

Article

The Impact of the COVID-19 Pandemic on the Reputation Management of High-Tech Dentistry in Romania

Mădălin Dorel Țap¹, Anamaria-Cătălina Radu^{2,*}, Cristina Stanciu (Neculau)³, Raluca Răducu³ and Ivona Răpan^{2,*}

¹ Faculty of Dental Medicine, Titu Maiorescu University, 031593 Bucharest, Romania

² Romanian Academy, Institute of National Economy, 050711 Bucharest, Romania

³ Department of Marketing and Medical Technology, University of Medicine and Pharmacy “Carol Davila” Bucharest, 020021 Bucharest, Romania

* Correspondence: anamaria_radu15@yahoo.com (A.-C.R.); stradivonas@gmail.com (I.R.);

Tel.: +40-767006605 (A.-C.R.); +40-733503338 (I.R.)

Abstract: The COVID-19 pandemic has influenced the activities carried out in several fields, including dentistry, to a high extent. The purpose of this paper is to determine the respondents’ perception of the image of dental practices in Romania following the COVID-19 pandemic. In order to fulfil the purpose of the research, a quantitative study was carried out, including data collection with the help of a questionnaire to 306 respondents. A multiple linear regression model was used in order to determine the type and intensity of existing links between the variables. The results illustrated that 50.8% of the variation in the dependent variable (respondents’ perception of the image of dental practices) is explained by the independent variables. The results obtained in this research are very important, both for the dentists who work in private clinics and for the managers who work inside them. They will therefore be aware of the main factors that must be emphasized if they want to improve the image of the medical practice or to increase the number of patients they have.

Keywords: dentistry; the image of medical practices; implantology; COVID-19; reputation management



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1. Introduction

The COVID-19 pandemic has greatly influenced the activity carried out in various fields of activity on a global scale [1]. During this period, many markets and companies have suffered significantly [2]. In order to maintain their activity at the market level, but also to face new challenges from the external environment, many invested in management activity [3] and in their image, all with the aim of increasing the trust that consumers have in the goods/services they provide. The image that companies form in the market is very important [4] because it is closely related to their reputation [5], their success, the revenues received, and the image of the brands in their portfolios. This is considered to be one of the most important assets in an organization [6], its purpose being to reduce uncertainty among stakeholders regarding the future developments of the organization, and to create confidence in the company’s goods/services.

The way in which the image of a company is perceived is influenced by a series of factors related to both organizational aspects, and to each individual’s particularities [7]. The first information regarding the image of a company emerged in the late 1950s–early 1960s [4], when a number of specialists in this field began to study the relationship between the image of an organization and the brands in its portfolio. Studies from this period [8,9] illustrate the fact that there is a very close link between the image that a company has and the behavior that individuals have towards it.

Bromley [10] mentions that this image actually refers to the totality of perceptions, beliefs and impressions [11] that an individual has about an organization. The image of an organization includes all the meanings that have the role of identifying an object and

how it is described, remembered or related [12]. Abratt and Kleyn [13] say that the image of a company is always formed following the interaction of an individual with it because the consumer has the possibility of creating a certain image regarding the goods/services owned, only as a result of this process. Ladhari [14] specifies that, for service providers, the corporate image is very important because, most of the time, clients choose a certain company based on its reputation and the image it has created over time in the market. The process of creating the image of an organization is not a simple matter [15], but rather a staged process that involves several stages in order to create a strong image in the market. Chen [16] illustrates the fact that there is a very strong link between the perceived quality of services and the image of that organization, while Singh [17] illustrates a strong link between the marketing activities and corporate image. Nguyen and Leblanc [18] say that the image of a company is influenced, to a rather high extent, by a series of functional [19] and emotional characteristics [20].

The studies carried out previously in this field of activity [21] showed that the corporate image starts from the brand image. This concept is not new; organizations have been long interested in studying brand image and, implicitly, organizational image. Keller [22] considered the fact that brand image may be seen as the reflection of all associations [23] that a consumer makes over a given period of time regarding a given brand [24]. These associations regarding an organization's brand are very important to both the organization and the client [25]. They are most often related to the component elements of the marketing mix (product, price, place, and promotion) [26]. It is very important for companies to know the elements their clients associate the brand with because they can outline their strategies and tactics in the marketing planning process based on these elements [27]. Companies use these associations to strengthen their market position [28], while consumers collect, store, and use all this information about the brand, in order to make the best decision in the purchase decision-making process [29,30].

Brand image is not only very important in the B2C (Business to consumer) market, but also in the B2B (Business to business) market [31]. The creation of a positive image for a company among them has the role of increasing the focus on user satisfaction and loyalty [32] with the activity carried out, a fact highlighted later in the increase of loyalty [33].

When analyzing the models previously created by other authors regarding the factors that have the ability to influence the corporate image, Obioma [34] mentions that corporate image is influenced by corporate communication, corporate identity, and feedback. Heerden [35] emphasizes that the image of a company is influenced by corporate identity (logo, site, buildings, trademarks, etc.), and also by corporate personality (vision, mission, direction, history, etc.). Another important aspect that was studied refers to the main factors that have the ability to influence the process of forming the corporate image. Thus, it was noted that seven key dimensions underlie it, namely [15], visual expression, positive feelings being generated, the environment, online activity, staff behavior, attitude, behavior, and external communications.

When analyzing from the perspective of the activity carried out on the B2B market, Balmer [4] states that industrial corporate brand image is directly influenced by logistics, attributes, and performance. In turn, the corporate image has the role of directly influencing retention and price premium. Koporcic and Aino [36] consider that corporate image is influenced by identity creation on the one hand, and by reputation creation on the other hand. Thus, it can be seen that, at its base, there are two influencing factors: one from the external environment, and one from the internal environment; both factors need to be satisfied for the image of the organization to be as good as possible. Another variable considered to be of increased importance in the field of services, and which has the ability to positively influence consumer purchasing behavior, is the perceived value. Rajh [37] considers that it summarizes the perceived quality of the services, as well as the necessary sacrifice that must be made to come into possession of certain goods/services. In addition, the perceived value of the goods has the ability to influence the way an organization is perceived in light of the quality of the goods/services provided. One of the most

representative models that illustrate the importance of perceived service quality is that of Aaker [38]. Varsha [39] mentions that technology has the capacity to influence the brand image and brand loyalty. Another important factor that has the ability to influence the image and trust that individuals have in an organization is given by the trust that they have in that brand [40,41], this being considered as a primary factor when assessing the image of an organization.

The pandemic has greatly affected the activity carried out in dental practices in Romania [42]. The restrictions imposed nationally led to dental practices closing for two months in 2020 in order to stop the spread of the SARS-CoV-2 virus. After the turbulence in 2020, 2021 was believed to be a better year, with the dental services market registering a 30% increase compared to the previous year, reaching a turnover of RON 3.4 billion for all companies active in this field [42]. In terms of the dental medical units currently operating in the country, according to the National Institute of Statistics [43], in Romania in 2021 were registered 177 independent dental practices, their total number being 527 higher than in the year 2020. In 2021, there were 8.4 dental practices per 10,000 inhabitants, which is a higher percentage than in 2020 (8.1). The average number of inhabitants visiting a dental practice was 1187 in 2021, which is lower by 44 inhabitants compared to the value recorded in 2020. From the perspective of the distribution of dentists according to the residential area, 89% of dentists are found in the urban environment, while 11% are in rural areas. In addition, the proportion of women who work in this field is 70.6%, while that of men is 29.4%.

Based on the current situation in the country, it was considered necessary to carry out a quantitative study that has the purpose of determining the respondents' perception of the image of dental practices in Romania after the COVID-19 pandemic. The pandemic has greatly affected the activity carried out in medical practices. The fear of contacting the virus has led many patients to reduce the number of visits to dental practices over the last two years. In addition, they began to put more and more emphasis on the quality of the services provided, as well as on the degree of hygiene in medical institutions. Another aspect they considered was the compliance with the protection rules, which gave them a high degree of confidence in the services provided inside dental practices. The research carried out in this paper illustrates the main factors that have the ability to influence the way in which the image of dental practices in Romania is currently perceived (following the pandemic).

The research hypotheses underlying the quantitative study are:

- H1.** *The trust that patients have in dentists within medical practices has a direct and positive effect on the perception of individuals regarding the image of the medical unit;*
- H2.** *The perceived quality of the services provided inside dental practices has a direct and positive impact on the patients' perception of the image of the medical unit;*
- H3.** *The degree of hygiene inside dental practices has a direct and positive impact on patients' perception of the image of the medical unit;*
- H4.** *The use of outdated/obsolete technologies and materials has a direct and negative impact on the patients' perception of the image of the medical unit;*
- H5.** *The degree of pain felt inside the dental practice by patients has a direct and negative impact on the way they perceive the image of the medical unit;*
- H6.** *The relationship with the reception staff has a direct and positive impact on the patients' perception of the image of the medical unit.*

This research presents a series of benefits both on a theoretical level (illustrating the variables that have the ability to influence the image of dental clinics) and on a practical level. Based on this information, the clinic managers can build their management more easily, as well as marketing strategies, and they can plan their activities more easily within

the clinics where they operate. In addition, the medical staff will know how to talk to patients based on the relevant variables.

2. Materials and Methods

2.1. Survey Design and Research Sample

In order to fulfill the purpose of this research, a quantitative study on 306 respondents was carried out. The study was carried out in collaboration with OnDental Microscope dentistry. The method underlying the analysis carried out was the survey, with the data being collected with the help of a questionnaire that was posted on an online platform. The research unit was represented by individuals who have used dental services in Romania over the last two years. The research was carried out between January and April 2022.

The sampling method used was the snowball. The questionnaire was based on a series of questions that had the role of identifying the respondents' perception of the image of dental practices following the COVID-19 pandemic. The 10-point Likert scale was used to measure the link between variables. The independent variables that were taken into account in this regression model were the trust that patients have in dentists, the perceived quality of services provided inside dental practices, the degree of hygiene inside dental practices, the relationship with reception staff, the use of outdated/obsolete technologies and materials, and the degree of pain felt inside the dental practice; the dependent variable was the respondents' perception of the image of dental practices.

The first question in the questionnaire was a filter, with the purpose of selecting only those people who are part of the researched community, more precisely, the people who have used the services provided inside a dental practice over the last two years. At the end of the questionnaire, a series of questions was used to build the profile of the respondents.

Regarding the profile of the respondents, it should be noted that 51.3% of those who participated in the study were women, and 48.7% were men. Regarding the age of the interviewees, a large part of those who participated in the study (77.8%) were 18–24 years old, 13.7% were 25–29 years old, 4.6% were over 35 years old, and 3.9% were 30–34 years old. In terms of the last level of education completed by individuals, more than half (52.9%) had graduated from high school, 32.7% completed bachelor's studies, and 12.4% attended master's studies. 5% of participants completed vocational school, while only one person completed a PhD.

In terms of the respondents' residential area, 75.2% live in the urban environment, while 24.8% are settled in the rural environment. Regarding their marital status, most are unmarried (86.6%), 7.5% are married, 3.6% are in a cohabiting relationship, 2% of respondents did not want to specify their marital status, and one person stated that he/she is divorced. Another variable that was considered for the respondents' psychographic profile was their income. Following the analysis, it was noted that 44.1% of the respondents have an income between RON 1001–2000, 23.2% have an income less than RON 1000, 18.6% did not want to specify the income they receive monthly, while 9.5% of individuals stated that they receive monthly income between RON 2001 and 3500. 2.9% of respondents have a monthly income of RON 3501–5000, and 1.6% earn over RON 5000 a month as can be seen in Table 1.

Table 1. Respondents' profile.

| | Category | Frequency | Percentage (%) |
|--------|----------|-----------|----------------|
| Gender | Male | 149 | 48.7 |
| | Female | 157 | 51.3 |
| Age | 18–24 | 238 | 77.8 |
| | 25–29 | 42 | 13.7 |
| | 30–34 | 12 | 3.9 |
| | Over 35 | 14 | 4.6 |

Table 1. Cont.

| | Category | Frequency | Percentage (%) |
|-----------------------------------|------------------------------|-----------|----------------|
| Last level of education completed | High school | 162 | 52.9 |
| | Vocational school | 5 | 1.6 |
| | Bachelor's degree | 100 | 32.7 |
| | Master's degree | 38 | 12.4 |
| | PhD | 1 | 0.3 |
| Residential area | Rural | 76 | 24.8 |
| | Urban | 230 | 75.2 |
| Marital status | Not married | 265 | 86.6 |
| | Married | 23 | 7.5 |
| | In a cohabiting relationship | 11 | 3.6 |
| | Divorced | 1 | 0.3 |
| | Unspecified | 6 | 2 |
| Income | < RON 1000 | 71 | 23.2 |
| | RON 1001–2000 | 135 | 44.1 |
| | RON 2001–3500 | 29 | 9.5 |
| | RON 3501–5000 | 9 | 2.9 |
| | RON >5000 | 5 | 1.6 |
| | Unspecified | 57 | 18.6 |

Source: Statistical survey made by the authors.

2.2. Regression Model

A multiple linear regression model was used to determine the type and intensity of existing links between the variables. It had the role of identifying how the independent variables have the ability to influence the dependent variable (respondents' perception of the image of dental practices). The conceptual linear regression model developed in this study was based on the models created previously on this topic by other authors [22,37,38,40,41].

In the specialized literature, the multiple regression model is defined as follows:

$$Y = \beta_0 + \beta_1 \times X_1 + \beta_2 \times X_2 + \beta_3 \times X_3 + \beta_4 \times X_4 + \dots + \beta_n \times X_n + \varepsilon,$$

where:

Y —Dependent variable within the multiple regression model;

β_0 —Constant;

$\beta_1 \dots \beta_n$ — β coefficients for the independent variables considered in the model;

$X_1, X_2 \dots X_n$ —Estimated value of model parameters;

ε —Standard error.

Based on the above, the proposed conceptual linear regression model is as follows:

$$\begin{aligned} \text{Respondents' perception of the image of dental practices} = & \\ & \beta_0 + \beta_1 \times \text{The trust that patients have in dentists} + \beta_2 \times \text{The perceived quality of the} \\ & \text{services provided inside dental practices} + \beta_3 \times \text{The degree of hygiene inside dental practices} + \\ & \beta_4 \times \text{The use of outdated/obsolete technologies and materials} + \beta_5 \times \text{The degree of pain felt in} \\ & \text{the dental practice} + \beta_6 \times \text{The relationship with reception staff} + \varepsilon; \end{aligned}$$

The variables of the multiple linear regression model are as follows:

(a) Dependent variable (Y)—Respondents' perception of the image of dental practices;

(b) Independent variables ($X_1, X_2, X_3, X_4, X_5, X_6$):

- X_1 —The trust that patients have in dentists;
 X_2 —The perceived quality of services provided inside dental practices;
 X_3 —The degree of hygiene inside dental practices;
 X_4 —The use of outdated/obsolete technologies and materials;
 X_5 —The degree of pain felt inside the dental practice;
 X_6 —The relationship with reception staff;
(c) ϵ —Standard error.

3. Results

Regarding the reliability of the scale, the overall Cronbach's Alpha coefficient (Table 2) is 0.755. This value is above the 0.7 threshold, illustrating that the viability of the variables taken into consideration in the linear model regression.

Table 2. Reliability Statistics.

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| 0.755 | 0.767 | 7 |

When analyzing the results obtained in the linear regression model statistically, it can be noted that the value of the coefficient of the determination R Square is 0.508, which illustrates that there is a positive, but moderate relationship between the variables that were considered in the model. More precisely, 50.8% of the variation in patients' perception regarding the image of dental practices in Romania is explained by the independent variables that were considered in the analysis. In the Table 3 below, it can be noted that, the denominator degrees of freedom (df) 1 is 6, the denominator degrees of freedom (df) 2 is 299 and the value of Sig. F Change is 0. The standard error of the estimate in this model (Table 3) is 1.439.

Table 3. Model Summary.

| Indicators | Validation Criteria |
|----------------------------|---------------------|
| R | 0.713 |
| R Square | 0.508 |
| Adjusted R Square | 0.498 |
| Std. Error of the Estimate | 1.439 |
| R Square Change | 0.508 |
| F Change | 51.478 |
| df1 | 6 |
| df2 | 299 |
| Sig. F Change | 0.000 |

In order to be able to analyze the model, we used the ANOVA (analysis of variance) formula. After we analyzed the data in IBM SPSS, we identified that the value of Sig. = 0.000 < 0.05 ($p \leq 0.05$). This means that the multiple regression that was proposed in this paper is valid. The statistical measure of deviation (sum of squares) was 639.425 (Table 4) for regression and 618.993 for residuals. The value of F (variance of the group) was 51.478.

Table 4. Results using ANOVA.

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|------------|----------------|-----|-------------|--------|-------|
| Regression | 639.425 | 6 | 106.571 | 51.478 | 0.000 |
| Residual | 618.993 | 299 | 2.070 | | |
| Total | 1258.418 | 305 | | | |

Considering the fact that the variables of the multiple linear regression model that have been considered in the analysis (the trust that patients have in dentists, the perceived quality of services provided in dental practices, the degree of hygiene inside dental practices, the use of outdated/obsolete technologies and materials, the degree of pain felt in the dental practice, and the relationship with the reception staff) have the ability to explain 50.8% of the variation in the perception of patients regarding the image of dental practices, the regression model was developed based on the data in Table 5.

Table 5. Coefficients.

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | | Correlations | | | Collinearity Statistics | |
|--|-----------------------------|------------|---------------------------|--------|-------|---------------------------------|-------------|--------------|---------|--------|-------------------------|-------|
| | B | Std. Error | Beta | | | Lower Bound | Upper Bound | Zero-order | Partial | Part | Tolerance | VIF |
| (Constant) | 1.342 | 0.478 | | 2.810 | 0.005 | 0.402 | 2.282 | | | | | |
| The trust that patients have in dentists | 0.278 | 0.042 | 0.323 | 6.627 | 0.000 | 0.195 | 0.360 | 0.578 | 0.358 | 0.269 | 0.693 | 1.443 |
| The perceived quality of services provided in dental practices | 0.314 | 0.063 | 0.272 | 4.952 | 0.000 | 0.189 | 0.439 | 0.592 | 0.275 | 0.201 | 0.544 | 1.839 |
| The degree of hygiene in dental practices | 0.291 | 0.055 | 0.264 | 5.248 | 0.000 | 0.182 | 0.400 | 0.529 | 0.290 | 0.213 | 0.652 | 1.533 |
| The relationship with reception staff | −0.027 | 0.032 | −0.034 | −0.829 | 0.408 | −0.090 | 0.037 | −0.023 | −0.048 | −0.034 | 0.987 | 1.013 |
| The use of outdated/obsolete technologies and materials | −0.104 | 0.038 | −0.129 | −2.739 | 0.007 | −0.179 | −0.029 | −0.145 | −0.156 | −0.111 | 0.743 | 1.345 |
| The degree of pain felt inside the dental practice | −0.031 | 0.047 | −0.031 | −0.651 | 0.515 | −0.123 | 0.062 | −0.038 | −0.038 | −0.026 | 0.723 | 1.383 |

Thus, it can be noted that two of the variables (the relationship with the reception staff and the degree of pain felt inside the dental practice) have Sig values of $p > 0.05$, which means that they cannot be considered in the proposed multiple linear regression. The table below analyzes the coefficients (standardized and unstandardized values) that were used in the multiple regression model. Moreover, the value of the t -test and the Sig values p that show the independent variables which are valid for the regression model that was proposed in this paper, are presented. From the table below it can be seen that the independent variables for which the Sig value p is less than 0.05 are the following: the trust that patients have in dentists, the perceived quality of services provided in dental practices, the degree of hygiene in dental practices, and the use of outdated/obsolete technologies and materials. Because the value of Sig value $p > 0.05$ for the relationship with reception staff (Sig value $p = 0.408$) and the degree of pain felt inside the dental practice (Sig value $p = 0.515$), these independent variables were not taken into account at the level of the linear regression model.

The regression model developed from the analysis is as follows:

$$\begin{aligned} \text{Respondents' perception of the image of dental practices} = & \\ & 1.342 + 0.323 \times \text{The trust that patients have in dentists} + 0.272 \times \text{The perceived quality} \\ & \text{of services provided in dental practices} + 0.264 \times \text{The degree of hygiene in dental practices} - \\ & 0.34 \times \text{The use of outdated/obsolete technologies and materials} + 1.439. \end{aligned}$$

4. Discussion

Corporate image actually refers to the image that a client has in mind when thinking of a particular brand [18], when seeing its logo, or hearing its slogan [44]. The brand image is key to brand equity [45,46]. Jalilvand [47] mentions that there is a close and positive link between the image and attitude that clients have towards a certain brand and their purchase intention. Cretu considered that [48] the fact that the image a company has in the market has the capacity to influence the decision of buyers to use the organization's services or purchase its goods to a high extent. Many companies have understood the importance of brand image [49] and brand equity [50], and have started to put in more and more effort to increase the value of the owned brands [51] and to strengthen the image that the brand has in the market. Moreover, it has been noted that the way brands are managed in companies greatly influences both the marketing activity [52] and the management activity at the organizational level. Aaker [53] considers that personality refers to all the characteristics that cause the consumer to remember a certain brand. On the other hand, John [54] considered that the clients of an organization have the possibility to associate a brand with different characteristics of the goods/services provided, or even with certain attributes or situations related to their use.

The COVID-19 pandemic has greatly affected the frequency with which Romanians visited dental practices, and over half of them did not go to the dentist at all, therefore their share has increased compared to 2020 [55]. Over 85% of Romanians choose their dentist based on the recommendations received from acquaintances. The main reasons for their visit to a dental practice are the following: consultations (61%), routine check-ups (10%), treatment of cavities (51%), cleaning (36%), X-rays (34%), and extractions (26%). The pandemic also affected the patients' budget, which automatically caused a decrease in annual visits to the dentist, as well as their perception of oral hygiene, making them less aware of the need and importance of dental health.

This paper aimed to determine the main factors that have the ability to influence the perception of patients regarding the image of dental practices following the COVID-19 pandemic. In the analysis, six independent variables were considered. After analyzing the data, it was observed that 50.8% of the variation of the dependent variable (respondents' perception of the image of dental practices) that was taken into account at the level of the regression model is explained by the independent variables (the trust that patients have in dentists, the perceived quality of services provided in dental practices, the degree of hygiene in the dental practices, the use of outdated/obsolete technologies and materials, the degree of pain felt inside the dental practice, and the relationship with the reception staff). From the total of independent variables (six) that were taken into account at the level of the proposed conceptual model, only four of them had the value of Sig < 0.05 and could be included in the final regression model.

Following the analysis, we noticed that the Cronbach's Alpha coefficient is $0.755 > 0.7$, which means that the linear regression model can be taken into account. In addition, the value of R Square was 0.508, which illustrated an average and positive relationship between the variables considered at the level of the model. The model illustrated that the results obtained previously by other authors are certified. It can be observed that the trust [40,41] that patients have in the dentists has the ability to influence the image of medical offices. In addition, the quality of the services [38] provided influences the way in which the image of the company is perceived.

The results of the research show that the image of medical practices has been positively influenced by three of the variables, namely, the quality of the services provided, the trust that individuals have in the medical staff, and the degree of hygiene in the practices, and it has been negatively influenced by the fact that some dental practitioners resort to outdated technologies and materials, which are not on trend with the new modern market technologies. In the study conducted, it was noted that the respondents started to emphasize the quality of materials used in medical practices. They consider that the use of higher quality materials determines the resistance of the dental work performed over time. An eloquent example would be the use of titanium for implants, as the interviewed patients are of the opinion that its use gives them a high degree of confidence in the medical procedure performed. In addition, the reputation of the medical practice and the degree of hygiene within it had a high degree of importance, as the respondents consider that the observance of hygiene rules in the practices made them return for consultations and remedy all their dental problems. In order to have a clearer and broader picture on this subject, other quantitative studies should be carried out in the future to consider other influencing factors that have not been analyzed in this paper.

5. Conclusions

The COVID-19 pandemic has greatly affected the activity carried out in dental practices. The prohibitions at governmental level, as well as people's fear to travel, to move within the premises of medical facilities, or to come into contact with a person infected with COVID-19 led to the decrease in the number of people who have used dental services over the last two years. In addition, many patients decided to visit the doctor's practice only when the problem they were suffering from worsened, which led to complications. Moreover, during the COVID-19 pandemic, many dental practices changed their opening hours, and their management strategies.

The low demand and the hygiene rules that have been imposed have caused dental practitioners to reduce the daily number of patients. The decrease in the number of patients and the increase in the cost of materials used in medical practices also affected the number of medical nurses or auxiliary staff employed in the clinics, some of whom were laid off for a period of time. All of these aspects have influenced, to a high extent, the image of dental practices, noting that the medical units that managed to maintain a good image among patients during this pandemic were the ones that invested in the quality of the services provided, in increasing the degree of hygiene, and in the application of additional protection measures against the SARS-CoV-2 virus.

Regarding the limits of the study carried out at the level of this work, it must be specified that the study was carried out on a number of 306 respondents, which does not allow us to extrapolate the results to the entire researched community. In order to better understand the analyzed subject and to have a much clearer picture of those studied, other quantitative and qualitative research should be carried out, which should have a higher number of patients and which would present, in detail, the way in which they perceive dental practices in Romania after the period of the COVID-19 pandemic.

Another limitation of the research refers to the fact that the questionnaire was posted on an online platform and later distributed to the respondents. For this reason, we are not certain that it was filled out exclusively by the people who are part of the group targeted by us, or, more precisely, by those who used the dental services in the last two years. In the future, it would be recommended to conduct other studies in partnership with certain private clinics and with state hospitals in order to identify the main factors that have the ability to influence the image of dental practices in Romania.

Furthermore, another limitation of the research refers to the variables considered at the level of this study. Within the proposed linear multiple regression model, six independent variables that have the ability to influence the dependent variable (the respondents' perception of the image of dental practices) were initially taken into account. It is possible that, in addition to the independent variables taken into account, there are others that were

not analyzed at the level of this study. For this reason, it is recommended that in the future, larger studies be conducted, which test several variables that have the ability to influence the respondents' perception regarding the image of dental practices. Thus, in future studies, the authors could take into consideration variables such as corporate communication, the feedback that they receive from the patients [34], corporate personality [35], online activity [15], and the new technologies [39] that are used in clinics.

Considering those analyzed, other research should be carried out in the future to analyze the main factors that have the ability to influence both the formation of the image of medical practices in Romania and its maintenance over a longer period of time. They will help both the medical staff and the managers of dental clinics to understand the main elements that have the role of influencing the way dental clinics are perceived by patients. In addition, it should be analyzed how the image patients have of certain dental clinics/hospitals in Romania has the ability to influence their decision to be treated within them.

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References

1. Donthu, N.; Gustafsson, A. Effects of COVID-19 on business and research. *J. Bus. Res.* **2020**, *117*, 284–289. [\[CrossRef\]](#)
2. Jaworski, B.; Kohli, A.K.; Sahay, A. Market-driven versus driving markets. *J. Acad. Mark. Sci.* **2000**, *28*, 45–54. [\[CrossRef\]](#)
3. Sheth, J. Business of business is more than business: Managing during the Covid crisis. *Ind. Mark. Manag.* **2020**, 261–264. [\[CrossRef\]](#)
4. Balmer, J.M.T.; Lin, Z.; Chena, W.; He, W. The role of corporate brand image for B2B relationships of logistics service providers in China. *J. Bus. Res.* **2020**, *117*, 850–861. [\[CrossRef\]](#)
5. Estes, Z.; Brotto, L.; Busacca, B. The value of art in marketing: An emotion-based model of how artworks in ads improve product evaluations. *J. Bus. Res.* **2018**, *85*, 396–405. [\[CrossRef\]](#)
6. Barros, T.; Rodrigues, P.; Duarte, N.; Shao, X.-F.; Martins, F.V.; Barandas-Karl, H.; Yue, X.-G. The impact of brand relationships on corporate brand identity and reputation—An integrative model. *J. Risk Financial Manag.* **2020**, *13*, 133. [\[CrossRef\]](#)
7. Yeo, R.K.; Goh, M.; Tso, S. Corporate image and reputation of large mainland Chinese enterprises. *J. Market. Commun.* **2011**, *17*, 195–211. [\[CrossRef\]](#)
8. Boulding, K. *The Image*; University of Michigan Press: Ann Arbor, MI, USA, 1956.
9. Martineau, P. Sharper focus for the corporate image. *Harv. Bus. Rev.* **1958**, *36*, 49–58.
10. Bromley, D.B. *Reputation, Image and Impression Management*; John Wiley & Sons: New York, NY, USA, 1993.
11. Iglesias, O.; Landgraf, P.; Ind, N.; Markovic, S.; Koporcic, N. Corporate brand identity co-creation in business-to-business contexts. *Ind. Market. Manag.* **2020**, *85*, 32–43. [\[CrossRef\]](#)
12. Bidin, R.; Muhaimi, A.; Bolong, J. Strategising corporate identity for the perception of corporate image in the selected Government-linked Companies (GLCs) in Malaysia. *Procedia.Soc.Behav.Sci.* **2014**, *155*, 326–330. [\[CrossRef\]](#)
13. Abratt, R.; Kleyn, N. Corporate identity, corporate branding, and corporate reputations: Reconciliation and integration. *Eur. J. Mark.* **2012**, *46*, 1048–1063. [\[CrossRef\]](#)
14. Ladhari, R. Service quality, emotional satisfaction, and behavioural intentions: A study in the hotel industry. *Manag. Serv. Qual.* **2009**, *19*, 308–331. [\[CrossRef\]](#)

15. Tran, M.A.; Nguyen, B.; Melewar, T.C.; Bodoh, J. Exploring the corporate image formation process. *Qual. Mark. Res. Int. J.* **2015**, *18*, 86–114. [\[CrossRef\]](#)
16. Chen, C.F.; Cheng, L.T. A study on mobile phone service loyalty in Taiwan. *Total Qual. Manag. Bus. Excell.* **2012**, *23*, 807–819.
17. Singh, M.; Sarkar, A. Role of psychological empowerment in the relationship between structural empowerment and innovative behavior. *Manag. Res. Rev.* **2019**, *42*, 521–538. [\[CrossRef\]](#)
18. Nguyen, N.; Leblanc, G. Corporate image and corporate reputation in customers' retention decisions in services. *J. Retail. Consum. Serv.* **2001**, *8*, 227–236. [\[CrossRef\]](#)
19. Kandampully, J.; Sunny Hu, H.-H. Do hoteliers need to manage image to retain loyal customers? *Int. J. Contemp. Hospit. Manag.* **2007**, *19*, 435–443. [\[CrossRef\]](#)
20. Wallace, E.; De Chernatony, L. Service employee performance: Its components and antecedents. *J. Relatsh. Mark.* **2009**, *8*, 82–102. [\[CrossRef\]](#)
21. Zhang, J.; He, X.; Zhou, C.; van Gorp, D. Antecedents of corporate image: The case of Chinese multinational enterprises in the Netherlands. *J. Bus. Res.* **2019**, *101*, 389–401. [\[CrossRef\]](#)
22. Keller, K. Conceptualizing, measuring, and managing customer-based brand equity. *J. Mark.* **1993**, *57*, 1–22. [\[CrossRef\]](#)
23. Bivainienė, L.; Šliburytė, L. The brand image as an element of brand equity. *Soc. Sci. Res.* **2008**, *2*, 22–31.
24. Plumeyer, A.; Kottemann, P.; Böger, D.; Decker, R. Measuring brand image: A systematic review, practical guidance, and future research directions. *Rev Manag Sci.* **2019**, *13*, 227–265. [\[CrossRef\]](#)
25. Low, G.S.; Lamb, C.W. The measurement and dimensionality of brand associations. *J. Prod. Brand Manag.* **2000**, *9*, 350–370. [\[CrossRef\]](#)
26. Balaure, V. *Marketing, Ediția a II-a Revăzută și Adăugită*; Uranus: Bucharest, Romania, 2002.
27. McDonald, M.; Wilson, H. *Marketing Plans: How to Prepare them, How to Use them*; John Wiley & Sons: Chichester, UK, 2011.
28. Popescu, I.C. *Comunicarea în Marketing: Concepte, Tehnici, Strategii*, 2nd ed.; Uranus: Bucharest, Romania, 2002.
29. Cătoi, I.; Teodorescu, N. *Comportamentul Consumatorului*, 2nd ed.; Uranus: Bucharest, Romania, 2004.
30. Shen, Y.; Ahmad, R. The influence of brand image and favorability toward citizens in a product's country of origin on product evaluation: Moderating effects of switching costs. *Front. Psychol.* **2022**, *13*, 1–15. [\[CrossRef\]](#) [\[PubMed\]](#)
31. Anghel, L.D. *Business to Business Marketing*; ASE: Bucharest, Romania, 2005.
32. Kittur, P.; Chatterjee, S. Goods and services related brand image and B2B customer loyalty: Effects of construal level. *J. Bus. Ind. Mark.* **2020**, *36*, 17–30. [\[CrossRef\]](#)
33. Lee, S.S.; Kim, Y.; Roh, T. Modified pyramid of CSR for corporate image and customer loyalty: Focusing on the moderating role of the CSR experience. *Sustainability* **2019**, *11*, 4745. [\[CrossRef\]](#)
34. Obioma, O. A three dimensional model of corporate image configuration: Lesson for managers. *Saudi J Econ Fin.* **2019**, *3*, 472–479. [\[CrossRef\]](#)
35. Heerden, C.H. Developing a corporate image model. *SAJEMS* **1999**, *2*, 492–508. [\[CrossRef\]](#)
36. Koporcic, N.; Aino, H. Interactive Network Branding: Creating corporate identity and reputation through interpersonal interaction. *IMP J.* **2018**, *12*, 392–408. [\[CrossRef\]](#)
37. Rajh, S.P. Comparison of perceived value structural models. *Trziste* **2012**, *24*, 117–133.
38. Aaker, D.A. The value of brand equity. *J. Bus. Strategy* **1992**, *13*, 27–32. [\[CrossRef\]](#)
39. Varsha, P.; Akter, S.; Gochhait, S.; Patagundi, B. The impact of artificial intelligence on branding: A bibliometric analysis (1982–2019). *J. Glob. Inf. Manag.* **2021**, *29*, 221–246. [\[CrossRef\]](#)
40. Schallehn, M.; Burmann, C.; Riley, N. Brand authenticity: Model development and empirical testing. *J. Prod. Brand. Manag.* **2014**, *23*, 192–199. [\[CrossRef\]](#)
41. Chaudhuri, A.; Holbrook, M.B. The chain of effects from brand trust and brand affect to brand performance: The role of brand loyalty. *J. Mark.* **2001**, *65*, 81–93. [\[CrossRef\]](#)
42. Mihalache, G. Cum Arată Piața de Stomatologie: Fără Perioade de Închidere, Piața a Crescut cu Peste 30% în 2021, Până la 3,4 mld. lei. Afacerile Primilor 20 de Jucători După Venituri Reprezintă Doar 14% Din Totalul Generat de Piața Stomatologică în 2021, Ziarul Financiar. Available online: <https://www.zf.ro/companii/arata-piata-stomatologie-perioade-inchidere-piata-crescut-peste-30-21096624> (accessed on 10 September 2022).
43. Institutul Național de Statistică, Comunicat de Presă—Activitatea Rețelei Sanitare și de Ocrotire a Sănătății în Anul 2021. Available online: <https://insse.ro/cms/ro/content/activitatea-re%C8%9Belei-sanitare-%C8%99i-de-ocrotire-s%C4%83n%C4%83t%C4%83%C8%9Bii-%C3%AEn-anul-2021> (accessed on 10 September 2022).
44. Gray, E.R.; Balmer, J.M.T. Managing corporate image and corporate reputation. *Long Range Plan.* **1998**, *31*, 695–702. [\[CrossRef\]](#)
45. Zhang, Y. The impact of brand image on consumer behavior: A literature review. *Open J. Bus. Manag.* **2015**, *3*, 58–62. [\[CrossRef\]](#)
46. Kapferer, J.N. *Strategic Brand Management: New Approaches to Creating and Evaluating Brand Equity*; Free Press: New York, NY, USA, 1994.
47. Jalilvand, M.R.; Samiei, N. The effect of electronic word of mouth on brand image and purchase intention: An empirical study in the automobile industry in Iran Market. *Intell. Plann.* **2012**, *30*, 460–476. [\[CrossRef\]](#)
48. Cretu, A.E.; Brodie, R.J. The influence of brand image and company reputation where manufacturers market to small firms: A customer value perspectiv. *Ind. Mark. Manag.* **2007**, *36*, 230–240. [\[CrossRef\]](#)
49. Le Roux, C. An assessment of the role of corporate brand identity in corporate brand identity. *Bus. Intell. J.* **2012**, *2*, 75–80.

50. Faircloth, J.B.; Capella, L.M.; Alford, B.L. The effect of brand attitude and brand image on brand equity. *J. Mark. Theory Pract.* **2015**, *9*, 61–75. [[CrossRef](#)]
51. Chen, L.; Halepoto, H.; Liu, C.; Yan, X.; Qiu, L. Research on influencing mechanism of fashion brand image value creation based on consumer value co-creation and experiential value perception theory. *Sustainability* **2022**, *14*, 7524. [[CrossRef](#)]
52. Lee, L.J.; James, J.D.; Kim, Y.K. A reconceptualization of brand image. *Int. J. Bus. Adm.* **2014**, *4*, 1–11. [[CrossRef](#)]
53. Aaker, D.A. *Managing Brand Equity—Capitalizing on the Value of a Brand Name*; The Free Press: New York, NY, USA, 1991; p. 206.
54. John, D.R.; Loken, B.; Kim, K.; Monga, A.B. Brand concept maps: A methodology for identifying brand association network. *J. Market. Res.* **2006**, *43*, 549–563. [[CrossRef](#)]
55. MedicalManager, Studiu KANTAR 2021, Peste Jumătate Dintre Români nu Merg Deloc la Stomatolog iar un Sfert Ajung Mai Rar de un an. Available online: <https://www.medicalmanager.ro/studiul-kantar-2021-peste-jumatate-dintre-romani-Nu-merg-deloc-la-stomatolog-iar-un-sfert-ajung-mai-rar-de-un-an/> (accessed on 8 September 2022).

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