Orientation” ($\alpha = 0.913$), and for each subscale corresponding to the extracted factors ($0.783 < \alpha < 0.955$). As shown, all these values are superior to the 0.7 threshold, which suggests the fact that the variables composing the scales measure the same underlying construct.

Consequently, it can be stated that the strategic orientation of healthcare organizations is a multidimensional construct built on the basis of the interdependence relationship among three sub-dimensions: cost leadership, differentiation, and strategic activities scope, thus confirming the first research hypothesis.

The resulting scales and subscales formed the basis of the subsequent analyses, under the shape of mean scores. The descriptive statistics of the mean scores are shown in Table 5.

Table 5. Descriptive statistics.

Variables	N	Minimum	Maximum	M	SD
Differentiation	502	1.000	5.000	4.039	0.950
Cost Leadership	502	1.000	5.000	3.637	0.994
Strategic Activities Scope	502	1.000	5.000	3.643	1.026

Note: M—Mean. SD—Standard Deviation. Source: analysis conducted by the authors with SPSS Statistics 27.0 [82].

4.2. Strategic Choices of Healthcare Units

To emphasize the type of competitive advantage the Romanian healthcare units aim for, the mean scores of the cost leadership and differentiation scales, as a result from factorial analysis, were utilized. The degree to which the healthcare units opt for one (or several) of Michael Porter’s three types of generic strategic activities—cost leadership, differentiation, and focus—will result from the combination of the previously mentioned two average scores and the strategic activities scope. Similarly, to highlight the differences regarding the strategic orientation based on several characteristics considered relevant for the research, grouping variables, such as belonging to a certain geographic area, the type of healthcare unit, the healthcare units’ age, and the number of employees, were utilized.

4.3. The Competitive Advantage of Romanian Healthcare Units

A first image of the type of competitive advantage Romanian healthcare units seek is shown in Table 6, by means of a comparison between the mean scores of the Cost Leadership and the Differentiation scales. Although these data sets refer, in general, to the entire sample, it can be noticed that both mean scores are higher than the scale mean (3), which suggests that, overall, healthcare units aim to obtain a competitive advantage over their competitors in the medical service market. Likewise, the mean score of the competitive advantage through Differentiation ($M = 4.039$; $SD = 0.950$) is greater than the one through cost leadership ($M = 3.637$; $SD = 0.994$).

Table 6. Healthcare Units’ competitive advantage—Paired Sample *t*-test.

Variables	M	SD	Mean Difference			
			ΔM	95%CI	t	d
Differentiation	4.039	0.950	0.402	0.327; 0.477	10.554 ***	0.471
Cost Leadership	3.637	0.994				

Note: M—Mean. SD—Standard Deviation. ΔM —Mean Difference. CI—Confidence Interval. ***— $p < 0.001$. d—effect size. Source: analysis conducted by the authors with SPSS Statistics 27.0 [82].

The Paired Sample *t*-test was conducted to compare the two averages and to validate the second research hypothesis (H2) with this test highlighting the fact that the mean score measuring the differentiation competitive advantage is statistically significant and comparatively higher than the cost leadership one ($\Delta M = 0.402$; $95\%CI[0.327; 0.477]$; $t_{501} = 10.554$;

$d = 0.471$. Considering these results, the second research hypothesis, specifically that health-care organizations mostly aim to obtain a competitive advantage through medical service diversification rather than through cost leadership, can be accepted as valid, thus supporting the idea that while an increase in medical activity efficiency and cost reduction are important desiderata, both from the medical service providers' and from the patients' perspectives, what can determine the gain of a competitive advantage is the provision of medical services with differentiation characteristics considered important by the patients.

4.4. Strategic Choice Based on the Geographic Criterion

In the previous chapter, a general image regarding the type of competitive advantage sought by Romanian healthcare units was introduced. However, according to the Contingency Theory, it is assumed that certain healthcare unit characteristics can influence their choices in the type of competitive advantage to pursue. On the other hand, besides the competitive advantage sought, the strategic activity scope—namely narrow/broad—is also important. Thus, taking this variable into account as well, the way organizational characteristics are reflected in the strategic activity choices healthcare units make can be determined based on Michael Porter's Generic Strategies.

The first organizational characteristic considered was the geographic position. Out of the 502 cases, 58.167% are located in the Bucharest–Ilfov region, and 41.833% are geographically positioned in the other development regions. This division into two groups was preferred due to the slightly greater number of respondents from the Bucharest–Ilfov region compared to the other regions, and also in an attempt to highlight the differences in strategic choices between a predominantly urban area (Bucharest–Ilfov) and the rest of Romanian territory.

In Table 7, the mean scores of the variables, evaluating the extent to which healthcare units consider what strategic priorities constitute the elements that are specific to cost leadership and differentiation competitive advantages, were introduced. The strategic activity scope in which these priorities are considered was also presented. Both the mean scores and the strategic activity scope were set forth in a distinctive way for the respondents originating from the Bucharest–Ilfov region, and similarly for the ones in the other regions of Romania.

Table 7. Healthcare unit strategic orientation differentiation based on the geographic criterion.

Variables	Bucharest–Ilfov (N = 292)		Other Regions (N = 210)		Univariate Comparisons of Means F	Hotelling T ² Test		
	M	DS	M	DS		Λ	F	η^2 Partial
Differentiation	3.999	1.001	4.095	0.875	1.233			
Cost leadership	3.522	1.008	3.798	0.953	9.537 **	0.979	3.506 *	0.021
Strategic activity scope	3.646	1.010	3.639	1.050	0.006			

Note: Λ —Wilks' Lambda. η^2 —Effect size. **— $p < 0.01$. *— $p < 0.05$. Source: analysis conducted by the author with IBM SPSS Statistics 27.0 [82].

As can be observed, healthcare units located outside of the Bucharest–Ilfov region consider both differentiation and cost leadership as a more important strategic priority than the ones in the Bucharest–Ilfov region. However, these differences are statistically significant only in the case of cost leadership ($F_{1,500} = 9.537$; $p < 0.01$; $\eta^2 = 0.019$). In other words, these healthcare units aim to reduce the costs of the medical services/medicine they provide under their competitors' selling prices through an efficient use of their resources, which allows them to charge prices comparatively lower than that of their competitors, thus attracting a greater number of patients.

Regarding the strategic activity scope related to the geographic area, the targeted patient categories, the medical specialties, and the provided medical service range, healthcare units located in the Bucharest–Ilfov region aim for a broader scope, but the differences are not statistically significant.

For an overall assessment from a multivariate perspective of the healthcare unit strategic orientations based on the geographic criterion, the T^2 Hotelling test was used. As mentioned previously, although significant differences could only be highlighted in regards to the cost leadership competitive advantage when the variables were considered separately, from a multivariate perspective, healthcare units' strategic choices present statistical differences between the respondents located in the Bucharest–Ilfov region and those in the other development regions ($\Lambda = 0.979$; $F = 3.506$; $p < 0.01$; η^2 partial = 0.021), thus providing support for hypothesis 3a. Therefore, it can be stated that the geographic positioning of the healthcare units in the Bucharest–Ilfov vs. the remaining regions of Romania determines them to make different strategic choices based on the type of competitive advantage sought and the strategic activity scope.

For a more suggestive illustration, Figure 1 below shows: (1) the horizontal axis (x), where the mean score of the variables measuring the cost leadership competitive advantage (Figure 1a) and differentiation competitive advantage (Figure 1b); and (2) the vertical axis (y), where the mean score measures the strategic activity scope.

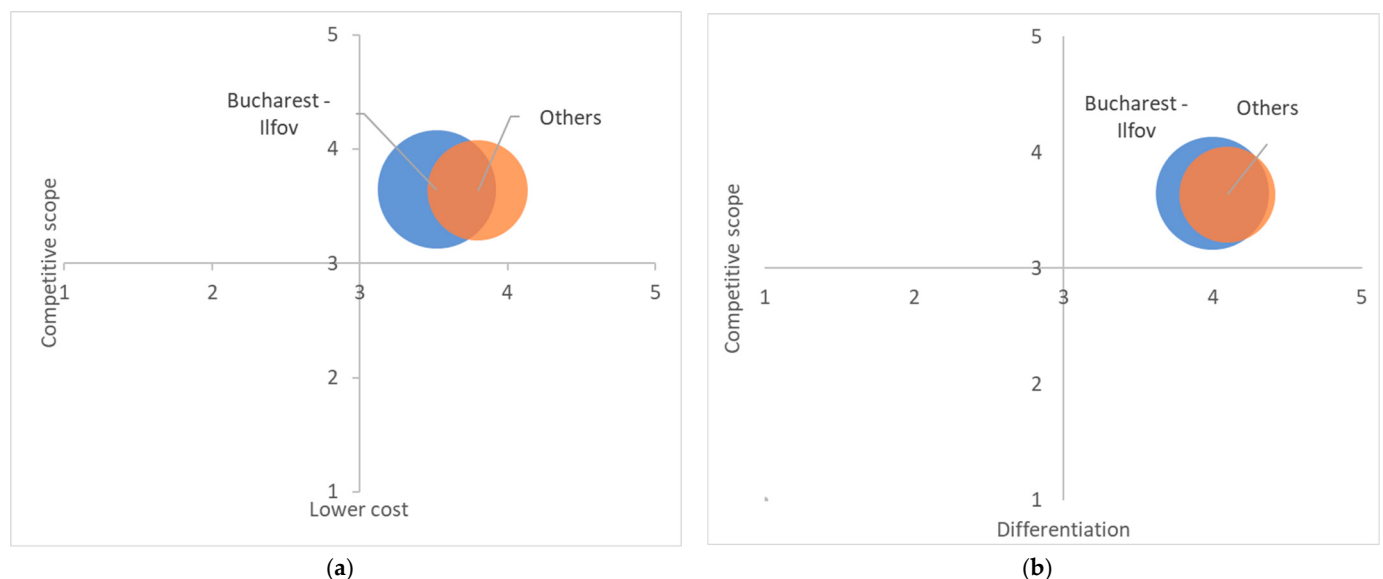


Figure 1. Healthcare unit strategic choices based on the geographic criterion. Source: analysis conducted by the authors. (a) Cost Leadership. (b) Differentiation Strategy.

Combining the two types of competitive advantage with the strategic activity scope, certain differences can be identified between the healthcare organizations located in the Bucharest–Ilfov region and the other development regions of Romania regarding their options for one or the other type of Michael Porter's Generic Strategies. Considering that (on average) there are no significant differences between the two groups from the perspective of the strategic activity scope, and the extent of which healthcare units seek the achievement of a competitive advantage through differentiation, the only difference can be observed in the interest these units pay to providing medical services at a lower cost than those of their competitors. Consequently, it can be asserted that healthcare units located outside of the Bucharest–Ilfov region have opted for, to a greater extent, cost leadership.

4.5. Strategic Choices Based on the Type of Organization

The second characteristic of healthcare units that is expected to determine differences in their strategic orientation is the type of healthcare unit. Taking this characteristic into account, four groups have been distinguished: the majority of respondents included in the sample (46.813%) are hospital employees, 24.303% work in medical centers, while 11.753% originate from pharmacies and the representatives of private medical practices account for only 17.131% of the sample.

In Table 8, the mean scores of the variables corresponding to the cost leadership and differentiation competitive advantages, as well as to the strategic activity scope for each of the four types of organizations, were introduced. Analyzing this data, the following points can be observed:

- Out of the four categories of healthcare units, the medical centers and the hospitals focus on, to a greater extent, the differentiation of medical services by providing medical services/medicine of a superior quality, as opposed to that of their competitors, by equipping their units with state-of-the-art medical equipment through the existence of top-notch technical facilities at a national/international level, and all the while maintaining a high degree of professionalism demonstrated by their medical personnel, as well as a favorable image of the institution. The private medical practices are at the opposite end since they aim to obtain a competitive advantage through differentiation to a lesser extent. From a univariate perspective, these differences are statistically significant ($F_{(3,498)} = 2.906$; $p < 0.05$; $\eta^2 = 0.017$).
- Pharmacies and hospitals aim for a cost leadership competitive advantage to a greater extent, but the results of the univariate analysis did not highlight significant differences in this respect.
- Regarding the activity scope, hospitals focus more on providing medical services addressed to a large geographical area and to a wider patient target. They also aim to provide integrated medical services with a broad scope of medical specialties. In this context, private medical practices tend to focus on a narrow scope of strategic activities in order to achieve a competitive advantage. In regard to this criterion, the differences among the four types of healthcare units are statistically significant ($F_{(3,498)} = 43.306$; $p < 0.001$).

Table 8. Healthcare unit strategic orientation differentiation based on the type of organization.

Variable	Hospital (N = 235)	Pharmacy (N = 59)	Private Medical Practice (N = 86)	Medical Center (N = 122)	Univariate Comparisons of Means	MANOVA		
					F	V	F	η^2
Differentiation	4.094	3.765	3.922	4.148	2.906 *			
Cost Leadership	3.672	3.740	3.529	3.598	0.705	0.243	14.612 ***	0.081
Strategic activity scope	4.035	3.653	2.733	3.527	43.306 ***			

Note: V—Pillai's Trace. η^2 —the effect size. ***— $p < 0.001$. *— $p < 0.05$. Source: analysis conducted by the authors with IBM SPSS Statistics 27.0 [82].

For a comprehensive evaluation from a multivariate perspective of the healthcare units' strategic orientations based on the type of organization, unifactorial multivariate analysis MANOVA was conducted. As proven in the paragraphs above, when considered separately, significant differences could only be observed in regards to the differentiation competitive advantage and to the strategic activity scope, whereas from a multivariate perspective, healthcare units' strategic choices are statistically different for each type of organization—hospitals, pharmacies, medical centers, and private medical practice—($V = 0.243$; $F = 14.612$; $p < 0.001$; η^2 partial = 0.081), thus providing supportive arguments for hypothesis 3b. As a result, it can be stated that the type of healthcare unit determines the organizations to have different strategic orientations from the point of view of the competitive advantage aimed for and the strategic activity scope.

From the combination of the two types of competitive advantage with the strategic activity scope, based on Michael Porter's Generic Strategies, the extent to which the four types of healthcare units have focused on obtaining superior performance against their competitors can be highlighted. For a more suggestive illustration, they are graphically presented in Figure 2.

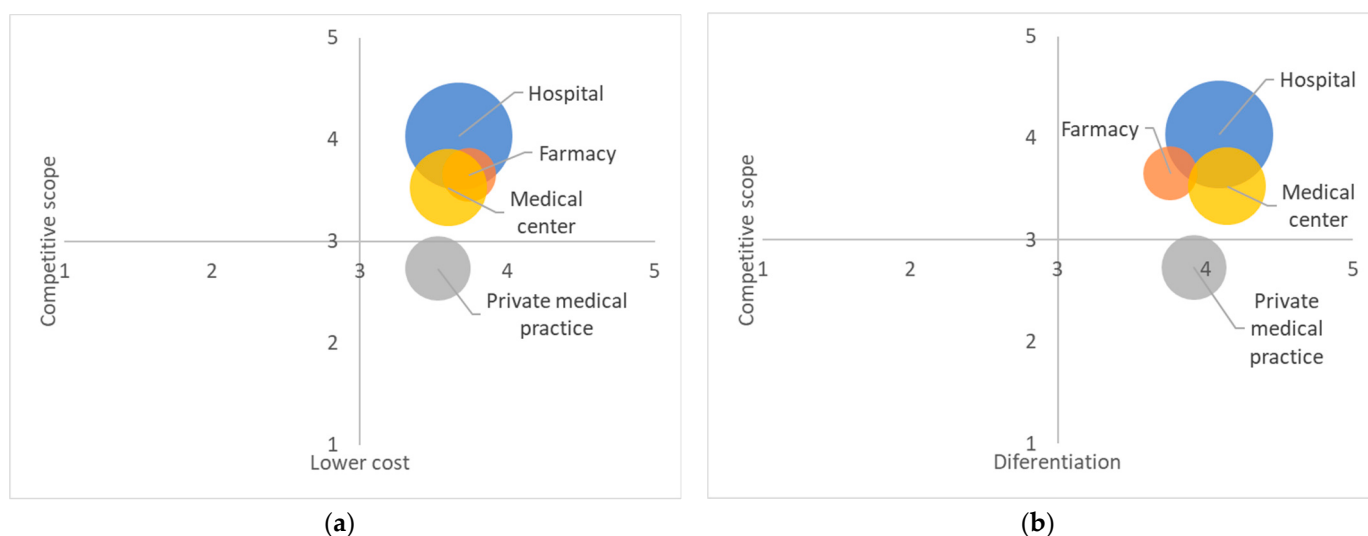


Figure 2. Healthcare units' strategic choices based on the type of organization. (a) Cost Leadership. (b) Differentiation.

Given the fact that, on average, there are no significant differences among the four types of healthcare units with respect to the extent to which they aim to obtain a competitive advantage through cost leadership, the distinction results from their focus on providing differentiated medical services and from the activity scope. Therefore, analyzing the data presented in the figures above, the following points can be mentioned:

- Hospitals aim to obtain performance superior to that of their competitors, mainly through medical service differentiation, superior quality, state-of-the-art medical equipment, the existence of top-notch technical facilities at a national/international level, their staff's enhanced level of professionalism, as well as through maintaining a favorable image of the institution, while focusing to a lower extent on cost leadership. Regarding the activity scope, it is superior to competitors' average, which leads to the conclusion that, in general, hospitals opt more for a differentiation strategy and less for a cost leadership one.
- Pharmacies that stand out, only through a competitive advantage, score slightly higher than their competitors, while their product differentiation is fairly low. Considering the average strategic activity scope as well, it can be concluded that these organizations have adopted a cost leadership strategy in their attempt to obtain a competitive edge.
- Private medical practices are characterized by a very narrow activity scope, which would be expected given their (generally) reduced size. In this regard, these organizations could consider focus strategies. Nevertheless, their interest is below average, both regarding the cost leadership strategies and the ones through differentiation, which suggests they do not opt for any of the four types of Generic Strategies.
- Medical centers focus, even to a greater extent than hospitals, on attaining a performance superior to that of their competitors, mainly through differentiation of medical services and, to a smaller extent, cost leadership. They also aim for an average activity scope, which denotes that, in general, they opt for a differentiation strategy and, to a lesser extent, for cost leadership. In particular situations, they also adopt a focus strategy through differentiation (of a certain patient target, geographic area, medical specialization, or type of service).

4.6. Healthcare Units' Strategic Choices Based on Their Age

In Table 9, the mean scores of the variables measure the extent to which healthcare units consider specific elements of the cost leadership and differentiation competitive advantages, as well as the strategic activity scope, since strategic priorities are introduced in a differentiated manner based the organization age. From this standpoint, the four groups

of respondents that formed the interest of our research are approximately equal in size, respectively; 22.51% originated from young organizations with less than 5 years in business, 22.91% came from healthcare units established between 6 and 10 years ago, 24.90% are employed by organizations aged between 11 and 20 years, while organizations founded more than 20 years ago account for 29.68% of the sample.

Table 9. Healthcare unit strategic orientation differentiation based on their age.

Variables	<5 Years (N = 113)	6 to 10 Years (N = 115)	11 to 20 Years (N = 125)	>20 Years (N = 149)	Univariate Comparisons of Means	MANOVA		
					F	V	F	η^2
Differentiation	3.737	4.193	4.118	4.083	5.332 **			
Cost Leadership	3.417	3.558	3.516	3.968	8.565 ***	0.132	7.654 ***	0.044
Strategic activity scope	3.701	3.526	3.448	3.854	4.311 **			

Note: V—Pillai's Trace. η^2 —the effect size. ***— $p < 0.001$. **— $p < 0.01$. Source: analysis conducted by the author with IBM SPSS Statistics 27.0 [82].

The overall assessment from a multivariate perspective of healthcare units' strategic orientations based on their age, conducted with MANOVA analysis, has emphasized the fact that healthcare units' strategic choices differ from a statistical standpoint ($V = 0.132$; $F = 7.654$; $p < 0.001$; η^2 partial = 0.044), thus supporting hypothesis 3b. In consequence, it can be asserted that the healthcare units' age determines their different strategic orientations from the viewpoint of the type of competitive advantage sought as well as that of the strategic activity scope.

Adding a univariate perspective for a more in-depth analysis, certain differences regarding the focus healthcare units place on gaining a competitive advantage and on the service scope were revealed:

- In terms of differentiation, a more intense interest can be observed with organizations established more than 5 years ago, except for the very young organizations.
- With respect to the cost leadership competitive advantage, healthcare units with more than 20 years of age often, to a greater extent, consider this type of competitive advantage a strategic priority, aiming for a reduction of their medical services/medicine costs under those charged by their competitors through an efficient utilization of their resources, so that it allows them to set lower prices than their competitors, thus attracting a higher number of patients.
- Regarding the product range, the research results have highlighted that the newly established organizations and the traditional ones with more than 20 years of age, in particular, offer larger product ranges.

The Generic Strategies adopted by the healthcare units, which consider both the type of competitive advantage and the activity scope, are shown in Figure 3.

Young healthcare units, established less than 5 years ago, aim for an average strategic activity scope, but do not stand out through service differentiation, nor through lower service costs as competitive advantages. Consequently, it can be concluded that these organizations do not have any competitive advantage and do not pursue any of Porter's Generic Strategies.

As healthcare units obtain more experience, and also as their financial power increases, organizations aged between 6 and 10 years and those between 11 and 20 years stand out through product differentiation, more specifically, they aim for performance superior to their competitors' mainly through medical service differentiation, superior quality, state-of-the-art medical equipment, the existence of top notch technical facilities at national/international level, through their staff's enhanced level of professionalism, as well as through maintaining a favorable image of the institution. They also focus on narrowing their strategic activity scope, which can be explained by the identification of a certain

patient target or a certain location where they can exert this competitive advantage. From the Generic Strategy viewpoint, this situation is associated with differentiation strategies or focused differentiation.

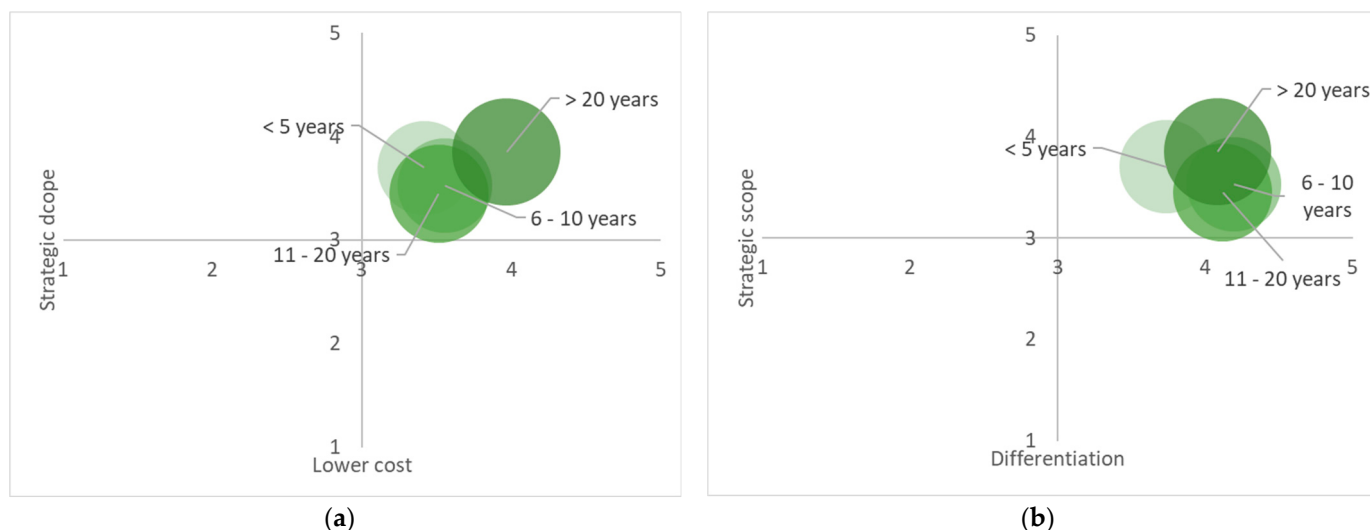


Figure 3. Healthcare units' strategic choices based on their age. (a) Cost leadership. (b) Differentiation.

Healthcare units having the longest experience, besides maintaining the differentiation competitive advantage, with time, they have also accumulated the experience and the financial resources, which allow them to aim for attaining performance superior to that of their competitors through cost leadership as well. Corroborating these results with a (relatively) broad strategic activity scope, it can be asserted that these organizations opt for both differentiation and cost leadership strategies in order to obtain a competitive advantage.

4.7. Healthcare Units' Strategic Choices Based on the Organization Size

The last one of the four healthcare units' characteristics, expected to determine differences related to their strategic orientation from the viewpoint of the type of competitive advantage sought and the strategic activity scope is their size, reflected in the number of employees. In this respect, the independent variable of the multivariate analysis of variance MANOVA was defined in such a way as to divide the respondent sample into five groups, among which statistically significant differences regarding the three dependent variables, considered together, can be determined.

As shown in Table 9, the five groups formed as such are balanced in terms of size, and the majority of respondents (27.09%) originating from medium-sized organizations, while the large-sized ones, with more than 1000 employees, account for the smallest percentage (14.74%).

The MANOVA analysis, conducted (see Table 10) to confirm whether there are differences related to healthcare units' strategic orientation based on their size, has emphasized statistically significant differences ($V = 0.305$; $F = 14.049$; $p < 0.001$; $\eta^2 \text{ partial} = 0.102$), thus providing supportive arguments for hypothesis 3d. Therefore, it can be stated that the size of healthcare units determines them to have different strategic orientations from the standpoint of the type of competitive advantage aimed for and that of the strategic activity scope.

Conducting a more in-depth analysis, from a univariate perspective as well, certain differences, with regards to healthcare organizations focus on attaining a competitive advantage and on the service scope, were highlighted; all of them were statistically significant.

Table 10. Healthcare unit strategic orientation differentiation based on size.

Variables	<10 (N = 109)	10 to 49 (N = 97)	50 to 249 (N = 136)	250 to 999 (N = 86)	>1000 (N = 74)	Univariate Comparisons	MANOVA		
						F	V	F	η^2
Differentiation	4.007	3.794	4.229	3.959	4.153	3.489 **			
Cost Leadership	3.711	3.426	3.559	3.556	4.045	4.859 ***	0.305	14.079 ***	0.102
Strategic Activity Scope	2.888	3.482	3.676	4.203	4.257	36.522 ***			

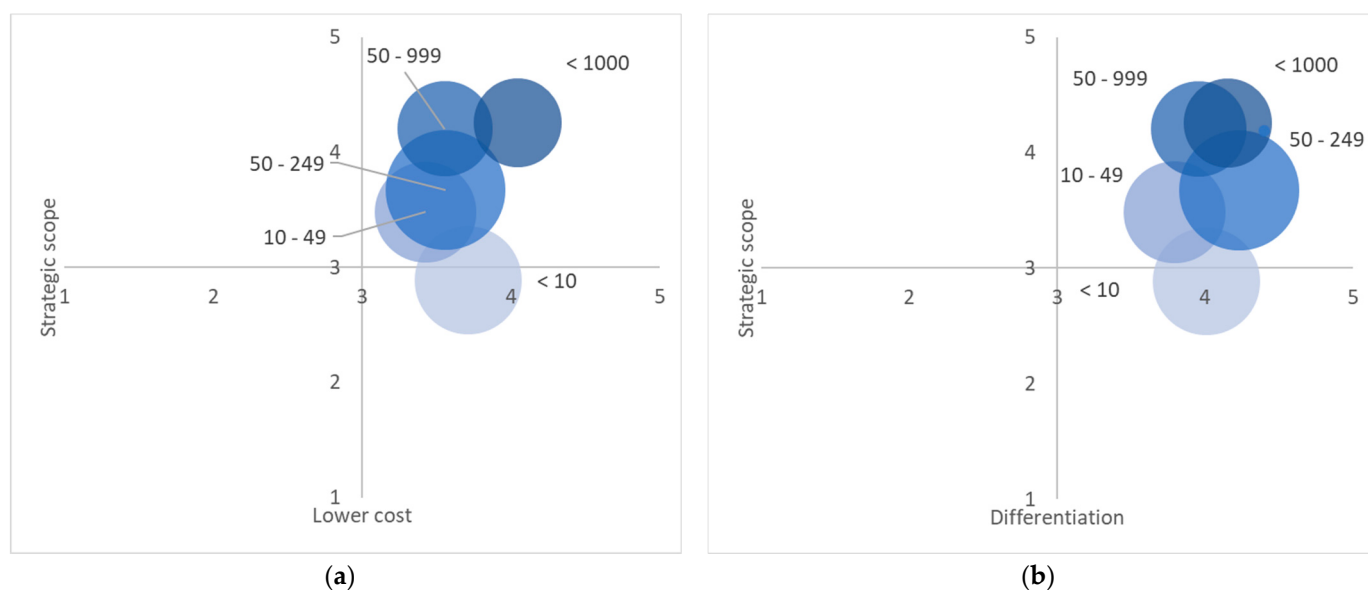
Note: V—Pillai's Trace. η^2 —the effect size. ***— $p < 0.001$. **— $p < 0.01$. Source: analysis conducted by the author cu IBM SPSS Statistics 27.0 [82].

In medium-sized organizations (with a number of employees between 50 and 249) and in the large-sized ones (with a number of employees above 1000), an intense focus on medical service differentiation can be noticed. More specifically, they focus on providing medical services of a quality superior to that of their competitors and pay special attention to their patients' comfort (providing hotel-like accommodations and ambience, etc.). They also aim to distinguish themselves from their competitors through their human resources' professionalism and competence, as well as through state-of-the-art medical equipment, and through keeping a favorable image of the organization.

Cost leadership competitive advantage is mainly sought by the large-sized organizations (with a number of employees above 1000) and also by those at the opposite end of the spectrum (those with less than 10 employees). These organizations aim, to a greater extent, to reduce the costs of the medical services/medicine under their competitors by an efficient utilization of resources, which allows them to charge lower prices compared to their competitors and also attract a higher number of patients.

With respect to the product/service scope, the research results have revealed that the larger the organization is, the broader their service scope. Thus, healthcare units with less than ten employees have the narrowest service scopes, while those with more than 1000 staff provide the broadest service ranges.

Considering the type of competitive advantage sought and the strategic activity scope together, a few particularities can be observed in regard to healthcare units' strategic orientation, based on their size (Figure 4).

**Figure 4.** Healthcare units' strategic choices based on their size. (a) Cost Leadership. (b) Differentiation.

- The micro small organizations (a category which is supposed to contain mainly private medical practices) show a more intense preoccupation for cost reduction and, to a moderate extent, service differentiation. Adding the very narrow strategic activity

scope to this, it can be concluded that organizations in this category opt predominantly for a focused cost leadership strategy and less for a focused differentiation strategy.

- The small-sized healthcare units (with up to 50 employees) aim for a narrow activity scope but do not stand out, neither through service differentiation nor through cost leadership as competitive advantages. Thus, it can be stated that, in general, these organizations do not have any competitive advantage and do not adopt any of Porter's generic strategic activities.
- The medium-sized organizations mainly seek a competitive advantage through differentiation; their strategic activity scope being above their competitors' average as well. Considering these two variables, it can be inferred that healthcare units in this category opt for differentiation strategies in order to obtain a competitive advantage.
- As the number of employees increases, a tendency to broaden the strategic activity scope can be noticed together with an increased interest for cost reduction. However, this tendency is still not emphasized enough to determine a competitive advantage on the medical service market. Unfortunately, these organizations are not as preoccupied with service differentiation as their smaller counterparts, which corroborated with the broad strategic activity scope, thus suggesting that these organizations are trying to adopt both cost leadership and differentiation strategies. However, the competitive advantage created this way is not a decisive one in the medical service market.
- The healthcare units with the largest personnel show a distinctive interest in attaining superior performance, both through differentiation and cost leadership. Adding a broad strategic activity scope to these results, it can be asserted that these organizations adopt both a differentiation strategy and a cost leadership one.

5. Discussion

The current research paper has focused on developing a new measurement instrument for strategic orientation based on Michael Porter's [14] Generic Strategies, in an attempt to confirm the first research hypothesis. While the extant literature is abundant in its attempts to operationalize strategic orientation, to the best of our knowledge only two other studies were focused on identifying healthcare units' strategic orientation based on the generic typology developed by Michael Porter. Ghiasi et al. [16] developed their scale based on the literature and secondary sources, introducing a categorical variable, classifying hospital strategic memberships into four groups: cost leadership, differentiation, stuck-in the middle and hybrid (the last one being in contradiction with Porter's [14] theory). The items were developed for the former two groups, the cost leadership subscale consisting of three items (the total expenses compared to the number of hospital beds, the total cost incurred per hospitalized patient day, and the total salaries received per hospitalized patient day) and the differentiation subscale of three other items (the total number of services provided by the hospitals, the total number of high-tech services offered, and the total number of rare services the hospitals laid at the patients disposal). The latter two groups were calculated based on the former two.

The second study was a pilot study developed by the main author of the current research in an attempt to pre-test the current scale [20], thus being very similar to the current study.

This research differs from Ghiasi et al.'s [16] study in several ways: first, it uses primary sources; secondly, though the items for the differentiation and cost leadership variables are still based on the literature, they are in a greater number and have been constructed after consulting specialists in the field, taking into account respondents' perception of actual cost leadership and differentiation competitive advantages the healthcare units seek, not only via reported statistics, but also having been pretested in a previous study [20], and consequently refined prior to being used in this research; thirdly it adds to the two competitive advantages aimed for, the subscale related to the strategic activity scope, thus closely following Porter's [51] guidance in forming the three Generic Strategies by combining the two types of competitive advantage sought with the strategic activity scope.

While not directly related to the construction of this scale, another difference worth mentioning here is that Ghiasi et al. [16] controlled for healthcare units' characteristics, while this study decided to take the Contingency Theory into account and include some of them in the analysis.

The scale developed in the current research will provide healthcare units' managers all around the world with a strong measurement instrument for their organizations' strategic orientation and will, concurrently, provide a new research instrument for academics conducting research in the healthcare field. While it was specifically developed to measure strategic orientation in the healthcare industry, in a generalized form, the scale could also become a general measurement instrument for strategic orientation in any field.

The second research hypothesis was confirmed through a Paired Sample *t*-test, which proved the statistical significance of the mean score measuring differentiation competitive advantage and its greater value than the cost leadership one, which suggests healthcare units' tendency to opt for a competitive advantage through differentiation. Our results are similar to the ones obtained in the pilot study we conducted previously [20], but different from other studies using Porter's [14] Generic Strategies in their statistical analyses, which found the cost leadership and hybrid strategies [16,18] as well as focus strategies [19] as the top preference for healthcare units. This could be due to various factors, such as the limitation to a single healthcare unit [18,19] or to secondary sources [15,16]. Another explanation could be found in the contingency theory, which poses that an effective approach to organization management should not be a one size fits all one [30], but should consider the fact that other factors, among which the geographical location, the healthcare units' age or size, or even the type of healthcare organization, could play a major role in explaining these differences.

To analyze the effect of the above-mentioned healthcare units' characteristics, we included them in the third research hypothesis, as contingent factors. In terms of the geographic criterion, when the two types of competitive advantage were compared, our results showed that healthcare units from regions outside the Bucharest–Ilfov region aim for both differentiation and cost leadership advantages, but only the preference for cost leadership advantage proved statistically significant, suggesting that this category of healthcare units targets provision of medicine and services under their competitors' market prices through efficient resource utilization, which can draw in a larger number of patients. Our analysis turned out different results from the other studies [72,73], but this could be explained by the fact that they approached location from a different perspective, not from a rural–urban one. However, our results would be in line with the theoretical arguments mentioned in an older study conducted by Goldstein et al. in 2002 [70], which suggested rural healthcare units' lack of funds, thus leading to one possible assumption that they would aim for a cost leadership competitive advantage. Our results are in line with Goldstein et al.'s [70] study in terms of strategic activity scope as well, highlighting the tendency of healthcare units in the Bucharest–Ilfov region to opt for a broader scope, thus confirming Goldstein et al.'s [70] assumption that health organizations in rural areas would opt for a narrower competitive scope. Our results for the entire strategic orientation scale that measured the impact that location had on a healthcare units' choice of a certain competitive advantage, which were obtained by combining the healthcare units preference for one or another type of competitive advantage and their preference for a certain activity scope, showed that healthcare units outside the Bucharest–Ilfov region have chosen cost leadership competitive advantage, which is still in accord with Goldstein et al.'s [70] study. From the contingency theory perspective, the geographical location could be considered part of the environment surrounding the healthcare units, our findings supporting the notion that one strategy choice in a certain type of environment may not be appropriate for healthcare units in a different type of environment [31].

In regard to the effect healthcare units' type has on these organizations' choices of a competitive advantage, we focused on four types of healthcare units: hospitals, pharmacies, medical centers, and private medical practices, in an attempt to consider a wider variety of

healthcare units than the previous studies conducted recently, which focused mainly on healthcare units' ownership. When the health organizations' preference for a certain type of competitive advantage and for a strategic activity scope were analyzed separately, our results were different from the previous studies [72,74], which proved that private hospitals would opt for a differentiation competitive advantage. Since we didn't make a clear difference between private and public hospitals and medical centers in the current research, we could only compare the results related to private medical practices and pharmacies with the previous studies, concluding that they are different since our research proved that private medical practices opt for a cost leadership competitive advantage, not for a differentiation one as in the previous studies, while the results related to the pharmacies' preference for cost leadership did not prove significant differences. The difference in results could be explained by the fact that we can only compare certain types of healthcare units, but not the hospitals that were the main focus of the previous studies. In respect to the strategic activity scope, our results showed that hospitals provide medical services to a larger geographical area and aim for a broader scope of medical services, while private medical practices prefer a narrow scope. These results cannot be compared to the more recent previous studies since none of them observed the strategic activity scope.

When the whole strategic orientation scale is considered by combining the healthcare units' choice of a competitive advantage with the strategic activity scope based on the type of organization, our results showed that hospitals opt for a differentiation strategy rather than for cost leadership, which is partly in line with prior studies that mentioned the same preference for differentiation strategy, but only related to private hospitals. Our findings also showed that pharmacies tend to opt for a cost leadership strategy, in which respect they differ from previous studies, which showed private healthcare units aim to obtain a competitive advantage through differentiation. Not even in the private medical practice case do the results align, thus, our study shows that this type of healthcare unit does not opt for any of Porter's Generic Strategies, while the previous studies mention the private healthcare units' choice for differentiation. Considering the very narrow type of strategic activities these units choose to conduct, they might want to consider the focus strategies. The results related to medical centers proved to be the most in line with the previous studies, emphasizing medical centers are even higher than hospitals' tendency to opt for a competitive advantage through differentiation, similarly to Weng et al.'s [74] and Takahara's [72] results. Even from a contingent viewpoint, our results are in line with the core notion of the contingency theory, stipulating that each organizational requires strategic choices fit for its type and context [30].

With respect to the healthcare units' choice of a competitive advantage and of a certain strategic activity scope based on their age, our results revealed that organizations established more than five years ago show a stronger interest in attaining a competitive advantage through differentiation, and organizations more than 20 years of age tend to choose a cost leadership competitive advantage to a greater extent. In terms of product range, our results showed that the newly established organizations as well as those with more than 20 years of age offer larger product ranges. When healthcare units' choice of a competitive advantage was combined with their option for a certain strategic activity scope, our results revealed that the healthcare units established less than five years ago do not have any competitive advantage and do not pursue any of Porter's [14] Generic Strategies. However, our findings also emphasize that the increase in healthcare units' experience accompanied by a rise in their financial power leads them to opt for differentiation strategies or for focused differentiation strategies. Finally, our findings revealed that the health care units with the longest experience proved to aim for both a competitive advantage through differentiation and, with accumulated experience and financial resources, also for a cost leadership competitive advantage. They also showed these healthcare units' preference for a broad strategic activity scope. Our results are in line with the theoretical study conducted by Sorensen and Stuart in 2000 [75] and Weng et al.'s [74] argument that an older hospital would develop better infrastructure, knowledge and increased capabilities to manage

resources in a more efficient way so as to develop new services or adopt new technology, and also to reduce its expenses. However, their empirical results oppose our findings; since they were not able to prove even the one tendency (the healthcare units' choice of a differentiation strategy), their hypothesis that hospital age would positively influence technological innovation (an assumed preference for a differentiation strategy) was not supported. The differences in findings related to health care units' age could also support the contingent approach to Porter's Generic strategies [30,41].

Regarding healthcare units' strategy choices based on Porter's [14] Generic Strategies, in terms of their size, our findings pointed to differentiation competitive advantage as being the primary choice for medium and large organizations; these healthcare units focus on providing medical services of a quality superior to that of their competitors, and pay special attention to their patients' comfort (providing hotel-like accommodations and ambience, etc.). They also aim to distinguish themselves from their competitors through their human resources' professionalism and competence, as well as through state-of-the-art medical equipment and through keeping a favorable image of the organization.

These results were in line with Weng et al.'s [74] and Trinh's [73] studies, which mentioned larger healthcare units' preference for a competitive advantage through differentiation. Cost leadership competitive advantage resulted as the main choice for large organizations as well for the micro-small ones. These organizations aim, to a greater extent, to reduce the costs of the medical services/medicine under their competitors by an efficient utilization of resources, which allows them to charge lower prices compared to their competitors and also attract a higher number of patients. These findings oppose those of Weng et al.'s [74] and Trinh's [73], and didn't find support in the other studies identified for this research. When it comes to healthcare units' choice of a strategic scope based on their size, micro-small organizations have proved to opt for the narrowest scope, while those employing more than 1000 employees often opt for the broadest strategic scope.

Considering the fact that the strategic scope has not constituted the object of any of the more recent studies analyzing healthcare units' organizational characteristics, no comparison can be made related to healthcare units' choices of a certain activity scope based on any of the characteristics approached in this study. When the two types of competitive advantage and the strategic scope were considered together in an attempt to identify the strategic orientation of healthcare units based on their size, it was revealed that micro-small healthcare units (mainly the private medical practices) opt for a focused cost leadership strategy, the small ones did not turn out to adopt any of Porter's [14] Generic Strategies, nor to have any competitive advantage, the medium-sized ones showed a tendency to adopt differentiation strategies in order to obtain competitive advantages, and the large ones proved to opt for obtaining a competitive advantage through both differentiation and cost leadership.

Large healthcare organizations show the same tendency to opt for both cost leadership and differentiation competitive advantages both when the competitive advantages and the strategic activity scope are considered separately, and also when they are considered together. This is in disagreement with Porter's [14] theory that an organization should follow only one of the Generic Strategies, but is in line with Acquaah and Ardekani [63], Campbell-Hunt [64], Hill [65], Jones and Butler [66], Kim, Nam, and Stimpert [67], Murray [41], Spanos, Zaralis, and Lioukas [68] who contend that a combination or hybrid strategy is not only feasible, but also more profitable. Despite all the support, such a strategic option received in the healthcare service industry reveals that competitive advantage obtained by pursuing both cost leadership and differentiation strategies has not proven to be a decisive one. Even in this case, our findings support the contingency theory, pointing to the imperative that management of larger healthcare units have a more complex approach to strategy choice, than the one of smaller healthcare units, notwithstanding the necessity of a situational approach [31].

The contingency theory approach to Porter's generic strategies in healthcare presents certain advantages such as allowing innovative approaches to complex situations, more

freedom in the decision-making process, an enhanced awareness of contextual factors, as well as an increased alertness to changes in the environment, all these factors facilitating a more agile and continuous approach in management choice of the strategy to follow in order to gain a competitive advantage.

6. Conclusions

This research sought to provide empirical arguments based on which healthcare units' competitive advantages can be identified. From this perspective, the results obtained have confirmed those of the pilot study, specifically that healthcare units mainly aim to attain performance superior to that of their competitors through product/service differentiation more than cost leadership, thus confirming the second research hypothesis (H2).

Likewise, the empirical results have also confirmed the third hypothesis (H3); more specifically, the tendency to seek one (or both) types of competitive advantage, as well as the strategic activity scope differing depending on several contingent factors, among which the institutions' location in a certain geographic area, the type of healthcare unit, their age, as well as their size have been studied in this research.

This paper also aimed to develop a new measurement instrument for strategic orientation based on Michael Porter's [14] Generic Strategy theory, proving that, through the confirmation of the first hypothesis (H1), healthcare units' strategic orientation is a multidimensional construct built on the basis of interdependence relationships occurring among three dimensions: cost leadership, differentiation, and strategic activity scope.

Through the validation of the above-mentioned three hypotheses (H1–H3), this study answered the research question: "what is the type of competitive Romanian healthcare units aim to achieve and how is it (that specific type of competitive advantage) reflected in the type of strategy these institutions adopt, following Michael Porter's Generic Strategy Model?" by developing a new scale to measure the strategic orientation of institutions activating in the healthcare industry, proving that they opt for a differentiation competitive advantage rather than for a cost leadership one, and by emphasizing the impact contingency factors such as healthcare units' characteristics have on these institutions' choice of a competitive advantage.

The creation and validation of the healthcare units' strategic orientation scale based on Porter's competitive strategy is of major importance, since it is the first one created through the combination of the two types of competitive advantage with the strategic activity scope, thus providing future researchers with a new measurement instrument and setting the trend for a new body of research measuring strategic orientation based on Michael Porter's Generic Strategies.

The research also contributes to the body of research on business management, revealing new empirical evidence on healthcare units' strategic orientation based on Michael Porter's Generic Strategies from a Contingency Theory Perspective and, at the same time, providing policy makers and medical professionals (in particular healthcare units' owners, strategists/business planners, and managers) with guidance in making more informed strategic choices in terms of new healthcare institution development, as well as the management of resources and capabilities of existing healthcare units in the attempt to attain a competitive advantage.

As this study is limited to healthcare units located in Romania, it can help researchers all over the world conduct similar studies in their own countries, and even comparative studies on several countries. Another limitation of this study consists in the lack of connection between the financing methods and healthcare units' strategy choices. Although the financing means would be expected to influence the healthcare units' strategic choices, most Romanian healthcare units are being financed through the payments for medical services made by the National Health Insurance House, the reason for which it did not constitute a factor in our analysis.

Also, since the healthcare units' characteristics mentioned in this research are only a few of the contingent factors which, according to the Contingency Theory, can deter-

mine/influence healthcare units' strategic choices, future studies can focus on analyzing more complex relationships, such as environment–structure–strategy, focusing on identifying those combinations of healthcare units' attributes that can lead to an increased performance from both patient and organization standpoints. Considering those complex relationships, more sophisticated methods for data analysis may be employed.

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