



Международно Висше Бизнес Училище
International Business School

REVIEW

From prof. Milen Ivanov Baltov MD

Burgas Free University – Burgas

Subject: Dissertation for awarding the educational and scientific degree of "Doctor", field of higher education 3. Social, economic and legal sciences, in the professional field 3.7. Administration and Management (Business Administration)

Author of the dissertation: Ilian Iliev Kostov

Dissertation topic: Management of the communication process and digitalization of orthodontic dental services

Supervisors: Prof. Milanka Slavova and Prof. Lalka Borisova

Grounds for submitting the review: Participation in the scientific jury for the defense of the dissertation, according to Order No. 228 /02.12.2025 of the Rector of IBS – Botevgrad.

I. Summary data on the scientific production and activities of the applicant

1. Candidate Reference

Iliyan Kostov is a freelance PhD student in accordance with Order No. 116 of 05.06.2023 of the Rector of IBS. He graduated with a Master's degree in Business Administration and Innovations in Healthcare in 2022 at IBS, defended his diploma thesis on "Digital Marketing of Dental Services and Digital Transformation of the Sector" with honors.

The development of the creative biography of the PhD student eloquently shows the concentration of research activity in a well-structured direction in the field of digitalization of orthodontic services. He is fluent in written and spoken English and French.

2. Relevance of the topic and contribution to the scientific field

The topic is **topical**, as the integration of digital technologies and communication systems in dental medicine is a key factor for the development of the sector. The author justifies the importance of the problem by:

- The growing importance of digital transformation in healthcare;
- The change in patient expectations;
- The competitive pressure between dental practices;
- The incorporation of AI, CAD/CAM, 3D scanning, and digital marketing channels into orthodontics.

The dissertation contributes to **the interdisciplinary synthesis** between management, marketing, digital technologies and dental medicine. The research has a practical focus and addresses real management problems of dental clinics – digitalization of processes, optimization of communications, increasing competitiveness.

3. Structure and Logic of the Dissertation

The work is structured in an introduction, three chapters, a conclusion, literary sources (cited extensively in the text) and appendices. The structure is **logical, consistent and corresponds to academic requirements**. The research logic and the structure of the dissertation are well established. The traditional approach to writing such a work is followed in structuring – **firstly, the** theoretical statements on the topic are clarified, **secondly,** the own research is done, the data from it are analyzed, the possibilities are revealed and proposals for improvements are made. – conclusions and recommendations, innovative techniques of dental services in a digital environment. **The object and subject** of the study are successfully chosen, as the author has enough observations in this field and a desire for change. Limitations of the study are indicated.

In Chapter I Theoretical and Methodological Foundations, the PhD student outlines the conceptual framework: digitalization, digital transformation, digital marketing, process and product innovations, AI, robotics, communication process in healthcare. The review is extensive and integrates many modern sources. The specialized literature on the topic, issues such as the essence of the digital transformation of the dental service, digital marketing as a direction of digital transformation and the possibilities for this to be applied in the specific dental clinic, the management of the communication process in dentistry, the methodology of the study, conclusions from the analysis are considered. The essence of the importance and necessity of their effectiveness is clarified. Emphasis is placed on the role of the doctor in this unequal process, where the opinion of the attending physician in making medical decisions is decisive. The competencies that the dentist must know and follow the rules for good communicative practice are systematized. The author in the analysis also dwells on the internal team communication, which goes through administrative orders, instructions, orders, reports, conversations on various professional issues, meetings, and other forms of internal business communications.

As a result of the analysis and theoretical statements, the author makes a reasonable conclusion that good orthodontic treatment requires a combination of a psycho-medical approach and a balance in service. It is not only the quality of the service, but also the structure of the clinic and the culture of service, as well as the need to always consider dynamics when positioning the dental business market.

The Methodology and Empirical Research substantiates the methodology applied in the development. In general, three types of methods were used for the study – theoretical

(review of the scientific literature, revealing the origin, development and significance of the problem), theoretical and practical (providing information for the digitalization of services in the practice of the dental clinic and communications with patients) and empirical method (providing information that was collected with questionnaires containing answers to respondents' questions).

The survey method occupies a central place in the study. The purpose of its implementation is to collect information from a certain group of respondents. The survey method applies to both managers and contractors. It focuses on the communication variables in the organization, such as: information volume, sources of information, actions of the members of the organization, communication channels and networks. In order to measure the results of the communication process, the level of efficiency is articulated, as well as the satisfaction of its members with the communications conducted. Its main advantage is the fact that it is limited in the extent to which it measures the thoughts and feelings of respondents. Summarizing conclusions are made on the content of Chapter One.

Chapter II Presentation of the study site and empirical research includes a description of the clinic, methodology and surveys among patients and dental professionals. This is the strong practical part that provides a real basis for strategic conclusions. The PhD student reviews the activity, management and communications in the object of study. Justifies the importance of dental practices as part of the health care system, which employ dentists (if possible with a specific specialty), trained dental assistants, dental technicians, laboratory assistants, support staff (orderlies, registrars), people providing accounting, administrative assistance, IT specialists and, if necessary, others. These practices are entirely privately organized and funded, their development is related to the creation of new jobs and are part of the entire economy of the country.

The processes in the dental clinic are digitized – the stage of diagnostics and analysis is digitized, the projects for devices are created digitally, the processes for the manufacture of the devices are digitally managed, by milling or printing, a digital archiving system is maintained. In the Specialized Orthodontic Clinic, treatment takes place through several phases, which are clearly formulated and the activities in them are clearly formulated and described. The Clinic's next look forward is to build an environmental practice. According to the author of the development, modern dental care should be provided through modern patient-centered technologies. Digitalization and the use of artificial intelligence play an important role in the processes of consultation, diagnosis and training. Emphasis is placed on the future use of AI in dental practice, technological processes with 3D printing, bioprinting and facial scanning, which opens a niche for increasing the opportunities and demand for aesthetic restorations in dentistry and orthodontics in particular.

When talking about digitalization, one cannot help but comment on the role of social networks. The team periodically conducts a survey of patients about their attitude regarding their communication with the dentist through social media (Facebook, Messenger, as followers on Instagram, Tik-Tok and others). The results of the empirical study are described and analyzed. Respondents are divided into two groups. The first survey included three different groups of respondents (dentists, dental students and patients), while in the second survey only patients who were different from the patients who participated in the first survey responded. The answers are graphically represented,

analyzed, conclusions and recommendations are made. The working hypotheses have been proven, the formulated tasks have been solved.

In Chapter III Management and Marketing Strategy, the author develops a concrete vision for digitalization, marketing solutions, communication optimization and management recommendations. There is a high applicability. The significance and contribution of the development is summarized, both for the scientific theory of digitalization of medical dental services and for the practice of dental clinics. From the analysis made, we can conclude that there is a large unfilled niche for education and training of dental specialists in the field of business planning, management and participation in externally funded projects. Modernization of dental practices follows business rules valid for all areas of the economy, but in accordance with the exceptions related to humanity and empathy.

It is established that the development of practices should follow the attitudes of the new generations for the type of communication and service, to offer services in a way acceptable to each user (traditional and virtual). From the analysis of the results of the study, it is necessary to conclude that the development of a dental clinic is the result of interrelated processes: a digital new level of thinking and application of treatment strategies and new concepts for communication and communication with current and future patients, information about the new generation of medical care should reach. The role of doctors and managers is to find the balance between these processes and work without crossing ethical boundaries with the power of digital marketing on society. This proves the formulated thesis of the dissertation research that *the management of digitalization and the use of AI in the main healing processes, as well as the penetration of social media in communications with patients, are an opportunity to achieve competitiveness and increase the potential of a dental orthodontic clinic.*

4. Assessment of scientific credibility and methodology

The dissertation applies literature analysis, questionnaire research, statistical analysis (spss and excel), induction and deduction, comparative analysis, observation. The methodology is **correctly selected** for research with management and marketing orientation.

Two hypotheses have been formed that are clearly related to digitalization as a strategic factor, as well as to the role of social media in communication. Both hypotheses have been **empirically verified** through survey data and the theoretical model.

The survey is well structured and covers: patient satisfaction, digital habits of consumers, perception of digital services, and also includes the effectiveness of different communication channels and the marketing response of target groups. The sample is **representative of the specific practice**, although it could be larger for generalizations at national level.

5. Scientific contributions

The following contributions can be formulated from the content:

Theoretical contributions include systematization of the concepts of "digitalization", "digital transformation", "digital marketing" in the context of dental medicine. At the same time, the role of AI, CAD/CAM and robotics in orthodontics is clarified. Communication paradigms in medical practice are analyzed.

The scientific and applied contributions are the development of a model for the digitalization of an orthodontic clinic and the formulation of a digital marketing strategy applicable to real practices. As well as the analysis of patient attitudes towards digital services and specific recommendations for communication management. Practical contributions include suggestions for optimizing workflows, defining a strategy for positioning the dental practice, and a vision for integrating AI and digital tools.

The contributions are **significant and clearly reasoned**, and the practical orientation is high.

6. Evaluation of dissertation publications

The PhD student has the necessary publications on the dissertation – an independent study and three co-authored articles. I recommend publishing scientific periodicals with an impact factor, referenced in world databases.

7. Evaluation of the Abstract

I should note that the PhD student correctly presents the content of the dissertation in the proposed Abstract. The contribution report correctly presents the scientific achievements in the dissertation.

8. Critical remarks and recommendations

The current dissertation is up to par, but it will be valuable for the PhD student to get acquainted with the following notes and recommendations of mine:

- The work is **very voluminous** and in some places there is a glut of quotations and theoretical extensions. It could have been more synthesized.
- In some places, the terminology overlaps or is repeated ("digitalization", "digitalization", "transformation") – a strict distinction is recommended.
- The literature is rich, but it can be structured more strictly – by topics, directions and authors.

I address the following question to the PhD student: How can trust in patient-doctor communication be scientifically formulated? How is it built in the object of study?

9. Final evaluation

The dissertation is **up-to-date, significant and interdisciplinary**; contains a **solid theoretical framework**; applies a **qualitative empirical methodology**; offers **practically**

applicable management solutions; demonstrates high competence of the author in the fields: dentistry, management, marketing, digital systems.

Critical remarks do not diminish the overall scientific value and applicability of the work.

10. Conclusion

In conclusion , it can be said that the dissertation is a comprehensive, conscientious scientific research in a current and significant scientific field, contains scientific contributions in several thematic areas. Digitization has simple and measurable goals: to attract new patients and to keep in touch with existing ones.

The PhD student knows the main literature on the topic well enough, can clearly formulate research problems, analyze, systematize and comprehend classical and new theories and concepts, construct a research apparatus, conduct empirical research, and draw reasoned conclusions.

This gives me grounds for a positive conclusion that the dissertation complies with the requirements of the Law on the Prevention of Corruption and Corruption and the Regulations for its implementation at IBS, which is why I propose with full conviction that the esteemed jury vote for the awarding of Ilian Kostov the educational and scientific degree **of Doctor** in the field of higher education 3. "Social, Economic and Legal Sciences", in Professional Field 3.7. Administration and Management, PhD program "Administration and Management (Business Administration)".

Burgas, 9.01.2026

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