Business Model to Create Value for a Client of SPA and Wellness Hotels

Submitted 03/06/21, 1st revision 26/07/21, 2nd revision 13/08/21, accepted 30/9/21

Małgorzata Sztorc¹, Konstantins Savenkovs²

Abstract:

Purpose: The article aims to identify the components that make up the package of spa and wellness services that provide the value delivered to specific market segments in the business models of hotel enterprises.

Design/Methodology/Approach: A survey was conducted using the questionnaire through the computer-assisted internet interview technique. The survey was carried out between November 2020 and February 2021 among 482 representatives of spa and wellness hotels operating in three-, four-, and five-star Hotels in the Polish market. The empirical procedure was carried out using cluster analysis, principal components analysis, and linear regression analysis using Statistica and RStudio.

Findings: The research has identified four market segments for which hotels offer spa and wellness services with customer value. In addition, they also made it possible to identify the components and attributes of an offer of value for customers. On their basis, it should be concluded that the higher the facility category, the greater the hotel guests' expectations of value, i.e., the smaller the difference between the expectations and the minimum requirements. As a result, the main task of hotels is to create a business model through an offer that meets expectations and generates value.

Practical Implications: The research results may be an inspiration for shaping, modifying, and redefining spa and wellness hotel business models in terms of the value proposed to selected market segments.

Originality/Value: Nowadays, due to the changing environment and the organizational crisis caused by the COVID-19 pandemic, a significant number of enterprises are considering modifying their current business model. Thus, the conducted research allowed the issues related to creating value for the client and shaping business models to be supplemented.

Keywords: Business model, value creation, customer value, hospitality.

JEL Code: F23, L21, L22, L84.

Paper Type: Research Paper.

¹Kielce University of Technology, Faculty of Management and Computer Modelling, Department of Management and Marketing, msztorc@tu.kielce.pl;
²Riga Aeronautical Institute and Hotel School - Hotel Management College Riga, konstantins.savenkovs@hotelschool.lv;
1. **Introduction**

The service sector, including hotel, spa, and wellness services, plays a vital role in the global process of socio-economic development. The constantly changing trends in spending free time affect the growing importance of the values provided by tourism, mainly by spa and wellness services. They form an inseparable component of the offer of higher- and medium-standard hotels.

The spa and wellness sector are a popular service in many countries due to its significant market potential. It is estimated that the value of the global spa and wellness market is close to $ 4.8 trillion (Global Wellness Trends Report: The Future of Wellness 2021). In turn, the share of trips taken in connection with this type of tourism is at the level of 93.6% (Moebes, 2021). Due to the intensive development of the sector, hotels are implementing a market segmentation strategy. The key factor influencing the growth of spa and wellness facilities is the increase in buyers' awareness resulting from the care for health, well-being, and beauty, fashion for active rest, and a healthy lifestyle.

Hotel enterprises offering spa & wellness services are currently operated in a particularly changing environment, which is the result of the socio-economic, political, legal, cultural, and moral transformation, as well as the dynamic development of technology and the process of hyper-competition. Moreover, under the influence of the globalization of the market and the exchange of information, hotels are linked by multidimensional relationships with a significant number of entities. Such determinants contribute to changes in the way of managing modern spa and wellness facilities. They are associated not only with the development of a plan and strategy for development and competition, but most of all with the creation of a model according to which the hotel will operate (the so-called business model - BM).

One of the most important directions of the changes in the hotel sector is the constantly increasing importance of the way the spa and wellness offer is perceived in the context of the experience of hotel guests and the values created by hoteliers for customers. Under the influence of a changing environment, there is an intensification in adapting the hotel offer to the needs of customers and verification of the approach to the method of creating and capturing value.

The article attempts to identify the components that make up the spa and wellness services package, which provides value delivered to specific market segments in the BM of hotel enterprises. Based on the literature review and the research conducted so far, a research problem was identified, including the following:

1. Which customer segments, which have a decisive impact on generating revenues for the surveyed facilities, use the spa and wellness services offered by hotels?
2. What attributes of the spa and wellness offer make it a value proposition for customers from separate segments, in line with the adopted BM?
3. What spa and wellness services does the hotel offer to specific market segments from the perspective of the benefits and needs met, which were considered in the BM?

4. What are the benefits and added values for buyers of the hotel's spa and wellness services?

To implement the indicated research problem, a research hypothesis was formulated, which assumes that spa and wellness hotel enterprises, based on selected customer segments and a specific service offer, determine various ways of configuring values in business models.

As a result of the above assumptions, a survey was conducted using the survey method through the CAWI (Computer Assisted Web Interview) technique using a self-developed questionnaire. The source material was the data obtained during an empirical study in November 2020 - February 2021 among 482 representatives of spa and wellness hotels operating in the three-, four-, and five-star standard on the Polish market. The information obtained during the survey made it possible to prepare a set of data. It was possible to apply statistical analyses, such as the chi-square test of independence, linear regression analysis, principal component analysis (PCA), and cluster analysis (CA).

The subject of the research presented in the article has not yet been included in scientific interests and findings from the perspective of spa and wellness hotels. Therefore, the goal is to fill the gap in the research on creating value for customers in the BM adopted or redefined by hotels.

2. Literature Review

2.1 Business Model as an Instrument of Creating Value for the Client

The contemporary, volatile, and turbulent market environment requires enterprises to develop reliable and functional business methods. In complex market conditions and increasing competition, organizations must constantly increase the effectiveness of functioning, improve the ability to respond to threats and opportunities from the environment, and exclude irregularities in the current procedure. Therefore, the circumstances mentioned above oblige organizations to search for relatively durable carriers and new determinants of generating value. However, they remain the overriding goal of the functioning of hotel enterprises.

The enterprise changes into the carrier of this value. In turn, the tool for creating value is the created effective BM, which determines competitive advantage. To effectively distinguish themselves on the market with the proposed offer, spa and wellness hotels must create unique BMs and their correct implementation using dynamically implemented strategies.
The critical observation is that each organization has a BM, regardless of whether it is formulated or not yet designated (Fielt, 2013; Teece, 2010; Ramdani et al., 2019). It presents the company's ability to generate value and profit in a synthetic form.

In the literature on the subject, there are many contemporary formulations of the analyzed concept that characterize the BM differently (Osterwalder et al., 2005) and indicate its components in a limited or complex scope (Zott et al., 2011). Based on the literature review, it can be assumed that the BM is a simplified and aggregated way of presenting the relevant activities of the organization. It describes how tradable information, products, and services are created with their value-added component. In addition to the value creation architecture, strategic parts related to customers and markets are considered to gain a competitive advantage.

Wunder (2016) recognizes that the BM creates an orderly picture of the anticipated mechanisms and values, indicating how a business should be successful in the competitive arena and improve strategy at the business level. It is widely recognized that the BM reflects the organization's business logic due to analyzing and presenting how value is created, delivered, and retained (Foss and Saebi, 2018). In addition, it shows how value is generated for new or existing customer segments and how it will be delivered and included in the revenue stream model (Teece, 2010). For this study, it should be assumed that the BM is a creative tool containing a specific set of components with a unique configuration of processes and their relationships. It reflects the values conveyed to clients, the way the enterprise operates, and its relations with cooperators, which enable it to generate value and may constitute an element of compelling competitive struggles.

The BM answers four fundamental questions that concern its four strategic elements: 1. Who is the client? 2. What is offered to the customer (value proposition)? 3. How are activities and processes used to deliver the promised value? 4. Why is the BM financially viable? (Frankenberger et al., 2013). Accepting the formulation of the BM as a multi-faceted structure enables the recognition of its constitutive elements. Depending on the authors of the concept, three to nine components of the BM can be distinguished (Gay, 2014; Shafer et al., 2005; Johnson et al., 2008; Chesbrough and Rosenbloom, 2002; Osterwalder and Pigneur, 2012; Demil and Lecocq, 2010; Zott et al., 2011; Ellegaard et al., 2014; Massa et al., 2017; Afuah, 2018; Niemimaa et al., 2019; von Delft and Zhao, 2020; Climent and Haftor, 2021).

The literature on the subject lacks information on the issues of choosing the appropriate components of the BM and the conditions for their selection so that they contribute to the achievement of competitive advantage and the success of the organization (Foss and Saebi, 2017; Massa et al., 2017). As part of the analysis of source materials and based on many years of practical experience gained while working in the hotel services sector, it was decided to apply, for this article, the BM model proposed by Johnson, Christensen, and Kagermann which consists of four
elements, customer value proposition (CVP), profit formula, essential resources, and critical processes (Johnson et al., 2008).

According to the authors mentioned above, the BM building procedure consists of four stages. The subject of the analysis in this study is the first phase, in which the appropriate value proposition for the customer should be prepared.

Customer value is an attractive proposition if it can meet many of your needs. These include the following components of experiences and benefits of the buyer (Smith and Colgate, 2007; Cagan and Vogel, 2002): 1. Functional, i.e., related to the features of spa and wellness services, 2. Social, i.e., influencing the client's image from the perspective of representatives of the social group, 3. Emotional, i.e., the abilities resulting from the creation of positive or negative emotions, 4. Cognitive, i.e., related to expanding the knowledge and intellectual level of the client, 5. Conditional, i.e., resulting from the provision of services (e.g., decor, climate, service), 6. Those constitute the "economic" difference between the benefits and costs incurred by the buyer, 7. Those constituting utility that is valued, 8. Those based on convenience, i.e., ease of use, 9. Those are based on the ability to meet emotional needs.

The value proposition consists of products and services that generate value for specific customer segments and meet their needs. As a result, enterprises combine appropriate service parameters with buyers' individual preferences and choices, which include the following elements: a set of product/service characteristics, benefits (added value), and experiences (emotions).

### 2.2 Spa and Wellness Creating the Value of the Hotel Offers

Today, one of the most dynamically developing tourist services sectors is spa and wellness tourism, which is closely related to the hotel services market. The growing interest in spending free time results from society's orientation towards a healthy lifestyle and concern for health and beauty. The current trends and fashion for a healthy lifestyle manifested in the ongoing demographic changes, social processes (dynamic transformation of women's social positions and roles), recognition of the balance between the physical, mental, and social spheres, have resulted in an intense demand for spa and wellness services and products (Csirmaz and Peto, 2015). Tourism of this type is oriented towards customers who actively seek to improve their health (Stará and Peterson, 2017).

The purpose of the trip is to visit a specialized hotel that guarantees professional knowledge and individual care for a client who requires a comprehensive package of services. This consists of improving physical fitness, beauty care, healthy eating, diet, relaxation, meditation, mental activity, and education (Mueller and Kaufmann, 2001). On this basis, this study identifies the value for the customer in the BMs created by the surveyed hotel companies. So far, research has been carried out sporadically on
the determinants of shaping the offer of spa and wellness hotels, which are considered a fundamental element of the tourist infrastructure and servicing tourist traffic.

The central premise of staying in spa and wellness hotels in the regeneration of psychophysical strength and vitality using appropriate treatments based on seven basic assumptions: 1. pleasure from physical activity, 2. seeking minor sources of luxury, 3. body care, 4. necessity to relax (rest, free time), 5. conscious eating, 6. personal development, 7. striving for recreation along with achieving the harmony of body, soul, and mind (D'Angelo, 2010). For this reason, hotel companies, regardless of the location and the category of the facility, are enriching their offer with spa and wellness services. Entities whose product range is a natural product and the main component of the offer, encouraging the buyer to visit the hotel, are developing intensively.

Thus, three fundamental values of spa and wellness services for the client should be indicated, changing the environment, spending free time, and improving health (Bennett et al., 2004). Nevertheless, emotional values also play an essential role, such as rest from stress, a moment of relaxation, improvement of well-being, and social situation, e.g., prestige (Monteson and Singer, 2004; Smith and Puczko, 2014).

The research conducted so far shows that spa and wellness services are profitable from an economic point of view. Most hotels of this type have been transformed from auxiliary facilities into so-called "Profit centers" because they generate significant capital (Keri et al., 2007; Mill, 2011). Facilities of this type are also a key source of additional profit as they bring more revenues from the spa and wellness services offered than the revenues from rented rooms (Madanoglu and Brezina, 2008). Nevertheless, hotels from this market segment analyzed from the perspective of "profit centers" contribute to the growth of revenues of facilities and provide specialized treatments for customers who see value in a high level of individual service (Tabacchi, 2010).

Therefore, two basic types of facilities can be distinguished among spa and wellness hotels, recreational and destination. The research conducted for this article considered both hotel types, as their services offer the same value for customers. Among the indicated types of objects, eight basic types can be distinguished: 1. Day spa, 2. Resort/hotel spa, 3. Destination spa, 4. A medical spa, 5. Club spa, 6. Mineral springs spa, 7. cruise ship spa, 8. Cosmetic spa (Mijajlović et al., 2020; Joppe, 2010).

Additionally, Business spa hotels can be distinguished, which, apart from the spa and wellness department, have conference and training centers adapted to business meetings. The types above of facilities create an offer of value for customers representing various market segments. Thus, hotels' spas and wellness offer a crucial argument when deciding on a place for individual and institutional guests. Nevertheless, currently, the process of providing spa and wellness services has been limited by the SARS-CoV-2 coronavirus pandemic.
Therefore, the next customer segment will soon be people who have had the COVID-19 disease. As part of their recovery, hotels should consider enriching the spa and wellness offer with post-COVID-19 and anti-COVID-19 services. Such packages should offer value for the client resulting from a specially prepared diet that strengthens the body's immunity, an appropriate set of physical exercises, stress-reducing wellness treatments, and carefully selected spa treatments.

3. Research Methodology

The main objective of the research was to present the position of respondents from spa and wellness hotels engaged in activities related to creating a service offering that provides value for specific market segments through an appropriate value creation structure in the adopted BMs.

In terms of empirical analysis, the study was conducted using the questionnaire method with a self-developed questionnaire. The form was prepared based on the elements mentioned above of the value proposition in the BM presented by Johnson, Christensen, and Kagermann (Johnson et al., 2008). The quantitative research was carried out using the CAWI technique. The survey questionnaire containing 24 questions, including five regarding the respondent’s details, was placed in the LimeSurvey system based on the server-respondent relationship. The survey was carried out in the period November 2020 - February 2021 on a representative research sample of 482 representatives of spa and wellness hotel enterprises (owners, directors, or managers - respondents) operating in the three-, four-, and five-star standard with domestic or foreign capital, dealing directly with the practical implementation of the value proposition in the BM. Only one respondent from a hotel of a given category participated in the study and declared that they had developed a value proposition. For this reason, the respondents’ answers were varied and determined by the scope of their substantive and empirical knowledge.

A total of 258 completed questionnaires, i.e., 53.53% of the research sample, were returned. During the assessment of the correctness and completeness of the received questionnaires, 22 forms were eliminated from further research. In this way, 236, i.e., 48.96% of correctly completed questionnaires, were finally obtained and qualified for further analysis.

In connection with the quantitative verification of the relationships between the variables and to test the hypotheses, the chi-square ($\chi^2$) statistic was used. The value of the function was calculated using the formula (Sobczyk, 2020):

$$\chi^2 = \sum_{i=1}^{l} \sum_{j=1}^{k} \frac{(n_{ij} - \bar{n}_{ij})}{\bar{n}_{ij}} = \sum_{i=1}^{l} \sum_{j=1}^{k} \left(\frac{n_{ij}^2}{\bar{n}_{ij}}\right) - n; \quad \bar{n}_{ij} = \frac{n_{ix} n_{yj}}{n}$$

where: $\bar{n}_{ij}$ are theoretical numbers, $ni$ – number of sample elements corresponding to the $xi$ level and the feature $X$, $nj$ – number of sample elements corresponding to the $yj$ level.
level of the feature Y, $n_{ij}$ - number of sample elements corresponding to the $x_i$ level and the feature X level and the $y_j$ level of the feature Y, $n$ – a sum of the sample elements corresponding to the $x_i$ level and the feature X and the $y_j$ level of the feature Y, $k$ – number of columns, $l$ – number of lines.

In the next stage of the comparative structure analysis, the aim was to identify the distinguishing features of services that create value and meet the needs of hotel guests; an approach was used to classify, aggregate, and reduce variables. Therefore, the principal component analysis (PCA) was used to reduce dimensions and visualize similarities and differences between the analyzed hotel segments. The PCA statistical model is defined as the following system of linear equations (Vidal et al., 2016):

$$X_1 = a_{11}Z_1 + a_{12}Z_2 + \cdots + a_{1p}Z_p, \quad X_2 = a_{21}Z_1 + a_{22}Z_2 + \cdots + a_{2p}Z_p \quad \vdots$$
$$X_p = a_{p1}Z_1 + a_{p2}Z_2 + \cdots + a_{pp}Z_p$$

(2)

where: real variables subordinated to the observation of $X_i$ for $i \in \{1, \ldots, p\}$ are determined by the linear juxtaposition of unobservable variables $Z_j$ for $j \in \{1, \ldots, p\}$, the so-called principal components. The parameters $a_{ij}$ for $i, j \in \{1, \ldots, p\}$ indicate the weight of the main component in the set of empirical variables.

In turn, the orthogonal transformation of the input variables should be summarized in the form of the formula (Naik, 2018: 57):

$$Z_j = b_{j1}S_1 + b_{j2}S_2 + b_{j3}S_3 + \cdots + b_{jn}S_n$$

(3)

where: $Z_j$ – $j$-th the variable ($j = 1, 2, \ldots, n$), $S_1 \ldots S_n$ – principal components, $b_{j1} \ldots b_{jn}$ – principal component coefficients.

The number of principal components is determined based on the scree plot criterion and the Kaiser criterion. In turn, using the linear regression analysis method, specific properties of the spa and wellness offer were determined in individual categories of hotels that create value for hotel guests. To determine the statistical relationship with a linear structure between the dependent variable and a significant number of independent variables, a single-equation linear regression model was used, according to the following formula (Montgomery, 2013: 17-18):

$$y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \cdots + \beta_kx_k + \varepsilon$$

(4)

where: $y$ - dependent variable, $x_1, x_2, \ldots, x_k$ - independent variables, $\beta_0, \beta_1, \beta_2, \ldots, \beta_k$ - structural parameters of the regression function, $\varepsilon$ - random component (model error, random disturbance).
An exploratory technique - cluster analysis (CA) - was used to distinguish between hotel guest segments and define the value proposition generated for spa and wellness hotel services buyers. During the research, the agglomeration method of hierarchical ordering and classification was used to distinguish clusters of similar objects in the segmentation of spa and wellness hotel guests - analyzed due to many statistical features. The distance between the objects was determined using the Euclidean metric according to the formula (Hennig, 2020):

\[ d(x_i, x_k) = \sqrt{\sum_{j=1}^{m} (x_{ij} - x_{jk})^2} \]  

(5)

where: \( d \) - Euclidean distance between objects, \( x_{ij} \) - denotes the value of the j-th variable for the i-th object, \( m \) - number of all diagnostic variables.

To define the bonds that can be joined into clusters, the method of mean joins is presented by Sneath and Sokal (1973) according to the following formula:

\[ d(C_i, C_j) = \frac{1}{n_{C_i} n_{C_j}} \sum_{i \in C_i} \sum_{j \in C_j} d(x_i, x_j) \]  

(6)

where: \( n_{C_i}, n_{C_j} \) - are the numbers of objects in the cluster \( C_i, C_j \), \( d(x_i, x_j) \) - Euclidean distance, respectively.

The hierarchical cluster structure created during the analysis was presented in a dendrogram (cluster tree). The data obtained during the research was analyzed for comparative and descriptive analysis. Consequently, the obtained results showed a statistical justification. The calculations of the indicated variables were made using the tools of the statistical package Statistica 13.1 and RStudio. The selection of the research sample was deliberate, non-random, and was determined by the following assumptions: 1. enterprise from the accommodation services sector offering spa and wellness services, 2. facility with a three-, four- or five-star standard, 3. entity operating on the market for over six years, 4. enterprise with the following categories: small, medium, or large, 5. entity with domestic or foreign capital.

The survey was conducted among 45% of three-star hotels, 33% of four-star facilities, and 22% of five-star entities. Hotel enterprises operating for over 15 years constituted the overwhelming group - 56%. On the other hand, 31% of hotels have been working on the market for 10-14 years, and the remaining surveyed spa and wellness entities (13%) have operated for less than nine years. The population was 236 entities, of which 151 had their headquarters in Poland, 36 in the United States, 32 in France, 15 in England, and 2 in Sweden. 69% of the hotels that participated in the research had Polish capital, and 31% had foreign money. The group of respondents consisted of representatives of enterprises performing management functions: owners (8%), directors (53%), and managers: department managers (39%) in hotels that participated in the survey.
4. Results and Discussion

4.1 Segmentation of Spa and Wellness Hotel Customers

The collected empirical data made it possible to identify the components that make up the spa and wellness services package, which is a value carrier in the BM of hotel enterprises delivered to specific market segments. Creating spa and wellness services offered by hotels requires the determination of the profile of hotel guests by the market segmentation process based on which hotels select target markets.

When analyzing the buyer's characteristics, the following variables are considered demographic, geographic, and psychographic. On the other hand, from the behavioral perspective, the segments are shaped based on hotel guests' behavior towards the services offered by hotels, i.e., consumption patterns (brand attitude, loyalty, and frequency of use). The indicated product and behavioral approaches complement each other. Therefore, they were considered during the research using the cluster analysis method.

In the first stage of the research, the main segments of hotel guests using spa and wellness services offered by hotels were distinguished. For this part of the analysis, the thesis was adopted that selecting identical groups of buyers support creating an attractive spa and wellness offer in this hotel market segment, tailored to the needs of specific customer groups.

The respondents considered that the main segments of customers using the spa and wellness offer, according to the criterion of service consumption patterns (e.g., destination), are: 1. guests traveling for business purposes (41% of 5*hotels, 55%-4*, 64%-3*), 2. guests visiting the facilities during the organization of conferences and fairs (39%-5*, 49%-4*, 62%-3*), 3. guests using package tourism services (33%-5*, 47%-4*) and guests coming for leisure (62%-3*).

On the other hand, from the point of view of the psychographic criterion (e.g., lifestyle), the respondents indicated the first type of health traditionalist guests (36%-5*, 49%-4*), for whom a healthy lifestyle has a priority value. This segment of buyers regularly uses traditional spa and wellness services, including classic massages, water baths (hydrotherapy, balneotherapy), saunas, and cosmetic treatments (Sallmann, 2010). On the other hand, the fun & family segment is the most numerous (56%-3*).

The purpose of this group's journey is entertainment during unforced rest. The fun & family category is made up of families and groups of friends with children. They most often choose the offer of hotels with water attractions (including a swimming pool and slides), sports and physical activities, and relaxation treatments. The second type of spa and wellness hotel client belongs to the category of guests: wellness gourmet (31%-5*), fun & family (48%-4*), and health traditionalist (53%-3*). The goal of the journey of customers qualified for the first model is a healthy lifestyle. They
deliberately take advantage of a longer (usually 7-day) stay at the hotel twice a year and spa and wellness services regularly during weekend visits. Wellness gourmet buyers choose the hotel's offer for massages, aesthetic cosmetics, unique treatments, and fitness (Sallmann, 2010).

The third type of buyer, according to the respondents of spa and wellness facilities, is represented by travellers, fun & family (29%-5*), socializer (46%-4*), and health potential (42%-3*). Hotel guests of the socializer category use the spa and wellness facilities to build relationships with friends or to establish them by meeting new people. They are interested in the offer of sports and physical activities, gym, sauna, swimming pool, thalassotherapy, and cardio studios. On the other hand, clients from the health potential segment visit spa and wellness hotels due to specialized, high-quality services. Therefore, they are interested in packages that improve your physical condition and innovative biological regeneration and aesthetic medicine treatments.

The respondents also indicated the self-incentives segment, which uses spa and wellness services inconsistently. These guests receive a hotel stay as a reward or bonus for the work done and the results achieved. They most often choose promotional packages of spa and wellness services.

To group the segments, a taxonomic research method (cluster analysis) was used. The use of such a research procedure was related to the intention to distinguish homogeneous components of spa and wellness services buyers due to the regularity of stays in such facilities. As a result of the CA, four groups of relatively coherent units were formed. Moreover, by analyzing the course of accumulation, it is possible to determine the optimal number of segments. The significant increment in the bond distance is from the first to the 6th step and the last 11th step (Figure 1).

**Figure 1.** The binding distance in the next steps of the cluster analysis of the segments of spa and wellness buyers

**Figure 2.** Segment classification dendrogram and the course of the agglomeration with a cut-off-line for segments of spa and wellness buyers

*Source: Own creation.*

Therefore, three segments should be distinguished. HP-health potential, SI-self incentives, F&F-fun & family, SO-socialiser, HT-health traditionalist, WG-wellness
gourmet, WC-weekend customers, LC-leisure clients CP-customers using the package of tourist services, BC-business customers, CF-conference and fair clients, PS-clients using the spa on other private stays.

Based on the analysis carried out by the method of hierarchical grouping, a dendrogram was obtained. It is possible to clearly distinguish the division into two, five, and three elements (Figure 2). The first two-element cluster includes the segment of buyers, conference and fair clients (CF), and business customers (BC), i.e., guests traveling for business purposes looking for a place to rest and relax after completing their professional tasks.

The second group of five elements was shaped by the following segments of spa and wellness hotel customers: leisure clients (LC), health traditionalist (HT), customers using the package of tourist services (CP), weekend customers (WC), and fun & family (F&F). They represent the type of recreational guests for whom the trip’s primary purpose is entertainment and regenerate physical and mental strength. People usually travel during holidays and weekends to facilities where they can rest, relax and take advantage of additional attractions related to the regeneration of the body.

The third grouping consists of two- and three-element segments. The two-element group consists of buyers, clients using the spa on other private stays (PS) and socializers (SO), who represent an integrative type. Their primary purpose of staying at the hotel is to maintain relationships in the group they are staying in, e.g., family, friends, colleagues, and new acquaintances. Most often, they use the services of spa and wellness hotels to regenerate the body and take a break from the daily routine.

In turn, the three-element group includes the following segments: self-incentives (SI), wellness gourmet (WG), and health potential (HP), which can be classified as task-health. The spa and wellness offer for this type of tourist is implementing a specific task (e.g., improving well-being, reducing stress) and taking care of the physical and mental condition, health, and beauty.

Based on the Euclidean distance used (see formula 5), it can be concluded that the cut-off point is at level 20 (red line, see Figure 2) for identical groups. In turn, disparate segments are located above the bond distance level. The determined level of the critical distance allowed the distinction of four different types of buyers of spa and wellness services classified into three segments.

4.2 Offer of Spa and Wellness Services in Hotels

During the second phase of the first stage of the research, the respondents indicated components that make up the diversified spa and wellness offer defined in the adopted hotels’ BMs. The spa and wellness offer are fundamental to creating value at BM hotels. For this reason, respondents identified services that add value to hotel guests and generate value for the hotel company. The research shows that hotels offer a full
range of comprehensive spa and wellness services. Treatments indicated by respondents can be classified according to the following groups: 1. massages, which are the most important from the perspective of offered services for all market segments in each hotel category (100%), 2. body treatments (cosmetic 100%-5*, 97%-4*, 98%-3*; slimming 94%-5*, 99%-4*, 96%-3*; aesthetic medicine 96%-5*, 94%-4*, 88%-3*; laser therapies 51%-5*, 68%-4*, 80%-3*; health baths 43%-5*, 65%-4*, 80%-3*), 3. meditation and relaxation treatments (relaxation 82%-5*, 87%-4*, 90%-3*, Ayurveda & yoga 55%-5*, 58%-4*, 49%-3*), 4. recreational and movement exercises (gym 98%-5*, 97%-4*, 95%-3*; cardio studio 96%-5*, 92%-4*, 97%-3*; sports and movement classes 78%-5*, 92%-4*, 91%-3*; fitness 84%-5*, 88%-4*, 93%-3*).

The research results indicate that hotels, depending on the category, provide various types of spa and wellness services to provide value to selected segments of buyers. This conclusion is also justified by the performed linear regression analysis (Figure 3 and Figure 4).

Figure 3. Relationship between the type of spa and wellness services offered by 5* and 4* hotels

Figure 4. Relationship between the type of spa and wellness services offered by 5* and 3* hotels

Source: Own creation.

The analysis shows that hotels' spas and wellness services are closely interconnected and allow buyers to stay in the facility for many hours to improve their well-being, health, and beauty in line with the travel theme. PCA was used to identify the components that make up the packages of this type of service offered by hotels (Figure 5).

The relationships between the raw data and the acquired principal components are shown in Figure 5. In the case of the analysis of the type of spa and wellness services offered to selected market segments due to the benefits obtained specified in the adopted BM, all input variables are located on the circle. Therefore, it should be concluded that the main components transfer the information contained in the analyzed variables.
**Figure 5. Variable components of the spa and wellness offer in hotels in the two-dimensional space of the first and second component**

Source: Own creation.

Where: MA-massages, ST-thalassotherapy - sea therapy, HB-health baths, SA-sauna, JA-hot tub, BB-body beauty treatments, TS-special treatments, AP-procedures with the use of apparatus, SL-slimming treatments, DT-dermatological treatments, TH-therapies, RE-rehabilitation treatments, AM-aesthetic medicine treatments, RT-relaxation treatments, PT-physical therapy, SP-swimming pool, MB-mud bath, SR-steam room, AC-salt cave, SM-sports and movement classes, AC-aesthetic cosmetics, AY-Ayurveda and yoga, FT-fitness, HY-hydrotherapy, BT-balneotherapy, CA-cardio studio, GY-gym, LT-laser therapy, TT-thermotherapy.

The first component explains 93.94% of the data variance, and the second, 6.06%, means that they provide 100% of the variance of the original variables. In vectors directly adjacent to the outer circle, a significant part of the information is conveyed by the following components, laser therapy, health baths, physical therapy, body treatments, steam bath, aesthetic cosmetics, hot tub, medicines, and gym.

From the factor load scattering chart, we can conclude that the following parameters have a strong positive correlation, laser therapy and health baths, physical therapy-body cosmetic treatments, body-fitness beauty treatments, relaxation treatments-massages, slimming treatments and sports and movement classes, thermotherapy-treatments with the use of apparatus, therapies-hot tub, and relaxation treatments-massages. Based on the PCA, no negatively correlated factors were distinguished. On the other hand, the uncorrelated variables include a steam bath and hot tub, aesthetic cosmetics-therapies, hydrotherapy-aesthetic medicine treatments, a mud bath-Ayurveda & yoga, and gym-dermatological treatments.

In the next stage of analyzing the spa and wellness offer of hotels based on the Kaiser and Catell criteria, only three components should be considered for clarification (Gray, 2017). The values of 93.94% and 6.06% differ significantly from the others, distinguished by a linear trend (Figure 6). In addition, the second component shows few changes in the eigenvalue and therefore justifies the selection of two main parts.
According to the PCA, 29 variables were transformed into three orthogonal components, which explain 100% of the general variance. The result of the appropriate selection of two factors is confirmed by the factorial screen, in which, to the right of the second factor of 6.06%, there is a slight reduction in eigenvalues.

The next stage of the analysis allowed for the preparation of a projection diagram of the spa's location and wellness offers components on the planes of the main factors for the standard of hotels (Figure 7).

**Figure 6.** Configuration of variables in the system of the first two main components for the components of the spa and wellness offer

**Figure 7.** The scatter plot of the spa and wellness offer components in the space of the first two main components

where the data is the same as in the description of Figure 5.

According to this type of factor system, three homogeneous clusters of points can be distinguished, which provide information about the following structure of spa and wellness services:

1. Massages, body cosmetic treatments, gym, slimming treatments, cardio studio, sports and movement classes, fitness, relaxation treatments, sauna, swimming pool, therapies, and hot tub.
2. Salt cave, mud bath, hydrotherapy, Ayurveda & yoga, aesthetic cosmetics, and steam bath.
3. Dermatological treatments, thermotherapy, unique treatments, physical therapy, rehabilitation treatments, balneotherapy, health baths, treatments using apparatus, and laser therapy.

The presented linear map also exposes one point that is noticeably different from the others. It illustrates a vector of input variable values characteristic of the thalassotherapy service. The research shows that the process of selecting identical groups of buyers influences the creation of a spa and wellness offer tailored to the needs of specific market segments. This type of thesis is indicated by the positive correlation of individual elements of the request and the relationships between the type of spa and wellness services and the hotel category.
4.3 Attributes of the Offer of Spa and Wellness Services of Hotels

During the third stage of the research, the attributes of the spa and wellness offer were indicated, which are among the elements of the value proposition for hotel buyers from the perspective of the adopted BM. The following hypotheses were verified using the chi-square ($\chi^2$) test of independence (Table 1):

**H0:** The attributes of the spa and wellness offer determining the value for the customer do not depend on the hotel standard.

**H1:** The attributes of the spa and wellness offer determining the customer's value depend on the hotel's standard.

Based on Pearson's $\chi^2$ independence test results, the null hypothesis can be rejected. An alternative idea is adopted, which indicates the relationship between the attributes determining the value of the spa and wellness offer and the hotel standard. The level of dependence based on the value of the contingency coefficient and the Cramer V coefficient should be considered moderate, as it is at the level of 0.18. Nevertheless, the $\chi^2$ test and the Cramer V statistic showed the statistical significance of the studied correlation at the level of the 1st type error, which is 1%. To explain the interrelationships of the various elements shaping the attributes of the spa and wellness offer, which affect the value in hotel BMs. It showed that the benefits of meeting buyers’ needs differentiated the features related to the first two PC1 and PC2.

The components at the level of 91.61% (first) and 8.39% (second) explained the total variance, i.e., the total multivariate variability of the offer attributes (Figure 8). Principal components were determined under the Cattell criterion. The screen test showed the eigenvalues of the factors representing a stable linear trend from PC2 (Figure 9).

**Figure 8. Variable Chart. The position of the load vectors concerning the two main attributes of the spa and wellness offer**

![Variable Chart](image)

*Source: Own creation.*

Where: RE-recuperation, WE-wellness, IP-improvement of physical condition, RM-regeneration of mental strength, RX-relaxation, HE-healthy eating, RT-rest, SD-
spiritual development, HI-health improvement, CB-cleansing the body, BI-beauty improvement, BS-body shaping, SR-stress reduction, IW-improved well-being, MI-mood improvement, RH-restoring harmony between body and spirit, RJ-rejuvenation, CA-convalescence after illnesses.

The analysis shows a strong integration of factors influencing the improvement of physical condition and rejuvenation, mood improvement - body shaping, strength regeneration - rebirth, rest - physical renewal, restoring harmony between the body and spirit - improving health, relaxing - improving health. Nevertheless, there is also a noticeable lack of correlation between stress reduction, cleansing the body, and enhancing well-being - recovery after illnesses.

**Figure 9.** Proprietary values for the attributes of a spa and wellness offering

![Fig 9](image)

**Figure 10.** Scatter chart of variables in the plane formed by the first two main components of the attributes of the spa and wellness offer

![Fig 10](image)

Source: Own creation.

Where the data is the same as in the description of Figure 8.

The scatter chart of variables on the plane formed by the PC1 and PC2 components made it possible to determine the mutual relations and dependencies between the spa and wellness offer (Figure 10). As a result, three coherent clusters of characteristics that affect customer value in hotel BMs should be distinguished: 1. improved well-being, recovery, rest, rejuvenation, body shaping, beauty improvement, restoring harmony between body and spirit, healthy eating, and relaxation, 2. improvement of physical condition, stress reduction, mood improvement, and cleansing the body, 3. health improvement, spiritual development, and healing after illnesses. On the other hand, the attribute that differs significantly from the others in creating value for the client in BMs is the regeneration of mental strength.

The respondents classified the attributes constituting the value proposition in the adopted BMs of hotels: 1. recuperation (100% of all categories of facilities); 2. rest and improvement of well-being (96%-5*, 92%-4%), body shaping (98%-3*); 3.
rejuvenation (94%-5*, 96%-3*), relaxation (92%-4*); 4. shaping the body (92%-5*, 89%-4*), relaxation (94%-3*).

4.4 Benefits Resulting from the Spa and Wellness Offer Constituting Value

During the last stage of the research, respondents identified the value-added benefits generated by spa and wellness services provided by hotels. They refer to the diversified bundle of gifts received during the purchase of an offer that meets buyers' needs, which forms the core of the service value proposition. CA was used to investigate the variation in the value proposition for the hotel spa and wellness services customer.

The process of grouping value propositions from spa and wellness services due to the similarities in the benefits achieved was discontinued at the stage of the 30 agglomerations, which corresponds to a distance of 38.27566 (Figure 11). As a result of hierarchical clustering using the mean connection method, a dendrogram was obtained, in which a division into two clusters can be distinguished. From the diagram, there are nine groups of proposed values, compiled from one to nine collections, with the critical distance at the level of 35 and 18 (Figure 12). In the division of objects into clusters, a grouping was obtained indicating the level of benefits that the client may experience by purchasing a spa and wellness service from the achieved values.

In the first cluster, single-element groups create new distribution channels and information about services and methods of forecasting customer needs. On the other hand, in the three-element group, one should distinguish changes in the environment, price flexibility, and the ecological nature of services. The indicated components represent the benefits of the values individually perceived by hotel guests. These include individual expectations and requirements of the buyer concerning the features of services related to satisfying environmental needs - surrounding, accompanying, and enriching the actual conditions (e.g., new service distribution channels, ecological nature of benefits).

The second cluster also consists of two single-element groups, i.e., trade promotions and service availability. On the other hand, the five-element group consists of special offers, after-sales services, reliability, comprehensiveness, and services innovation. The six-element group includes compliance with expectations, safety, leisure time management, emotional benefits from purchasing spa and wellness services, the quality-price ratio of the services offered, and the complementarity of services. The nine-element set represents the benefits of buyer comfort, convenient service hours, prestige, payment terms, service offer in line with spa and wellness trends, availability of packages, user satisfaction, eligible purchase, and quality of services. The four-element group is shaped by the timeliness of implementation, individual approach to the buyer, diverse assortment, and friendliness of service. According to the Euclidean distance used, a cut-off point of 35 was determined to distinguish identical groups of values (Figure 12).
As a result, the benefits selected by the respondents result from the proposition offered to buyers in the scope of 1. Economic values (e.g., favorable payment terms, promotions, special offers, after-sales services, price-quality ratio), 2. Functional values (e.g., quality of service, innovation of services, value for money), 3. Emotional values (e.g., individual approach to the buyer, satisfaction with using services, prestige, aesthetics, listening skills, ease of making contact, friendliness of service), 4. Utility values (e.g., free time management, changes in the environment, care for comfort, convenient hours of service provision, availability of packages), 5. The values of the shopping experience (e.g., complementarity, comprehensiveness, timely delivery of services in line with spa and wellness trends, sensory experiences).

**Figure 11.** Agglomeration distance for subsequent stages of tying the value proposition of spa and wellness services for the client

*Source: Own creation.*

where: AV-availability of services, SQ-service quality, IO-innovative offer/services, RS-service reliability, CS-complementarity of benefits, services in line with spa and wellness trends, CH-comprehensive services, TP-terms of payment, VM-value for money, AP-availability of service packages, EN-ecological nature of the services offered, EB-emotional benefits of purchasing services, PF-price flexibility, AS-after-sales services, DR-diverse range of services, CP-convenience of buying services, SS-satisfaction of using the services, SO-special offers, DI-new distribution channels and information about services, SB-buyer safety, CE-compliance with expectations, TD-timely delivery of services, CV-convenient hours of providing services, CM-commercial promotions, PR-prestige, EC-change of environment, LT-leisure time management.

Among the critical elements of the benefits resulting from the offer of spa and wellness services, the respondents identified: 1. availability of services (100% of all hotel categories), 2. terms of payment, friendliness of service, care for the comfort of the buyer, prestige, satisfaction with using the services (100%-5*), individual approach...
to the buyer, timely delivery of services, friendliness of service (99%–4*), friendliness of service, and availability of service packages (100%–3*), 3. services in line with spa and wellness trends, the convenience of purchase and punctuality provision of services (98%–5*), care for the buyer's comfort, services in line with trends (92%–4*), quality, and convenience of purchasing services (98%–3*).

In conclusion, it should be stated that the results of the research have confirmed the research hypothesis, according to which hotel spa and wellness companies, when targeting a specific offer to selected market segments, use different approaches in the configuration of values for the adopted business models.

5. Conclusions

The study tried to demonstrate that the individual components shaping the spa and wellness services package are a value carrier for the customer, delivered to selected market segments by the BMs adopted by hotel companies. The literature analysis in the first part of the article shows that the essential element that contributes to the BM is the value proposition for the client. Value creation is a critical element of planning all business processes taking place in hotels.

The research results presented in the second part of the article made it possible to identify market segments that differ in terms of expectations concerning the offer of spa and wellness hotels. Based on the CA performed, three main categories of buyers were distinguished. The first is the business traveller segment, typical of all hotel standards. Recreational guests who stay in three- and four-star hotels were classified in the second segment. On the other hand, the third segment is represented by integrative tourists who mainly choose four-star hotels. The process of deliberate selection of market segments enables hotels to achieve market success. The resignation from servicing all selected customers was caused by their low attractiveness for hotels from the perspective of growth dynamics and earned value.

Another element of the value proposition for the client in the hotel BM is the attributes of the offer tailored to individual market segments. The research carried out using PCA indicated that the request should have precisely defined points related primarily to improving physical condition and mood, rejuvenation of appearance, body shaping, regeneration of mental strength, relaxation, natural renewal, restoring balance, and improving health.

Based on the CA, two groups of benefits representing value for customers were identified. The first group includes individual values that result from the product's characteristics and meet the customer's external needs. On the other hand, the second group classified the values resulting from the way of using the services, i.e., economic, functional, emotional, and utility, as well as the experience arising at the time of purchase and the process of providing them.
Practical conclusions resulting from the conducted empirical research indicate that the classification of the abovementioned elements made it possible to diagnose a different value proposition for spa and wellness hotel customers. The value proposition presented by the facilities is aimed primarily at meeting the needs of hotel guests and resolving their dilemmas. Therefore, various factors indicated by the respondents determine the choice of a spa and wellness offer to a large extent. It should also be noted that the service provider's assessment of the value conveyed to hotel guests is subjective. On this basis, it can be concluded that the higher the standard of the hotel, the greater the buyer's expectations in terms of the value provided, and, consequently, the smaller the differentiation between the expectations and the minimum requirements. Thus, the primary task of the BM is to create a service and provide value for the customers that meet their expectations and contributes to generating benefits for the hotel.

The obtained results may indicate a properly defined value proposition for the client in hotel companies operating in the spa and wellness services market. The authors' theoretical considerations and practical experience suggest that their use is recommended in making decisions leading to the creation of value, which is written in the form of a BM.

The issues presented in the article do not comprehensively cover the topics related to the components that make up the offer of spa and wellness services that constitute a value carrier for customers in hotel BMs. The structure of the elements providing and creating value is a central element of the BM, which is constantly reoriented and modified under the influence of buyers' changing needs and preferences. For this reason, the issues raised in the article should be considered continuously.

References:

Afuah, A. 2018. Business Model Innovation. Concepts, Analysis, and Cases. Routledge, London.
Bennett, M., King, B., Milner, L. 2004. The Health Resort Sector in Australia: A Positioning Study. Journal of Vacation Marketing, 10(2), 122-137.
Cagan, J., Vogel, C.M. 2002. Creating Breakthrough Products: Innovation from Product Planning to Program Approval. FT Press, New York.
Chesbrough, H., Rosenbloom, R.S. 2002. The role of the business model in capturing value from innovation: evidence from Xerox Corporation’s technology spin-off companies. Industrial and Corporate Change. Oxford University Press, 11(3), 529-555.
Climent, R.C., Haftor, D.M. 2021. Value creation through the evolution of business model themes. Journal of Business Research, 122(1), 353-361.
Csirmaz, E., Peto, K. 2015. International trends in recreational and wellness tourism. Procedia Economics and Finance, 32, 755-762.
D’Angelo, J. 2010. Spa Business Strategies: A Plan for Success. Thomson Delmar Learning, New York.
Demil, B., Lecocq, X. 2010. Business Model Evolution: In Search of Dynamic Consistency. Long Range Planning, 43(2-3), 227-246.

Ellegaard, C.J., Medlin, J., Geersbro, V. 2014. Value appropriation in business exchange – literature review and future research opportunities. Journal of Business & Industrial Marketing, 29(3), 185-198.

Fielt, E. 2013. Conceptualising Business Models: Definitions, Frameworks and Classifications. Journal of Business Models, 1(1), 85-105.

Foss, N.J., Saebi, T. 2017. Fifteen years of research on business model innovation: How far have we come, and where should we go? Journal of Management, 43(1), 200-227.

Foss, N.J., Saebi, T. 2018. Business models and business model innovation: Between wicked and paradigmatic problems. Long Range Plan, 51(1), 9-21.

Frankenberger, K., Weiblen, T., Csik, M., Gassmann, O. 2013. The 4I-framework of business model innovation: A structured view on process phases and challenges. International Journal of Product Development, 18(3-4), 249-273.

Gay, B. 2014. Open innovation, networking, and business model dynamic: the two sides. Journal of Innovation and Entrepreneurship, (3)2, 1-20.

Global Wellness Trends Report: The Future of Wellness 2021. Global Wellness Institute, Miami, Florida.

Gray, V. 2017. Principal Component Analysis: Methods, Applications and Technology. Nova Science Publishers, New York.

Hennig, C. 2020. Handbook of Cluster Analysis, 1st edition. Routledge, London.

Johnson, M., Christensen, C., Kagermann, H. 2008. Reinventing Your Business Model. Harvard Business Review, 86(12), 50-59.

Joppe, M. 2010. One country’s transformation to spa destination: the case of Canada. Journal of Hospitality and Tourism Management, 17(1), 118-126.

Keri, K., Ottenbacher, M.C., Harrington, R.J. 2007. The North American Spa Industry: An Examination of Emergent Trends. Hospitality Review, 26(1), 50-60.

Madanoglu, M., Brezina, S. 2008. Resort spas: how are they massaging hotel revenues? International Journal of Contemporary Hospitality Management, (20)1, 60-66.

Massa, L., Tucci, C.L., Afuah, A. 2017. A critical assessment of business model research. Academy of Management Annals, 11(1), 73-104.

Mijajlović, M., Puška, A., Stević, Z., Marinković, D., Doljanica, D., Virijević Jovanović, S., Stojanović, I., Beširović, J. 2020. Determining the Competitiveness of Spa-Centers in Order to Achieve Sustainability Using a Fuzzy Multi-Criteria Decision-Making Model. Sustainability, 12(20), 1-17.

Mill, R.C. 2011. Resorts: Management and Operation, 3rd Edition. ed. Wiley, New Jersey.

Moebes, A.M. 2021. Travel Market Report’s Wellness Travel Outlook 2020-21 (Voice of the Travel Advisor 2020). Travel Market Report, New York.

Monteson, P.A., Singer, J. 2004. Marketing a resort-based spa. Journal of Vacation Marketing,10(3), 282-287.

Montgomery, D.C. 2013. Introduction to Linear Regression Analysis, 5th edition. Wiley, New Jersey.

Mueller, H., Kaufmann, E. 2001. Wellness tourism: market analysis of a special health tourism segment and implications for the hotel industry. Journal of Vacation Marketing, 7(1), 5-17.

Naik, G.R. 2018. Advances in Principal Component Analysis: Research and Development. Springer, Berlin.
Niemimaa, M., Järveläinen, J., Heikkilä, M., Heikkilä, J. 2019. Business continuity of business models: Evaluating the resilience of business models for contingencies. International Journal of Information Management, 49(1), 208-216.

Osterwalder, A., Pigneur, Y. 2012. Tworzenie modeli biznesowych. Podręcznik wizjonera (Building business models. A visionary's handbook). Helion, Gliwice.

Osterwalder, A., Pigneur, Y., Tucci, C.L. 2005. Clarifying Business Models: Origins, Present, and Future of the Concept. Communications of the Association for Information Systems, 16(1), 1-25. doi.org/10.17705/1CAIS.01601.

Ramdani, B., Binsaif, A., Boukrami, E. 2019. Business model innovation: a review and research agenda. New England Journal of Entrepreneurship, 22(2), 89-108.

Sallmann, N. 2010. Megatrend Wellness & Spa dla rynku usług wolnego czasu i hotelarstwa w XXI wieku. (Megatrend Wellness & Spa for the 21st century leisure and hospitality market). Polska Akademia Gościnności, Kraków.

Shafer, S.M., Smith, H.J., Linderb, J.C. 2005. The power of business model. Business Horizons, 48(3), 199-207.

Smith, J.B., Colgate, M., 2007. Customer Value Creation: A Practical Framework. Journal of Marketing Theory and Practice, 15(1), 7-23.

Smith, M., Puczko, L. 2014. Health, Tourism and Hospitality Spas, Wellness and Medical Travel, 2nd edition. Routledge, London.

Sneath, P.H.A., Sokal, R.R. 1973. Numerical taxonomy. W.H. Freeman & Co., San Francisco.

Sobczyk, M. 2020. Statystyka. (Statistics). Wydawnictwo Naukowe PWN, Warszawa.

Stará, J., Peterson, C. 2017. Understanding the concept of wellness for the future of the tourism industry: a literature review. Journal of Tourism & Services, 8(2), 18-29.

Tabacchi, M.H. 2010. Current Research and Events in the Spa Industry. Cornell Hospitality Quarterly, 51(1), 102-117.

Teece, D.J. 2010. Business Models, Business Strategy, and Innovation. Long Range Planning, 43(2-3), 172-194.

Vidal, R., Ma, Y., Sastry, S. 2016. Generalized Principal Component Analysis. Springer, Berlin.

von Delft, S., Zhao, X. 2020. Business models in process industries: Emerging trends and future research. Technovation, 27(7), 45-61.

Wunder, T. 2016. Essentials of Strategic Management: Effective Formulation and Execution of Strategy. Schäffer Poeschel, Stuttgart.

Zott, C., Amit, R., Massa, L. 2011. The Business Model: Recent Developments and Future Research. Strategic Management Journal, 22, 493-520.