

EMPIRICAL EVALUATION OF A CONCEPTUAL MODEL FOR THE PERCEIVED VALUE OF HEALTH SERVICES EMPIRIČNO PREVERJANJE KONCEPTUALNEGA MODELA ZAZNANE VREDNOSTI ZDRAVSTVENE STORITVE

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ABSTRACT

Keywords:

health services,
perceived value,
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reputation, quality,
price, factor analysis,
linear structural
equation modelling

Introduction: Perceived value and its antecedents and consequences have been claimed to be important in industries with higher customer involvement. The aim of this paper is therefore to empirically assess the conceptual model, with perceived service value as its central component. It also investigates how it affects loyalty and satisfaction, how it is influenced by its antecedents, and to compare with other studies investigating partial relationship between variables.

Methods: A total of 800 patients were enrolled in the main study, and the data was analysed using exploratory and confirmatory factor analyses. By modelling linear structural equations, we assessed reliability and established the convergent and discriminant validity of the questionnaire in the same way as in the pilot study.

Results: In the conceptual model for testing our hypotheses, we also included the relationship between patient satisfaction and loyalty. In this manner, the fitting of data to the model was significantly improved. After including the additional relationship, global fit indices had the following values: Chi-square=349.6 (sig.=0.00), df=143, RMSEA=0.05, NFI=0.96, CFI=0.97. All relationships between the constructs were statistically significant, thus confirming all our hypotheses.

Conclusions: The major conclusion of this paper is that an especially higher reputation and higher perceived service quality can contribute to perceived service value and therefore to more satisfied patients. The research approach has a few limitations. In the future, the model of perceived service value can be extended with variables such as emotions, patient trust, and commitment as well.

IZVLEČEK

Ključne besede:

zdravstvene storitve,
zaznana vrednost,
zadovoljstvo, zvestoba,
ugled, kakovost,
cena, faktorska
analiza, modeliranje z
linearnimi enačbami

Uvod: Koncept zaznane vrednosti storitev spada s svojimi predhodniki in posledicami med temeljne koncepte predvsem v storitveni dejavnosti. Namen članka je empirična preverba konceptualnega modela zdravstvenih storitev z njihovo zaznano vrednostjo kot središčno komponento ter povezav s predhodniki (zaznana kakovost storitve, cena, ugled) in posledicami (zadovoljstvo, zvestoba).

Metode: Za razvoj merilnega instrumenta smo naredili pilotno raziskavo, s čimer smo preverili zanesljivost in veljavnost vprašalnika. Uporabili smo eksploratorno (EFA) in konfirmatorno (CFA) faktorsko analizo ter Cronbachov koeficient alfa. V glavno raziskavo smo vključili 800 bolnikov. S pomočjo linearnih strukturnih enačb smo testirali hipoteze.

Rezultati: V naš model smo dodatno vključili še povezavo med zadovoljstvom in zvestobo. Na ta način smo dobili tako vsebinsko kot statistično ustrezen model. Med samimi gradniki so bile različno močne povezave, ki pa so bile vse statistično potrjene, tako da smo potrdili vse naše hipoteze. Indeksi globalne ustreznosti kažejo, da smo izbrali primeren model (Hi-kvadrat 349,6, df = 143, RMSEA = 0,05, NFI = 0,96, CFI = 0,97).

Zaključki: Večji ugled in zaznana višja kakovost storitve vodita v zaznano večjo vrednost storitve in k zadovoljnejšim bolnikom. V prihodnosti bomo razširili model zaznane vrednosti storitev s spremenljivkami, kot so čustva, zaupanje, predanost.

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1 INTRODUCTION

In recent decades, the entire world economy has seen a rise in the importance of services due to their ever-increasing share in national GDPs, especially in the so-called emerging economies, such as Slovenia. This trend is reflected in the vast number of research projects that are service-focused (1). Perceived service value and its antecedents and consequences are considered important in industries with higher customer involvement (2), where the relationship and cooperation between the provider and the customer are of high significance, such as in the health sector. Suppliers require a closer understanding of the concept of perceived service value, which represents one of the key and basic concepts, not only in marketing (3, 4), but also in the business of any organisation in the market. Using insights from other services, such as Hospitality (5), Internet Banking (4, 6), Banking (7), and Tourism (8), in which the concept of perceived service value has been explored thoroughly and tested empirically, we have transferred this concept to the field of Healthcare Services and defined its elements and the relationships between them. Furthermore, results of prior research (9) have shown that both perceived service value and perceived service quality dimensions should be incorporated into customer satisfaction models to provide a more complete picture of the drivers of satisfaction.

In previous studies the authors focused on the connections between individual elements, for instance, the effect of reputation on quality, satisfaction, and loyalty (10), the relationship between satisfaction and loyalty (11), the relationship between quality, satisfaction, and value (12), the relationship between non-monetary price, perceived value, and satisfaction (13), or they tried to determine the dimensions of perceived service value (14-16). From additional studies of other service industries, we know that the concept of perceived service value is the concept around which revolve both the benefits, such as the most frequently described perceived service quality and reputation and the costs in the form of prices, both monetary and non-monetary. On the other hand, customer satisfaction with performed services and customer loyalty are the most researched consequences of perceived service value.

While the relationship between perceived service quality and customer satisfaction has been well explored in the past, perceived service value has remained a comparatively neglected aspect of customers' experiences (17-19), especially in the healthcare industry, where international experiences have shown the rising importance of this concept in healthcare.

The aim of this paper is to assess the conceptual model empirically, with perceived service value being its central component. Examining the perceived service value of

health services in an emerging economy makes sense from the scientific, as well as from the professional point of view. Customer behaviour in general, as well as perceived service value, has been studied mainly from a rational perspective. Nowadays, especially in the services' context, increasing attention is being paid to emotional components. From that point of view, it is necessary to incorporate not only a cognitive variable, but also affective variables into the research of perceived service value (8). Furthermore, in health services, previous research usually used different criteria, which were primarily economic in nature, with objective measures, neglecting more subjective aspects, in particular, perceived service quality (20) or perceived service value. With changes in emerging economies, where private competitors in the sector of health care evoke, it is important to understand what activities contribute to more satisfied customers and, consequently, to sustainable competitive advantage. Therefore, our aim is to contribute to the field with incorporating more subjective aspects into the research of perceived service value in healthcare.

To analyse direct and indirect relationships between researched concepts, we used structural equation modelling, a multivariate method, which, in contrast to ordinary regression analysis, considers all the variables in the model simultaneously instead of separately (21).

1.1 Theoretical Description of Model Elements and Hypotheses' Development

Zeithaml's definition (22) states that the perceived service value is a ratio between what you gain and what you have to sacrifice for it. When possible, patients chose those healthcare providers they perceive as valuable (16). Numerous researchers (23-25) have claimed that the perceived service value set by a patient represents an overall assessment of a health service, which is based on patients' perceptions of what was gained and what was invested. As the consequences of perceived service value for patients, various authors have listed (26-28) patients' satisfaction and loyalty.

In general, perceived service quality is one of the most important benefits for the customer. In healthcare, perceived service quality is defined as the gap between patients' expectations and their perceptions of health services (29). Also, two dimensions of perceived service quality are distinguished in the field of healthcare, namely, technical and functional quality (30). Technical quality in the healthcare industry refers to the accuracy of diagnostic and therapeutic processes; whereas functional dimension refers to the manner and behaviour of the healthcare providers during the service delivery process.

The next benefit for the customers, in general, is reputation. Due to the lack of information that would

be helpful to patients in selecting their healthcare providers, their choice often depends on the reputation of health services providers (31). Satir (32) suggested that the reputation of medical institutions should be assessed through patients' perceptions. The public sector is thought to be a knowledge-based industry, whose reputation depends on the perception that customers have of its services (33). Hibbard et al. (34) believe that a diminished hospital reputation can easily lead to a considerable drop in patient visits. A relevant article in *Healthcare Collector* (35) informs us that as much as 75% of patients use reputation as their primary criterion of choice. In specialised institutions, patients try to seek out those doctors who have gained more respect in the eyes of the people whose opinions they solicited (information by word of mouth).

On the 'give' side of perceived service value equation price (36) is among the most important, because it is something that the customer has to consider sacrifice in order to obtain some products. The definition of price as a sacrifice is in line with other researchers' conceptualizations of this notion (37). For Hafer (37), this sacrifice includes, in the strictest sense, the monetary and non-monetary elements of the price, as well as the risks attached to the services rendered. The non-monetary element of the price is exclusively a function of time, and Hafer distinguishes between the time needed to get to the service provider, the time spent waiting for the service, and the time needed to finish the rehabilitation after the service is performed. Certainly, time spent waiting for some services to be performed is very important and may even be the most important aspect of health services. Other scholars include additional elements in the concept of non-monetary price. For instance, Sloan (38), included ease of access and the waiting time for the service, i.e., the waiting queue (39). Furthermore, certain psychological factors are also added to the aforementioned elements of the price, such as the patient's fear or apprehension, and the treatment upon admission to the facility for treatment (40, 41).

Considering the consequences of perceived service value, customer satisfaction is one of those mentioned most commonly. Oliver (42) defined satisfaction as a psychological phenomenon that results from one's expectations about the emotions and experiences prompted by a purchase. If a patient's expectations have been met, it results in their satisfaction. As stated, perceived service quality is defined as the difference between the expected and the perceived. The response to this is shown as satisfaction. Therefore, perceived service quality is an antecedent of customer satisfaction. Likewise, in healthcare, patient satisfaction represents a key indicator. Healthcare providers must understand their patients' expectations and strive to fulfil them (43).

Satisfied patients are important for healthcare providers too, because they tend to obey all instructions given by medical personnel, they spread positive reviews, and are more loyal to institutions with which they are satisfied (44).

The next consequence of perceived service value, customer loyalty, is defined by Oliver (42) as a commitment to repeat purchases, or the regular use of a product in the future, that actually leads to repeat purchases or the use of the same brand. Patient loyalty may be viewed more appropriately as a behavioural intention. Regardless of whether the discussion focuses on patient loyalty in the healthcare context, there is no question that the same benefits of customer loyalty apply - whether it is a hospital, bank, or retail business. Patients are loyal because they were satisfied in the past, so it is more important to find out why they were either satisfied or dissatisfied.

1.1.1 Hypotheses

Perceived service value is a customer's perception of the perceived service quality in comparison with other service providers (12).

Likewise, authors such as Cronin, Brady, and Hult (41) found that, besides the direct impact of perceived service quality on perceived service value, perceived service quality influences customer satisfaction.

H1: The higher the perceived service quality of a health service, the higher its perceived service value.

H2: The higher the perceived service quality of a health service, the higher the patient satisfaction.

Reputation plays an important role in distinguishing between different healthcare service providers (45). Researchers such as Chen (46) and Wood (47) show a positive connection between reputation and the perceived service value and quality of services.

H3: The higher the reputation of a health service provider, the higher its perceived service quality.

H4: The higher the reputation of a health service provider, the higher its perceived service value.

Higher perceived service value leads to higher satisfaction (48). In the long term, service providers' success is linked to customer loyalty (48). Atilgan, Askoy, and Akinci (49) believe that customer loyalty is strongly linked to perceived value.

H5: The higher the perceived service value of a health service, the higher the patient satisfaction.

H6: The higher the perceived service value of a health service, the higher the patient loyalty.

There are more uncertainties when describing the relationship between perceived service quality and perceived price. The meta-analysis of Hussey, Wertheimer, and Mehrota (50), which includes all relevant studies analysing the influence of prices on the quality of health services, concluded that the connection is inconsistent, or the connection is either negative or positive. On the other hand, numerous researchers (51, 52) have proposed that higher perceived prices lead to higher perceived service quality. Jensen's study (53) showed that health service users are willing to pay more for higher quality services because they believe that higher prices mean higher quality. Tellis and Geath (54) also claimed that customers use prices as quality indicators.

H7: The higher the perceived price of a health service, the higher its perceived service quality.

The price has a double impact on the perceived service value. As a factor of sacrifices, it lowers the perceived service value. Anything built into health care services to reduce price, time, effort can cause an increase in hospital perceived service value, but, on the other hand, it has a positive impact on the perceived service quality and, through this impact, it has an indirect, positive effect on perceived service value.

This is why we expect that the perceived price will have a small negative impact on the perceived service value.

H8: The lower the perceived price of a health service, the higher its perceived service value.

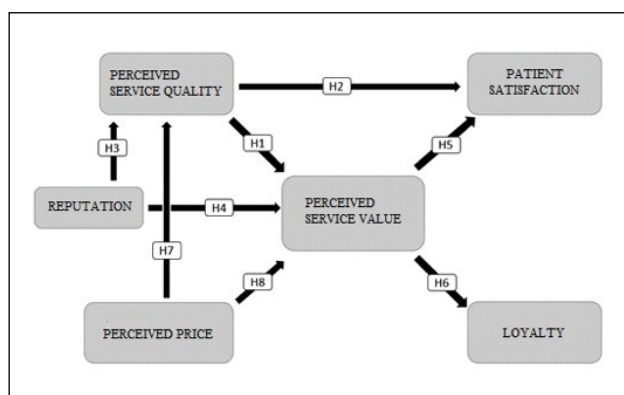


Figure 1. Conceptual model, relationships between elements of them, and hypotheses.

2 METHODS

2.1 Measurement Instrument Development

The measurement instrument for the empirical study was developed in two steps. First, after the literature review, some of the relevant items were identified for the questionnaire.

In the second step, a pilot survey was conducted on a sample of 200 patients. A 5-point Likert-type scale was used to measure the latent constructs in this study (1="strongly disagree" and 5="strongly agree"). The first questionnaire consisted of 53 questions. For reliability, we used an Exploratory Factor Analysis (EFA) and Cronbach's alpha. In all the factor analyses, the assumptions pertinent to this method were assessed, and, in all cases, the final factor analyses met the criteria (55).

The Cronbach's coefficient for the construct of price was too low (0.40), which revealed its low reliability. Therefore, we included additional questions in the second questionnaire. We did not have such problems with the other constructs.

Unlike CFA, EFA does not test unidimensionality explicitly (56), which means it has to be followed by CFA. Furthermore, CFA makes it possible to estimate the reliability of the constructs of a measuring instrument, based on the value of R² (57). In addition, CFA is also used for estimating the discriminant validity of constructs, which can be estimated in the following two ways: Using the Fornell-Larcker criterion (21) and the Chi-square difference test (56, 58). Based on the results of statistical analysis, we designed the second questionnaire (59) with 29 questions that covered all six categories. The items in the second questionnaire were measured on a 7-point Likert scale (from 1="strongly disagree" to 7="strongly agree"). After all statistical procedures, three items were used to measure perceived service quality, three were used for perceived price (1 for non-monetary price, and 2 for monetary price), four for reputation, three for perceived service value, three for patient satisfaction, and three for patient loyalty.

For complete data processing, the SPSS statistical package and corresponding AMOS software were used, together with a LISREL software package.

2.2 Sampling and Data Collection

We enrolled 800 patients, 18 years of age or older, and who were intellectually capable of filling out the questionnaire after finishing their treatment. The questionnaire was given to all the patients in the ward. The response rate was 100%. The time period in which data collection took place was four months. We used a convenience sample and included those patients who were easy to obtain; in our case, we focused on patients in one private and one public hospital who were, at the time, patients in the Surgical Department.

The patients received instructions on how to complete the questionnaire, which was anonymous, and it was answered with a pen on a paper form.

3 RESULTS

Cronbach's α for the construct of perceived service quality was 0.87, reputation 0.96, perceived service value 0.83, price 0.88, satisfaction 0.89, and loyalty 0.90. In the conceptual model for testing our hypotheses, we included additionally the relationship between patient satisfaction and loyalty. In this manner, the fitting of data to the model was improved significantly. Before including the additional relationship, global fit indices had the following values: Chi-square=421 (sig.=0.00), df=144, RMSEA=0.08, NFI=0.93, CFI=0.94.

After including the additional relationship, global fit indices had the following values: Chi-square=349.6 (sig.=0.00), df=143, RMSEA=0.05, NFI=0.96, CFI=0.97.

RMSEA shows how well a model with optimally chosen parameters would fit the population covariance matrix. Its desirable value is less than 0.06. With NFI, we looked at the Chi-square derivation. Its desirable value should be 0.95 or more. CFI is an indicator that compares the current and the null model that should be 0.95 or more.

All relationships between the constructs (Figure 2) were statistically significant, thus confirming all our hypotheses.

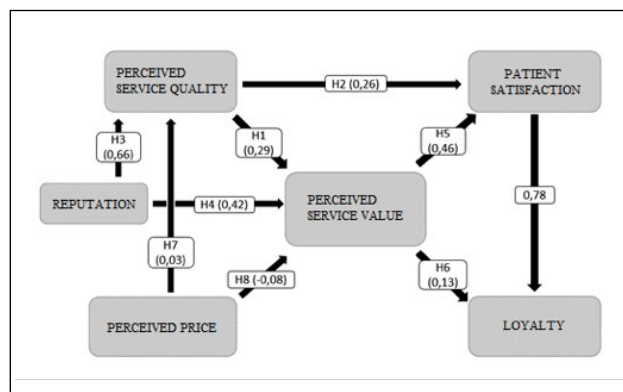


Figure 2. The conceptual model with coefficient of path (beta coefficient).

4 DISCUSSION

This paper examines the concept of the perceived service value of health services. This concept has been very well known and researched in other branches of the service industry (such as Banking and Tourism), while knowledge of it in the health industry has been rather fragmented. Based on the findings from other service industries, we created a conceptual model, in which we put a perceived service value at the centre of the research; we identified

satisfaction and loyalty as the consequences of perceived service value and reputation, price, and perceived service quality as its antecedents.

The final study was conducted on a large sample (800 patients), and the data was analysed using exploratory and confirmatory factor analyses, and by modelling linear structural equations. Based on the statistical results of the model, and to achieve considerably better global fit indices, we added into the model an additional relationship between the two constructs, namely, between patient satisfaction and patient loyalty.

The relationship between patient satisfaction and patient loyalty was the strongest in our model. The relationship between the constructs of patient satisfaction and patient loyalty also had wide theoretical support (11, 27, 60), because patient satisfaction can affect desirable patient behaviours, such as loyalty, including recommendation to friends and relatives and improved treatment compliance (61).

We also found a strong direct relationship between reputation and perceived service quality, as well as perceived service value. Further, strong indirect connections with reputation and patient satisfaction were detected, as well as loyalty. A positive hospital reputation increases perceived service quality by a patient, and also increases perceived service value. These results are consistent with the study by Wu (10) from Taiwan, who confirmed a strong relationship between reputation and patient loyalty. Our findings are substantively the same as those of Bloemer, de Ruyter, and Peeters (62) from Belgium and the Netherlands, which showed the indirect effect that reputation has on loyalty through perceived service quality and satisfaction.

Our results show a statistically significant direct impact of perceived service quality on satisfaction and perceived service value. This view is in line with Weiss' conclusion (63), which states that ensuring customer satisfaction is the goal of process management and the overall platform of process improvement, which leads to higher service quality. In our model, perceived service value had a greater impact on patient satisfaction than perceived service quality, which is contradictory to the findings of Choi, Cho, Lee, Lee, and Kim from South Korea (12), who constructed their conceptual model around patient satisfaction. They found that service quality emerged as the most important determinant of patient satisfaction. Nevertheless, they concluded that their findings should not be viewed as denigrating the significance of perceived value. For them, healthcare providers should seek ways in which they can reduce monetary and non-monetary service costs and increase perceived benefits.

Our results imply the weakest relationship among perceived price, perceived service quality and perceived service value. Health services are financed in such a way that the consumer never really stops to consider the actual cost of a particular service. With most health services, providers do not compete by setting different monetary prices. Moliner from Spain (64) reported a similar result, and argued that this is logical, as the patient of a private hospital makes a direct payment to the hospital, while, in a public hospital, this payment is indirect, through taxation. Those survey questions specifically aimed at identifying the non-monetary price aspect were already eliminated in the process of refining the model, which is why the final model included only one such question (for non-monetary price). Our construct of price refers primarily to monetary costs. Örgev and Bekar from Turkey (13) concluded in their model of perceived service value that non-monetary costs should be taken into consideration as a key component of hospital perceived value, and not be regarded as less important than any other factor.

5 CONCLUSION

Nowadays, it is crucial for every service provider who wants satisfied clients to offer as many benefits as possible, and to minimise their monetary and non-monetary costs. Based on Choi et al. (12), who called for a rather more complex model to explain the patients' behaviour intentions, this paper has attempted to extend existing knowledge with perceived service value as a central point and has researched the relationships between its antecedents and consequences with the goal of achieving satisfied and loyal patients. The results proved that an especially higher reputation and higher perceived service quality can contribute to perceived service value and to more satisfied patients. The recommendation is, therefore, that health service providers should introduce into their strategies the concept of perceived service value and overcome a vision that is focused excessively on perceived service quality.

Our results imply that Hospital Managers should pay attention to constructing a positive hospital reputation with putting more energy into building a trustworthy organisation, empower employees towards respected individuals, and build on a positive image in public. It is also important to assure patients that they will obtain their desired and expected service level at the time they are admitted to the hospital. Besides medical staff demonstrating excellent technical skills and professionalism, the softer components, e.g., empathy, kindness, and reputation, are also important in developing a holistic perception of perceived service value among patients.

However, in assessing the implications of this study, the research approach has a few limitations. Because the results are directly relevant only to patients in two—one private and one public—hospitals, generalizations of the findings beyond the immediate population observed should be made with caution. Another limitation of the study is that perceived service value and loyalty are continuous variables, measured at one point of time in this study, while it would be much better to test the hypotheses in time series. Regarding the construct of perceived price, which refers primarily to monetary costs, it might be more useful to treat monetary and non-monetary costs as two distinct constructs in future research. Furthermore, we also think that, in the future, it would be appropriate to analyse the role of emotions and incorporate emotional and social value, as well as the relationship between perceived service value and patients' trust and commitment as consequences.

CONFLICTS OF INTEREST

The authors declare that no conflicts of interest exist.

FUNDING

There is no financial interest or risk.

ETHICAL APPROVAL

The research carried no risk of violating ethical principles.

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