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Responsive and proactive market orientation and hospital financial performance: The mediating effect of service program innovativeness

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Abstract

PURPOSE: *The study aims to investigate the direct and indirect relationships among market orientation, service program innovativeness, and the financial performance of hospitals. Two types of market orientation – responsive and proactive – were considered, along with two dimensions of service program innovativeness: meaningfulness and novelty.* ***METHODOLOGY:*** *The study gathered data through a survey conducted on a random sample of 204 Polish hospitals. Structural equation modeling was used to analyze the data, test a conceptual model designed as a parallel two-mediator model, and validate the hypotheses.* ***FINDINGS:*** *The work revealed both direct and indirect effects. In terms of direct effects, the study found that implementing a responsive market orientation positively influences the meaningfulness of a hospital's service program but has no impact on its novelty. Conversely, the implementation of a proactive market orientation has a positive influence on both the meaningfulness and novelty of the program. Furthermore, the meaningfulness and novelty of the program contribute positively to the hospital's financial performance. In terms of indirect effects, the study identified mediation phenomena: a responsive market orientation positively affects a hospital's financial performance through the meaningfulness of the service program, while a proactive market orientation enhances financial performance through the novelty of the program.* ***IMPLICATIONS:*** *The study contributes to the current understanding, confirming the positive impact of a proactive market orientation on innovations within the organization while contradicting the view that a responsive market orientation supports these innovations. Additionally, the results support the idea that innovations within the organization have a positive impact on its outcomes. The study also reveals specific mechanisms that influence market orientation on organizational outcomes, indicating that a responsive orientation affects a service provider's outcomes through the meaningfulness of its service program, while a proactive orientation influences outcomes through the novelty of the program. The practical recommendations for hospital managers are as follows: (a) to achieve a high level of meaningfulness in the service program, it is advisable to implement both responsive and proactive market orientations; (b) to attain a high level of novelty in the program, a proactive market orientation is recommended; (c) to enhance the hospital's financial performance, it is suggested to develop a service program that is both meaningful and novel, and to implement both responsive and proactive market orientations.* ***ORIGINALITY AND VALUE:*** *The study's originality and value stem from its exploration of specific direct and indirect mechanisms through which market orientation affects hospital financial performance, filling a prior research gap. By investigating these mechanisms, the study enhances the overall understanding of hospital management.*

Keywords*: market orientation, responsive orientation, proactive orientation, healthcare, financial performance, innovativeness.*

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INTRODUCTION

In developed countries with well-established and advanced healthcare systems, patients have access to medical services provided by various public and private healthcare organizations. As a result, patients have the opportunity to choose a healthcare institution that can offer them specific medical services. This creates competition among healthcare providers, who strive to create their service programs according to the needs and preferences of potential patients. From the perspective of patients, healthcare services play a vital role as they significantly impact their quality of life. Berry and Bendapudi (2007) argue that healthcare services are arguably the most personal and important services consumers purchase. In this context, the market orientation of healthcare organizations can be seen as an essential and necessary approach in the healthcare sector (Mu et al., 2019).

Market orientation means that an organization recognizes the needs of customers, both expressed and latent, and strives to satisfy them as far as possible while still being profitable (e.g., Ellis, 2006; Kirca et al., 2005; Narver & Slater, 1990; Qu, 2014). As this approach is natural and in line with the concept of the market economy, it has therefore already been noticed that market orientation supports the achievement of high organizational performance (Lee et al., 2015; Narver & Slater, 1990; Osorio Tinoco et al., 2020; Wilson et al., 2014). However, according to Narver and Slater (1990), market orientation creates the right behaviors and conditions for the development of superior products or services, which, in turn, allow for the achievement of excellent results. Therefore, it can be assumed that market orientation indirectly affects an organization's performance through certain mediators (Kirca et al., 2005), such as superior products or services. This paper addresses a research problem that involves providing an answer to the following research question (RQ):

RQ) How do responsive and proactive market orientations impact the results of an organization through two aspects of the innovativeness of the service program, namely its meaningfulness and novelty?

This question warrants additional research attention. Studies have shown that the market orientation of an organization supports innovation (Cantaleano et al., 2018; Lakshman et al., 2017; Milfelner et al., 2019; Sandvik & Sandvik, 2003; Wang & Liu, 2020), which, in turn, translates into improved results (Han et al., 1998; Na et al., 2019; Wang & Liu, 2020; Zhang & Duan, 2010; Zhou et al., 2005). However, market orientation can take a responsive or proactive form (Narver et al., 2004), while the innovativeness of products or services is characterized by two dimensions, namely their meaningfulness and novelty (Chen & Arnold, 2022; Duan et al., 2020; Heirati & Siahtiri, 2019; Stock & Zacharias, 2013). Therefore, for an organization aiming to achieve high performance, it is crucial to understand how different types of market orientation influence both dimensions of the innovativeness of the product or service program and how these aspects translate into the results of an organization.

A review of the current literature indicates that studies have been conducted regarding the mediating role of innovation in the relationship between market orientation and organizational results (Bamfo & Kraa, 2019; Han et al., 1998; Kocak et al., 2017; Migdadi et al., 2017). However, to the best of the authors' knowledge, there still exists a gap in the current knowledge involving the understanding of how responsive and proactive market orientations influence the two dimensions of product or service program innovativeness and how these dimensions affect the organization's results. This kind of knowledge will enable organizations to choose a specific type of market orientation and shape a certain aspect of the innovativeness of the offered program, which, in turn, will allow the results of the organization to be influenced.

The existence of the mentioned research gap is confirmed by the results of the review of peer-reviewed articles using a conjunction of the following phrases: (i) "market orientation" or "responsive market orientation" or "proactive market orientation," (ii) "service innovation" or "service innovativeness," and (iii) "organizational outcomes," in abstracts, titles, and keywords. Based on this review, we identified a total of 13 articles related to the topic of market orientation, service innovation, and organizational outcomes. However, none of these publications addressed the specific issue that is the subject of our study.

Building on the theoretical background of market orientation, the aim of the study is to enhance the understanding of the direct and indirect relationships between market orientation, service program innovativeness, and the financial performance of hospitals. This objective was achieved by assuming the existence of two types of market orientation: responsive and proactive, as well as defining the innovativeness of the service program using two dimensions: meaningfulness and novelty. We posit that a hospital's market orientation, both responsive and proactive, influences the novelty and meaningfulness of its service program, which, in turn, impacts the hospital's financial performance.

The existence of such effects is supported by a market orientation perspective that enables the provision of innovative services to achieve favorable outcomes (Srivastava et al., 2001).

This study focuses on the service program, also referred to as the service portfolio, which encompasses the entire range of services offered by a hospital (Stock & Zacharias, 2013) (Stock, 2011). Consequently, the study adopts a service program-level approach that is suitable for analyzing the relationships between the market orientation of a hospital, both responsive and proactive, and its overall financial performance. This is because these factors refer to the entire organization, similar to service program innovativeness. Furthermore, healthcare services are complex and patients require a "whole person" service (Berry & Bendapudi, 2007). Therefore, the innovativeness of the service program of a healthcare institution is important for potential patients.

Our study constitutes a contribution to the current knowledge in several ways. Firstly, our results confirm the relatively common belief in the positive impact of a proactive market orientation on innovations within the organization, as they indicate the favorable influence of this orientation on the meaningfulness and novelty of the service program. However, they contradict the perspective assuming that a responsive market orientation supports these innovations because this type of orientation positively affects only the meaningfulness of the service program, not its novelty. Secondly, our results align with the approach that innovations within the organization positively influence its outcomes. Thirdly, our findings reveal the existence of specific mechanisms, hitherto undiscovered, related to the influence of a specific type of market orientation on organizational outcomes. The first of these mechanisms indicates that a responsive market orientation affects the outcomes of a service provider through the meaningfulness of its service program, while the second shows that a proactive market orientation influences these outcomes through the novelty of this program.

The healthcare system in Poland is a network of individuals and institutions tasked with providing healthcare to the population. According to the Polish constitution, every citizen has the right to health protection, and public authorities are responsible for ensuring access to healthcare services. The Polish healthcare system is based on an insurance model, with the main source of funding being health insurance in the National Health Fund (NFZ). Citizens contribute a mandatory insurance premium to the NFZ, amounting to 9% of their personal income (Sowada et al., 2019).

In the Polish medical services market, there is both public healthcare, mainly funded by the NFZ, and private healthcare, financed by the NFZ, as well as other sources (e.g., direct patient payment or private health insurance). Among all medical entities, public facilities dominate; for instance, in 2018, Poland had 949 hospitals (Polish Statistical Office, 2024), of which about 70% were public, including local government hospitals, and 30% were non-public (*Private hospitals in Poland*, 2023). The majority of medical services in Poland are funded by the NFZ, both in public and private institutions. Medical facilities, based on signed agreements with the NFZ, settle the provided medical services with the NFZ and receive financing from this fund (Sowada et al., 2019).

CONCEPTUAL BACKGROUND

Market orientation and its responsive and proactive forms

Market orientation is based on the implementation of a marketing concept, which assumes that identifying and satisfying the needs of target customers to a greater extent than competitors is crucial for achieving the goals of the organization (Iyer et al., 2018; Kirca et al., 2005; Narver et al., 2004; Ye et al., 2023). The concept of market orientation has been a topic of intense interest among researchers for over three decades, dating back to the classical works of Kohli and Jaworski (1990) and Narver and Slater (1990), which addressed the understanding of market orientation. Narver and Slater (1990) propose a broader understanding of market orientation than Kohli and Jaworski (1990), but both approaches complement each other. Narver and Slater (1990) define market orientation as the organizational culture that most effectively generates the necessary behaviors for creating higher value for buyers than competitors, resulting in superior performance. On the other hand, Kohli and Jaworski (1990) highlight key behaviors characterizing market orientation and define it as the organization's generation of market intelligence regarding current and future customer needs, the dissemination of this intelligence across departments, and organization-wide responsiveness to these needs. Narver and Slater (1990) point out three main components of market orientation: customer orientation, competitor orientation and inter-functional coordination, while Kohli and Jaworski (1990) distinguish three dimensions of this orientation in the form of knowledge generation, its dissemination and response.

Most research findings indicate that market orientation contributes to achieving the high performance of an organization (e.g., Lee et al., 2015; Narver & Slater, 1990; Osorio Tinoco et al., 2020; Wilson et al., 2014); however, in some cases, a positive impact of market orientation on this performance has not been observed (Greenley, 1995; Qu, 2014; Suliyanto, 2012). One possible reason for these mixed results may be the presence of market orientation in two distinct forms: responsive and proactive. The lack of differentiation between these forms in research may lead to different results. Accordingly, Narver et al. (2004) suggest that researchers questioning the influence of market orientation on innovation did not consider proactive market orientation.

The two mentioned forms of market orientation began to be distinguished roughly two decades ago (Narver et al., 2004) based on the difference between expressed and latent needs. Expressed needs are those of which customers are aware and can articulate, while latent needs are those that customers are unaware of and cannot articulate (Narver et al., 2004; Osorio Tinoco et al., 2020).

A responsive market orientation is focused on meeting expressed needs. An organization applies a responsive market orientation when it emphasizes the recognition and fulfillment of the needs that customers are aware of. On the other hand, a proactive market orientation is concerned with addressing latent needs. In this case, the organization aims to discover the needs that customers are unaware of and then respond to them (Narver et al., 2004; Osorio Tinoco et al., 2020).

Hospitals can adopt both forms of market orientation. For instance, a hospital implementing a responsive market orientation may establish a comprehensive pain management program to address the articulated need for adequate pain management and symptom relief. On the other hand, an example of implementing a proactive market orientation is the detection of health issues and patients' needs of which they are not aware, based on preventive examinations, followed by preventing the development of or treating the identified conditions.

Service program innovativeness

According to Amabile and Pratt, innovation is defined as "the successful implementation of creative ideas within an organization" (Amabile & Pratt, 2016, p. 158). This definition is based on Schumpeter's perspective of innovation, where innovation is seen as the commercial application of ideas or inventions (Schumpeter, 1934). However, some authors have a broad view of innovation as they include the creation of ideas in the entire innovation process (N. Anderson et al., 2014; Koen et al., 2002). From this broader perspective, service innovation can be defined as any change that affects one or more aspects of one or more service characteristics (Gallouj & Weinstein, 1997; Mu et al., 2019). This definition aligns with Schumpeter's general notion of innovations as "new combinations" (Schumpeter, 1934).

Existing research shows that innovativeness in an organization can be studied at the product level (Dabrowski, 2019; Heirati & Siahtiri, 2019; Mu et al., 2019) or the product program level (Atuahene-Gima et al., 2005; Chen & Arnold, 2022; Kang et al., 2014; Stock & Zacharias, 2013). In the first case, researchers focus on a specific product or service to investigate innovation within the organization, while in the second situation, the focus is on the product or service program level, also known as the organization level, to examine organizational innovativeness. Both these approaches are valuable, but some authors argue that studying innovativeness at the organization level can provide more insightful findings than studying it at the individual product or service level (Chen & Arnold, 2022; Siguaw et al., 2006; Stock & Zacharias, 2011). This may be because decisions regarding the entire program offered by an organization are strategic in nature and have long-term consequences (Cooper et al., 1999).

The existing literature on innovation primarily considers the uniqueness or novelty of a product or product program as the main indicator of innovativeness (e.g., Garcia & Calantone, 2002; Heirati & Siahtiri, 2019). In this perspective, innovativeness is defined as the degree of difference between new and existing offerings to either a firm or user group (Garcia & Calantone, 2002; Szymanski et al., 2007). However, in the past decade, a new research stream has emerged that incorporates two dimensions in the conceptualization of innovativeness (Chen & Arnold, 2022; Duan et al., 2020; Heirati & Siahtiri, 2019; Kang et al., 2014). The first dimension is the aforementioned uniqueness or novelty, and the second dimension is the meaningfulness (or usefulness) for users of a product or product program (Mu et al., 2019; Schultz et al., 2013). The addition of the meaningfulness dimension is based on the understanding that new products or services are primarily designed to satisfy user needs and wants. Therefore, meaningful benefits for users are seen as the central criterion for assessing product or service innovativeness (Heirati & Siahtiri, 2019; Stock & Zacharias, 2013).

In this study, we follow this research stream and conceptualize service program innovativeness using these two dimensions. Thus, we define service program innovativeness as the extent to which an organization's service program is new or novel and, at the same time, useful or meaningful to customers or users in comparison to what is already

available (Duan et al., 2020; Heirati & Siahtiri, 2019; Stock & Zacharias, 2013). These two dimensions are seen as distinct components of service program innovativeness (Stock & Zacharias, 2013).

Hospital performance

The assessment of an organization's performance can be based on various measures, as performance is a multidimensional concept (Liao et al., 2011; Rauch et al., 2009). Typically, these measures are divided into the following two groups: on-financial and financial (Rauch et al., 2009; Sainaghi et al., 2017). The first group includes measures that are not based on financial criteria, such as customer loyalty or organizational image (Kamboj & Rahman, 2015; Rauch et al., 2009; Kirca et al., 2005), while the second group comprises measures that are based on one or more financial criteria, such as total sales or profitability (Kamboj & Rahman, 2015).

In the context of a hospital's operation, the primary objective of a hospital is to provide medical care and treatment to individuals in need of healthcare services, and therefore, the key criterion for assessing a hospital is typically patient outcomes or the quality of patient care. Non-financial measures like patient satisfaction or clinical outcomes are commonly used for this evaluation (Donabedian, 1988). However, the financial aspects of a hospital's operation cannot be disregarded, as the quality of medical services provided by the hospital is dependent on its financial situation. A hospital with a strong financial standing typically delivers high-quality medical services, thus fulfilling well its mission to protect the public's health. Therefore, the overall financial performance of a hospital serves as an important measure of its outcomes, which is adopted in this study as a measure of assessing a hospital's performance.

HYPOTHESES DEVELOPMENT

We develop a theoretical framework, presented in Figure 1, to examine the independent effects of responsive and proactive market orientations on a hospital's financial performance through each dimension of service program innovativeness. We argue that: (i) responsive and proactive market orientations have distinct effects on the novelty and meaningfulness of a hospital's service program innovativeness, (ii) each of these two dimensions of service program innovativeness has an explicit effect on a hospital's financial performance, and (iii) each of the two dimensions mediates the impact of both a proactive and a responsive market orientation on a hospital's financial performance.

The proposed model of this study is based on the perspective of an organization's market orientation. According to this viewpoint, market orientation encompasses a culture and behaviors that lead to achieving better results than competitors (Crick, 2021; Kirca et al., 2005; Kohli & Jaworski, 1990; Narver & Slater, 1990). Higher results become possible when the organization can provide customers with greater value than competitors (Narver & Slater, 1990), assuming that customers, when choosing a product or service, are driven by the desire to obtain the highest possible value. The ability to offer the greatest value to customers is possessed by an organization that achieves a competitive advantage (Kumar et al., 2011; Na et al., 2019; Narver & Slater, 1990; Peteraf & Barney, 2003). This competitive advantage, created by developing a product of higher economic value than competitors, can be achieved through increasing benefits for customers or reducing product costs by the supplier (Narver & Slater, 1990; Peteraf & Barney, 2003).

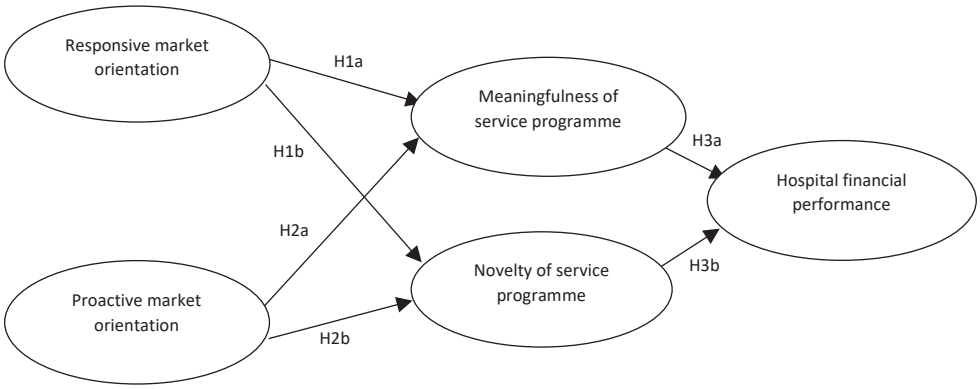

Figure 1. Conceptual model

H4a: Responsive market orientation → Meaningfulness of service program → Hospital financial performance.
H4b: Responsive market orientation → Novelty of service program → Hospital financial performance.
H5a: Proactive market orientation → Meaningfulness of service program → Hospital financial performance.
H5b: Proactive market orientation → Novelty of service program → Hospital financial performance.

Market orientation focuses primarily on providing customers with maximum benefits from using products or services according to their needs (Kohli & Jaworski, 1990). Both responsive and proactive market orientation, considering the expressed and latent customer needs, aim to satisfy these needs as fully as possible and offer customers the greatest benefits (Narver et al., 2004). Delivering such benefits to customers contributes to gaining a competitive advantage, enabling the creation of greater value for customers than competitors, and consequently achieving a better performance than rivals (Peteraf & Barney, 2003).

Buyers achieve the benefits they desire through the use of products and services. Therefore, market-oriented organizations focus on innovation, creating innovative products and services that aim to provide customers with the highest possible value (Atuahene-Gima et al., 2005; Han et al., 1998). As a result, both responsive and proactive market orientations may foster the development of innovative products and services (Narver et al., 2004), i.e., meaningful and novel, forming the organization's innovative product or service program.

Based on the above, it can be stated that both responsive and proactive market orientations of an organization lead to the creation of an innovative program of products and services, enabling the achievement of high results.

We theorize that the higher the level of responsive market orientation of a hospital, the greater both the meaningfulness and novelty of its service program. In terms of a responsive orientation, the task of a hospital is to acquire knowledge about the needs expressed by patients, and offer services that satisfy those needs (Atuahene-Gima et al., 2005; Narver et al., 2004; Petzold et al., 2019). These needs can be identified through classic medical interviews (anamnesis) or by employing certain marketing research methods (Kohli & Jaworski, 1990; Wang & Liu, 2020) (e.g., surveys, non-standardized interviews, exploration of forums, and healthcare dedicated websites). By using these methods, hospitals can gather information to broaden their knowledge about the current medical needs of patients (e.g., the current intensity of specific diseases or the emergence of new diseases), as well as knowledge concerning the improvement of overall patient care quality (e.g., implementing a mobile application for patients).

Knowledge about the needs expressed by patients serves as a basis for shaping a hospital's service program. On the one hand, based on this knowledge, the hospital can shape its services in a way that responds to these needs (Lonial et al., 2008; Narver et al., 2004). In this case, the hospital's service program will be characterized by a high level of meaningfulness for patients. On the other hand, the knowledge about expressed needs can be used to introduce new services that address the problems articulated by patients (Heirati & Siahtiri, 2019; Milfelner et al., 2019; Petzold et al., 2019). The development of such new medical services is often possible due to the utilization of the latest scientific and technological advancements (Iyer et al., 2021) (e.g., by developing new treatments for previously incurable ailments or diseases). In such cases, the application of a responsive market orientation will likely increase the novelty of the offered service program.

Due to the arguments presented above, we believe that a higher level of responsive market orientation of a hospital will be associated with higher meaningfulness and novelty of the services offered by the hospital. Therefore, we posit that:

H1: A hospital's responsive market orientation positively influences the meaningfulness (H1a) and the novelty of its service program (H1b).

We hypothesize that the higher the level of proactive market orientation of a hospital, the greater the meaningfulness and novelty of its service program. The essence of this orientation is to identify and satisfy the latent needs of patients, which are the needs that patients themselves are not aware of. However, such needs can be diagnosed (Atuahene-Gima et al., 2005; Narver et al., 2004). For this purpose, medical personnel can utilize medical observation of a patient, which includes the observation of various vital signs, physical signs, and laboratory test results to gather information about the patient's health needs. Additionally, these types of needs can be discovered by applying certain marketing research methods, such as projective techniques. These methods enable the acquisition of information and the expansion of knowledge (Wang & Liu, 2020) concerning a patient's latent needs, which can be utilized in shaping the hospital's service program within a proactive market orientation.

The medical services implemented by a hospital, aimed at satisfying patients' latent needs, are likely to be characterized by high meaningfulness and novelty. The meaningfulness of these services stems from the fact that they are designed to meet the real needs of patients, of which the patients themselves are unaware (Narver et al., 2004). Patients become aware of the meaningfulness of these services when they are offered them or when they use them. Through services that address patients' latent needs, a hospital makes these services useful for patients, thus resolving the patients' actual problems (Atuahene-Gima et al., 2005). Therefore, it is highly likely that with an increase in the hospital's implementation of a proactive market orientation, the meaningfulness of its service program will increase.

On the other hand, the novelty of medical services addressing patients' latent needs arises from the fact that they satisfy needs that patients are not conscious of (Milfelner et al., 2019; Narver et al., 2004). As a result, these services are unknown to patients and more challenging for competing hospitals to discover. Therefore, from the perspective of patients and competing hospitals, such services will provide unique benefits (Kocak et al., 2017) and will be perceived as new, as they address certain unrecognized or, in other words, new needs. Thus, it is highly likely that with an increase in the proactive market orientation of a hospital, the novelty of its service program will also increase.

Taking into consideration the above arguments regarding the relationships between the implementation of a proactive market orientation in a hospital and the meaningfulness and novelty of its service program, the following research hypothesis is proposed:

H2: A hospital's proactive market orientation positively influences the meaningfulness (H2a) and novelty (H2b) of its service program.

Each of the two dimensions of service program innovativeness performs a specific function in influencing patient behavior and, consequently, the financial results of a hospital. The first dimension, which is the meaningfulness of the program, means that the services provided by the hospital are appropriate and beneficial for patients (Heirati & Siahtiri, 2019), which is essential for maintaining their health. At the same time, offering patients a comprehensive portfolio of medical services is important due to the interconnections and complexity of these services (Schultz et al., 2019). Therefore, an increase in the meaningfulness of the service program is likely to impact a patient's decision to choose the hospital as a place of treatment, which, in turn, can have a positive effect on the hospital's financial performance. The second dimension, which is the novelty of the service program, allows the hospital's services to stand out from the competition and attract the attention of potential patients (Schultz et al., 2019). The novelty of the medical service portfolio can be perceived as a sign of innovation (Heirati & Siahtiri, 2019; Mu et al., 2019), which serves as a signal (Stock, 2011) directed towards potential patients. This signal communicates that the hospital offers new medical services that are typically more effective than traditional ones (Mu et al., 2019; Schultz et al., 2019). Therefore, the novelty of a hospital's service program can have a positive impact on the patients' choice of hospital, which is likely to contribute to achieving good financial results for the hospital (Zuo et al., 2019).

In the case of products, a negative impact of their novelty on customers' purchase decisions has been observed, stemming from the fact that as the product novelty increases, its unfamiliarity among potential customers also increases (Nakata et al., 2018). However, it can be expected that this negative effect does not occur in the case of new medical services for two reasons. Firstly, medical services are typically complex and require specialized equipment and skills, therefore, the level of unfamiliarity with current and innovative services among patients is likely to be similar (Berry & Bendapudi, 2007). Secondly, patients are served by professionals, so even a high level of unfamiliarity with a service does not hinder the delivery of excellent care. Therefore, we assume a positive impact of the novelty of a hospital's service program on its financial performance. Thus, considering both the dimensions of service program innovativeness, we posit the following hypothesis:

H3: Service program meaningfulness (H3a) and novelty (H3b) positively affect the financial performance of a hospital.

So far, only the direct effects included in our conceptual model have been considered. Now, we focus on the potential indirect effects arising from this model. These indirect effects relate to the influence of a specific market orientation of a hospital – responsive or proactive – on its financial results through one of the two dimensions of innovativeness in a hospital service program, namely, the meaningfulness or novelty of the program. The existence of these indirect

relationships is supported by the previously presented arguments regarding the hypotheses formulated thus far as well as by the existing literature.

The premise for the existence of these indirect relationships, in addition to the previously presented arguments regarding the formulated hypotheses, is the results of previous studies. The literature review indicates that the mediating role of innovation in the impact of market orientation on organizational outcomes has already been investigated (Bamfo & Kraa, 2019; Han et al., 1998; Kocak et al., 2017; Migdadi et al., 2017). These studies revealed the following effects: a positive impact of market orientation on organizational performance through innovation (Han et al., 1998), a positive influence of orientation on customers and inter-functional integration on this performance through innovation (Bamfo & Kraa, 2019), a positive impact of both responsive and proactive market orientations on organizational performance through both radical and incremental innovations (Kocak et al., 2017), and a positive impact of orientation on customers and competitors on this performance through innovation capabilities (Migdadi et al., 2017).

Hypotheses H1 and H2 respectively link the market orientation of a hospital – responsive and proactive – with each of the two dimensions of its service program innovativeness, while hypothesis H3 relates these dimensions to the hospital's financial results. Therefore, it is likely that a hospital's financial results are indirectly related to the implementation of a specific market orientation through each of the two dimensions of service program innovativeness. Considering the earlier arguments supporting hypotheses H1, H2 and H3, the following hypotheses were formulated:

H4: A responsive market orientation positively and indirectly affects the financial performance of a hospital through its service program meaningfulness (H4a) and its novelty (H4b).
H5: A proactive market orientation positively and indirectly affects the financial performance of a hospital through its service program meaningfulness (H5a) and its novelty (H5b).

METHODOLOGY

Sample and procedure

Our research focused on hospitals operating in Poland. We used the official Polish register, known as the Register of Entities Performing Medicinal Activities, to construct our sampling frame. From this sampling frame, we randomly selected a sample of 600 hospitals using a simple random sampling technique. Subsequently, we contacted the general or medical managers of each selected hospital via phone to explain the purpose of the research and invite their participation in our survey. As an incentive to participate, we offered the managers a report containing the results. Following the initial contact, we sent an email to the hospital managers containing a link to the questionnaire. We received 204 valid responses out of the 600 questionnaires sent, resulting in a response rate of 34%. The survey was conducted during the first half of 2018.

As presented in Table 1, the hospitals in our sample were characterized based on their type, public or non-public status, annual budget, and total number of employees. In terms of hospital type, the majority of hospitals were multi-specialty hospitals (46.6%), followed by general hospitals (28.8%) and mono-specialty hospitals (24.6%). The majority of hospitals in the sample were public hospitals (72.6%), while the remaining hospitals were non-public (27.4%). The median annual budget of the surveyed hospitals ranged from PLN 30 million (about 6.5 million euros) to PLN 100 million (about 22 million euros), and the median number of employees was between 300 and 500.

Table 1. Sample characteristics

Characteristics	Number	Percent	Characteristics	Number	Percent
Type			*Status*		
general	59	28.8%	public	148	72.6%
multi-specialty	95	46.6%	non-public	56	27.4%
mono-specialty	50	24.6%			
Number of employees			*Annual budget in PLN million*		
<300	72	35.1%	<30	88	43.3%
300-500	49	24.0%	30-100	71	34.6%
501-700	20	9.6%	100-150	18	8.7%

Characteristics	Number	Percent	Characteristics	Number	Percent
701-900	16	7.7%	>150	27	13.5%
901-1100	15	7.2%			
>1100	32	16.3%			

Information regarding the structure of the national hospital population in terms of their status (public vs. non-public) was available for us, while information about other characteristics from Table 1, related to the considered population, was not. In 2018, there were 949 hospitals in Poland (Polish Statistical Office, 2024), with about 70% being public hospitals (including local government entities), and 30% being non-public hospitals (*Private hospitals in Poland*, 2023). We conducted a chi-square goodness-of-fit test to assess the distribution of hospital status in our study. According to Table 1, the observed frequencies in the two categories, public and non-public, were 148 and 56 units, respectively. The chi-square statistic was 0.585 with degrees of freedom df = 1, resulting in a p-value of 0.444. At the 0.05 significance level, the test result is not statistically significant, suggesting no differences between the observed and expected distributions.

Measures

We applied established items from the literature to measure all of the constructs. For both responsive and proactive market orientations, we employed four items from Narver et al. (2004). To assess the constructs representing service program innovativeness, namely meaningfulness and novelty, we utilized the scales developed by Im and Workman (2004). All items were rated on a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The measurement of the financial performance of the hospitals included three items adapted from (Grissemann et al., 2013; Zhou et al., 2009). These items were rated on a seven-point scale, ranging from 1 (far below planned) to 7 (far above planned).

The indicators utilized in the questionnaire to measure the considered constructs are presented in Table 2 in the form of statements on a Likert scale. Meanwhile, the characteristics of the questionnaire used to describe the research sample are presented in Table 1, including type, status, number of employees, and the hospital's annual budget.

Data analysis

We analyzed the data in two steps, according to Anderson and Gerbing (1988). First, we used a confirmatory factor analysis (CFA) to test the measurement model, and second, we verified the research hypotheses using structural equation modeling (SEM). Though there is no consensus on the recommended sample size for structural equation modeling, a sample of 204 units can be considered as sufficient for this research in terms of the model's complexity (i.e., five constructs) and its essential characteristics (Hair et al., 2014). We applied the Mplus v.8.1 statistical software (Muthén & Muthén, 2012) to perform the CFA and SEM analyses. This software is relevant for this study because it allows the testing of several indirect effects included in one parallel multiple mediator model (Hayes & Rockwood, 2017) and offers a mean-adjusted maximum likelihood estimator (MLM), which is robust to data non-normality (Muthén et al., 2016).

According to Baron and Kenny (1986 p. 1173), mediation is a "mechanism through which the focal independent variable is able to influence the dependent variable of interest". Variable *M* acts as a mediator when it is causally located between the independent variable *X* and the dependent variable *Y*. In such cases, *X* influences *Y* because *X* affects *M*, and this effect is transmitted to *Y* through *M* as *M* influences *Y* (Hayes & Rockwood, 2017). This basic mechanism explains the indirect effect of *X* on *Y* through the mediator *M* and it is described by a simple mediation model. However, some causal relationships involve more than one mediator, leading to the application of a multiple mediator model. When these mediation mechanisms occur "in parallel," a parallel multiple mediator model describes such causal relationships (Hayes, 2013; Jose, 2013).

The conceptual model of our study includes two parallel multiple mediator models. The first model focuses on responsive market orientation as the independent variable, while the second model features proactive competitor orientation. Both models include two parallel mediators, namely the novelty and the meaningfulness of service program innovativeness, and the dependent variable in each model is the hospital's financial performance. To examine the indirect effects, we tested the product of the effects that constitute each indirect effect within one multiple mediator model, following the approach of Hayes and Rockwood (2017). Structural equation modeling was employed to estimate our conceptual model, as it is considered the best method in this case (Jose, 2013).

No severe deviation from univariate normality was observed in the data, as the univariate skewness and kurtosis estimates of all indicators were lower than the normality thresholds of 7 for kurtosis and 3 for skewness (Nevitt & Hancock, 2000). Nevertheless, the data showed substantial multivariate kurtosis. The estimate of Mardia's normalized multivariate kurtosis was 98.15, and values of this estimate greater than 5 indicate non-normal distributed data (Bentler, 2005). Consequently, to analyze the data, we applied the MLM estimator, which is robust to data non-normality.

In accordance with Jose (2013), Kline (2012), and Muthén et al. (2016), a residual covariance between the two mediators was included in the structural model. The reason for this is that these mediators cover two aspects of the same domain – namely, program service innovativeness – therefore, they share at least one omitted cause, such as, for example, professional medical knowledge. Moreover, one control variable was used in the analysis – hospital size, expressed by the number of employees – to avoid the confounding problem of endogenous variables.

RESULTS

Measurement model

The CFA model involved the five constructs listed in Table 2. Each of them was measured by three or four indicators. Additionally, following a recommendation provided by Brown (2015), a single indicator of the number of employees was included in the CFA model because we used this variable in the structural model as a control one. It was assumed that the number of employees was measured without error, therefore, the error variance of this variable was fixed at zero (Brown, 2015). This operation was performed to avoid a specification error in the structural model.

Table 2. Constructs and results of confirmatory factor analysis

Latent variables	Indicators	λ	t-Value
Responsive market orientation	We constantly monitor our commitment and orientation to meet the needs of patients.	0.898	47.800
	We provide information about good and bad feelings of patients to all departments.	0.829	27.761
	Our competitive advantage strategy is based on understanding the needs of our patients.	0.799	22.739
	We systematically and often examine the satisfaction of our patients.	0.722	17.408
Proactive market orientation	In our hospital, we try to anticipate the expectations of our patients.	0.919	67.294
	In our hospital, we are constantly trying to discover the additional needs of our patients, which they are not aware of.	0.905	51.914
	In the field of new services, we introduce solutions that take into account the unexpressed needs of our patients.	0.864	36.582
	We look for opportunities and opportunities in areas where patients have had difficulty expressing their needs.	0.854	42.705
Meaningfulness of service program	Compared to your competitors, your service program: is relevant to customers' needs and expectations.	0.910	53.228
	is considered suitable for customers' desires.	0.972	128.265
	is appropriate for customers' needs and expectations.	0.947	92.164
	is useful for customers.	0.728	14.309
Novelty of service program	Compared to your competitors, your service program: is truly 'out of the ordinary'.	0.911	70.160
	can be considered as revolutionary.	0.940	107.572
	is stimulating.	0.947	104.965
	show an unconventional way of solving problems.	0.937	90.419
Hospital financial performance	To what extent are the results of your hospital in line with those planned in terms of: sales revenues?	0.707	14.657
	occupancy?	0.982	61.660
	gross operating profit?	0.924	53.930

λ – Standardised loadings.

The measurement model indicated a good fit to the data: χ^2 (156) = 245.780, $p < 0.001$; root mean square error of approximation (RMSEA) = 0.053; standardized root mean square residual (SRMR) = 0.044; Tucker-Lewis index (TLI) = 0.968; comparative fit index (CFI) = 0.974; χ^2/df = 1.58. We also used a chi-square test to assess the fit of the model. According to (West et al., 2012), this test is sensitive to the sample size, therefore, other fit indices, which are recommended for the MLM estimator, were applied (West et al., 2012). These indices met the required standards for a good fit: a RMSEA value of 0.06 or less, an SRMR value of 0.08 or less, TLI and CFI values of 0.95 or higher, and an χ^2/df value of 5 or less (Hu & Bentler, 1999; West et al., 2012). The estimates of the standardized loadings of all items are significant (the lowest *t*-value is 14.66) and greater than 0.70 (Hair et al., 2014). The average variance extracted (AVE) is higher than the 0.5 threshold (Fornell & Larcker, 1981) for each of the five constructs, as shown in Table 3. Altogether, these results point out an adequate convergent validity of the measurement model.

The discriminant validity of the measurement model was evaluated by calculating the square root of the AVE for the constructs. The outcomes are shown in Table 3, in which the values of the square root of the AVE are shown in cells diagonally and the construct correlations are given in off-diagonal cells. The results presented in Table 3 provide proof of adequate discriminant validity (Fornell & Larcker, 1981), as for each construct, the square root of the AVE is higher than the highest correlation among the latent factors involving the focal factor.

Table 3. Construct correlations and discriminant validity

	CR	AVE	1	2	3	4	5
1. Responsive market orientation	0.887	0.663	0.814				
2. Proactive market orientation	0.936	0.785	0.789	0.886			
3. Meaningfulness of service program	0.941	0.800	0.738	0.762	0.894		
4. Novelty of service program	0.965	0.872	0.463	0.597	0.581	0.934	
5. Hospital financial performance	0.909	0.773	0.226	0.290	0.272	0.278	0.879

Note: Off-diagonal: construct correlations; along-diagonal: square root of AVE; for all correlations $p < 0.001$.CR – Construct reliability; AVE – Average variance extracted.

The construct reliabilities were evaluated by computing the composite reliability (CR) measure. Table 3 shows the CR values, and all of them are above the recommended level of 0.7, which displays the internal reliability of the constructs (Bagozzi & Yi, 2012). Overall, we can conclude that the measurement model is acceptable.

Hypotheses testing

The structural model displayed in Figure 1 demonstrated an acceptable fit to the data: χ^2 (158) = 246.935, $p < 0.001$; SRMR = 0.046; RMSEA = 0.053; CFI = 0.974; TLI = 0.969; $\chi^2/df = 1.56$.

The results of testing hypotheses H1a – H3b are given in Table 4. First, the outcomes of the relationships between the two market orientations under investigation and the two dimensions of service program innovativeness are as follows. There was a positive relationship between responsive market orientation and service program meaningfulness ($\beta = 0.354$, $p < 0.001$), whereas, contrary to our expectations, there was no such link between this market orientation and service program novelty ($\beta = -0.044$, $p > 0.05$). These findings support hypothesis H1a but not H1b. Regarding the relationships between proactive market orientation and both dimensions of service program innovativeness, the results reveal that this type of market orientation positively affects both the meaningfulness ($\beta = 0.482$, $p < 0.001$) and the novelty ($\beta = 0.629$, $p < 0.001$) of the service program. Therefore, both hypotheses H2a and H2b are supported. Second, Table 4 demonstrates that service program meaningfulness ($\beta = 0.168$, $p < 0.05$) as well as its novelty ($\beta = 0.192$, $p < 0.05$) are positively related to hospital financial performance. Thus, both H3a and H3b are supported.

Table 4. Direct effects and results of testing hypotheses H1a – H3b

Effect	Estimate (standardised)	p-value	Hypotheses' verification
H1a: Responsive market orientation → Meaningfulness of service program	0.354	0.000	Supported
H1b: Responsive market orientation → Novelty of service program	-0.044	0.737	Not supported
H2a: Proactive market orientation → Meaningfulness of service program	0.482	0.000	Supported
H2b: Proactive market orientation → Novelty of service program	0.629	0.000	Supported

Effect	Estimate (standardised)	p-value	Hypotheses' verification
H3a: Meaningfulness of service program → Hospital financial performance	0.168	0.032	Supported
H3b: Novelty of service program → Hospital financial performance	0.192	0.015	Supported

Table 5 shows that, on the one hand, a responsive market orientation had a significant, positive indirect effect on hospital financial performance through the meaningfulness of the service program (β = 0.059, p < 0.05), supporting H4a; on the other hand, such an orientation did not have a significant, indirect effect on the performance through the novelty of the service program (β = -0.008, p < 0.05), hence not supporting H4b. However, in the case of a proactive market orientation, the outcomes were the opposite, as there was not a significant relationship between this type of market orientation on hospital financial performance through service program meaningfulness (β = 0.081, p >0.05), but this orientation was positively related to hospital financial performance through service program novelty (β = 0.121, p < 0.05). Hence, our H5b is supported while H5a is not.

Table 5. Indirect effects and results of testing hypotheses H4a – H5b

Effects of responsive and proactive market orientation constructs on hospital financial performance	Estimate (Standardised)	p-value	Hypotheses' verification
Effects of a responsive market orientation on a hospital's financial performance			
Specific indirect effects			
H4a: Responsive market orientation → Meaningfulness of service program → Hospital financial performance	0.059	0.048	Supported
H4b: Responsive market orientation → Novelty of service program → Hospital financial performance	-0.008	0.744	Not supported
Effects of a proactive market orientation on a hospital's financial performance			
Specific indirect effects			
H5a: Proactive market orientation → Meaningfulness of service program → Hospital financial performance	0.081	0.066	Not supported
H5b: Proactive market orientation → Novelty of service program → Hospital financial performance	0.121	0.034	Supported

Regarding the relationships between the control variable and the endogenous variables of the conceptual model, the outcomes showed that the number of hospital employees was only positively related to service program novelty (β = 0.173, p < 0.001), and there were no significant relationships between this control variable and the other two endogenous variables, i.e., service program meaningfulness (β = 0.052, p >0.05) and hospital financial performance (β = -0.059, p >0.05).

DISCUSSION

The obtained results indicate that a hospital's implementation of a responsive market orientation has a positive impact on the meaningfulness of its service program (H1a). However, contrary to the assumptions of the authors, the same cannot be said about the novelty of this program (H1b). Consequently, it cannot be stated that a responsive market orientation supports innovations within the organization because its implementation does not affect the novelty of the service program. Our results indicate that with an increase in the implementation of a responsive market orientation, only the meaningfulness of a hospital's service program increases (H1a). This relationship can be justified by the fact that a greater adoption of a responsive market orientation in a hospital results in a stronger focus on understanding and meeting the needs expressed by patients, which leads to the introduction of services that satisfy those needs. As a result, the medical service program becomes increasingly meaningful for patients. This result is consistent with the findings of Blocker et al. (2011) and Heirati and Siahtiri (2019). However, the comparison of our result to the results of these studies is limited because the first study found a positive effect of a responsive customer orientation on customer value, while the second study found a positive impact of customer collaboration on the meaningfulness of a new service.

Our findings indicate the lack of a relationship between the novelty of the medical service program and a hospital's implementation of a responsive market orientation (H1b). This means that the hospital's understanding and fulfillment of patients' expressed needs does not lead to an increase in the novelty of its service program. This situation can be explained by the fact that the development of medical services based on patients' expressed needs primarily involves improving and modifying existing services. As a result, newly developed medical services in this manner exhibit relatively low novelty. However, Heirati and Siahtiri (2019) observed a positive impact of customer collaboration on the novelty of a new service,

which is not consistent with our result. The difference between the findings of these researchers and ours may stem from two reasons. Firstly, customer collaboration does not fully capture the essence of a responsive market orientation. Secondly, the mentioned study was conducted at the level of a specific service, while ours focused on the level of a service portfolio.

The outcomes of the work indicate that with an increase in a hospital's implementation of a proactive market orientation, both the meaningfulness (H2a) and novelty (H2b) of its service program increase, respectively, thus, the implementation of a proactive market orientation supports innovations in the organization. These results are consistent with our expectations and confirm previous assumptions that the acquisition of unique knowledge about hidden patient needs contributes to the creation of a meaningful and novel hospital service program. Latent needs are real but unknown to the patients themselves. Their actual existence makes the corresponding medical services meaningful from the patients' perspective. However, the lack of patient awareness regarding the existence of these types of needs, results in the services that meet those needs being perceived as novel. Consequently, it can be concluded that the more intensively the hospital adopts a proactive market orientation, the more meaningful and novel its service portfolio becomes.

Our result regarding the relationship between a proactive market orientation and the meaningfulness of the service program (H2a) corresponds to the finding obtained by Blocker et al. (2011), who demonstrated that the application of a proactive market orientation positively influences customer value. As for the result concerning the relationship between a proactive market orientation and service program novelty (H2b), it is consistent with the study conducted by Kocak et al. (2017), who observed that the implementation of a proactive market orientation leads to radical innovation. However, comparing the results of our study to the previously mentioned research is limited since the dependent variables used in those studies represent an approximation of the two dimensions of service portfolio innovativeness examined in our research.

As for the relationships between the two dimensions of service program innovativeness and a hospital's financial performance, the obtained results confirm our assumptions. An increase in both the meaningfulness (H3a) and novelty (H3b) of a hospital's service program has a positive impact on its financial performance. In terms of meaningfulness, this is due to the fact that the more useful the portfolio of services offered by the hospital is for patients, the more likely they will choose it as a place for treatment, examination, or procedure. Similarly, the novelty of the medical service portfolio can positively influence the choice of hospital, as it is essential to attract patients' attention and serves as a signal that the hospital's medical services are likely to be more effective than traditional ones. Therefore, an increase in both the meaningfulness and novelty of a hospital's service program will contribute to a growth in both the number of patients and the number of services performed by the hospital. These increases, in turn, should have a positive impact on a hospital's financial situation because private hospitals should have higher revenues and profits, while public hospitals will benefit from increased funding from the National Health Fund.

Regarding the impact of service program meaningfulness on the financial performance of a hospital (H3a), similar results were obtained in studies conducted by Chan and Cho (2022), Duan et al. (2020), and Im and Workman (2004). The results of these studies indicate that the meaningfulness of new products positively affects a company's financial performance (Chan & Cho, 2022; Im & Workman, 2004) and the company's competitive advantage (Duan et al., 2020). Concerning the influence of service program novelty on the financial performance of a hospital (H3b), Duan et al. (2020) demonstrated a positive effect of the novelty of a new product on the competitive advantage of a company, which is consistent with the findings of our study. However, Chan and Cho (2022), and Workman (2004) did not observe the effect of the novelty of a new product on a company's financial performance. Nevertheless, the comparison of our results with the findings of these previous studies is limited because they focused on physical products, not services, and some of them were conducted at the level of individual products (Chan & Cho, 2022; Im & Workman, 2004) rather than the entire product portfolio.

In the context of the obtained results, the implementation of a responsive market orientation by a hospital positively influences its financial situation through the meaningfulness of the hospital's service program (H4a). This means that the results of our study support the following indirect mechanism: as the implementation of a responsive market orientation by a hospital increases, the meaningfulness of its service program also increases, which, in turn, positively affects the hospital's financial performance. The positive value of this indirect effect arises from the observed two direct effects: the positive impact of the application of a responsive market orientation on the meaningfulness of the service portfolio (H1a) and the positive influence of the latter on the financial performance of the hospital (H3a). Therefore, the arguments presented earlier regarding these two direct effects justify the hypothesis that a responsive market orientation positively and indirectly affects the financial performance of a hospital through the meaningfulness of its service program (H4a).

However, the lack of confirmation by our results of the indirect effect – hypothesizing that a hospital's implementation of a responsive market orientation positively affects its financial performance through the novelty of its service portfolio (H4b) – most likely stems from a statistically insignificant and close-to-zero direct effect of a hospital's use of a responsive market orientation on the novelty of its service program ($\beta = -0.044$, $p > 0.05$). Furthermore, the reasons previously cited as causes for this insignificant direct effect likely also influence the absence of the indirect effect considered. Therefore, our results suggest that the novelty of a hospital's service program does not act as a mediator in the relationship between a hospital's use of a responsive market orientation and its financial performance.

Our findings confirm the indirect effect, positing that a proactive market orientation of a hospital impacts its financial performance through the novelty of its service program (H5b). This means that our study supports the existence of the following indirect mechanism: as a hospital's implementation of a proactive market orientation increases, the novelty of its service program also increases, positively influencing the financial performance of the hospital. The positive value of this indirect effect results from the two direct effects: the positive influence of the application of a proactive market orientation on the service program novelty (H2b) and the positive impact of the latter on the financial performance of the hospital (H3b). Thus, the previously presented arguments supporting these direct effects can be considered reasons that justify the indirect effect.

In turn, the lack of confirmation of the hypothesized indirect effect – assuming a positive impact of a proactive market orientation on the financial performance of a hospital through the meaningfulness of its services (H5a) – is due to the fact that the product of the direct effects contributing to this indirect effect does not reach statistical significance. Nevertheless, the value of this indirect effect is positive and close to the critical level of statistical significance ($\beta = 0.081$, $p = 0.066$), indicating that this effect could be subject to further research.

The results regarding the above indirect effects were not compared to the findings of other studies because these types of effects have not been previously investigated, to the best of the authors' knowledge, neither within products nor services.

CONCLUSIONS

The theoretical contribution of the study lies in explaining the relationships between the implementation of a specific market orientation, service program innovativeness, and the financial performance of a hospital. Both direct and indirect relationships regarding these three issues were presented. Considering the direct relationships, the following dependencies were observed. Firstly, a hospital's adoption of a responsive orientation has a positive impact on the meaningfulness of its service program. Secondly, the adoption of a proactive orientation has a positive impact on both the meaningfulness and novelty of such a program. Thirdly, both the meaningfulness and novelty of a hospital's service program have a positive influence on the hospital's financial performance.

With regard to the indirect relationships, the occurrence of two mediating mechanisms was observed. In the first mechanism, a hospital's implementation of a responsive market orientation positively affects its financial situation through the meaningfulness of its service program. In the second mechanism, a hospital's adoption of a proactive orientation also positively affects its financial situation, but through the novelty of its service program.

Furthermore, in terms of a theoretical contribution, the results of our study suggest the presence of two phenomena. The first one indicates that a hospital's implementation of a responsive market orientation does not have a positive influence on the novelty of its service program. The second phenomenon pertains to the fact that a hospital's adoption of a proactive market orientation does not have a positive impact on its financial performance through the meaningfulness of its service program. This phenomenon occurs despite the presence of two direct relationships: (i) the adoption of a proactive market orientation has a positive effect on the meaningfulness of the service program, and (ii) this meaningfulness positively influences the hospital's financial performance. The lack of the mentioned mediating effect comes from the fact that the product of the direct effects, which contribute to the examined indirect effect, is not statistically significant (Hayes & Rockwood, 2017). Consequently, it was not observed that the meaningfulness of a hospital's service program mediates the impact on its financial performance of the hospital's adoption of a proactive market orientation.

Based on our study, various practical implications can be drawn. They can be presented in the following two aspects: the creation of an innovative service program by a hospital and the building of a strong financial situation for the hospital. When it comes to creating an innovative service program, high meaningfulness can be achieved through both a responsive and proactive market orientation. However, achieving a high level of program novelty requires solely the application of a proactive orientation. Therefore, if a hospital aims to achieve high meaningfulness in its service program,

it should understand and fulfill both expressed and latent patient needs. If the goal of the hospital is to achieve a high level of novelty in its service program, it should focus on recognising and satisfying latent patient needs. Recognizing the expressed needs of patients is relatively easy as information about these needs can be directly obtained from patients using various methods, including interrogation-based methods (e.g., medical interviews, surveys). However, identifying latent needs can be more challenging as patients themselves are not aware of them. To recognize these needs, the use of patient medical observation and specialized methods such as projective techniques can be recommended.

Referring to a hospital achieving a good financial situation, it can be created both directly through an innovative service program and indirectly through the application of a specific market orientation. In the first case, hospitals can be advised to develop an innovative service program characterized by both high meaningfulness and novelty, as this will contribute to achieving good financial results. High meaningfulness of the program is essential to provide the appropriate benefits for patients, while its novel nature will attract patients' attention and confirm the hospital's modernity. In the second case, the shaping of a hospital's good financial situation occurs indirectly through the application of the appropriate market orientation, which, in turn, affects the hospital's financial position. Our recommendations in this regard are as follows: good financial results for a hospital can be achieved by applying both a responsive and a proactive market orientation. However, if a hospital adopts a responsive market orientation, it should strive to achieve a high level of service program meaningfulness, which will contribute to improving its financial situation. On the other hand, if a hospital applies a proactive market orientation, it should aim to create a service portfolio characterized by high novelty, as this will contribute to achieving a good financial condition.

The implementation of both responsive and proactive market orientations by hospitals is associated with specific social implications. Our research indicates that a responsive orientation of a hospital leads to an increase in the meaningfulness of its service program, while a proactive orientation contributes to an increase in both the meaningfulness and novelty of this portfolio. The social implications resulting from the application of these orientations are similar because adapting a hospital's service program to the needs of patients, both expressed and latent, translates into an improvement in the overall health level of the community, thereby influencing the overall well-being of the population.

Our study also suggests that the growth in both the meaningfulness and novelty of a hospital's service program positively affects its financial results, which may have significant social implications. Improving the financial situation of a hospital enables this entity to fulfill more fully its social mission, which is to provide healthcare at the highest level for the community. Additionally, the favorable financial condition of the hospital translates into high concern for the employment conditions and work of hospital staff, as well as the creation of new job opportunities, demonstrating care for local communities.

Our study has certain limitations, which are presented below, along with directions for future research. Firstly, the study focused on selected determinants of a hospital's financial performance, namely two dimensions of service program innovativeness, and responsive and proactive market orientations of hospitals, as we aimed to achieve a parsimonious research model (Hair et al., 2014). However, there are other variables that determine the mentioned outcomes, such as service quality or the qualifications of medical staff. Therefore, future research may consider other potential variables as determinants of a hospital's financial performance. Secondly, our study had a cross-sectional design, which limits the ability to test causal relationships. However, the relationships examined in our study were based on specific theory and substantive arguments. Nonetheless, our model could be subject to longitudinal testing in the future. Thirdly, the measurement of the novelty and meaningfulness of the service program in our study relied on the opinions of hospital managers, not patients. This approach was chosen because the scales used to measure the novelty and meaningfulness of the service program were developed to be applied among managers (Im & Workman, 2004). The authors of these scales, S. Im and J.P. Workman, tested both scales with both managers and customers. The results of this testing indicated high and statistically significant correlations between the results obtained from the two tested groups (Im & Workman, 2004), suggesting that measuring the novelty and meaningfulness of the service program among managers is reliable. Fourthly, the measurement of a hospital's financial results relied on the measurement of managers' perceptions through a latent variable. Obtaining objective information concerning these results (e.g., revenues, costs, profitability) would be very difficult or impossible. However, research findings indicate a high correlation between measurements of managers' perceptions of financial results and objective measures (Atuahene-Gima & Li, 2004), which is why many researchers rely on this first approach (Im & Workman, 2004; Kocak et al., 2017; Lee et al., 2015; Nakata et al., 2018). Lastly, the study was conducted in one country, thus, the obtained results pertain to the population of Polish hospitals. In future research, our model could be tested in other countries.

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Authorship contribution statement

Dariusz Dąbrowski: Conceptualization, Formal Analysis, Literature Investigations, Methodology, Project Administration, Resources, Software, Supervision, Validation, Visualization, Writing Original Draft, Writing - Review & Editing. **Wioletta Kukier:** Data Curation, Literature Investigation, Writing Original Draft. **Anna Tybińkowska:** Data Curation, Literature Investigation, Writing Original Draft.

Conflicts of interest

The authors declare no conflict of interest.

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