

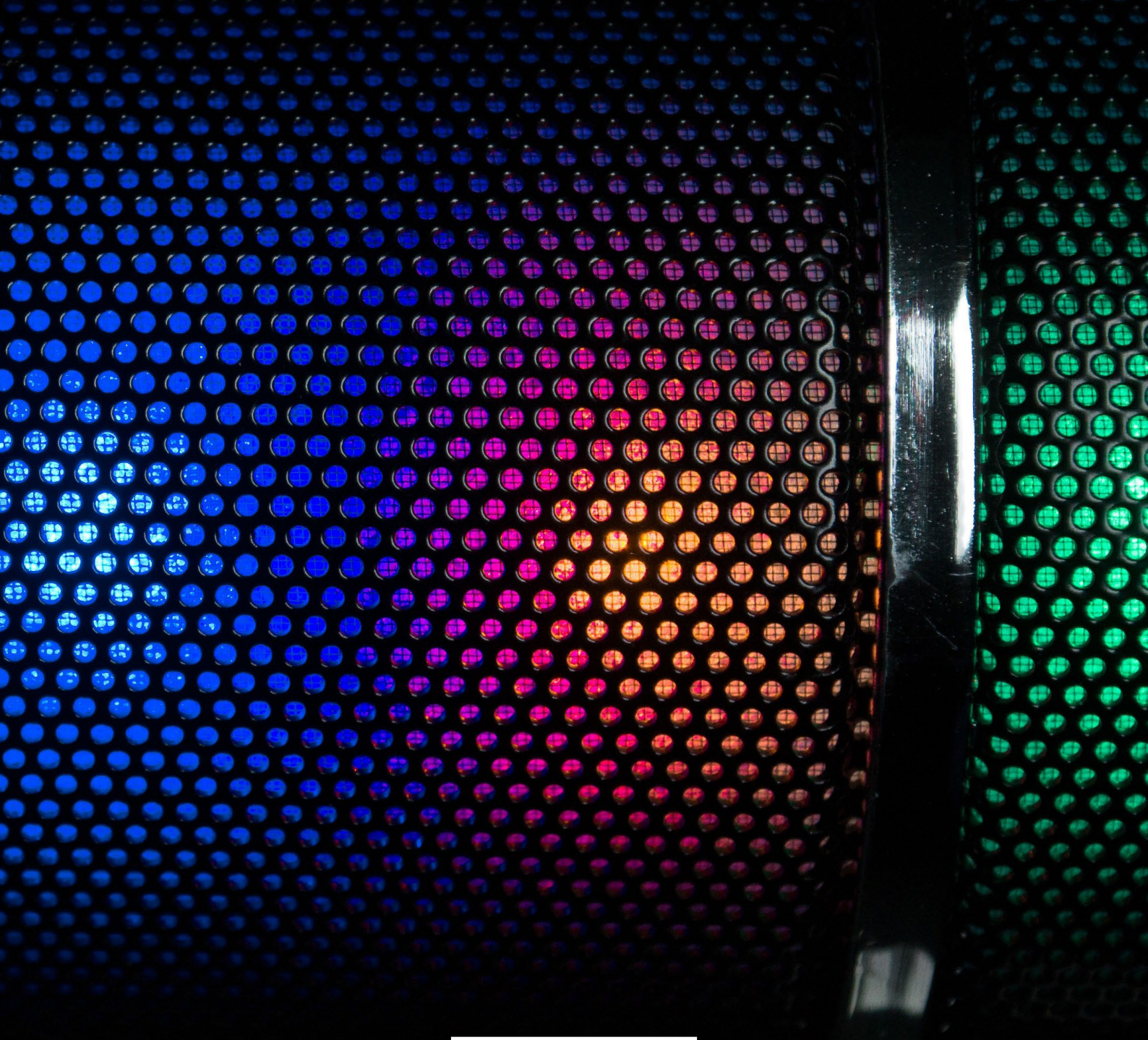
Vol. 10, No. 16

UDK 001:65.01

DECEMBER 2024

IJMBS

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARITY IN BUSINESS AND SCIENCE



M-SPHERE



**International Journal of Multidisciplinary in Business and Science (IJMBS) of M-Sphere
Vol. 10, No. 16, 2024 ISSN 1849-0581**

Publisher/Izdavač: Accent & M-SPHERE

**M-SPHERE - ASSOCIATION FOR PROMOTION OF MULTIDISCIPLINARITY IN BUSINESS AND SCIENCE
M-SFERA - UDRUGA ZA PROMICANJE MULTIDISCIPLINARNOSTI U POSLOVANJU I ZNANOSTI**

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NON-PARAMETRIC TESTING OF THE MACHINE LEARNING ELECTRICITY PRICES FORECASTS

ORIGINAL SCIENTIFIC PAPER
/ IZVORNI ZNANSTVENI RAD

UDK: 338.5:621.8.037

JEL: C53; Q47
DOI: 10.56321/IJMBS.10.16.5

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ABSTRACT

This research analyzes forecast accuracy in the day-ahead electricity market. Performance of Random Forest and XGBoost machine learning models is compared based on the day-ahead electricity market data for Germany. Data for 2018 and 2021 is analyzed in order to explore differences in forecast accuracy in the low and high market volatility periods. Initial training data for 2017 is used in order to produce forecasts for 2018 up to one month ahead. The training set is then rolled one month forward thus creating a fixed length rolling window of training and forecast set data for the remainder of the analyzed period. This methodological framework results in 11 forecasting sets for each analyzed year. Forecast accuracy is then evaluated by comparing root-mean-squared errors (RMSE) for the observed period. The focus of the research is on examination whether differences in the RMSE values of the competing machine learning models being analyzed can be reliably determined. For this purpose, firstly forecasting exercise has been conducted 30 times over for both machine learning models and each forecast set containing all forecast horizons. Secondly, median RMSE values are analyzed for each forecast set and non-parametric Wilcoxon rank-sum test is used to determine whether the observed differences in RMSE are statistically significant. Research results show small differences in RMSE values, however, they are found to be statistically significant for all forecast sets except one. Moreover, Random Forest seems to slightly outperform XGBoost model during the period of low market volatility, while XGBoost seems to perform better in the last three forecast sets of 2021 associated with higher market volatility.

KEY WORDS: forecast accuracy, day-ahead market, Wilcoxon rank-sum test, Random Forest, XGBoost, market volatility

1. INTRODUCTION

The global challenge to address the climate change issues has long moved the Renewable Energy Sources (RES) to the forefront of scientific research and funding support alike. As the investments in the RES continue to rise, new issues related to the inherent volatility of RES power production have to be addressed. This is increasingly putting under the spotlight research strands focused on the integration of the RES into the existing power system which are often, due to the mentioned volatility, exploring various energy storage systems options and aggregators as their likely operators. In this context both due to concerns related to operating complex power systems as well as their economic viability, electricity prices forecasting becomes one of crucial issues as presented in IRENA (2019). Therefore, as pointed out for instance by Weron (2014), electricity prices have become a key input in decision-making process of energy companies. The research such as Jurčević et al. (2022), Čović et al. (2021) or Braeuer et al. (2019) present examples of the important role the electricity prices forecasting plays in economic viability assessment of investment in energy storage facilities, without taking into account the classical interest stemming from conventional power production and trading activities.

Bearing the above mentioned in mind it is no wonder that the productivity of the electricity prices forecasting field has been overwhelming in the past decade. Multiple authors have therefore been dealing with reviews of the methods employed in order to provide classification of research efforts. Most notable examples include Weron (2014), Nowotarski and Weron (2018), Ziel and Steinert (2018), Cerjan et al. (2013) and Vlah Jerić (2020), with the last author focusing on

the statistical and artificial intelligence-based approaches in the review. The latter class of methods encompasses a broad subclass of artificial neural networks and the second subclass referring to other machine learning methods. The research in this paper focuses on electricity prices forecasting models belonging to this second subclass of methods. Out of many machine learning models listed in this category Support Vector Machine (SVM) or its extension Support Vector Regression (SVR) have been most widely employed, with Random Forest and XGBoost also being quite common according to research overview provided in Vlah Jerić (2020). Taking this into account performance of these models has frequently been compared. Notable research includes studies such as Lago et al. (2018), Zahid et al. (2019), Naumzik & Feuerriegel (2021), Didavi et al. (2021) and Jurčević et al. (2023).

This paper extends the mentioned research by delving deeper in the forecast accuracy examination. Given the reported results in Didavi et al. (2021) and Jurčević et al. (2023.), particularly the robust forecasting accuracy and algorithm running time performance of the Random Forest and XGBoost models found in the latter research, in this research the differences in forecasting errors of the two models are closely examined. Regarding the data and machine learning models forecasting methodology this paper draws heavily on the paper by Jurčević et al. (2023). However, in this study the forecasting model is rerun 30 times over for each forecast produced by both machine learning models in order to analyze whether this will affect the volatility of forecasts for the tested models and to determine whether there are statistically significant differences in their forecasting errors. Therefore, the main contribution of this paper to the existing literature is twofold. First, the conducted research aims to additionally test forecasting robustness of the analyzed models. Secondly, multiple forecasts produced are further used to determine whether there are statistically significant differences in the forecasting errors. In order to conduct the second part of the research Wilcoxon rank-sum test is used due to non-normality of the distribution of the obtained forecasts. Altogether, there are 22 forecasting sets spanning across the period of two years and covering both the period of low and increased market volatility in order to increase the validity of the results.

The paper is structured as follows. The second section contains description of data sampling methodology, machine learning methods used and the Wilcoxon rank-sum test. The third section presents the research findings and is followed by the conclusion.

2. DATA AND METHODOLOGY

2.1. Data, variables and sampling methodology

The wholesale electricity prices for the day-ahead market for Germany were collected from the ENTSO-E platform, along with the data on forecasts for wind and solar power generation, actual wind power generation, load forecasts and actual load and imbalance prices and volumes for years 2017, 2018 and 2021. EPEX-Database data was used to obtain electricity prices for the intraday market for 2017 and 2018. Simulation approach presented in Jurčević et al. (2022) provided the data for 2021. Machine learning models in the research utilize 24, 48, 168 hour lagged day-ahead prices and 24 hour lagged intraday price as independent variables. Also, 24 and 168 hour lagged actual wind generation are used. Lastly, dummy variables related to hour, day and month are employed alongside dummy variables for weekday, Saturday and Sunday.

The data for day-ahead prices is available in 60-minute intervals, while other variables have 15-minute frequency. Therefore, the dataset referring to the day-ahead prices was modified to match the 15-minute frequency by assigning the day-ahead electricity price data value associated with 60-minute interval to four associated 15-minute intervals.

Data for 2017 is used for training, cross-validation purposes and in order to produce for the first set of one month ahead forecasts for 2018. The training set is then rolled one month forward thus creating a fixed length rolling window of training, cross-validation and forecast set data for the remainder of the analyzed period. This methodological framework results in 11 forecasting sets for each year due to missing data which amounts to one training (and forecast) set in both 2018 and 2021. Data for 2018 and 2021 is analyzed in order to explore differences in forecast accuracy in the low and high market volatility since the market conditions in 2017 and 2018 were much more similar than in the 2021 as shown in Jurčević et al. (2022) and Jurčević et al. (2023).

With respect to data, variables and sampling methodology used, this research draws heavily on the paper by Jurčević et al. (2023). Therefore, the reader is referred to the mentioned paper for any details that may be omitted here in order to remain concise and focus on the novel elements in this study. These are, as already mentioned in the introduction section, related to stronger robustness testing and testing whether the differences in forecast accuracy are statistically significant. Details are presented in the next subsection.

2.2. Selected machine learning models and non-parametric testing

Based on the described data forecast accuracy is evaluated by comparing root-mean-squared errors (RMSE) for the observed period of the two competing machine learning models: Random Forest and XGBoost. Both methods are well known and described in various papers, e.g. Lago et al. (2018) or Zahid et al. (2019). Details related to the use of “caret” package in R as well as the “ranger” training method for Random Forest and “xgbTree” training method for XGBoost are again available in Jurčević et al. (2023). However, unlike in the mentioned paper in the case of which four forecasts were made for each forecast set, in this research 30 forecasts are made for each forecast set for both models in order to test whether this will affect the volatility of forecasts. Forecast accuracy is measured by relying on the root-mean-squared errors (RMSE) for each of 22 forecast sets.

Furthermore, median RMSE values are analyzed for each forecast set and non-parametric Wilcoxon rank-sum test is used to determine whether the observed differences in RMSE are statistically significant. Wilcoxon rank-sum test, first presented in Wilcoxon (1945), is used to test the hypothesis that the distribution of X measurements in the population A is the same as in population B which can be written as: $H_0 : A = B$. According to Wild and Seber (2000) the test is a non-parametric alternative to the two-sample t-test. Moreover, based on the same authors, when both sample sizes contain more than 10 observations the distribution of W_A can be treated as if it were Normal (μ_A, σ_A) , where

$$\mu_A = \frac{n_A(n_A + n_B + 1)}{2} \quad (1)$$

and

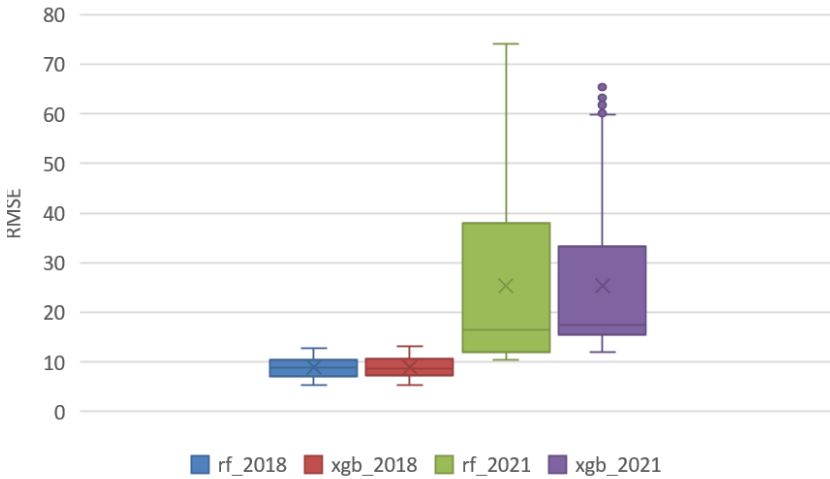
$$\sigma_A = \sqrt{\frac{n_A n_B (n_A + n_B + 1)}{12}} \quad (2)$$

with μ_A representing the sample mean, σ_A representing the sample standard deviation and n_A and n_B representing the A and B sample sizes respectively. Then probability of $(W_A \geq w_A)$ approximately equals $(Z \geq z)$, where $z = \frac{w_A - \mu_A}{\sigma_A}$ and $Z \sim \text{Normal}(0,1)$. It should also be noted that the test is still valid for any data distribution (not necessarily normal) and is much less sensitive to outliers than the two-sample t-test (Wild and Seber, 2000, p. 7).

3. FINDINGS

The research findings show that, as expected and already demonstrated in Jurčević et al. (2023), RMSEs are much smaller in 2018 than in the more volatile 2021. This is presented in the box plot chart (in Graph 1) which presents average RMSE of forecasts for all of the 11 forecast sets for each year and for which in this research forecasts have been carried out 30 times over. Regardless of the added complexity related to the new approach, results depicted in the box plot chart do not differ from the ones presented in the mentioned research even regarding the accuracy comparison of the two analyzed methods. Namely, Random Forest and XGBoost models are tightly matched in 2018 while in 2021, although the median and average RMSE of both models are similar, there is a bit more variation in the distribution related to the Random Forest model.

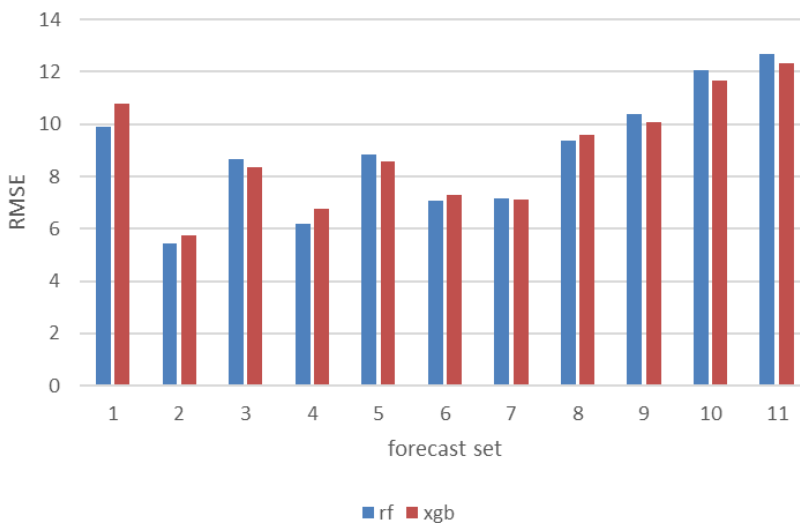
Graph 1. Box plot chart of average (RMSE) for analyzed machine learning models



Source: author's research

Accuracy of the analyzed models is further scrutinized by examining the differences in RMSE between the two models for each forecast set and analyzed year. The differences in median of the RMSE are used here because Wilcoxon rank-sum test, which is later employed, is carried out on median rather than the average values. Analysis for the 2018 (in Graph 2) provides further evidence of similar performance. Namely, out of 11 depicted forecast sets Random Forest model exhibited lower median RMSE value of forecasts in 5 instances as opposed to 6 in the case of XGBoost model. However, the biggest difference in the median RMSE values occurs in the first forecast set and in favor of the Random Forest model resulting in very small difference in median RMSE values overall.

Graph 2. Median of RMSE for each forecast set and analyzed machine learning model in 2018



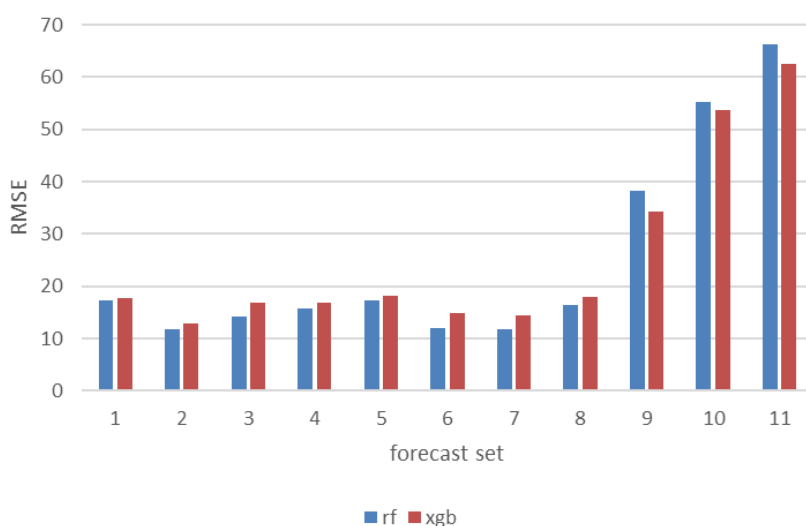
Source: author's research

In 2021 (depicted in Graph 3) the situation is a bit more complex. There is no pronounced difference in median RMSE values between models in the first 8 forecast sets, however, Random Forest slightly outperforms the XGBoost model.

In the last 3 forecast sets the situation is reversed with more pronounced differences in forecast accuracy in favor of the XGBoost model. It should also be noted that the last 3 forecast sets are characterized by a significant surge in RMSE values related to the increase in market volatility. However, overall in 2021 Random Forest outperforms the XGBoost model regardless of the hike in volatility which seems to deteriorate its forecast accuracy.

At this point it can be mentioned that, if forecast accuracy is ignored, XGBoost outperforms Random Forest model constantly in this analysis regarding algorithm running time by a relatively stable margin. On average the difference was just under 5 minutes in 2018 and a bit less at close to 4,4 minutes in 2021.

Graph 3. Median of RMSE for each forecast set and analyzed machine learning model in 2021



Source: author's research

Lastly, the test for statistical significance in differences in RMSE values is conducted. Due to the non-normality of the distribution of data related to 30 forecasts for each of the 11 forecast sets, non-parametric Wilcoxon rank-sum test is employed. The test tests for differences in median rather than averages (which would have been tested if the data distribution was normal and t-test was employed). Results of the test (in Table 1 below) show that only in the case of one forecast set in 2018 the differences in median RMSE values are not statistically different. For all other forecast sets hypothesis that the median RMSE values of compared data samples are the same is rejected at the 1% significance level as indicated by the p-values.

Table 1. Median of the Root Mean Squared Errors for each forecast set and analyzed machine learning models and p-value of the Wilcoxon rank-sum test

Forecast set	2018			2021		
	Random Forest	XGBoost	p-value	Random Forest	XGBoost	p-value
1	9,90	10,78	0,00000	17,35	17,73	0,00003
2	5,43	5,76	0,00000	11,81	12,79	0,00000
3	8,64	8,33	0,00042	14,28	16,94	0,00000
4	6,20	6,77	0,00000	15,69	16,88	0,00000
5	8,82	8,56	0,00000	17,27	18,26	0,00000
6	7,05	7,29	0,00000	11,96	14,74	0,00000
7	7,18	7,12	0,23985	11,83	14,36	0,00000
8	9,37	9,58	0,00350	16,44	18,00	0,00508
9	10,41	10,08	0,00000	38,28	34,27	0,00000
10	12,07	11,66	0,00000	55,22	53,62	0,00000
11	12,68	12,34	0,00009	66,19	62,45	0,00000

Source: author's research

The results of the analysis conducted in this research show that the differences in RMSE values between the tested machine learning models are statistically significant, regardless of their seemingly small differences depicted in the charts. Overall, Random Forest model seems to perform slightly better, especially considering that one forecast set in 2018 in favor of XGBoost turns out not to be statistically significant. However, the research provides evidence supporting the view that in times of higher market volatility XGBoost model performs better in terms of accuracy. Coupled with its lower algorithm running time this seems to present a strong case in favor of the model in times of higher volatility.

4. CONCLUSION

The research analyzes forecast accuracy of electricity prices in the day-ahead market for two commonly used machine learning models. Research focus is on determining whether there is evidence of statistically significant differences in RMSE of produced forecasts. For that purpose, both models produced forecasts for each of 11 forecast sets in two analyzed years 30 times over. By conducting this exercise, the reported differences in RMSE do not seem pronounced. However, when Wilcoxon rank-sum test is employed, statistically significant difference in the median RMSE values is found in 21 out of 22 forecast sets. Moreover, even though the two models seem tightly matched, Random Forest model seems to perform slightly better than the XGBoost model in the period of low market volatility. During the high market volatility period the XGBoost model seems to yield lower RMSE values which is further supported by its lower algorithm running time.

The findings in this research complement and corroborate the findings in Jurčević et al. (2023) this study supports earlier findings comparing the forecast accuracy of electricity prices in the day-ahead market by Random Forest and XGBoost models. Namely, this research results, based on an increased number of forecasts provide evidence of forecast accuracy robustness of analyzed machine learning models. However, it also shows evidence supporting the view that the median RMSE values are statistically significantly different between the two models. Similarly Didavi et al. (2021) find XGBoost and Random Forest to outperform Decision Tree model by a wide margin. However, contrary to findings in this study XGBoost was found to clearly outperform Random Forest model.

Practical implications of this research can be evaluated in the context of the assessment of economic viability of investments in energy storage facilities and introduction of new market participants, such as aggregators in the electricity markets. To this end, relatively simple forecasting techniques producing robust forecasting results are warranted. Research findings in this paper and related studies offer valuable insights in this respect to the economic viability focused studies.

Paper limitations include narrow focus related to two analyzed machine learning models and the data sample based on only 2021 as more volatile year in the electricity market. Further research could benefit from using broader machine learning model base and more recent electricity market data considering the inherent market volatility associated with global geopolitical uncertainties.

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NEPARAMETARSKO TESTIRANJE PROGNOZIRANJA CIJENA ELEKTRIČNE ENERGIJE STROJNIM UČENJEM

SAŽETAK

Istraživanje analizira prognostičku točnost na dan unaprijed tržištu električne energije. Uspoređuju se performanse "Random Forest" i XGBoost modela strojnog učenja temeljem podatka za njemačko dan unaprijed tržište električne energije. Podaci za 2018. i 2021. godinu analiziraju se kako bi se istražile razlike u prognostičkoj točnosti u razdobljima male i velike volatilnosti na tržištu. Inicijalni podaci za treniranje odnose se na 2017. godinu kako bi se napravile prognoze za 2018. godinu s prognostičkim horizontima do mjesec dana unaprijed. Uzorak podataka za treniranje zatim se pomiče mjesec dana unaprijed, čime se stvara pomični uzorak podataka fiksne duljine koji se koristi za treniranje i prognoziranje na ostatku analiziranog razdoblja. Ovakav metodološki okvir rezultira s 11 skupova prognoziranih podataka za svaku analiziranu godinu. Prognostička točnost zatim se ocjenjuje putem usporedbe korijena srednje kvadratne greške (engl. root-mean-squared error RMSE) u promatranom razdoblju. Fokus istraživanja je na ispitivanju mogućnosti pouzdanog utvrđivanja razlika u vrijednostima RMSE modela strojnog učenja koji se analiziraju. U tu svrhu najprije se opisani metodološki okvir za prognoziranje provodi 30 puta za oba modela strojnog učenja i za svaki skup prognoziranih vrijednosti sadržavajući sve prognostičke horizonte. Zatim se medijani RMSE vrijednosti analiziraju za svaki skup prognoziranih podataka te se provodi neparametarski Wilcoxonov test sume rangova kako bi se utvrdilo jesu li opažene razlike u vrijednostima RMSE statistički značajne. Rezultati istraživanja pokazuju male, ali statistički signifikantne, razlike u vrijednostima RMSE u svim skupovima prognoziranih podataka osim u jednom. Osim toga, čini se da Random Forest model rezultira nešto boljim prognozama od XGBoost modela u razdoblju niske volatilnosti. S druge strane, XGBoost model rezultira boljim prognozama u posljednja tri skupa prognoziranih podataka za 2021. godinu, a koji su povezani s povećanom volatilnošću na tržištu.

KLJUČNE RIJEČI: prognostička točnost, dan unaprijed tržište, Wilcoxonov test sume rangova, Random Forest, XGBoost, volatilnost tržišta

CATEGORISATION OF SOCIAL MEDIA INFLUENCERS AND DETERMINANTS OF THEIR ENGAGEMENT EFFECTIVENESS

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UDK: 004.738.5:316.472.4

JEL: L82
DOI: 10.56321/IJMBS.10.16.12

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ABSTRACT

Social media influencers have been a topic of interest for both practitioners and scientific community in recent years. Understanding their importance and explaining the mechanisms contributing to their success requires a multidisciplinary approach, incorporating insights from the fields of psychology, media, and economics. This paper explores the current classification of social media influencers based on various relevant criteria as content type, influence type, and followers' count. Furthermore, this study aims to provide a synthesis of the fragmented findings related to the key determinants of their engagement effectiveness in order to understand the complexity of influencer culture and its implications for marketing science and consumer behavior.

KEY WORDS: social media influencer, influencer marketing, perceived characteristics, source credibility, source attractiveness, match-up hypothesis

1. INTRODUCTION

Influential people or opinion leaders have been a part of every community since the beginning of civilization and have had an immense impact on determining the direction of community development and decision making. They were mainly visionaries, passionate about their goals, motivating, and inspiring, and that is why people trusted them and followed them. Today, they are also present in different areas of everyday life, and their reach has increased due to the development of mass media and the internet. Currently, 64% of the whole world population uses internet and spends more than 6 hours daily on average browsing (Digital, 2023). Furthermore, there are now more than 5 billion active social media user identities on a global level (Digital, 2023) which explains the importance of social media networks as main channels for information search and dissemination. Consequently, influential individuals have also established their presence on social media networks, under the name of social media influencers (*influencers*).

Khamis at al. (2016, pp. 3-4) define influencers as human brands, as they are subjects of marketing communication efforts through self-branding. However, what distinguishes influencers from other famous people or celebrities is the fact that they have created their profiles from scratch, not being famous for a specific activity such as acting, music, sports, politics, or similar. They are so called ordinary people who created their audience base by posting stories and events from their everyday life or continuously talking about a specific topic of their interest. From a practical perspective, influencers are defined as "people who have built a reputation for their knowledge and expertise on a specific topic, make regular posts about that topic on their preferred social media channels, and generate large followings of enthusiastic, engaged people who pay close attention to their views" (Influencer Marketing Hub, 2024).

Noticing their importance, companies and brands also started working together with influencers, creating the field of influencer marketing. Campbell and Farrell (2020, p. 469) define influencer marketing as "the practice of compensating individuals for posting about a product or service on social media." The phenomenon has now become one of the most popular and very effective forms of online marketing, with a global influencer marketing market value of 21.1 billion US dollars in 2023, having more than tripled since 2019 (Statista, 2024).

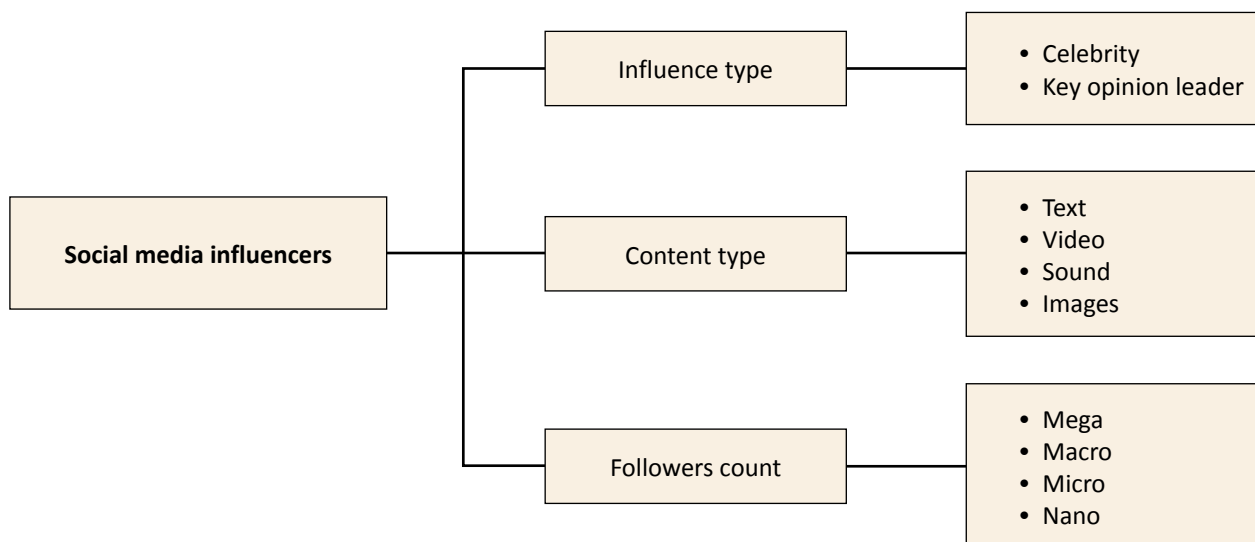
Even though influencers have been around for a while, scientific literature and studies related to their specificities started developing widely only a couple of years ago. With their numbers growing and their engagement becoming a more important part of marketing communication, it's crucial to understand how to classify them, what are similarities and differences between different groups of influencers, what are their main activities and how to assess the effectiveness of communication delivered by influencers.

2. SOCIAL MEDIA INFLUENCERS FRAMEWORK

The concept of influencing consumers' decisions through opinion leaders stems from the mid-20th century, with Katz and Lazarsfeld (1955) developing the theory of two-step information flow, which asserted that consumers' reactions to messages delivered through mass media are influenced by opinion leaders, who pass on their own understanding of information through numerous group interactions. Consequently, consumers' ultimate purchasing decisions result from a blend of these two influences, where interpersonal communication appears to have a stronger impact on decision-making processes and behavior compared with mass media (Vrontis et al., 2021, p. 618).

Social media influencer marketing space has been expanding; therefore, various criteria can be used when attempting to classify influencers into distinct and coherent groups. Among the most common classification methods are assessments based on follower count, the nature of the content they share on their social media accounts, and their level of influence, as shown in the Figure 1.

Figure 1: Classification of social media influencers



Source: author's adaptation based on Influencer Marketing Hub, 2024

Celebrities were the first influencers, and, even though they still have a role, their importance is diminishing due to the fact that they are extremely expensive to engage and not always a good fit for brands that want to promote a specific or niche product. In those situations, industry experts and thought leaders appear more trustworthy and are more likely to influence consumer opinions (Campbell & Farrell, 2020; Influencer Marketing Hub, 2024). Influencers like to express themselves in different ways and formats, mainly depending on which social media network site they operate on the majority of the time. Some of them are more oriented towards text, as in different types of blogs; some of them are rather focused on images, as on Instagram; or finally videos, as on YouTube or TikTok. The most important and most addressed classification in literature is based on followers count (Campbell & Farrell, 2020; De Veirman et al., 2017; Janssen et al., 2021; Schouten et al., 2019; Vrontis et al., 2021). The majority of authors classify influencers into four groups, starting with mega influencers, followed by macro and micro influencers, and ending with nano influencers. However, some of them have slightly different approaches. Schouten et al. (2019) and De Veirman et al. (2017) distinguish only between two categories, macro and micro influencers, whereas Janssen et al. (2021) add one extra category between macro and micro influencers, called meso influencers. Each of the categories will be briefly explained.

Mega influencers are people with a very wide network of followers. According to Campbell and Farrell (2020), mega influencers have more than a million followers on one social media platform. Sometimes, celebrities are also classified in the same category, even though they were famous even before they started social media activities. Based on Influencer

Marketing Hub data (2024), mega influencers are very expensive to collaborate with, and mainly have their personal agents setting up the deals in their name, with a high price tag starting from 10 thousand dollars, up to a million dollars per post.

Macro influencers typically consist of secondary-tier celebrities or experts on specific domain topics who have succeeded in cultivating a larger audience. They tend to be more approachable for collaborations, with a significant and diverse follower base, while seeking less compensation for promotional posts (Conde & Casais, 2023). Their follower base ranges from 100 thousand to 1 million followers.

Micro influencers are often ordinary everyday people who have gained recognition based on their knowledge of specific market niches. Even though there is a lack of consensus on exact numbers, micro influencers mainly have between 10 and 100 thousand followers. What makes them extremely interesting for marketers is not the size of their follower's base but rather the quality of relationships and engagement that micro influencer fosters with their audience (Campbell & Farrell, 2020). They are often perceived as highly credible as they choose their collaborations carefully, ensuring they fit adequately into their scope of activity (Conde & Casais, 2023).

The last but not least important category is nano influencers, with 1 to 10 thousand followers. These individuals might have a modest following base but they are often experts in highly specialized areas and possess very particular knowledge (Janssen et al., 2021). While some brands might overlook nano-influencers, they hold significant value for companies specializing in niche products.

In addition to classification based on the number of followers, there are many additional ideas on how to group different types of influencers based on the source or motivation of their social media presence. According to Ruiz-Gomez (2019), there are accidental internet celebrities who became popular due to viral content, satellite or parasite social media celebrities who owe their fame to a relationship with someone famous, and wannabe influencers who try to copy the practices of successful influencers in their search for attention. Furthermore, each industry where influencers are present requires a specific categorization to indicate their area of expertise or content style to their followers.

3. DETERMINANTS OF SOCIAL MEDIA INFLUENCERS' ENGAGEMENT EFFECTIVENESS

The effectiveness of influencer endorsements in marketing is a multidisciplinary field of study, combining roots in psychology for a better understanding of the mechanisms of source characteristics affecting the recipients of the message as well as assessing the impact on consumer behavior and marketing outcomes. The first scientific studies in the field were related to advertising through traditional channels, leveraging celebrity endorsement opportunities, and were called source models (Erdogan, 1999; Hovland & Weiss, 1951; McGuire, 1985; Ohanian, 1990). The models addressed specific source characteristics to determine their impact on the effectiveness of communication. Given the new landscape of the internet and social media, there is an imperative need to extend research based on models originally developed for celebrities and apply them to influencers (Schouten et al., 2019).

3.1. Source credibility and attractiveness

Source credibility was first mentioned in scientific research in the mid-20th century (Hovland & Weiss, 1951) and further developed by Ohanian (1990, p. 41), who defined it as "a term commonly used to imply a communicator's positive characteristics that affect the receiver's acceptance of the message" and found it consisted of trustworthiness and expertise. Except for non-physical source characteristics, attractiveness was highlighted as an additional factor determining the success of communication during the same period (McGuire, 1985; Ohanian, 1990). More recently, the validity of theories has been explored in the case of influencers within the context of social media, where the effects on consumer outcomes were assessed. Reinikainen et al. (2021) confirmed the positive effects of influencers' credibility on brand trust. Trivedi and Sama (2020) included both celebrities and influencers in their research and concluded that both groups had an impact on consumer attitudes towards brands but influencers' impact was more pronounced, which is in line with the research conducted by Schouten et al. (2019, p. 19). Furthermore, Torres et al. (2019) concluded that influencers perceived as more physically attractive had a positive impact on brand attitudes and purchase intentions. This finding was further confirmed by Joshi et al. (2023), who identify attractiveness as one of the key predictors of consumer behavior in the context of social media networks.

3.2. Match-up hypothesis

Kamins (1990) approaches studying communication effectiveness from a slightly different angle and focuses on the congruence between the source and message receiver, which led to the development of the match-up hypothesis. Later on, congruence between the source, in this case, the influencer and the product or brand promoted, but also the brand and follower proves to have an impact on consumer attitudes and purchase intention. Several authors further investigated the impact of perceived congruence between social media influencers, brands, and followers (Breves et al., 2019; Choi & Rifon, 2012; Kim & Kim, 2021) and attempted to establish the relationship between various congruence dimensions and consumer behavior. Schouten et al. (2019, p. 19) confirmed the importance of similarity between the influencer and the followers, which was mediated by true aspiration.

3.3. Other source characteristics

The theories previously explained were initially developed for celebrity endorsements in traditional advertising channels. However, while they still appear to be very accurate, in the context of social media networks, some new source characteristics have gained prominence. For example, a few authors have been researching influencers' authenticity, as consumers tend to believe company sources less and consider them less authentic (Peltier et al., 2020). Moulard et al. (2016, p. 422) define authenticity as "being true to oneself, that for a person to be real, one's behavior should be motivated by one's actual thoughts and feelings." In the realm of influencers, there is a considerable amount of fraud and activities motivated solely by money; therefore, it's very important for followers to perceive influencers as authentic in order to believe in what they post and share on their profiles.

Next to that, a specific characteristic of using social media networks for advertising lies in the concept of two-way communication. In the pre-internet era, advertising was exclusively one-sided, with companies sharing key messages and consumers being on the receiving side. With the rise of internet and social media networks, the opportunity has developed to interact with other consumers and sources of product information, positioning interactivity as one of the key characteristics of influencers. Jun and Yi (2020) noticed that followers feel their needs are better heard, understood, and addressed since influencers have the ability to react to their comments. This, in return, creates deeper bonds between influencers and followers. Additionally, they discovered that influencers' interactivity has positive effects on brand trust and emotional attachment. The effects of authenticity and interactivity on brand related outcomes such as brand attitude, brand image and similar still needs to be further explored.

Barta et al. (2023) have found two additional characteristics important for the level of influencing capacity – originality and humor. Originality is sometimes very closely defined as authenticity or, comparably, as uniqueness, serving as a foundational aspect of authenticity (Lee & Eastin, 2021). It plays a pivotal role in driving the intention to follow influencers and to listen to their advice, driven by the hedonic experience followers are having while absorbing the content. Similarly, humor also contributes to a more positive hedonic experience and therefore translates into higher influencing capacity, which increases the intention to follow influencers' advice (Barta et al., 2023).

3.4. Theories not related to source characteristics

According to Tanwar et al. (2022), there are additional theories and models not directly related to the source characteristics which have been identified in scientific literature and used as a benchmark in influencer marketing research. Among the most mentioned ones are the uses gratification theory (UGT) and technology acceptance model (TAM). According to uses and gratification theory, developed by Blumler and Katz in the second half of 20th century, audiences are proactive participants driven by a continuous need for satisfaction (Habes et al., 2022). This theory posits that people intentionally seek and choose media to fulfill their specific needs and motivations. Similar behavior extends to social media platforms as well, where followers seek information from influencers through motivations such as social interaction, convenience, and entertainment (Hoque & Hossain, 2023). The technology acceptance model is based on user sentiment, aiming to explain behaviors towards new technology through behavioral intentions, attitude, perceived usefulness, and perceived ease of use (Musa et al., 2024). In the context of social media networks and influencers, it not only explains who is open to adopting influencer-following trends but also identifies the underlying motivations. This understanding helps in making influencer profiles more attractive to the audience and increasing their effectiveness.

4. CONCLUSION

Social media influencers have become a very important part of consumers' everyday lives in different stages of the decision-making process (Mesarić & Gregurec, 2021). They look up the information on their favorite influencer's accounts and search for recommendations for products and brands they are considering buying. Companies have quickly recognized the potential of including them in their marketing strategies and leveraging their popularity or knowledge to get to their target audiences. The main categorization of influencers is based on the follower count, but they can also be observed in light of the different platforms where they're present and various types of content that they publish on their social media network accounts. Scientific research is catching up on understanding the underlying mechanisms that make influencers successful in channeling consumer behavior. So far, in the literature, the majority of attention has been devoted to personal characteristics of influencers, which might have an impact on the acceptance of their messages by their followers and the congruence on the relation influencer – brand – follower. However, there are more factors that impact consumer outcomes and need to be further understood, as, for example, psychological-related influential factors take into consideration consumers' deeper psychological processes when exposed to influencers, content attributes, or sponsorship disclosure (Vrontis et al., 2021, p. 625). Furthermore, a strategic assessment of influencers as a marketing tool and the impact of their engagement on companies' profitability still needs to yield more concrete conclusions.

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KATEGORIZACIJA UTJECAJA INFLUENCERA NA DRUŠTVENIM MEDIJIMA I ODREDNICE UČINKOVITOSTI NJIHOVOG ANGAŽMANA

SAŽETAK

Utjecajne osobe na društvenim mrežama posljednjih su godina predmet interesa i za praktičare i za znanstvenu zajednicu. Razumijevanje njihove važnosti i mehanizama koji pridonose njihovom uspjehu zahtijeva multidisciplinarni pristup, koji uključuje uvide iz područja psihologije, medija i ekonomije. Ovaj rad istražuje postojeće klasifikacije utjecajnih osoba na društvenim mrežama na temelju različitih relevantnih kriterija kao što su vrsta sadržaja, vrsta utjecaja i broj pratitelja. Nadalje, cilj ovog rada jest pružiti sintezu fragmentiranih nalaza o ključnim odrednicama učinkovitosti angažmana utjecajnih osoba na društvenim mrežama kako bi se bolje razumjela kompleksnost koncepta utjecaja te implikacija na marketinšku znanost i na ponašanje potrošača.

KLJUČNE RIJEČI: utjecajne osobe na društvenim mrežama, utjecajni marketing, percipirane karakteristike, vjerodostojnost izvora, privlačnost izvora, hipoteza podudaranja

SYSTEMIC CORRUPTION: A NIGHTMARE TO SERVICE DELIVERY IN NIGERIA PUBLIC TERTIARY INSTITUTIONS

ORIGINAL SCIENTIFIC PAPER
/ IZVORNI ZNANSTVENI RAD

UDK: 328.185(669.1)

JEL: D73
DOI: 10.56321/IJMBS.10.16.18

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ABSTRACT

The level of corruption in Nigeria public tertiary institutions is alarming and has drawn the attention of concerned individuals in both the academics and industries. The aim of this paper is to examine the effect of systemic corruption on service delivery of Nigeria public tertiary institutions. The study utilised a quantitative research approach. Data were collected from 364 staff of selected public tertiary institutions in south-eastern Nigeria using a structured questionnaire. Hypotheses were tested using International Business Machine Statistical Package for the Social Sciences (IBM-SPSS) version 27 that runs multiple regression analysis (MRA). The findings reveal that fraud, nepotism, bribery and abuse of power have significant and negative effect on the service delivery of public tertiary institutions in Nigeria. The study therefore, concluded that systemic corruption has significant and negative effect on service delivery of Nigeria public tertiary institutions. The study recommended that all cases of corruption, regardless of their nature, be handled as serious crimes, carrying lengthier and more punitive prison terms.

KEYWORDS: systemic corruption, service delivery, fraud, nepotism, bribery, abuse of power

1. INTRODUCTION

In Nigeria and around the world, systemic corruption has had a negative impact on public welfare and economic progress. State public enterprises need to have a solid framework of administrative techniques in place to manage society's needs, as corruption is primarily caused by bad governance. When formal systems of governance fall apart, it becomes more difficult to pass and implement laws and regulations that ensure accountability and transparency in the management of public activities (UNODC, 2019). Since corruption is a constantly evolving phenomenon, it is difficult to pinpoint in any given society because different countries have different norms and values, which in turn leads to different belief systems and knowledge bases. Certain behaviours that are considered abnormal in one country might not be in another. Gift-giving is, for instance, somewhat acceptable in some Asian and African nations but unacceptable in Western nations. Public officials and those holding political office should base their performance of their duties on the need to advance the welfare of the public as a whole, regardless of the differences in values, norms, and belief systems found in developing nations such as Nigeria. They shouldn't prioritise meeting the needs of the general public over their own interests (McLeod, 2018).

The prevalence of corruption in African nations varies; it can be rare, widespread (occurring in numerous public institutions but not at a systemic level), or systemic. Systemic corruption is defined as an environment in which public accountability is no longer the norm but rather the exception and where corruption is accepted as a way of life (Zinyama, 2021). When corruption is uncommon, it's simple to identify and manage. When corruption is widespread (occurs in many institutions), it can also be controlled; however, when corruption is systemic, it is difficult to detect and control, and unethical behaviour and incentives are used to keep the system in place. The purpose of institutional norms and rules of behaviour is predatory gain (Carlisle & Gruby, 2019).

Public sector corruption in Nigeria is currently systemic. It is true that there has been a breakdown in the governance of public enterprises, as the unconventional methods of conducting business there have become the norm. Public servants prioritise their own financial gain over the effects that corruption has on the general welfare of the public because they are motivated by personal enrichment (UNODC, 2019). Systemic corruption affects all governments, parastatals, and agencies. It is not limited to any one continent, region, or ethnic group. It transcends all religions and has a negative impact on the health of the economy (Okorie, 2018). Corruption can be found in many areas of public enterprise, including the ones being studied. It usually manifests itself in the provision of services, where officials receive material or monetary compensation to sway decisions regarding the approval or denial of services to the underprivileged. System corruption appears as bribery, embezzlement, fraud, extortion, abuse of power, conflict of interest, favouritism, ghosting, nepotism, and graft in the majority of Nigerian State's public enterprises (Liberty, 2019).

Conversely, public enterprises are any public organisations that possess some degree of autonomy, even though they might have to abide by specific policy directives (Popoola, 2016). The academic went on to say that since public enterprises are institutions created by specific acts or the provisions of pertinent legislation, the state assumes accountability for the operations of these institutions. Corrupt business practices, such as bid-rigging, embezzlement, abuse of power, bribery, graft, fraud, favouritism, and ghosting, are what define public enterprises in Nigeria and are indicative of a deficiency in effective governance. Public officials now disregard the fundamentals of good governance, openness, equity, accountability, responsibility, independence, justice, discipline, and respect as a result of their bad institutional unethical experiences. The public's perception of the future of public enterprises in Nigeria has been completely disoriented by these practices, which is why the educational sector is the focal point of discussion in this study.

Many people in Nigeria's educational sector, especially in public tertiary institutions, find it surprising that a nation with such abundant natural and human resources could not boast of a steady supply of electricity. Nonetheless, corruption remains a crucial component of any theory explaining why Nigeria's greatness is being delayed or slowed down, and why the majority of its people do not see democracy as a means of achieving development (Lloyd, 2018). In an effort to combat systemic corruption and fortify the economy, Nigeria began an aggressive pursuit of economic reforms in 1999. These included privatisation, banking sector reforms, anti-corruption campaigns, programs and strategies for eradicating and reducing poverty, and the creation of transparent and unambiguous fiscal standards. Researchers have all concluded that, in spite of the government's valiant efforts, these programs have failed to meet the aims and purposes for which they were designed. According to Oghuvbu and Oghuvbu (2020), corruption continues to be a threat, causing untold suffering, hardship, growth and development distortion, and strangulation. As a result, many Nigerians have lost hope, to the point where some have even given up and turned to faith, depending on God to keep them alive. In light of this, the study aim is to investigate how systemic corruption affects the provision of services in Nigeria's tertiary institutions. Fraud, nepotism, bribery, and power abuse are used in this study as operational components to measure the impact of systemic corruption on public tertiary institutions' service delivery in Nigeria.

This study is significant to the administrators of Nigeria's public tertiary institutions, offering useful insights to addressing the nation's service delivery challenges and adding to the body of knowledge regarding the goals of achieving efficiency and effectiveness in public resource management. However, this study posed a critical research question and its relative research hypothesis:

R_q : How significant is the effect of systemic corruption on the delivery of services in Nigeria public tertiary institutions?

H_o : There is no significant effect of systemic corruption on the delivery of services in Nigeria public tertiary institutions.

2. LITERATURE REVIEW

2.1 Systemic Corruption

Systemic corruption, also referred to as endemic corruption, is corruption that stems mainly from an organization's or process's shortcomings (Miller, 2024). It can be contrasted with corrupt behaviour within the system by specific officials or agents. Conflicting incentives, monopolistic or discretionary powers, a lack of transparency, low pay, and an atmosphere of impunity are some of the elements that foster systemic corruption. "Embezzlement, graft, extortion, and bribery" are examples of specific corrupt practices in a system where "corruption becomes the rule rather than the exception. Systemic corruption has a strong moral foundation, which poised to ask whether it is a concept that applies to all societies or just some? According to Kunaka and Matsheza (2001), systemic corruption is the act of engaging in dishonest behaviour or the state of having morality and integrity distorted. It is essential to comprehend ethics in the context of corruption because it is inextricably linked to the idea of ethics. Corruption at systemic levels is referred to as

systemic corruption; at this level, corrupt practices are now accepted as the norm. In other words, public accountability has become the exception rather than the rule, and unethical behaviour has become normalised or regularised (Hope & Chikulo 2000, p. 104). Situations where corrupt practices are the norm are considered to be examples of systemic corruption (Zinyama, 2021). Because systemic corruption thrives in environments where moral standards and group values are flouted, its prevalence can be used to gauge how much moral principles have been undermined in public enterprises. In order to combat systemic corruption, strategies that are developed through self-regulatory systems that offer incentives for participation in good ethical behaviour are needed (Zinyama, 2021). Australia Parliament defined systemic corruption as “instances of corrupt conduct (which may or may not constitute serious corruption) that reveal a pattern of corrupt conduct in a law enforcement agency or in law enforcement agencies.

However, systemic corruption is a concept that is loaded with values, so it might be hard to come up with a comprehensive definition, according to Kunaka and Matsheza (2001, p. 14). Plundering state funds, misusing public office and property, money laundering, patronage, embezzlement, accepting gifts, rent-seeking, asking for and taking bribes, graft, and ghosting are some examples of systemic corruption in public enterprises. Therefore, this study defines systemic corruption as a function of dishonesty, a lack of integrity and the abuse of private and/or public office for personal gain which the societies have considered as the norms of the land. For the purpose of this study, fraud, nepotism, bribery and abuse of power are operationalised as the core components for the measuring systemic corruption on service delivery of public tertiary institutions in Nigeria.

Bribery: The term "bribery" has raised concerns in many societies, despite the lack of a universally recognised definition for the term "bribery," all meanings include an appointed official's voluntarily betraying their trust in return for a benefit. It is not necessary to trade the benefit for cash or other payment methods. It can manifest in a variety of ways, such as giving costly presents, lavishing guests with lavish hospitality, providing resources, or lending a helping hand to friends, family, or causes you believe in. Transparency International defines bribery as offering, pledging, providing, accepting, or soliciting an advantage in return for engaging in illegal, unethical, or betrayal of trust activities. Incentives may take the form of cash, gifts, loans, fees, prizes, or other benefits (services, taxes, donations, favours, etc.).

The act of supplying, guaranteeing, or offering a bribe is referred to as active bribery. The act of seeking, accepting, or receiving a bribe is referred to as passive bribery. Both kinds, which are illegal in the majority of countries, worry institutions (Shehu, 2019). Prior to the introduction of the UK Bribery Act, the main focus of anti-bribery legislation was the active bribery of foreign public officials because of the harm it causes to societies and the way it undermines fair trading. Examples of active bribery include: (i) paying a public official a bribe in exchange for obtaining a contract that benefits the briber; (ii) using a consultant to channel bribes to obtain public contracts; (iii) giving small bribes to customs officers to speed up the clearance of cargo through a port; (iv) using the son of a public official to sway contract decisions; and (v) paying doctors inflated travel costs and sponsorship fees in an effort to persuade them to recommend a pharmaceutical company's products.

On the other hand, passive bribery occur in specific operational functions like: granting access for theft by security officers, kickback, preferential allocation of goods and services, recruitment of incompetent applicant, insider fraud to divulging customer information, illegal information brokering. Bribery in this study is defined as the offering, giving, soliciting, or receiving of any item of value as a way of influencing the actions of an individual holding a public or legal.

Nepotism: The term is derived from the Italian word "nepote," which means "the son," and has been used to describe the papal practice of bestowing special favours on grandchildren or their kin. According to Gjinovci(2016), nepotism is the practice of hiring relatives or close friends without regard to their qualifications or abilities, thus favouring relatives based only on family ties. Nepotism can arise in various domains of societal organisation (Uche et al., 2019). Nepotism is a global phenomenon, but it is only found in places where it is dominant in terms of politics, economy, society, and the media—in Eastern Europe, the Middle East, and even certain EU nations.

In recent times, the proliferation of nepotism and favouritism across various nations has started to impede the social and economic well-being of the country (Gjinovci, 2016). Nepotism is defined as giving siblings and other relationships preferential treatment in the workplace based on association rather than ability. It is related to the English word nephew, which is derived from Old French from Latin. The majority of research suggests that larger corporations are more likely to be involved in nepotism than smaller ventures. Few academics, however, contend that nepotism is common in smaller companies (Hayajenh, Maghrabi, & Al-Dabbagh, 1994). Studies assert that various researchers in the field have also suggested future research, with discussions on the many advantages and disadvantages of nepotism. Recent findings by Arici, Arasli and Arici (2020) revealed the impact of psychological contract violation mediation and the comprehension of nepotism and acceptance of rudeness in the workplace. Again, Baloch & Iraqi (2020) found that nepotism has a significant negative impact on employee decisions, work satisfaction, organisational engagement, and human resource management strategies. However, having considered the many definitions of nepotism, this paper defines nepotism as

the unethical use of authority to help friends or family members obtain employment or other advantages.

Fraud: this is an action that depends on dishonesty to generate profit is considered fraud. According to Black's Law Dictionary, fraud is defined as "knowing misrepresentation of the truth or concealment of a material fact to induce another to act to his or her detriment." At that point, it is considered a crime. According to International Federation of Red Cross and Red Crescent Societies (2012, p. 1) fraud is "any intentional act or omission designed to deceive others, resulting in the victim suffering a loss and/or the perpetrator achieving a gain." Fraud is further defined by the Association of Certified Fraud Examiners (2024) as the intentional misuse, misapplication, or employment of organisational resources or assets for personal enrichment through one's occupation. The fraudulent conversion and acquisition of money or property by false pretence was defined by the Yusuf, Ahmad and Razimi (2016). Legally speaking, fraud is viewed as depriving someone dishonestly of something to which they would or might be entitled, but only in order to commit fraud. According to its lexical definition, fraud is the intentional use of deception to obtain illegal benefit. Therefore, in order for an action to be considered fraudulent, it must be motivated by a dishonest desire to benefit the perpetrator at the expense of another individual or organisation (Reurink, 2016).

The Fraud Triangle is the most commonly recognised theory explaining why certain individuals perpetrate fraud. Dr. Donald Cressey, a criminologist who coined the term "trust violators" from his research on embezzlers, created the Fraud Triangle (Salinger, 2004)

Figure 1. Fraud Triangle



Source: Association of Certified Fraud Examiner, 2024

As per the Fraud Triangle theory, an individual is more inclined to engage in fraudulent activities if they have all three elements: unshareable financial pressure, perceived opportunity, and rationalisation.

Perceived opportunity: a control gap that allows fraud or corruption to occur without the perpetrators being discovered, apprehended, or facing consequences. Implementing controls such as keeping money safe, doing reconciliations, having explicit disciplinary policies that are upheld, getting the right authorization, and other similar actions can address perceived opportunity. It has been shown that the best approach to lessen fraud and corruption is to remove the perceived opportunity.

Financial pressure: the rationale behind a fraud or corrupt act. They can range widely and include things like maintaining a lifestyle, financial strains, gambling issues, retaliation against the organisation, emotional issues, and the like. Initiatives like open door policies, employee support programmes, and treating and paying staff fairly are a few ways to address motivation.

Rationalisation: The act of rationalising a deception or corrupt practice is called rationalisation. It is important to distinguish between rationalisation and moral judgement. Actually, the offender frequently knows that what they are doing is wrong, but they will justify it in their minds for whatever reason. These could be beliefs that money is just being "borrowed," that everyone does it, that no one will actually be harmed, that they are just receiving what is rightfully theirs, or that everyone else does it as well. Increasing awareness of the Code of Conduct and the detrimental effects that fraud and corruption have on the organisation and its beneficiaries, providing training on the prevention of fraud and corruption, conducting regular performance reviews, and simply treating employees fairly are some ways to combat rationalisation.

This paper defined fraud on the perspective of business as any intentional deception or manipulation done by workers, employers, or other parties for one's own benefit, to harm the company, or to obtain an unfair personal advantage.

Abuse of Power: In the public and private sectors nowadays, power abuse is widespread among those involved in service delivery. To abuse one's position of authority in a public office, government agency, or other setting by taking unfair advantage of others is known as power abuse. With or without resistance, power is the capacity to shape other people's actions and behaviour in order to accomplish a specific goal. It's the capacity to use power over someone else to accomplish goals, to put it simply (Gerson, 2019). Bullying that involves misusing authority figures' power at work is called abuse of power in leadership. In order to performance and the success of the company, higher ranking officials who abuse their power typically target the junior staff members. Blackballing, public censure, and mockery are examples of power abuse in leadership. In environments where superior supervision is insufficient, misuse of power is prevalent and primarily motivated by deception. School, university, college, private organisation, church, hospital, and public office are the most common locations for power harassment. Misconduct, poor administration, power harassment, corruption, incapacity, malpractice, carelessness, maltreatment, misconduct, exploitation, and so forth are other terms for the abuse of power (Hoeft & Mill, 2023). However, power can be abuse in the following ways: discrimination, bullying, sexual harassment, crime and breach of employee's right.

According to this study, abuse of power happens when an individual or group of individuals with some authority due to their position abuse that authority in an unethical or illegal way to further their own agendas at the expense of others. This conduct is frequently viewed as immoral, unfair, or detrimental to society and other people. It also typically has detrimental effects on the victims, both psychologically (such as anxiety, depression, and chronic stress) and physically (such as injury and assault). The prevention of such conduct is a top priority for law enforcement in particular as well as society at large.

2.2. Public enterprises

Public Enterprise is "an organization that is set up as a corporate body and as part of the government apparatus for an entrepreneurial objective" (Maiwada, Abdullahi & Mukhtar, 2018). According to Ademolekun (2002), a public enterprise is an organisation that was created when the government took on the role of an entrepreneur. In a nutshell, public enterprises are primarily privately held companies tasked with offering services that benefit the general public. Public enterprises in Nigeria include Federal Radio Corporation, Universities, Nigerian Railway Corporation, Nigeria Television Authority (NTA), and so on. Since the government founded each of these organisations, it has control over the scope of their activities and the property they own.

In Nigeria, there are a lot of public enterprises. The Nigerian Federal Government oversees approximately six hundred (600) businesses across multiple economic sectors being vital to the nation's economic development (Maiwada et al., 2018). With multiple changes in government, a good number of businesses already existed before independence and a great number more emerged after. A great deal of businesses were started, reorganised, renamed with smaller roles and scopes, and many more failed. All these represented the current state of government owned enterprises. However, numerous local, state and federal governments have established businesses for a variety of purposes.

Furthermore, this study defined public enterprise as enterprise that is controlled by a public authority and is either fully or partially owned by the state. Therefore, the study core area of investigation will center on the Nigerian public tertiary institutions which comprises of universities, polytechnics and collage of educations, whose names are withheld for confidential reasons.

2.3. Public Service Delivery

The concept of service delivery is a sophisticated term for providing goods and services to customers in a manner that satisfies their needs. As part of the social contract that the government has with its citizens, service delivery is also vital for the public sector. Material infrastructure such as roads, electricity grids, healthcare, education, water systems, and social protection are among the development priorities for service delivery (Agboola, 2016). The idea of service delivery and how it applies to development is ever-changing. Some academics draw a connection between socioeconomic performance and service delivery, while others highlight the political aspect of service delivery. Beyond making a profit, service delivery is how business services are carried out (World Bank, 2010).

Public service delivery is defined as "the process of meeting the needs of citizens through prompt and efficient procedures (Oronsanye, 2010, p. 31). This suggests that consumers play a crucial role in the provision of public services because of the way the public institutions and the consumers interact to ensure that their needs are met promptly. That is, the public should be viewed as the "master" and the beneficiary of improved public service performance, just as the private sector views its clients/consumers as "kings," guaranteeing the provision of high-quality services (Aladegbola & Jaiyeola, 2016).

In the paper, service delivery is defined as an operational activity for supplying products within a pre-agreed service level agreement between a service provider and customer. This means that the main goal of service delivery is to guarantee that services are provided to the level and quality that the client expects.

3. METHODOLOGY

The study adopted positivism as the research paradigm. This study used a quantitative research design which involved all the staff of public tertiary institutions in Nigeria investigated to investigate the effect of systemic corruption on service delivery of tertiary institutions in Nigeria. The study was conducted in 2024 among staff of tertiary institutions in Nigeria. These staff comprise of both teaching and non-teaching staff in state and federal tertiary institutions. For the sensitive nature of this study, the name of the tertiary institutions were kept off from the public domain. The study adopted a stratified random sampling method to select 364 staff. Data were collected through a structured questionnaire after a pilot study. The dimensions of systematic corruption measured in this study included fraud, nepotism, bribery and abuse of power. The Likert rating scale was used to design the instrument. The questionnaire was pre-tested on a small group similar to one in the study to check its validity and reliability. The instrument was both face and content validated, while the internal consistency was realized at 0.703, indicating that it is a good fit for the study. The study utilised the test-retest method to test the reliability of the research instruments, while data were analysed using the Multiple Regression Analysis (MRA).

4. DATA ANALYSIS

The key components for measuring systemic corruption in this study are fraud, nepotism, bribery and abuse of power. The association coefficients between systemic corruption and service delivery in Nigeria are shown in Table 1. The EFA loading, as well as the mean score and standard deviation are also contained in the Table below.

Table 1. An exploratory factor analysis of teamwork measurement

Item	Mean	SD	Factor loading	Item total correlation
Systemic Corruption				
Fraud	4.72	.638	.729	.414
Nepotism	1.27	.513	.502	.482
Bribery	3.73	.459	.476	.343
Abuse of Power	3.85	.542	.359	.527

KMO = .628; $\chi^2 = 263.15$; $P < .001$; Cronbach's $\alpha = .652$; DF= 4; Percentage of variance explained = 62.54%

Source: Classes of resources (IBM-SPSS version 27)

Cronbach's alpha coefficient was adopted to examine the internal consistency of components, or factors, and their related items that emerged through EFA using IBM SPSS version 27. As shown in Table 1, the Cronbach's alpha coefficient for systemic corruption was 0.652. The structural model is illustrated in the Figure 1 after the items in the constructs were validated using EFA and Cronbach's alpha coefficients.

Table 2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.543a	.295	.256	.594

a. Predictors: (Constant), fraud, nepotism, bribery, abuse of power

Source: Classes of resources (IBM-SPSS version 27)

Table 3. Analysis of Variance

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	44.741	5	7.457	21.309	.001 ^b
	Residual	136.162	332	.410		
	Total	180.803	337			

a. dependent Variable: service delivery

b. predictors: (Constant), fraud, nepotism, bribery, abuse of power

Source: Classes of resources (IBM-SPSS version 27)

Table 4. Coefficients^a

Model	Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.	
			Beta			
1	(Constant)	.389	.278		1.396	.000
	Fraud	-.310	.076	-.264	-4.820	.001
	Nepotism	-.207	.049	-.008	-.060	.005
	Bribery	-.293	.061	-.257	-5.193	.001
	Abuse of power	-.191	.056	-.198	-3.735	.002

Dependent Variable: service delivery

Source: Classes of resources (IBM-SPSS version 27)

Table 2 above shows that the R^2 (0.295) explained how strongly the independent variable influences the dependent variable. The variations in fraud, nepotism, bribery and abuse of power account for the 29.5% of the service delivery in Nigeria public tertiary institutions. Adjusted R^2 of 0.256 supported it.

On the other hand, Table 3 depicts that the systemic corruption has significant and negative effect on service delivery in Nigerian public tertiary institutions, as evidenced by the F-statistics value of 21.309 and the P-value of 0.001. The outcome of this investigation demonstrated how the variations in service delivery in Nigerian public tertiary institutions may be explained by fraud, nepotism, bribery and abuse of power.

The regression model, as per Table 4, shows that systemic corruption is significant at $p < 0.05$. This entails that systemic corruption significantly and negatively affect service delivery in Nigeria public tertiary institutions. Remarkably, the standardised Beta and the corresponding P-values for fraud ($\beta = -0.264$, $p < .001$), nepotism ($\beta = -0.008$, $p < .005$), bribery ($\beta = -0.257$, $p < .001$), and abuse of power ($\beta = -0.198$, $p < .002$), show that fraud affect service delivery greatly in the model, followed bribery, abuse of power and then nepotism.

5. DISCUSSION OF RESULTS

This paper examines the impact of systemic corruption on service delivery in public tertiary institutions in South-eastern Nigeria, as previously mentioned and found that systemic corruption has a significant and negative effect on service delivery. The emphasis is on how service delivery in Nigeria's public tertiary institutions is impacted by fraud, nepotism, bribery, and power abuse. However, systemic corruption is the act of engaging in corruption that permeates daily existence and political practice. This focuses on how corruption is entwined with the official and unofficial rules of the political system, going beyond it being normalised or the exception rather than the rule (Jackson, 2022).

First, the study revealed that that fraud has a significant and negative effect on service delivery in public tertiary institutions. This aligns with the study of Jev et al. (2022) found that fraud has negative effect on public service delivery system in Taraba state and has plunged the state into poverty. Akokuwebe and Idemudia (2023) also found that fraud has significant impact on healthcare delivery in Nigeria. However, the commission of a fraud is contingent upon three factors: the willingness of the perpetrators, the availability of opportunities for the fraud, and the existence of an escape route or exit from pertinent sections or institutions that forbid fraud or related deviant behaviour. Fraud is a widespread occurrence. It's not specific to the banking sector, nor is it peculiar to Nigeria alone. Due to high-level accusations and real instances of corporate fraud, as well as cases of fraud in numerous Nigerian corporations, many companies have developed codes of ethics and ethical guidelines in an effort to enhance their reputation. The primary goal of these is to guarantee that every member of the organisation, regardless of position or status, adheres to the minimal code of ethics in order to enhance the company's standing in the market, win over clients, and strengthen its competitive edge (Chimobi, Jude & Livinus, 2018). Because institutions of higher learning deliver services to their students at different levels and have been identified as autonomous, it is understandable that fraud activities are prevalent in all levels. In the current Nigerian era, many students and staff alike want to make it within the shortest period of time. Naturally, fraud takes many different forms and guises, and in most cases, it involves insiders (employees) and outsiders working together to carry out the act (Salisu, 2020).

Secondly, the study also found that nepotism has a significant and negative effect on service delivery of Nigerian public tertiary institutions. According to Shah and Alotaibi (2017), nepotism can be considered an unethical practice if it is perceived as prioritising personal interests over those of the organisation. Merit, competence, and ability to perform are the key factors that should determine who gets hired for a job. There are arguments in the literature that highlight nepotism's benefits. Dailey and Reuschling (1980), for instance, contended that nepotism benefits family businesses by providing business opportunities to family members, promoting positive family relationships, and giving preference to hiring potential employees from a small pool of family members rather than a large pool of unrelated individuals in society. In public sector and the related field of human resource management, where diversity and inclusion are valued, this argument, however, is untenable.

The management board is responsible for overseeing the daily operations of public tertiary institutions on behalf of the state and federal governments. Thus, equity, accountability, transparency, and fairness are necessary (Sarker et al., 2017). Because the people in positions of nepotism typically lack the qualifications and performance standards necessary to provide high-quality services, nepotism encourages incompetence and unethical behaviour which has called for the total failure of the educational system in Nigeria. The employees' close familial ties to the management also mean that they are unlikely to face consequences when they defy institutional norms. This tendency may compound until it becomes a hindrance to the institution's ability to operate effectively (Bature & Joseph, 2018). Giving the right job to the right person based on the necessary education, training, experience, and competence should be the primary focus of any recruitment process (McCauley & Wakefield, 2006). Recruitment and the selection of a candidate lose their objectivity and turn into an unethical matter when the candidate hired through the process of relationship with the recruitment team or management team and consideration is given to such a relationship (Nabi, Wei & Shabbir, 2015), as seen in the appointments of most vice chancellors, provosts, rectors, deans, heads of department and others.

Thirdly, the investigation shows that bribery has a significant and negative effect on service delivery in Nigeria public tertiary institutions. Globally, bribery has an impact on economic activity; however, it is illegal in most places, making it challenging to obtain reliable empirical data on these activities (Gneezy, Saccardo & Veldhuizen, 2018). Still, available data indicates that bribery is pervasive. An estimated \$1 trillion worth of bribes are exchanged annually, according to the World Bank (Kaufmann, 2005). Many businesses report needing to pay bribes to win business, with rates ranging from 15% to 20% in industrialised nations to 40% in China, Russia, and Mexico (Gneezy et al., 2018). Bribery can take many different forms: it can involve international arms deals worth billions of dollars, paying a police officer a few naira to avoid having to wait for a minor traffic infraction on the highway, or paying lecturers to "sort" their grades. Some cases involve non-monetary gifts and services rather than money, such as giving expensive gifts to top management staff prior to contract awards or sending gifts to lecturers. Therefore, bribery negatively affect the delivery of services in Nigerian public and private enterprises.

Finally, it is evident that public officers in public tertiary institutions abuse powers bestowed on them and these negatively affects the delivery of services in those institutions. This conformed with the study of Hoeft and Mill (2023) that abuse of power has significantly affected transparency. This entails that many officers appointed into public office in Nigeria and beyond have literally abuse the positions the occupy in their respective levels, thus limiting the manner at which the delivery of services in the organisation is promoted.

6. CONCLUSION AND RECOMMENDATIONS

The aim of this paper is to examine the effect of systemic corruption on the delivery of services in the Nigerian public tertiary institutions. Going by the investigation, it is evident that the systemic corruption in Nigerian public tertiary institutions' is a complicated and multifaceted problem that calls for multilevel approaches that consider the corruption's economic, social, cultural, and political aspects. The staff at many Nigerian tertiary institutions prioritises corruption in their service delivery and views it as the standard within the institution, which is why many of these institutions have failed to achieve remarkable academic excellence. The officials in charge of upholding these moral principles are also the main sources of institutional fraud, nepotism, power abuse, and bribery, so the conventional strategies (improving enforcement, reducing discretion, and strengthening accountability mechanisms) may not be very effective in this situation.

Given the aforementioned findings, it is recommended that all cases of corruption, regardless of their nature, be handled as serious crimes, carrying lengthier and more punitive prison terms. Since most corrupt activities in Nigeria tertiary institutions currently result in very light charges in Nigerian courts of law, it is actually necessary to establish special courts that deal with corruption. Certain corrupt practices are not even prohibited by law, meaning that those who engage in them go free because they cannot be held accountable.

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SUSTAVNA KORUPCIJA: NOĆNA MORA ZA PRUŽANJE USLUGA U JAVNIM TERCIJARNIM USTANOVAMA U NIGERIJU

SAŽETAK

Razina korupcije u nigerijskim javnim visokoškolskim ustanovama alarmantna je i privukla je pozornost zabrinutih pojedinaca u akademskoj zajednici, ali i u industriji. Cilj ovog rada je ispitati učinak systemske korupcije na pružanje usluga javnih visokoškolskih ustanova u Nigeriji. Studija je koristila pristup kvantitativnog istraživanja. Podaci su prikupljeni od 364 djelatnika odabranih javnih visokoškolskih ustanova u jugoistočnoj Nigeriji korištenjem strukturiranog upitnika. Hipoteze su testirane korištenjem International Business Machine Statistical Package for the Social Sciences (IBM-SPSS) verzija 27 koja pokreće višestruku regresijsku analizu (MRA). Rezultati otkrivaju da prijevara, nepotizam, podmičivanje i zlouporaba ovlasti imaju značajan i negativan učinak na pružanje usluga javnih visokoškolskih ustanova u Nigeriji. Studija je stoga zaključila da sustavna korupcija ima značajan i negativan učinak na pružanje usluga javnih visokoškolskih ustanova u Nigeriji. Studija predlaže da se svi slučajevi korupcije, bez obzira na njihovu prirodu, tretiraju kao ozbiljna kaznena djela, s duljim i strožim zatvorskim kaznama.

KLJUČNE RIJEČI: sustavna korupcija, pružanje usluga, prijevara, nepotizam, mito, zlouporaba ovlasti

THE ROLE OF SOCIO-ECONOMIC AND INSTITUTIONAL FACTORS IN EXPLAINING DENTAL HEALTH INEQUALITIES

PRELIMINARY COMMUNICATION
/ PRETHODNO PRIOPĆENJE

UDK: 616.31

JEL: I14
DOI: 10.56321/IJMBS.10.16.28

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ABSTRACT

This paper aims to investigate the effect of socio-economic and institutional factors on dental health outcomes and inequalities among countries. Using the oral health status indicator DMFT 12-year-olds index, 117 countries were classified into three dental health groups. Analysis of variance (ANOVA) was employed to examine the relations among a set of socio-economic and institutional variables and dental health inequalities. The variables included are GDP per capita, current health expenditures, number of dentists, Corruption Perceptions Index, quality of health services, unemployment rate, internal conflict, Gini index, UHC service index, and general government health expenditures. The results showed that higher corruption prevalence in a country is associated with poor outcomes in a nation's dental health. In countries with the highest satisfaction with the quality of health services, this may be attributed to substantial public health expenditures. The size of health expenditures and the number of dentists available to the country's population do not necessarily grant advanced dental health, even in economically prosperous countries. Indicators of social inequality do not explain the dental health outcomes, suggesting that other factors better describe the disparities among low- and higher- DMFT index country groups. Inequalities in dental health are explained by institutional factors, corruption prevalence, and public health funding being important ones. Policy implications towards more generous public funding of health services and implementation of anti-corruption measures could contribute to seizing dental health inequalities worldwide.

KEY WORDS: dental health, inequalities, corruption, public health, health expenditures

1. INTRODUCTION

The observed oral health inequalities among countries, regions, and individuals are related to their socioeconomic status and arise from social stratification and poor social capital in a country (Watt, 2007). A corruption-free environment stands as a building block of social capital which in turn promotes oral health (Watt, 2002) and despite the need to pursue relevant research, corruption is neglected in investigating the social determinants of oral health and its inequalities. Corruption impedes social progress and is associated with lower levels of economic and human development (Dimant & Tosato, 2017). The presence of corruption in the health sector has been recognized as a huge problem primarily by international organizations such as Transparency International¹ and to a lesser extent by governments putting specific anti-corruption policies in place (Hutchinson et al., 2020; Vian, 2020). Ample research exploring corruption and health outcomes provides evidence of the widespread corruption in health, exhibited in various forms (Vian, 2020). Corrupt behavior is concealed within complex interactions among health service providers, patients, health organizations, the business sector, and government agencies (Moszynski, 2006), and the reluctance to talk about corruption by actors inside the health sector is astonishing (Hutchinson, Balabanova & McKee, 2018; Garcia, 2019). Due to the intertwined and hidden nature of corruption networks, it is hard to put effective anticorruption measures in place (Vian et al., 2011) leaving corruption as a persistent threat to human health.

¹ Transparency International Global Health, <https://ti-health.org/>

Past research agrees on the adverse impact of corruption on health outcomes. Corruption worsens various health indicators such as life expectancy, mortality and immunization rates, and mental health indicators (Azfar & Gurgur, 2007; Factor & Kang, 2015; Lio & Lee, 2015; Li et al., 2017; Achim, Văidean & Borlea, 2019). The prevalence of corruption is seen as an obstacle to implementing universal health coverage (Garcia, 2019) and limits the (equal) access to public health services. Corruption can mitigate the positive relationship between health expenditures and health outcomes (Factor & Kang, 2015).

Studies on corruption and health outcomes are focused on general health indicators and according to our best knowledge do not assess the corruption and oral health nexus. The importance of oral health was recognized by WHO and the poor oral status of countries as a severe public health issue (Petersen & Kwan, 2011). Studies contributing to the understanding of determinants of oral health explore inter alia socioeconomic antecedents such as lifestyle, health promotion and education, disease prevention, poverty, country development level, income and education level of citizens (Watt, 2002; 2007; Sabbah et al., 2007; Petersen & Kwan, 2011). The objective of this research differs from the numerous studies on the unethical behaviour of medical doctors and dentists (Reid, Mueller & Barnes, 2007). Using the holistic and interdisciplinary approach (as suggested by Hutchinson et al., 2017) the problem is assessed on the macro-level, and findings could be applied to improve the oral health outcomes of the society as a whole.

The study aims to investigate the effect of socio-economic and institutional factors, including the prevalence of corruption on dental health outcomes and inequalities among countries, thus filling the gap in the existing literature. It seeks to answer the following research questions: Is dental health status better in the economically more advanced countries? Do nations with higher quality of health services experience superior dental health, and whether it depends on the type of health insurance or prevalent type of health expenditures? What other factors describing the social and institutional environment explain the national dental health status?

The paper is structured as follows. Literature describing the research background and analytical concept is presented in the next chapter. Variables, data and methodology are explained in chapter 3 and results of the analysis are presented chapter 4. In the last chapter the main findings are discussed and put in the policy recommendations context, concluding on the streams of the future research.

2. LITERATURE REVIEW

To investigate the impact of social, economic, and institutional factors on oral health outcomes, an analytical concept was developed using a set of variables from the literature. Bhandari, Newton and Bernabé (2014) showed that the use of dental services is positively associated with GDP per capita, the number of dentists per population size, and health expenditures, and negatively correlated with the GINI coefficient. However, having dental problems does not imply the patient will visit the dentist so the synthesised indicator of dental service use does not depict the dental health outcomes of the nation.

The dependent variable is DMFT 12-year-olds index. DMFT (Decayed, Missing and Filled Teeth) index captures the status of dental health in a country and is taken as a proxy for the oral health of an individual nation. The explanatory variables in the analysis represent social conditions, sources of inequalities, health system characteristics, and the country's attained economic development level. Institutional quality is primarily depicted by including corruption in the analysis since corruption prevalence is a good indicator of the (poor) institutional quality in a country (Bjørnskov, 2011). Corruption Perceptions Index (CPI) denotes perceived corruption prevalence in a country where higher values of CPI denote a more clean country. Corruption is included in the analysis because it limits access to public health infrastructure (Tiongson, Davoodi & Gupta, 2000) and deteriorates the quality of health services (Holmberg & Rothstein, 2010). Besides the increased cost of health services, corruption is associated with the unfair allocation of medical supplies, low quality of used materials, illegal distribution of drugs, and other disruptions in health care provisioning (Teremetskyi et al., 2020). As in other health services, corruption in dental care is assumed to prevent the implementation of preventive measures and to deprive patients of dental visits. It is reasonable to assume that, due to its discriminatory nature, corruption exacerbates inequalities in dental care and thus contributes to disparities in national dental health status. Wealthier nations could mitigate these effects with generous funding for the health systems, depending on the strength of the economy and health policies put in place. Economic development is captured by GDP per capita, and including this variable is in line with previous findings that health outcomes are lower in less developed countries (James et al., 2012). Although higher GDP might result in higher health expenditures, it does not as such necessarily lead to better health outcomes (Deaton & Schreyer, 2021).

Health infrastructure, specifically in dental care ensures quality prevention and dental interventions so the number of dentists per capita (DENT) is included as well as health expenditures as a percentage of GDP. Higher relative health expenditures (HealthEXP) facilitate the implementation of programs such as education, prevention, and oral health promotion policies aimed at improving the population's dental health from an early age. However, the allocation of resources to preventive healthcare varies among countries depending on the national strategies, and priorities change in times of crisis (Wang, Wang & Huang, 2016).

In assessing what factors stand behind inequalities in dental health worldwide, more 'soft' indicators might explain the disparities among nations. Studies show that dental decay has a negative effect on the quality of life (Bukhari, 2016), therefore the estimated quality of health services (HealthSER) as a substantial component of people's life satisfaction might contribute to better dental health. Patients who are more satisfied with the health services provided would be encouraged to undergo preventive examinations and behave more responsibly toward their dental health.

Social factors delineating inequalities in a society are captured by the GINI index, a standard measure of inequality in a country. Income inequality is associated with poor health outcomes (Pickett & Wilkinson, 2015) and is expected to generate more dental health inequalities. Further, the unemployment rate (UNEMPLOY) is included since the population with no job income would have limited access to health services and, therefore, tend to neglect their health problems. Unemployed people often have no medical and dental insurance coverage, particularly in countries with prevalent private health insurance. Dental health worsens in political violence, crises, war, and post-war periods (Janković et al., 2004), so the internal conflict indicator (CONFLICT) is also included in the analysis.

Finally, access to the essential health services measured by the Universal Health Coverage index (UHC) captures the general availability of health care to a country's population. The availability beyond essential health services depends on the funding sources for a set of health services. Countries with predominately public funding might provide a larger set of preventive and medical care services to their citizens paid by government health expenditures. If a larger proportion of health services must be paid by private expenditures of patients via private health insurance or out-of-pocket, it might seriously prevent them from using certain health services, and dental care is one of them. On the other hand, public funding (GGHE) is often seen as granted and 'for free', so it is reasonable to assume people would care more about preserving their health if they bear the costs privately.

3. DATA AND METHODOLOGY

Variables included in the analyses are described in Table 1.

Table 1. Variables definitions and data sources

Variable	Definition	Source
DMFT	Mean number of Decayed, Missing, and Filled Permanent Teeth (mean DMFT) among the 12-year-old age group.	The WHO Oral Health "Country/Area Profile Programme" https://capp.mau.se/
DENT	Number of dentists per 10 000 population.	World Health Organization https://www.who.int/data/gho/data/indicators/indicator-details/GHO/dentists-(per-10-000-population)
GDP	GDP per capita (gross domestic product divided by midyear population) in current U.S. dollars.	The World Bank https://data.worldbank.org/indicator/NY.GDP.PCAP.CD
HealthEXP	Level of current health expenditure expressed as a percentage of GDP.	The World Bank https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS
CPI	Corruption Perceptions Index scores and ranks countries/territories based on how corrupt a country's public sector is perceived to be by experts and business executives. The results are given on a scale of 0 (highly corrupt) to 100 (very clean).	Transparency International https://www.transparency.org/en/cpi/2021
HealthSER	Quality of health services as a component of the overall quality of life in a country. Aggregate index ranges from 0 to 100, higher values indicating higher quality.	World Data https://www.worlddata.info/quality-of-life.php?expats=0&stability=50&rights=1&health=50&safety=1&climate=1&costs=1&popularity=1#ranges
UNEMPLOY	Unemployment rate refers to the share (%) of the labor force that is without work but available for and seeking employment.	The World Bank https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS
CONFLICT	Internal conflict indicator is an assessment of political violence in the country and its actual or potential impact on governance. A score of 4 points equates to very low risk of conflict and a score of 0 points to very high risk.	The World Bank https://govdata360.worldbank.org/indicators/hec4bcc54?country=BRA&indicator=41950&viz=line_chart&years=1975,2020
GINI	Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. Thus, a Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.	The World Bank https://databank.worldbank.org/source/world-development-indicators#

UHC	Universal Health Care service coverage index for essential health services on a scale of 0 to 100.	The World Bank https://databank.worldbank.org/source/world-development-indicators#
GGHE	Domestic General Government Health Expenditures as % of current health expenditure; values over 50% indicate prevalent public vs. private health expenditures.	World Health Organization https://apps.who.int/nha/database/Select/Indicators/en

The dependent variable in our model is DMFT index. We applied the most recent DMFT index for each observed country available from 2000 to 2020. This large time span might be considered as one of the limitations of our study, but studies show DMFT index for 12-year-olds depends mostly on oral hygiene habits which need a course of time and preventive programs to be changed (Andrysiak-Karmińska et al., 2022). The lower DMFT index shows less average number of decayed, missing, and filled permanent teeth among young population indicating better dental health of a nation.

By applying the most recent DMFT index from 2000 onwards, the set of 117 countries worldwide were grouped in very low group (DMFT <1.2), low group (DMFT 1.2≤2.6) and higher group (DMFT ≥2.7). The very low DMFT group comprises 40 countries with the best dental health, followed by the low DMFT index group of 54 countries. The rest of 23 countries in the sample has poor dental health presented by moderate, high and very high values of DMFT index. The distribution among three groups is made according to the standard interpretation of the DMFT index values (World Health Organization, 2013).

The analysis of variance (ANOVA) was employed to explore and describe the relations among variables.

4. RESULTS

The results of ANOVA indicate that six selected variables significantly explain differences in dental health across the observed countries (Table 2).

Table 2. Results of ANOVA (mean values and p-values)

	DMFT groups			Total sample	p
	1-very low	2-low	3-higher		
DENT	3.202474	5.848400	5.580000	4.886973	0.006344
GDP	19904.26	18550.32	7739.26	16873.62	0.035723
HealthEXP	6.192821	7.036667	6.453478	6.626726	0.261023
CPI	51.10526	48.21154	37.86957	47.07965	0.023047
HealthSER	55.51429	67.72917	62.76190	62.61538	0.059775
UNEMPLOY	6.543333	7.720000	9.389565	7.653125	0.109175
CONFLICT	0.685714	0.644565	0.759545	0.683107	0.293841
GINI	36.57500	36.06829	37.10455	36.47895	0.872112
UHC	66.84615	72.39216	67.82609	69.54867	0.097122
GGHE	49.65789	60.30000	57.63636	56.09091	0.047094

Source: Authors' calculation

For all three groups, number of dentists per 10 000 inhabitants, GDP per capita, prevalence of corruption, quality of health services, universal health coverage and government health expenditures significantly explain differences in dental health measured by DMFT index among groups of countries. Countries in the 1-very low DMFT group are the most economically developed ones, but they have the lowest UHC and the lowest number of dentists per population size. The quality of health services rating is below sample average as well. These results could be explained by the share of government health expenditures being below 50 percent of current health expenditures. These countries tend to be corruption-clean ones since CPI mean value is above 50.

The 3-higher DMFT group of countries exhibits the opposite characteristics. Poor dental health is associated with prevalent corruption and economic development seriously lagging behind other countries in the sample. However, these are countries with relatively good dental and health infrastructure measured by the number of dentists and UHC. Citizens are on average relatively satisfied with the quality of health services. The domestic health expenditures are in 57 % financed by the general government so public funding slightly prevails.

The most interesting is the 2-low DMFT index group. These countries have a rather high GDP per capita and the highest number of dentists per size of the population. Quality of health services is rated the highest in the sample, probably connected to the highest UHC coverage as well. Corruption prevalence corresponds to the overall sample average, being slightly below the threshold of 50 and classifying these countries as moderately corrupt. The distinctive characteristic of the 2-low DMFT index group is the prevalence of public funding of health expenditures.

5. DISCUSSION AND CONCLUSION

Higher corruption prevalence in a country is associated with poor outcomes in the dental health of a nation, measured by the DMFT index. In countries with the highest satisfaction with the quality of health services, this may be attributed to substantial public health expenditures. The size of health expenditures ensuring the health infrastructure including the number of dentists available to the country's population is not necessarily granting advanced dental health. Even in economically prosperous countries, the number of dentists relative to the population size does not guarantee better dental health, and health expenditures as a percentage of GDP are not a significant explanatory variable for dental health outcomes. Exactly the opposite, in the economically most developed countries where the number of dentists per size of population is far below the world average, the dental health status of the nation is very good.

Another interesting finding is that standard indicators of social inequality (GINI index) and unemployment rate do not affect a nation's dental health, suggesting there are other factors explaining better the disparities among low- and higher- DMFT index country groups.

Therefore, the main strength of the research is including a novel set of institutional variables in the analysis of dental health status of nations worldwide.

The time span of DMFT variable (from 2000 to 2020) might be considered as one of the limitations of our study, yet as epidemiological studies on dental health are not performed annually in some countries, these values represent the best information available to this date. Most dental health databases are based on subregional research, the number of which correlates to the proportion of the dental academic sector in different regions. The diversity of countries might also be considered another possible limitation of our study since different groups of countries might have different paths to achieving their DMFT score.

Suggested lines of future research would overcome the aforementioned limitations and continue with in-depth studies. Thus, a study or a set of studies might be conducted separately for more homogeneous groups of countries with similar paths of achieving their DMFT score or similar institutional set-up, such as EU member-states. For this reason, this study might be considered as exploratory in nature. Further, as this research is based on secondary data, more in-depth studies might be conducted with primary data specifically collected for one country or a small group of countries, including attitudes of both patients and dentists in explaining the DMFT score of a specific country. Since corruption prevalence in a country explains the differences in dental health across nations, it might be interesting to explore bribery and corruption experiences of specifically dental medical staff and their patients in high DMFT group of countries.

Findings suggest that inequalities in dental health among countries are explained by institutional factors, whereas corruption prevalence and public health funding are important ones. Policy implications aimed at more generous public funding of health services and the implementation of anti-corruption measures could help address dental health inequalities worldwide.

Acknowledgement

This work was made as part of the project "Determinants of Strengthening Technological Capabilities of Different Sectors" at the Institute of Economics, Zagreb and funded within the National Recovery and Resilience Plan 2021–2026 – NextGenerationEU.

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NEJEDNAKOSTI U DENTALNOM ZDRAVLJU: ULOGA SOCIOEKONOMSKIH I INSTITUCIONALNIH ČIMBENIKA

SAŽETAK

Cilj rada je istražiti utjecaj socioekonomskih i institucionalnih čimbenika na ishode dentalnog zdravlja i nejednakosti među zemljama. Primjenom pokazatelja oralnog zdravstvenog stanja (DMFT indeks 12-godišnjaka), 117 zemalja je klasificirano u tri skupine dentalnog zdravlja. Analiza varijance (ANOVA) korištena je za ispitivanje odnosa između niza socioekonomskih i institucionalnih varijabli s jedne strane, i nejednakostima u dentalnom zdravlju nacija s druge strane. Uključene varijable su BDP po stanovniku, tekući izdaci za zdravstvo, broj stomatologa, indeks percepcije korupcije, kvaliteta zdravstvenih usluga, stopa nezaposlenosti, unutarnji sukobi, Ginijev indeks, pokrivenost osnovnim zdravstvenim osiguranjem i izdaci za zdravstvo opće države. Rezultati su pokazali da je veća prevalencija korupcije povezana s lošim ishodima u dentalnom zdravlju zemlje. U zemljama gdje je zadovoljstvo kvalitetom zdravstvenih usluga najveće, to se može pripisati znatnim izdacima za javno zdravstvo. Visina izdataka za zdravstvo i broj stomatologa dostupnih stanovništvu pojedine zemlje ne osiguravaju nužno napredno dentalno zdravlje, čak ni u ekonomski prosperitetnim zemljama. Pokazatelji socijalne nejednakosti ne objašnjavaju ishode dentalnog zdravlja, što upućuje na to da postoje i drugi čimbenici koji bolje opisuju razlike među skupinama zemalja s niskim i višim indeksom DMFT-a. Nejednakosti u dentalnom zdravlju objašnjavaju se institucionalnim čimbenicima, prevalencijom korupcije i financiranjem javnog zdravstva. Mjere politike usmjerene ka izdašnjem javnom financiranju zdravstvenih usluga i provedbi antikorupcijskih mjera mogle bi doprinijeti uklanjanju nejednakosti u dentalnom zdravlju u svijetu.

KLJUČNE RIJEČI: dentalno zdravlje, nejednakosti, korupcija, javno zdravstvo, izdaci za zdravstvo

TOWARDS A UNIVERSAL DEFINITION OF SERVICE INNOVATION¹

PRELIMINARY COMMUNICATION
/ PRETHODNO PRIOPČENJE

UDK: 338.46:005.591.6

JEL: O31; L80
DOI: 10.56321/IJMBS.10.16.34

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ABSTRACT

Despite the increasing literature on service innovation, the definition of the concept service innovation remains debated. Adopting the principles of a systematic review, this paper aims to review the previous literature for the period 2007-2022, synthesise towards the definition of service innovation focusing on published scholarly papers on service innovation, and further identify future research directions on the concept. This paper critically reviewed and discussed previous scholarly papers on service innovations using inclusion and exclusion criteria. This study demonstrates that the definition of service innovation is a multi-dimensional term that requires further scrutiny by providing an expanded definition. This paper concludes by providing future research directions.

KEY WORDS: services, service innovation, innovation management

1. INTRODUCTION

Service innovation is imperative for satisfying customers' needs through providing services that provide answers to customers' problems and increase business performance. Service innovation is a critical component that can be used to maintain a sustainable competitive advantage within service organisations (Chen et al., 2016). Service innovation in organisations has become a critical factor of focus used in adding value to stakeholders. According to Wang et al. (2013), service organisations is considered to be imperative to economic growth of countries, and viewed as a key driver of creating value and results in improved business performance. According to Zhang et al. (2018), service innovation entails that customers, employees and suppliers be included in creating service innovation activities in order to provide services that will satisfy needs of these customers. Hallikas et al. (2014) alluded that organisations operating in a multifaceted business environment should engage in service innovations to manage products and services, arrange human resources and technologies to add value to customers. Ordanini and Parasuraman (2011) added that service innovation is pertinent in service organisations as it improves financial performance and business growth. Christensen (2013) argued that organisation with inabilities to innovate are confronted with the risks of losing value creation opportunities for stakeholders in the future. Wang (2008) pointed out that service innovation activities are stronger in the organisations that support learning of employees which lead towards customer satisfaction.

2. PURPOSE OF THIS PAPER

The purpose of this paper was to review literature to identify scholarly papers that discussed and conceptualised the concept of "service innovation" and develop a universal definition of the concept. To achieve the purpose of this paper, the following questions were formulated:

- (1) Which papers focus on the conceptualisation of term "service innovation"?
- (2) What is the relevant applicable expanded definition of service innovation?

¹ This paper is based on the dissertation: Makgopa. S. S. (2020) The influence of service innovation practices on business performance. (Doctoral dissertation, University of Pretoria).

This paper is arranged as follows: the literature linked to the purpose of this paper is shortly presented and discussed, the research methodology adopted in the paper, and findings leading to the definition of the service innovation concept. Lastly, the paper concludes by providing an expanded definition of service innovation, conclusions, and future research directions.

3. PERSPECTIVES ON SERVICE INNOVATION

Service innovation is an intricate and ambiguous concept (Miles, 2016; Witell et al., 2016). According to Miles (2016) and Witell et al. (2016), service innovation involves adoption of new technology and it emerges from manufacturing and new to-service organisations. Service innovation can be considered to be intangible (Grönroos, 2007). Toivonen and Tuominen (2009) argued that service innovation comprises of five processes, namely; processes without a specific project on prevailing service; innovation projects aiming to improve service production systems; process for testing new ideas with a customer; process aiming to solve customer problem; and externally funded innovation projects aiming to generate new service concepts and platforms. Andersson, Potočník and Zhou (2014) argued that service innovation involves several diverse initiatives that aim to test technical feasibility activities that contribute towards value co-creation.

According to Bettencourt, Brown and Sirianni (2013), service innovation is the main basis of competitive advantage in organisations by using the knowledge received from customers, competitors, and employees. Service innovation may, therefore, include innovation in service industries in different forms and to new services in the industry in which the innovation occurs. Cheng and Sheu (2017) postulated that service innovation benefits organisations and customers and added that customers tend to support organisations with service-driven approaches and innovation. According to Dotzel, Shankar and Berry (2013) service innovation differs in terms of changing customers' roles, usage of internet, and business models. According to Carlborg, Kindström and Kowalkowski (2014), service innovation is either planned, intentional, or unintentional activity, and is derived from an interactive learning process that takes place between the organisation and customers. Despite different perspectives on service innovation, systematic review focusing on conceptualising or defining this concept is limited in different economies, despite its contribution on employment and gross domestic product (GDP).

4. RESEARCH METHODOLOGY

Systematic review principles proposed by Jesson, Matheson and Lacey (2011) are adopted in this paper to review the literature in addressing the research purpose. Jesson et al. (2011) indicated that systematic review includes plotting the field of interest by scoping review, followed by comprehensive search, quality assessment of sources, data extraction, synthesis, and writing-up. In this paper, the researcher drafted a research plan which include; the purpose of the research, research questions, identified relevant search keywords, and development of inclusion and exclusion criteria of sources. The purpose of the paper was to review literature to identify conceptual and empirical papers that discussed and conceptualised the concept "service innovation" and develop a revised definition of the concept. Firstly, articles that had a keywords "service innovation" and "review", "synthesis", and "conceptual" in the abstract were selected. Secondly, articles that had the keywords "service innovation" and "performance" were selected. Thirdly, the inclusion and exclusion criteria were outlined: publication period 2007-2022, academic articles published on Google Scholar in English. The search for relevant sources was carried-out on the 20 March 2022 and 21 March 2022, and the review process took six weeks were downloaded articles were read and summarised. The researcher read the abstracts of identified sources available from Google Scholar platform to ensure that the inclusion criteria is complied with. Following this procedure, seventeen articles were chosen and the researcher grouped the results of studies according to themes which helped the researcher to develop the definition of service innovation.

5. PRESENTATION OF RESULTS AND DEFINING SERVICE INNOVATION

Table 1 below provides reviewed studies on service innovation with the authors of the academic sources, type of data, and the key findings of downloaded articles.

Table 1. Previous studies on service innovations

Authors	Type of data	Key findings
Kurtmollaiev & Pedersen (2022)	Secondary data	This the paper defined service innovation as “an introduction of new service or the creation and implementation of a new service”. This paper identified lexical cross-contamination, the parallelism of approaches as obstacles of service innovations.
Shin et al. (2022)	Secondary data	Service innovation is used in organisations to improve customer value, build brand preferences and develop integrated solutions. Organisations can develop new or improved offerings through service and product innovation.
Kustrak Korper, Holmlid & Patrício (2022)	Secondary data	Defined service innovation as a dynamic process that focuses on the process of resource integration in the co-creation of new value for the organisations and stakeholders.
Kurtmollaiev & Pedersen (2022)	Secondary data	Defined service innovation as process of conceptualising and development of new service in an organisation through integration of resources.
Edvardsson & Tronvoll (2013)	Secondary data	Service innovation involves actors must apply the structures and resources in new ways to co-create value.
Mele, Sebastiani & Corsaro (2019)	Secondary data	Described service innovation as value-enabling process that involve creative resources integration leading to opportunities.
Gustafsson, Snyder & Witell (2020)	Secondary data	The authors advanced the definition of service innovation as an initiative that involves the introduction of a new services or process offering that aims to add value to customers, consumers, and other stakeholders. This definition aligned that of Schumpeter (1934)
Witell et al. (2016)	Secondary data	The findings revealed that customer orientation has a stronger effect on innovation. The paper argued that many definitions of service innovation limit and prevent knowledge development of this concept.
Wang, Zhao & Voss (2016)	1646 manufacturing organisation and 686 service organisation	The findings revealed that the relationship between customer orientation and innovation is mediated by supplier collaboration within organisations.
Chen et al. (2016)	170 service-based organisations	The findings revealed that improved product development in service organisations is driven by high market-linking capabilities and market turbulence which in turn is influenced by high-service innovation.
Durst, Mention & Poutanenca (2015)	Service organization data	The findings uncovered that knowledge on the relationship between service innovation and performance is limited which requires further research.
Parris et al. (2016)	Case study on the athletic department	The paper identified challenges experienced by organisations in implementing service innovation. The identified challenges were costs and internal competencies.
Chong and Zhou (2014)	256 Health care care organisations	The findings revealed a positive influence of service innovations on an organisation’s decision to adopt web-based demand chain management.
Kindström et al. (2013)	Eight product-oriented, service firms	The findings uncovered that effective innovative service delivery in both product and service organisations is dependent on organisations’ stimulating internal capabilities.
Salunke et al. (2013)	192 Australian and 261 American firms	The findings uncovered that service innovation serve as a mediator of business activities and sustained competitive advantage. In addition, service innovation has a positive impact on sustainable competitive advantage.
Thankur & Hale (2013)	Managerial data from service organisations	The findings revealed that service innovation has a positive impact on both financial and non-financial performances. The findings also revealed existence of both positive and negative impact of managerial perceptions on service innovation success and failure.
Chuang, Kuo & Luo (2020)	Hotel service	The findings uncovered the role of infrastructure capabilities and staff innovation orientation, and the complementarity of sustained competitive advantage.

Santos-Vijande & Sánchez (2016)	Spain knowledge-intensive business services	The findings uncovered that improved internal communications, involvement of top management, and sufficient resource allocations, contributed towards improved new service advantage and enhanced market performance.
Barrett et al. (2015)	Secondary data	The findings of this study revealed that service innovations in organisations is driven by the market aiming towards differentiation of service products. In addition, the findings uncovered that service innovations are fueled by the quick ICT developments and deployment of ICTs.
Kindström, Kowalkowski & Sandberg (2012)	Primary data	The findings of this study uncovered organisations' internal factors and vibrant capabilities contribute towards service innovations.
Kowalkowski, Witell & Gustafsson (2013)	Primary data	The findings revealed that SMEs tend to follow different processes in developing service innovations in their respective organisations and differentiate themselves through new value creations in their networks.

6. FINDINGS FROM LITERATURE REVIEW

This paper reviewed literature from both conceptual relying on secondary data and empirical papers that reviewed the concept of “service innovation” and to develop a revised definition, and identify future research directions on the topic. Brown and Osborne (2013) defined service innovation as “the intentional introduction and application within a role, group or organisation of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, the organisation or wider society. Fernandes, Ferreira and Raposo (2013) defined service innovation as “the mechanism by which organisations design and launch the new products, processes, and systems necessary to meeting changes both in marketplace technologies and in models of competition”. On the same token, Kuo, Kuo and Ho (2014) advanced the definition of the concept of service innovation as “a new way of business thinking to reform relatively conservative and inflexible operational procedures and processes, which can transform organizations to better meet the needs of their markets”.

Durst et al. (2015) viewed service innovation as “an introduction of new services or additional improvements or adaptations of the current services”. Skålén et al. (2015) conceptualized service innovation as “the development of new value propositions by means of developing existing or creating new practices and/or resources, or by means of integrating practices and resources in new ways.” Revisiting Schumpeter (1934), this scholar argued that innovation creates value for the organisation and further changes the market in such a way that other competitors imitate and follow. However, the keyword new is viewed to be a distinguishing factor in defining service innovation. According to Toivonen and Tuominen (2009) as cited in Makgopa and Antonites (2021), defining service innovation is based on two themes, namely; the extent to which the service is new or original and the categories of innovation. Dotzel, Shankar and Berry (2013) argued that service innovation be viewed through categories and be differentiated from traditional innovation perspectives considering factors such as the changing role of customers, use of internet, and new business models as postulated by Hsieh et al. (2013). Gallouj and Savona (2009) alluded that service innovation could be either planned, intentional, or unintentional (Carlborg, Kindström & Kowalkowski, 2014). Fruhling and Siau (2007) argued that innovation involves the action, a process, a modification of service delivery activity that is viewed as unusual in a business, organisation and market.

Toivonen and Tuominen (2009) conceptualised service innovation to be an introduction of a new service or a renewal of present service/s and which offers benefit to the organisation which has developed it. The benefit typically is derived from the added value that the revitalisation provides the customers. In addition, service innovation includes the renewal that is new not only to the developer, but to other stakeholders. This definition of service innovation points to the following; the definition distinguishes the results (benefits) of service innovation from the development process, and the new invention should be implemented. Another point is that the invention must be new to one of the stakeholders to the organisation. Lastly, the new invention should add value for some stakeholders of the organisation. In addition, Biemans, Griffin, and Moenaert (2015) argued that new service development (NSD) and service innovation must be considered to be synonymous in defining the concept. These authors defined the preceding two concepts as a process of developing a new or incremental service, from idea generation to market launch. On the same token, Skålén et al. (2015) added that the process of developing new services cannot be distinguished from the implementation and value creation of the new services, however, and the two activities should be perceived as different stages of service innovation. On

that basis, Skålén et al. (2015) extended the definition of service innovation to include development, implementation, and outcomes.

Den Hertog, Van der Aa and de Jong (2010) added that service innovation includes a new service experience or service solution that consists of one or a few of the following dimensions: new service concept, new customer interaction, new value system/business partners, new revenue model, new organizational or technological service delivery system. The argument is that service innovation includes the creation of new services such as a renewal of an existing service which is implemented which benefit the organisation and add value to customers. Den Hertog et al. (2010) in Witell et al. (2016) further added that service innovation has four proportions: new service concept; new client interfaces; new service delivery systems and new technological options. Moreover, other researchers described service innovation as value-enabling process that involve new integration of resources in co-creation of products and services which leads to opportunities for the organisations and stakeholders (Kustrak Korper, Holmlid & Patrício, 2022; Kurtmollaiev & Pedersen, 2022; Mele, Sebastiani & Corsaro, 2019; Edvardsson & Tronvoll, 2013).

7. CONCLUSIONS

From the previous definitions, an ideal approach is to divide innovations into radical (innovations that are new to the world) and incremental (innovations that are new to the market) (Rubalcaba et al., 2012). Following this view, innovations that are only new to the organisation not to the consumers and market should not be considered as innovations. Moreover, the benefits of innovations are measured in economic value in the organisation that developed it, although this has recently changed in definitions. Consequently, other researchers who view service innovation as outcome or change instead define these benefits from the customer perspective (Lusch & Nambisan, 2015). In addressing the purpose of this study, the expanded definition of service innovation is postulated as follows:

Service innovation is defined as the new idea generation and implementation of intentional incremental innovations that are new to the organisation, market and stakeholders which includes the addition of new processes, co-creation of new products or addition of new service on the existing services, and new procedures, new integration of resources, adoption of new technology created to add value to the customers, the organisation, and other stakeholders.

8. FUTURE RESEARCH DIRECTIONS

In reviewing the literature, this paper uncovered those papers published from 2007-2022 argued that the service innovation topic is multifaceted and disjointed. Considering the benefits and importance of service innovation, the results of this paper make calls for more research on the concept. Due to inclusion and exclusion criteria, specifically, language used in this paper, specifically, English, this study has limitations in coverage of all the conceptual and empirical academic articles on service innovation as some of papers may have been missed. Some of articles may have been left out due to different language of publication. However, a reasonable review process was conducted in this paper by including enough conceptual and empirical studies. Therefore, this paper calls for future empirical research studies to focus on getting the perceptions of non-academics, managers and industry practitioners on their understanding of the concept service innovation. Moreover, future research should explore if the expanded definition is applicable in the same way in different sectors of the economy and different countries.

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PREMA UNIVERZALNOJ DEFINICIJI INOVACIJE USLUGA²

SAŽETAK

Unatoč sve većem broju radova o inovaciji usluga, definicija koncepta inovacije usluga i dalje se raspravlja. Usvajajući načela sustavnog pregleda, ovaj rad ima za cilj dati pregled prethodno objavljene literature za razdoblje od 2007. do 2022. godine, napraviti sintezu prema definiciji uslužnih inovacija s fokusom na objavljene znanstvene radove o uslužnim inovacijama i identificirati buduće smjerove istraživanja koncepta. U ovom su radu kritički pregledani i raspravljani prethodni znanstveni radovi o inovacijama usluga korištenjem kriterija uključivanja i isključivanja. Ova studija pokazuje da je definicija inovacije usluga višedimenzionalni pojam koji zahtijeva daljnje ispitivanje davanjem proširene definicije. Rad završava pružanjem budućih smjernica istraživanja.

KLJUČNE RIJEČI: usluge, inovacije usluga, upravljanje inovacijama

² Ovaj rad proizašao je iz doktorske disertacije: Makgopa. S. S. (2020) The influence of service innovation practices on business performance. (Doctoral dissertation, University of Pretoria).

FOMO MARKETING: USPJEŠNA STRATEGIJA NA DRUŠTVENIM MREŽAMA?

PROFESSIONAL PAPER
/ STRUČNI RAD

UDK: 004.738.5:316.472.4:658.8

JEL: L83; M31
DOI: 10.56321/IJMBS.10.16.41

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SAŽETAK

Kao rezultat nekontroliranog rasta informacija i preopterećenosti digitalnim ažuriranjima javlja se „strah od propuštanja“, popularno poznat pod nazivom FOMO (Fear Of Missing Out). FOMO je osobito važan na području marketinga te je uspješno korišten u oglašivačkim porukama za pokretanje prodaje i poticanje impulzivnosti u kupovnim ponašanjima korisnika. FOMO ili strah od propuštanja je moćan alat za poticanje angažmana i konverzije u digitalnom okruženju. Međutim, navedeni koncept može imati i negativne učinke na poslovanje i percepciju korisnika ako se s njim ne postupa odgovorno. Iskorištavanje FOMO tehnika može dovesti do nepovjerenja potrošača i negativne percepcije marke što za posljedicu ima i negativno poslovanje u digitalnom okruženju. Iako FOMO ponekad ima negativan učinak, implementacija FOMO tehnika može potaknuti korisnike na kupnju novih proizvoda što će za posljedicu imati pozitivan učinak kao što je povećanje prodaje za poduzeće. Ovaj rad pruža uvid u sveobuhvatnu analizu FOMO marketinga na društvenim mrežama te negativnim učincima FOMO tehnika na lojalnost i potrošnju korisnika koju mogu razviti kao posljedica pretjeranog angažmana na platformama društvenih mreža.

KLJUČNE RIJEČI: digitalno okruženje, društvene mreže, FOMO marketing, ponašanje potrošača

1. UVOD

Koncept „strah od propuštanja“ (*Fear of Missing Out*) s pripadajućim akronimom FOMO po prvi put, u kontekstu ponašanja potrošača je spomenut u časopisu „Journal of Brand Management“, dr. Dan Herman objavljenom 2000. godine. Definiran je kao ishod kognitivnog procesa procjene sposobnosti pojedinca da iskoristi sve prilike koje se pružaju uz emocije straha da će nešto propustiti, a koje se javljaju tijekom tog procesa (Herman, 2000, p. 330). Koncept FOMO prvi put je uključen u Oxford English Dictionary, 2013. godine. Nakon toga, 2014. godine, časopis Forbes objavio je članak pod nazivom „Imate li FOMO: strah od propuštanja?“ (Alfina et al., 2023). U navedenom članku FOMO prikazan je kao moderna perspektiva povezana s poslovicom „Trava je uvijek zelenija s druge strane“, gdje se pojedinci povezuju s osjećajima nezadovoljstva i stresa odnosno negativnim ponašanjem koji proizlazi većinom iz pretjeranog korištenja društvenih mreža. Podaci ukazuju da od kraja 2012. godine udio korisnika koji troše više od 10 sati online dnevno se povećao s 2,8% na 5,4% (Globalwebindex, 2018). Stoga, potreba za povezivanjem s drugima u digitalnom okruženju posebice na društvenim mrežama može proizvesti osjećaj kod korisnika da ostali korisnici možda imaju bolja, jedinstvena iskustva. Može se reći FOMO je socijalna tjeskoba mladih generacija gdje sadržaj prikazan na društvenim mrežama može povećati strah od propuštanja. Tako da odluke o kupnji pod utjecajem FOMO-a marketinga uvelike mogu pružiti samoispunjenje korisnika.

Ovaj strah često potiču društvene mreže, gdje korisnici neprestano pokazuju svoje aktivnosti i postignuća, stvarajući ostalim korisnicima osjećaj zavisti i želju da budu dio događaja. Društvene mreže mogu biti motivirajući alat za korisnike pri kupnji proizvoda, traženju dodatnih informacija ili povećanju želje se posjedovanjem određenog proizvoda. Isto tako, društvene mreže grade usporednu procjenu korisničke situacije s drugima što ovaj koncept čine još snažnijim. (Hayran et al., 2016). Osim koncepta FOMO, u okruženju su se pojavili i drugi povezani koncepti, kao što je:

Mystery of Missing Out (MOMO) ili misterij propuštanja koji determinira tjeskobu koja se javlja kod korisnika kao rezultat pitanja zašto ljudi koje poznajete uopće ništa ne objavljuju na društvenim mrežama.

Strah od izvan mreže (FOBO) ili strah od izvanmrežnosti predstavlja tjeskobu koja se javlja kao rezultat nedostupnosti za potrebe komunikacije posebice u kontekstu interneta i društvenih mreža.

Strah od boljih opcija (FOBO) ili strah od boljih opcija predstavlja tjeskobu koju ljudi doživljavaju kada trebaju odabrati određenu opciju, ali vjeruju da postoji bolja dostupna opcija ili će možda biti dostupna u budućnosti.

Strah od bilo čega (FODA) ili strah od poduzimanja bilo čega predstavlja stanje u kojem se osoba osjeća nesposobno djelovati, jer se boji donijeti pogrešnu odluku. To često može biti potaknuto drugim temeljnim strahovima, kao što je strah od boljih opcija, a povezano je s konceptima kao što je paraliza analize, gdje ljudi nisu u stanju donijeti odluku.

Strah od razočaranja drugih (FODO) predstavlja tjeskobu ili anksioznost kod ljudi u slučaju da naprave određenu aktivnost koja će potencijalno razočarati druge.

Radost propuštanja (JOMO) je način razmišljanja koji je suprotan FOMO-u i uključuje otvoreno prihvaćanje da se neki događaji ili aktivnosti koje se zbivaju trebaju propustiti u cilju osobnog zadovoljstva.

FOMO se odnosi i na stalnu želju o dobivanju potrebnih informacija o događajima ili aktivnostima koje se provode. Istraživanja su pokazala da 45% korisnika koji su pod utjecajem FOMO marketinga ne mogu izdržati više od 12 sati bez provjere događaja na društvenim mrežama (Trustpulse, 2023). Navedeno može biti rezultat FOMO odnosno tjeskobe povezane s propuštanjem kao jednim od najvažnijih pokretača angažmana na društvenim mrežama. Društvene mreže su platforme koje omogućuju stalan uvid u širok raspon iskustava u kojima drugi ljudi uživaju i time doprinose pojačanoj potrebi uspoređivanja s drugima te učestalom provjeravanju istih kako ne bi bili izostavljeni iz potencijalno korisnog iskustva. Može se reći da su danas društvene mreže nepresušan izvor informacija koje su ovaj koncept diferencirale od ostalih digitalnih marketinških taktika i alata. FOMO se često povezuje s negativnim ponašanjem koje proizlazi iz korištenja društvenih mreža (Rautela & Sharma, 2022). Dok, s druge strane, poduzeća to mogu shvatiti kao priliku koju koriste za stjecanje novih kupaca iskorištavanjem njihovih emocionalnih i psiholoških stanja (Zhang et al., 2020). Dakle, cilj je rada ukazati na značaj FOMO marketinga na društvenim mrežama te analizirati negativne učinke FOMO tehnika na ponašanje korisnika posebice u kontekstu društvenih mreža.

Ovaj rad sadrži pet dijelova koji su međusobno povezani. Osim uvodnog dijela, u dijelu FOMO marketinga na društvenim mrežama analizira se utjecaj istog na ponašanje korisnika u procesu donošenja kupovne odluke. U trećem dijelu rada obrađuju se FOMO tehnike i načini mjerenja, dok u četvrtom dijelu razmatraju se negativni učinci FOMO marketinga. Rad se završava zaključkom u kojem je sažeto opisano razumijevanje FOMO marketinga i njegovih učinaka na donošenje kupovnih odluka korisnika u kontekstu društvenih mreža.

2. FOMO MARKETING NA DRUŠTVENIM MREŽAMA

FOMO marketing je moderan alat koji je neizostavan dio svakog poslovanja u digitalnom okruženju posebice prisutan na društvenim mrežama. Przybylski et al. (2013) definiraju FOMO kao „stalnu strepnju da bi drugi mogli imati jedinstveno iskustvo iz događaja iz kojih smo odsutni”, uključujući „želju da ostanemo stalno povezani s onim što drugi rade“ (p. 1841). Tako se može reći da FOMO sadrži visoku razinu društveno orijentirane emocije odnosno zabrinutost za ono što drugi ljudi rade i potrebom za uključivanjem u te situacije. Stoga, FOMO marketing može navesti korisnike da pretjerano konzumiraju sadržaj društvenih mreža u strahu da ne propuste važne informacije ili događaje. U kontekstu društvenih mreža, FOMO marketing najviše se koristi na Facebooku i (72%), slijedi ga Instagram (14%), Twitter (11%) i Pinterest (8%) (OptinMonster, 2021) FOMO marketing naglasak daje na ograničenom vremenu, ekskluzivnosti, suradnji s poznatim osobama i društvenom odobravanju (social proff-u).

FOMO je poznat kao i oblik ovisnosti o internetu i društvenim mrežama (Tomczyk & Selmanagic-Lizde, 2018) i pokreću ga elementi koji stvaraju fokus na imitaciju kod takvog korisnika (Dinh & Lee, 2022). Stoga se može reći da FOMO nastaje kod korisnika zbog utjecaja društvenih mreža i influencera koji stvaraju fokus na imitaciju. Korisnici su danas neprekidno opterećeni nužnim ažuriranjima i obavijestima o tome što njihovi vršnjaci kupuju, nose ili koriste. To često dovodi do osjećaja neadekvatnosti ili zavisti, tjerajući pojedinca da želi iste proizvode. Tako 92% ljudi vjeruje influencerima više nego tradicionalno slavim osobama (Ooi et al., 2023). Naime, gledanje drugih korisnika kako uživaju u nečemu što ostali nemaju može potaknuti potrebu za dijeljenjem takvog iskustva, pogotovo kada se radi o osobama višeg društvenog statusa.

Razvoj društvenih mreža učinio je koncept FOMO sve poznatijim društvenim fenomenom koji je prepoznat od strane poduzeća kao koristan alat u poticanju kupovnih navika kod korisnika. Strah od propuštanja može biti snažan motivator u kupnji, pa tako prema Mashbale reports, 56% korisnika je iskusio utjecaj FOMO marketinga na društvenim mrežama a skoro 60% njih je napravilo kupnju unutar 24 sata. Potreba pojedinca da što više doživi, osjeti, kupi u cilju stjecanja prepoznatljivosti može poslužiti marketinškim i prodajnim stručnjacima kao polazna točka u osmišljavanju načina privlačenja kupaca, a u svrhu unaprjeđenja prodaje svojih proizvoda i usluga.

FOMO marketing je učinkovit osobito među mlađim generacijama, a njegova je učestalost eskalirala razvojem i integracijom društvenih mreža u njihove živote kao i neprekidnom dostupnošću informacija o aktivnostima i iskustvima drugih. FOMO utječe na potrošačko ponašanje korisnika društvenih mreža, posebice kod korisnika koji su visoko osjetljivi na FOMO tehnike. Takvi korisnici često kupuju proizvode za ekspresno izražavanje na društvenim mrežama i obično kupuju više proizvoda i usluge od onih koji su manje osjetljivi. Također, nužno je izbjegavati pretjerano korištenje FOMO tehnika oglašavanja, jer za posljedicu može dovesti do zamora korisnika ili umanjiti učinkovitost takvih oglašivačkih kampanja tijekom vremena. Umjesto navedenog, potrebno je težiti uravnoteženom pristupu koji održava osjećaj hitnosti bez preopterećenja korisnika.

Implementacija uspješnih FOMO marketing strategija zasigurno može potaknuti korisnike na djelovanje što u konačnici može osigurati relevantnost marke proizvoda u digitalnom okruženju kao i na društvenim mrežama. Prednosti uvođenja FOMO marketinga u strateške aktivnosti su (Renasence, 2024):

- Povećanje stope konverzije: Razumijevanje FOMO-a pomaže poduzećima u stvaranju strategija koje povećavaju stope konverzije iskorištavanjem hitnosti i oskudnosti, potičući kupce da brzo djeluju i kupuju.
- Povećanje angažmana kupaca: Prepoznavanjem ove pristranosti, poduzeća mogu kreirati marketinške materijale i poticati dijeljenje korisničkih iskustava koja promiču angažman vlastitih i potencijalnih kupaca putem ekskluzivnosti i vremenski ograničenih ponuda, pri tome pomažući im da se osjećaju više cijenjenim i shvaćenim.
- Poboljšanje zadovoljstva kupaca kroz trenutno zadovoljstvo: Iskorištavanje FOMO-a može poboljšati zadovoljstvo stvaranjem iskustava koja prate pružanje nagrade i pogodnosti u kupnji, osiguravajući da se kupci osjećaju sigurnim u svoje kupovne izbore na temelju snažnog odnosa s markom proizvoda.
- Poticanje ponovnih kupnji kroz ekskluzivne ponude i lojalnosti: Stvaranje iskustava koja uzimaju u obzir FOMO marketing mogu poboljšati ponovljene kupnje osiguravajući da se kupci i dalje osjećaju motiviranim za suradnju s markom, istodobno minimizirajući mogućnosti kupovnog nezadovoljstva ili žaljenja.

U području marketinga, FOMO se često povezuje s utjecajem na pretjerana ponašanja potrošača, kao što su potrošnja na temelju bandwagon efekta (bandwagon consumption behavior¹) (Kang i Ma, 2020.), upadljiva potrošnja (Conspicuous consumption²) (Argan et al., 2022) i kupnje pod utjecajem drugih (Conformity consumption³) (Kang et al., 2019). Korisnici čija je uporaba društvenih mreža motivirana strahom od propuštanja imaju 50% veću vjerojatnost (od opće populacije) biti tehnofili⁴, njih više od 70% izjasnilo se da korištenjem interneta imaju jači osjećaj povezanosti, dok 65% njih ključno im je da budu dostupni u svakom trenutku. Proces kupovnog ponašanja kod takvih korisnika uključuje impulzivnu kupnju, namjeru kupnje, vjerojatnost kupnje i spremnost na plaćanje. Ovakve korisnike koji su pod utjecajem FOMO efekata, determinira pohlepa kada se želi postići što drugi imaju ili mentalitet krda, koji prate većinu radi kupnje proizvoda za koje ni oni sami ne znaju hoće li koristiti.

FOMO marketing se može promatrati kao strateški pristup koji kapitalizira urođeni strah potencijalnih kupaca od propuštanja prilika. FOMO marketing koristi taktike kao što su vremenski ograničene ponude, mjerači vremena za odbrojanje i ekskluzivne ponude kako bi se stvorio osjećaj hitnosti, ekskluzivnosti i nedostatka proizvoda. Jedan od razloga zašto je FOMO tako učinkovit u marketingu leži u njegovom oslanjanju na ljudsku potrebu za društvenim prihvaćanjem i pripadanjem; ljudi se žele osjećati kao da su dio nekih zajednica, čak i ako su virtualne. Drugi razlog uspjeha FOMO marketinga je taj što izaziva uzbuđenje i iščekivanje oko proizvoda ili usluge; kada korisnik osjeća da ima pristup nečemu što drugi nemaju, osjeća snažne emocije kao što su zadovoljstvo i ispunjenje. FOMO marketing može značajno poboljšati marketinške napore u cilju ostvarivanja zadanih ciljeva. Međutim, to nije samostalna strategija i trebala bi biti integrirana u ukupni marketinški plan, nadopunjujući i poboljšavajući ostale korištene tehnike.

¹ Potrošačko ponašanje u kojem pojedinci donose odluke o kupnji temeljem što ostali pojedinci kupuju.

² Potrošačko ponašanje koje ima sklonost kupovanju i isticanju ekskluzivnih, skupih proizvoda

³ Potrošačko ponašanje koje se dogodilo pod utjecajem drugih ljudi.

⁴ Skupine ljudi ili ljubitelji novih tehnologija koji imaju potrebu koristiti tehnološke uređaje više od 10 sati dnevno.

3. TEHNIKE FOMO MARKETINGA

FOMO marketing ima značajan utjecaj na kupovna ponašanja korisnika kao i na kreiranje marketinških strategija. Iskorištavajući strah koji je prisutan kod većine korisnika, poduzeća mogu stvoriti osjećaj hitnosti i potražnje za svojim proizvodima i uslugama. Strah od propuštanja u digitalnom okruženju najčešće se očituje kroz različite marketinške tehnike poput vremenski ograničenih ponuda, taktika oskudice proizvoda, ekskluzivnih događaja, društvenog dokazivanja i slično. Promocije, popusti ili ponude na ograničeno razdoblje mogu potaknuti pojedince da brže donose odluke o kupovini kako ne bi propustili posebnu ponudu. FOMO tehnike mogu potaknuti i poruke poput „ograničene zalihe“ ili „preostalo je samo nekoliko artikala“. Sudjelovanje u događajima koji se promiču kao ekskluzivni, neponovljivi stvaraju osjećaj kod pojedinaca da su dio nečega posebnog te kao takvi također potiču strah od propuštanja. Proizvodi koji su iznimno popularni također izazivaju strah od propuštanja jer se radi o mogućem propuštanju jedinstvenog, nezaboravnog iskustva.

Poznata FOMO tehnika kao što je ograničavanje roka kupnje potiče kupce da odmah ili sada kupe proizvod fokusirajući se na ekskluzivnost i rijetkost posjedovanja proizvoda. Naglašavanjem da je ponuda dostupna samo ograničeno vrijeme, možete motivirati potrošače da poduzmu trenutnu akciju. Fokusirajući se na izraze kao što su „posljednja prilika“, „još samo danas“, „ne propustite“, „ograničene količine“, „zadnji komadi“, mogu uvelike odrediti daljnje korisničko putovanje koje će završiti s kupnjom. Međutim, potrebno je naglasiti da takve tehnike ne mogu stvoriti osjećaj želje za posjedovanjem već ga samo pojačati. Isto tako, korištenje brojeva u svojoj ponudi kao i besplatne poštarine ili predbilježbe (Early bird) mogu imati odlučujući efekt na odluke u kupnji.

Društvene mreže su idealne platforme za korištenje FOMO efekta. Objavlivanje sadržaja koji prikazuje ograničene ponude, ekskluzivne događaje ili nagradne igre može potaknuti korisnike na brzu akciju i dijeljenje sadržaja sa svojim mrežama. Korištenje FOMO tehnika u email marketingu može značajno povećati stope otvaranja i klikova. FOMO marketing i njegove tehnike imaju snažan utjecaj na kupovne obrasce korisnika posebice na društvenim mrežama a osmišljeni su kako bi privukli pažnju, izazvali želju i na kraju potaknuli impulzivnu kupnju. FOMO marketing može navesti potrošače na impulzivno potrošačko ponašanje te pri tome imati ambivalentan utjecaj. S jedne strane, može negativno utjecati na ukupno zadovoljstvo životom korisnika, kao što je pretjerana zaduženost i opterećenost viškom posjedovanja nepotrebnih proizvoda. Gotovo 40% korisnika zadužuje se u svrhu društvenog dokazivanja, posebice Generacija Z (Wisernotify, 2024). S druge strane, može poboljšati kod korisnika potrošačko iskustvo i društvenu interakciju na društvenim mrežama. Korištenje ekskluzivnosti ponude i oskudice proizvoda najpoželjnija je u fazi rasta nego u ostalim fazama životnog ciklusa proizvoda. Marketing temeljen na događajima može uključiti FOMO tehnike kao što je organiziranje ekskluzivnih događaja tako da se pojedincima pruže osjećaj jedinstvenosti i posebnosti. Korisnici mogu koristiti FOMO u kombinaciji s društvenim dokazivanjem, gdje su njihove percepcije proizvoda ili usluge pod jakim utjecajem ponašanja i mišljenja drugih, što dovodi do odluka temeljenih na želji za društvenom potvrdom. U kontekstu rješavanja paralize analizom kod korisnika gdje klijenti pretjerano razmišljaju o svojim opcijama, može učinkovito riješiti FOMO tehnikama, potičući ih da razmotre uravnoteženiji pogled temeljen na hitnosti i ekskluzivnosti, što dovodi do točnijeg i uravnoteženijeg donošenja odluka. U konačnici, razumijevanjem psihologije FOMO-a i provedbom učinkovitih tehnika može se stvoriti osjećaj hitnosti i potražnje za proizvodima i uslugama u svrhu poticaja na kupnju.

FOMO je prisutan u životima gotovo svih dobnih skupina ali je češće prisutan kod tinejdžera i mladih odraslih osoba, te ekstrovertnih osoba što ga čini odličnom podlogom za kreiranje i implementaciju FOMO tehnika.

FOMO marketing tehnike rijetko se koriste kao samostalne, već služe kao nadopuna ostalim marketinškim strategijama kao što su sadržajni marketing, utjecajni marketing i oglašavanje na društvenim mrežama. Strateškim integriranjem FOMO tehnika moguće je povećati utjecaj i učinkovitost glavnih marketinških strategija. FOMO marketing tehnike mogu motivirati korisnike da neprestano provjeravaju novosti i obavijesti na društvenim mrežama kako bi izbjegli brigu o propuštanju mogućih jedinstvenih ponuda kreiranih od strane poduzeća. Kao posljedica javlja se kompulzivno ponašanje korisnika koje za cilj ima ispunjavanje svojih potreba na temelju ponuda koje je poduzeće kreiralo uz pomoć FOMO tehnika.

78% korisnika koji koriste društvene mreže zbog FOMO efekta su kategorizirani kao sljedbenici odnosno korisnici koji slijede marke koje vole ili razmišljaju o kupnji s društvenih mreža. To ne znači da su oni pasivna skupina koja samo prati najnovije društvene trendove; oni također mogu pretjerano dijeliti (51%) i komentirati (68%) (Globalwebindex, 2018). Takvi korisnici neće samo uživati u dijeljenju sadržaja drugih ljudi, već će dijeliti i vlastita razmišljanja i iskustva. Ovakvo ponašanje korisnika je ključno za kreiranje marketinških strategija za dobivanje viralnog sadržaja te se smatraju poželjnom skupinom korisnika za e-wom.

Takvi korisnici, njih 61% su skloniji istražiti proizvode prije same odluke o kupnji. Besplatna dostava (72%) ima najveći utjecaj na to hoće li takvi korisnici zaključiti kupnju putem interneta, iza njih kao glavni motivatori pri odluci u kupnji, slijede kuponi i popusti (60%), dok njih 51% smatra da su recenzije i komentari drugih ključni za donošenje odluke o kupnji (Globalwebindex, 2018).

Primjene FOMO tehnika specifične za pojedinu industriju (Renasence, 2024):

Elektronička trgovina: Tehnike koje poduzeća mogu koristiti su ograničene ponude, brze rasprodaje i ekskluzivni pristup novim proizvodima, potičući kupce na brzu kupnju kako bi izbjegli propuštanje.

Turizam i ugostiteljstvo: Pružatelji smještajnih ugostiteljskih usluga mogu pružiti ograničene ponude ili ekskluzivni pristup vrhunskim sadržajima, potičući goste da rezerviraju svoj boravak ranije kako bi iskoristili ponudu ili ponude koje nude posebnu cijenu na kupnju grupe usluga.

Obrazovanje: Obrazovne ustanove mogu ponuditi popuste za rane prijave ili ekskluzivni pristup novim tečajevima, potičući studente da se brzo upišu kako bi osigurali svoje mjesto.

Zdravstvo: Pružatelji zdravstvenih usluga mogu ponuditi ograničene popuste na wellness programe ili ekskluzivni pristup novim tretmanima, potičući pacijente da se aktivnije bave svojim zdravljem.

Tržište tehnologije i trajnih dobara: Tehnološka poduzeća upotrebom FOMO tehnika mogu podignuti svijest o lansiranju novog proizvoda s ograničenom dostupnošću, potičući kupce da brzo djeluju kako bi osigurali najnovije visokotehnološke proizvode ili značajke.

Tržište nekretnina: Na ovom području, FOMO tehnike mogu se ogledati kroz isticanje nekretnina koje su u velikoj potražnji ili su ograničene dostupnosti, potičući klijente da donesu brze odluke kako bi osigurali svoj željeni dom.

Tržište elektroničkih komunikacija: Pružatelji usluga mogu ponuditi vremenski ograničene promocije za pretplate ili uređaje, potičući korisnike da brzo nadgrade ili promijene usluge kako bi izbjegli propuštanje.

Financijsko tržište: Banke se mogu pozabaviti FOMO-om pružanjem vremenski osjetljivih ponuda zajmova ili štednih računa, potičući klijente da brzo djeluju kako bi osigurali povoljne uvjete. Financijske institucije mogu ponuditi ekskluzivne mogućnosti ulaganja ili vremenski osjetljivih ponuda za financijske proizvode, potičući klijente na brzu akciju.

Može se reći da je FOMO marketing snažan psihološki motivator koji uvelike utječe na ponašanje potrošača stvarajući im osjećaj tjeskobe ili nelagode koji proizlaze iz uvjerenja da drugi doživljavaju nešto poželjno ili zabavno. Ovaj strah tjera potrošače da poduzmu nešto kako bi izbjegli propuštanje iskustava ili priliku. FOMO može imati značajan utjecaj na ponašanje potrošača na nekoliko načina. Prvo, može stvoriti osjećaj hitnosti i oskudice, što navodi pojedince na donošenje impulzivnih odluka o kupnji. Mogu se bojati da će propustiti vremenski ograničenu ponudu ili popularan proizvod ako odmah ne djeluju. Drugo, FOMO može natjerati pojedince da stalno traže potvrdu i društveno odobrenje. Platforme društvenih mreža pojačavaju ovaj fenomen prikazujući iskustva drugih, stvarajući strah da će biti izostavljeni ili da će biti viđeni kao manje uspješni. Na kraju, FOMO također može pridonijeti osjećaju nezadovoljstva ili žaljenja. Kada pojedinci vide druge kako uživaju u iskustvima ili posjedima koje oni nemaju, mogu osjetiti zavist ili razočaranje, što dovodi do želje za stjecanjem tih iskustava. Odabir FOMO tehnika u kontekstu korisničkog putovanja može se razlikovati od faze do faze. U fazi istraživanja, korisnici pod utjecajem FOMO tehnika mogu dati prednost vremenski ograničenim ili ekskluzivnim ponudama koje stvaraju osjećaj hitnosti ili nedostatka. Tijekom druge faze, faze odabira, korisnici mogu donijeti svoju konačnu odluku na temelju percipiranog rizika od propuštanja prilike, birajući ono što se čini da nudi najneposredniju nagradu ili korist. U posljednjoj fazi lojalnosti koja se očituje nakon kupnje, FOMO tehnike mogu utjecati na zadovoljstvo i lojalnost kupaca, budući da će kupci koji smatraju da je njihov proces donošenja odluka potvrđen brzim djelovanjem i percipiranom ekskluzivnošću najvjerojatnije će ostati lojalni i biti skloniji ponavljajućim kupnjama. FOMO marketing koristi tehnike kako bi povećao potražnju i prodaju najnovijih trendova, isticanjem popularnosti proizvoda i ograničavanjem njegove dostupnosti. U konačnici, implementacijom FOMO tehnika mogu uvelike skratiti trajanje prosječnog kupčevog putovanja, smanjujući i njihov ukupni trošak akvizicije (CPA).

Mjerenje FOMO tehnika

Brojna poduzeća percipiraju da postoji značajan postotak korisnika koji kupuju zbog FOMO efekta te iskorištavaju takve oblike kupovnih ponašanja kako bi potaknuli stopu konverzije. Tako je Ahrefsa ukazao da korištenje taktike hitnosti temeljene na FOMO tehnikama u opisima proizvoda može povećati konverzije do 332% (Trustpulse, 2023). Kako bi se osigurala uspješnost integracije FOMO tehnika, potrebno je njihovo praćenje i analiziranje. Ključni pokazatelji uspjeha upotrijebljenih tehnika su (Wisernotify, 2024):

- Stope konverzije: Praćenje aktivnosti kod kupaca koji izvršavaju željenu radnju kao što je kupovina, prijava itd.
- Stope otvaranja i klikova: Praćenje stope otvaranja i klikova na temelju poslanih e-mailova.

- Stope odbijanja: praćenje publike koja napušta web stranicu ili platformu bez poduzimanja bilo kakvih daljnjih radnji nakon susreta s marketinškom kampanjom FOMO.
- Angažman na društvenim mrežama: uključuje praćenje lajkova, dijeljenja i komentara na društvenim mrežama.
- Povratne informacije korisnika: prikupljanje recenzija, komentara i iskustava postojećih korisnika u cilju razumijevanja percepcije istih u kontekstu FOMO tehnika.

Korištenje FOMO tehnika može biti izuzetno učinkovito sredstvo za povećanje angažmana korisnika i konverzija. Implementacijom FOMO tehnika koje stvaraju osjećaj hitnosti i ekskluzivnosti, možete potaknuti korisnike na brže donošenje kupovnih odluka i istodobno povećati uspjeh marketinških kampanja. Međutim, poduzeća bi trebala osigurati da su takve FOMO ponude usklađene s pravom vrijednošću njihovih proizvoda ili usluga kako bi izbjegli nepovjerenje kod kupaca. Tako postoje različite platforme koje nude brojne prednosti, posebno za poduzeća koja žele optimizirati svoju FOMO strategiju te učinkovito iskoristiti ovaj psihološki okidač kod svojih kupaca.

FOMO strategije ne samo da potiču prodaju, već i povećavaju lojalnost kupaca. Jasno je da FOMO marketing može biti moćan alat ne samo za iniciranje nego i za održavanje dugotrajnog odnosa s kupcima. Dobro provedena FOMO uključuje vremenski ograničene ponude i upozorenja o niskim zalihama, može značajno povećati stope konverzije, što može dovesti do povećanja prodaje i angažmana kupaca.

4. NEGATIVNI UČINCI FOMO MARKETINGA

U kontekstu FOMO marketinga jasno je da ključnu ulogu imaju kupci. Pretjerano korištenje FOMO marketinga dovodi do iscrpljenosti i umora kupaca zbog opterećenja informacijama. Drugim riječima, ako korisnik doživljava preopterećenost zbog velike količine informacija na društvenim mrežama, ono može pojačati njegov strah od propuštanja važnih događaja, aktivnosti ili vijesti koje se dijele na tim mrežama. Ovaj strah od propuštanja zatim može negativno utjecati na zadovoljstvo korisnika s društvenim mrežama, jer se mogu osjećati preplavljeno, anksiozno ili frustrirano zbog nemogućnosti praćenja svega što se događa. Isto tako, korištenje lažnih informacija u cilju stvaranja osjećaja hitnosti u konačnici može naštetiti imidžu poduzeća te može dovesti do gubitka povjerenja kod stalnih i potencijalnih kupaca.

Isto tako, FOMO tehnike mogu izazivati niz negativnih emocija kao što su emocije stresa, tjeskobe i frustracije. Istraživanje koju je proveo Citizen Relation otkrilo je da FOMO tehnike kod korisnika mogu izazvati različite emocije, 30% korisnika je osjećalo ljubomoru, 39% ljudi je osjetilo zavist dok njih 21% se osjećalo tužno ili razočarano (OptinMonster, 2021). Tako učinci FOMO tehnika često povezuju s psihološkom disfunkcionalnošću života kao što su poremećaji spavanja, produktivnosti i neurorazvojni poremećaji (Argan & Argan, 2019). Takve emocije mogu imati potpuno suprotan učinak na ponašanje korisnika, što može dovesti do toga da obeshrabri korisnika na dodatni angažman na društvenim mrežama. Takvi korisnici u stanju negativnih emocija će manje koristiti radnje kao što je lajkanje, dijeljenje i komentiranje sadržaja na društvenim mrežama što će rezultirati i nižom razinom interakcije s objavljenim sadržajima. Moguća rješenja kako izbjeći odnosno smanjiti utjecaj negativnih emocija korisnika na interakciju sa sadržajima, jeste vrijeme plasmana sadržaja. Oglašivači mogu birati vrijeme plasmana svojih oglašivačkih poruka kao što su primjerice jutarnji sati ili dani vikenda kada se pretpostavlja da kod korisnika postoji više kapaciteta za obradu novih informacija.

Kupci moraju potisnuti nepromišljene aktivnosti pri tome dajući prednost namjernim ili planiranim kupovnim odlukama. S druge strane, poduzeća moraju kreirati etički ispravne strategije koje će omogućiti ostvarenje punog angažmana postojećeg i potencijalnog kupca. Usklađivanjem ovih napora poduzeća mogu ostvariti određenu višu razinu povjerenja i lojalnosti kod kupca, usmjeravajući ga prema odgovornijoj odluci o kupnji. Neproverene ili neumjerene FOMO tehnike mogu negativno utjecati i na kupce i na poduzeća. S jedne strane, FOMO tehnike negativno utječe na kupce potičući impulzivnost u procesu donošenja kupovnih odluka, što potencijalno može dovesti do financijskog pritiska i povećanja stresa i tjeskobe. Suprotno tome, prekomjerna ili zlouporaba FOMO-a od strane poduzeća može uvelike naštetiti povjerenju i ugledu istog.

Iako FOMO marketing može biti vrlo učinkovit strateški alat, važno je uzeti u obzir etička načela. Zavaravajuće ili manipulativne taktike mogu ozbiljno ugroziti ugled i imidž poduzeća te posljedično narušiti i povjerenje potrošača. Također, pretjerana upotreba FOMO-a tehnika, može dovesti i do umora korisnika koji se očituje kroz nezainteresiranost, umor i depresiju. Na primjer, ako se svaka ponuda proizvoda ili usluga prikaže kao „vremenski ograničena ponuda“, korisnici bi s vremenom mogli postati desenzibilizirani i manje osjetljivi. Ključno je osigurati da FOMO tehnike budu usklađene s vrijednostima i načelima poslovanja, pri tome izbjegavajući obmanjujuće ili manipulativne taktike koje bi mogle naštetiti imidžu poduzeća.

5. ZAKLJUČAK

Uloga FOMO marketinga u e-trgovini sve je značajnija, osobito uz sve veću upotrebu društvenih mreža. Korisnici su danas neprestano opterećeni stalnim ažuriranjima i obavijestima o tome što drugi kupuju, nose ili koriste. To često dovodi do osjećaja bezvrijednosti ili zavisti, tjerajući pojedinca da žele iste proizvode. S druge strane, za poduzeća to znači povećanje prodaje jer iskorištavanjem FOMO efekta mogu stvoriti osjećaj ograničenih zaliha oko svojih proizvoda, potičući korisnike na trenutnu kupnju.

U dinamičnom području digitalnog razvoja, iskorištavanje potencijala FOMO tehnika za poticanje angažmana korisnika u sve većem je rastu. FOMO tehnike mogu biti korisne za poduzeća koja žele iskoristiti emocije kupaca prilikom donošenja odluka o kupnji. Međutim, ključno je da poduzeća takve aktivnosti održavaju transparentnim i etičnim, te da se tehnike koje su sastavni dio FOMO marketinga, generiraju na istinskoj vrijednosti, a ne na manipulativnim tehnikama što u konačnici može biti snažan motivator za kupce, potičući angažman i lojalnost. Uz pažljivo razmatranje i empatiju prema ciljnoj skupini, od iznimne je važnosti da se pri korištenju FOMO marketinga osiguraju interesi i potrebe istih. Platforme društvenih mreža stvaraju osjećaj hitnosti koje će potaknuti korisnike da ostanu angažirani, pri tome koristeći riječi i izraze u svojim FOMO tehnikama koje su specifične i prenose pravu vrijednost te potiču ljude na brzo djelovanje. Shodno navedenom, nužno je izbjegavati zlouporabu ovih tehnika, budući da se samo kontroliranim i odgovarajućim djelovanjem može kreirati jedinstveno iskustvo koje će u konačnici potaknuti lojalnost i razvoj čvrstih partnerstava s kupcima. Iz svega navedenog, može se zaključiti da je FOMO marketing značajan alat koja se koristi u kontekstu društvenih mreža i može uvelike odrediti buduća ponašanja korisnika kao i njihove odluke o kupnji.

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FOMO MARKETING: A SUCCESSFUL SOCIAL MEDIA STRATEGY?

ABSTRACT

As a result of the uncontrolled increase in information and the overload of digital updates, the fear of missing out arises, popularly known as FOMO. FOMO is particularly relevant in the field of marketing and has been successfully used in advertising messages to boost sales and encourage impulsive buying behavior from users. FOMO is a powerful tool to drive engagement and conversion in the digital environment. However, the aforementioned concept can also have negative impact on business and user perception if not managed responsibly. Exploiting FOMO techniques can lead to consumer distrust and negative brand perception, which in turn negatively impacts business in the digital environment. Although FOMO sometimes has a negative impact, the use of FOMO techniques can encourage users to make new purchases, which has a positive effect, for example in the form of increased sales for the company. This paper provides a detailed insight into the comprehensive analysis of FOMO marketing on social networks and the negative effects of FOMO techniques on user engagement and consumption that can develop through excessive engagement on social networking platforms.

KEYWORDS: digital environment, social media, FOMO marketing, consumer behavior

RODITELJSKE ODLUKE O KUPOVINI HRANE ZA DJECU¹

ORIGINAL SCIENTIFIC PAPER
/ IZVORNI ZNANSTVENI RAD

UDK: 641-053.2:339.186

JEL: J13; L66
DOI: 10.56321/IJMBS.10.16.49

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SAŽETAK

Roditeljske odluke o kupovini hrane ključne su za razvoj dječjih prehrambenih navika, ali te odluke često ovise o vanjskim utjecajima. Ovaj rad analizira utjecaj različitih čimbenika na roditeljske odluke o kupnji hrane za djecu. Korištena metodologija obuhvatila je analizu dvaju scenarija kupovine te anketno ispitivanje roditeljskih stavova o kupovnim odlukama u svakodnevnim situacijama na uzorku od 60 roditelja. Analiza scenarija pokazuje da roditelji mijenjaju svoje prioritete pri odabiru namirnica ovisno o situaciji i okolnostima. „zdrave“ namirnice kupuju radi zdravlja i odgoja djece, ali visoka cijena smanjuje učestalost kupovine „zdravih“ prehrambenih proizvoda. „Nezdrave“ namirnice kupuju uslijed popuštanja dječjim željama, kako bi smanjili stres i skratili kupovinu. Pokazalo se da cijena hrane utječe na izbor „zdravih“ prehrambenih proizvoda, da djeca imaju bitan utjecaj na izbor slatkiša i grickalica te da roditelji pod stresom češće popuštaju dječjim željama. Rezultati rada mogu koristiti za razvoj učinkovitih politika i strategija usmjerenih na promicanje zdravijih obiteljskih prehrambenih navika.

KLJUČNE RIJEČI: roditelji i kupovina hrane, obiteljske prehrambene navike, utjecaj djece, cijena hrane

1. UVOD

Prema podacima Svjetske zdravstvene organizacije (WHO) više od 340 milijuna djece u dobi od 5 do 19 godina ima problema s prekomjernom težinom. Glavni su razlozi za to „nezdrave“ prehrambene navike i konzumacija nutritivno siromašne hrane (Jia et al., 2021). Stoga se u društvenim znanostima sve više istražuje potrošnja hrane u kućanstvu (Moore et al., 2017). Poznato je da je izbor hrane za djecu roditeljima često velik izazov. Iako većina roditelja želi da im djeca jedu zdravije (Grønhoj & Gram, 2020), katkada ne uspijevaju provesti to načelo jer djeca često uporno traže da im se kupe „nezdrave“ namirnice (Castro et al., 2021).

Kako bi obitelji stekle zdravije prehrambene navike, važno je istražiti strategije kojima roditelji mogu smanjiti utjecaj djece u kupovini „nezdrave“ hrane (Vos et al., 2022). Tako se zna da zajednički obroci predstavljaju važan trenutak za modeliranje prehrambenih navika, budući da su djeca sklona oponašati roditelje (Michels et al., 2012), ali i da neke od strategija mogu biti i kontraproduktivne, poput nagrađivanja hranom ili pretjerane kontrole jer ona može izazvati otpor prema određenim namirnicama.

Dječje se prehrambene navike razvijaju složenim spletom utjecaja, genetskih, obiteljskih i okolišnih. Iako svi nužno ne vode k zdravim prehrambenim navikama, obitelj se izdvaja kao ključan čimbenik u oblikovanju prehrambenih navika djece (Scaglioni et al., 2008). Roditelji svojim izborima stvaraju okruženje koje može poticati zdrave navike ili ih, na žalost, ograničavati. Na oblikovanje navika osobito utječu roditeljski prehrambeni obrasci, stilovi odgoja i načini komunikacije (Fisher & Birch, 1999). Majčine sklonosti često oblikuju dječje prehrambene izbore (Noble et al., 2007), ali presudnu ulogu ima osoba unutar obitelji odgovorna za nabavu i pripremu hrane, nazvana „vratar“ (eng. gatekeeper) jer njezine odluke izravno utječu na dostupnost hrane i prehrambene navike cijele obitelji (Lewin, 1943). Iako roditelji nastoje

¹ Rad se temelji na diplomskom radu studentice Anamari Kožul pod naslovom *Analiza čimbenika koji utječu na ponašanje roditelja pri kupovini prehrambenih namirnica* koji je izrađen i obranjen pod mentorstvom izv. prof. dr. sc. Ružice Brečić u rujnu 2021. godine.

donositi najbolje odluke za svoju djecu (Maubach et al., 2009) i oni postavljaju temelje prehrambenih navika, taj je zadatak složen i izložen raznim vanjskim i unutarnjim izazovima. Naime, širi društveni kontekst također oblikuje dinamiku unutar obitelji, pa tako i ulogu djece u donošenju odluka.

U suvremenom životu društvene promjene dovele su do toga da je autoritarni odgojni model sve češće zamijenjen participativnim, gdje djeca imaju aktivniju ulogu u obiteljskim odlukama, što se odražava i na odluke o kupnji hrane. K tomu su djeca danas sve više izložena oglašavanju i uključena u marketinške aktivnosti, što ih čini svjesnijima njihove uloge kao potrošača. Unatoč tomu roditelji ostaju ključni kupci (Baldassarre et al., 2016). Stoga je cilj ovoga rada istražiti ključne čimbenike koji utječu na roditeljske navike u kupovini hrane za djecu.

2. OBITELJSKE PREHRAMBENE NAVIKE

Jedan od značajnih čimbenika koji utječe na odluke roditelja je cijena hrane. Cijena nutritivno bogate hrane može smanjiti vjerojatnost da će roditelji odabrati te proizvode, čak i kada su svjesni njihovih zdravstvenih prednosti. Roditelji s ograničenim budžetima često donose kompromise između nutritivne vrijednosti i cijene (Maubach et al., 2009). Dodatno, djeca imaju značajan utjecaj na roditeljske odluke prilikom kupovine. Roditelji često popuštaju pritiscima djece kako bi izbjegli sukobe ili nagradili djecu za dobro ponašanje. Ti trenuci mogu rezultirati kupovinom proizvoda koji nisu nutritivno vrijedni, poput slatkiša, čokolada i sokova. Prisutnost djece tijekom kupovine može znatno promijeniti ponašanje roditelja. U takvim situacijama, roditelji su skloniji kupovati nutritivno siromašne proizvode kako bi izbjegli konflikte (Maubach et al., 2009). S druge strane, roditelji koji odlaze u kupovinu sami često biraju zdravije opcije i pokušavaju uvesti edukaciju o prednostima zdrave prehrane kod kuće (Noble et al., 2007).

Na ponašanje roditelja u kupovini utječe i stil života. Nedostatak vremena, stres i pritisak svakodnevnih obaveza mogu dovesti do impulzivne kupovine i odabira brze, već pripremljene hrane. Roditelji često kupuju smrznutu i procesiranu hranu kako bi uštedjeli vrijeme, što može utjecati na kvalitetu prehrane cijele obitelji. Mnogi roditelji obavljaju veće kupovine jednom mjesečno te se oslanjaju na rutinske odabire koji smanjuju teret donošenja novih odluka (Noble et al., 2007). Takvo ponašanje dovodi do uspostavljanja obrazaca koji otežavaju promjene u prehranbenim navikama. Razumijevanje čimbenika koji utječu na ponašanje roditelja pri kupovini hrane za djecu od velike je važnosti za oblikovanje strategija koje mogu poticati usvajanje zdravijih prehranbenih navika.

2.1. Utjecaj cijene na roditeljske odluke o kupnji hrane

Iako su roditelji svjesni važnosti nutritivnih vrijednosti prilikom odabira hrane, pragmatični faktori poput cijene često prevagnu ovu namjeru pri konačnoj odluci o kupovini (Dunn et al., 2008). Prema ekonomskoj racionalnoj teoriji izbora, roditelji, posebno oni s ograničenim financijskim sredstvima, često odlučuju na temelju cijene kako bi maksimizirali količinu hrane koju mogu kupiti (Drewnowski & Specter, 2004). Visoka cijena „zdravih“ prehranbenih proizvoda može potaknuti izbor pristupačnijih opcija koje su često nutritivno siromašne te ne podržavaju dugoročno zdravlje (Mhurchu & Gorton, 2007). Pri tome, niži socio-ekonomski status dodatno ograničava pristup zdravijim opcijama, povećavajući ovisnost o jeftinijim, energetski bogatim, ali nutritivno siromašnim namirnicama, što doprinosi razvoju loših prehranbenih navika (Ball et al., 2006; Drewnowski & Specter, 2004). Drewnowski (2009) ističe da je jedan od glavnih razloga za ovo ponašanje činjenica da energetski bogati prehranbeni proizvodi imaju niži trošak po kaloriji u usporedbi s nutritivno bogatim namirnicama poput voća i povrća, što obitelji s ograničenim proračunom navodi na donošenje kompromisne odluke. Čak i uz dostupnost nutricionističkih informacija, drugi faktori poput cijene i praktičnosti često igraju presudnu ulogu pri donošenju odluka (Dunn et al., 2008). Stoga je prva hipoteza ovog rada:

H1. *Visoka cijena „zdrave“ hrane smanjuje roditeljsku kupovinu „zdravih“ proizvoda*

2.2. Utjecaj djece na roditeljske odluke o kupnji hrane

Na roditeljski izbor hrane utječu djeca (Turner et al., 2006). Iako roditelji cijene „zdravu“ hranu, često prave kompromise kako bi zadovoljili dječje želje za manje zdravim opcijama. Utjecaj djece na obiteljske kupovine hrane priznaje većina roditelja, pri čemu 60% priznaje da popušta dječjim zahtjevima (Turner et al., 2006). Djeca koriste prisutnost tijekom kupovine kako bi nametnuli svoje preferencije, često zahtijevajući proizvode koji su manje nutritivno bogati, poput slatkiša i grickalica (Darian, 1998).

Pojam „moć nagovaranja“ (eng. „pester power“) opisuje sposobnost djece da vrše pritisak na roditelje kako bi im udovoljili u procesu kupovine (Lawlor & Prothero, 2011). Mlađa djeca češće traže takve proizvode, dok starija djeca mogu imati suptilniji, ali

jednako značajan utjecaj na roditeljske odluke. Starija djeca ne idu tako često u kupovinu s roditeljima, što može smanjiti njihov izravni utjecaj, no roditelji pri kupovini uzimaju u obzir njihove želje, te kupuju proizvode koje bi inače mogli izbjegavati (Lawlor & Prothero, 2011). Roditelji koji vode djecu sa sobom u kupovinu imaju višu vjerojatnost popuštanja dječjim željama za slatkišima i grickalicama u usporedbi s roditeljima koji kupuju sami (Wilson & Wood, 2004). Ta situacija proizlazi iz potrebe roditelja da smanje potencijalne konflikte i omoguće mirnu kupovinu, što ih navodi na kompromis i odabir manje zdravih opcija.

Utjecaj djece nije samo posljedica njihove upornosti, već proizlazi iz emocionalne povezanosti s roditeljima. Roditelji čestim popuštanjem odgovaraju na dječje zahtjeve kako bi nadoknadili nedostatak vremena provedenog s djecom, što im omogućava stvaranje pozitivnih interakcija i jačanje emocionalne veze (McNeal & Yeh, 2003). Ta dinamika može posebno doći do izražaja u obiteljima s jednim roditeljem, gdje dijete čestim sudjelovanjem u kupovini preuzima veću odgovornost, što rezultira povećanom sklonošću roditelja da udovolje djetetovim željama (Sheth et al., 1999).

Marketinške strategije koje se ciljano usmjeravaju na djecu dodatno pojačavaju utjecaj djece na roditelje. Djeca su sve svjesnija promotivnih poruka koje koriste atraktivne likove, žive boje i ambalažu kako bi privukle njihovu pažnju (Ebster et al., 2009). Te strategije ne samo da pojačavaju dječje zahtjeve za određene proizvode, već dodatno otežavaju roditeljima donošenje odluka koje bi bile u skladu s njihovim željenim prehrambenim normama. Marketinški stručnjaci se kroz specifičan stil komunikacije obraćaju djeci, koja dosađuju roditeljima koji na kraju popuste. Baldassarre et al. (2016) razlikuje dvije vrste dosađivanja: 1) uporno dosađivanje: djeca koriste tantrume, povišen ton glasa i uporne zahtjeve kako bi iscrpila roditelje i natjerala ih da zadovolje njihove želje i 2) važno dosađivanje: ova vrsta dosađivanja je sofisticiranija jer djeca pokušavaju uvjeriti roditelje objašnjavajući „temeljne“ razloge za kupnju željenog proizvoda.

Henry i Borzekowski (2011) dokazali su da djeca dosađuju roditeljima tijekom kupovine, a pri tome elementi za ovu djecu su pakiranje proizvoda, prisutnost popularnih likova i oglašavanje. Na temelju ovih spoznaja, potrebno je istražiti u kojoj mjeri djeca utječu na roditeljske odluke pri kupovini hrane, posebice kada su u pitanju prehrambeni proizvodi koji nisu nutritivno bogati, poput slatkiša i grickalica. Stoga je druga hipoteza ovog rada:

H2. Djeca imaju značajan utjecaj na odluku roditelja o kupovini slatkiša i grickalica

2.3. Promjene u kupovnim odlukama roditelja

Uz ekonomske čimbenike, psihološki i situacijski čimbenici također igraju ključnu ulogu u oblikovanju roditeljskih odluka o kupovini hrane. Stres i svakodnevni pritisci često ograničavaju vrijeme i kapacitet za planiranje obroka te za pažljiv odabir zdravijih opcija. U takvim uvjetima, roditelji se često oslanjaju na rutinu i odabiru proizvode poznatih marki koje pojednostavljaju proces kupovine i štede vrijeme (Dallman et al., 2005; Scheibehenne et al., 2007). Takvo ponašanje može smanjiti njihovu spremnost za čitanje i analizu nutritivnih informacija, čime se smanjuje vjerojatnost izbora zdravijih opcija. Roditelji često preferiraju proizvode i marke koje su već upoznali, što dodatno smanjuje kognitivno opterećenje i čini kupovinu manje zahtjevnom.

Stresne situacije, poput vremenskih pritisaka ili drugih obaveza, povećavaju sklonost impulzivnom donošenju odluka, pri čemu roditelji lakše popuštaju dječjim željama za manje „zdravim“, ali brzo dostupnim prehrambenim proizvodima (Michels et al., 2012). Ta saznanja pružaju osnovu za postavljanje treće hipoteze koja predviđa da stres i vremenski pritisak povećavaju roditeljsku sklonost popuštanju dječjim željama za „nezdravim“ prehrambenim proizvodima.

H3. Roditelji popuštaju dječjim željama i kupuju „nezdrave“ proizvode kada su pod vremenskim pritiskom ili stresom.

3. METODOLOGIJA

Za potrebe rada provedeno je opisno istraživanje na prigodnom uzorku roditelja djece od 6 do 9 godina. Mjerni instrument uključuje anketni upitnik kojem su ispitanici pristupili online, putem digitalne platforme Google forms. Anketni upitnik preuzet je i prilagođen od različitih autora (Maubach et al., 2009; Noble et al., 2007; Padel & Foster, 2005). Sastojao se od tri dijela i sadržavao je ukupno 31 pitanje. Za obradu podataka korišteni su Excel i IBM SPSS Statistic Data Editor ver. 29.

U prvom dijelu ankete ispitanicima su opisana sljedeća dva slučaja, preuzeta i prilagođena od autora Noble et al. (2007). U istraživanju su roditelji odgovarali na dva različita scenarija kupovine, osmišljena kako bi se istražili njihovi prioriteti i stavovi te utjecaj djece na izbor proizvoda. Svaki scenarij prikazivao je majku s djecom u trgovini, ali u različitim kontekstima: kupovinu „zdravih“ namirnica i kupovinu slatkiša.

1. Zamislite majku u kupovini s djecom kako kupuje mrkve i jabuke na odjelu povrća dok dijete drži bocu mlijeka. O čemu majka razmišlja u toj situaciji? Koji su njeni motivi kupovine (npr. zdravlje djeteta / kratkoročno zadovoljstvo

djeteta slatkišima)? Koliki utjecaj na kupovinu ima dijete? Što je majci prioritet (skratiti vrijeme kupovine, udovoljiti djetetu, djetetovo zdravlje itd.)? Mislite li da bi majka odabrala druge proizvode da je sama u kupovini?

2. Zamislite istu tu majku i djecu u istoj kupovini kako kupuje čokoladice i slatkiše dok dijete drži bocu soka. O čemu majka razmišlja u toj situaciji? Koji su njeni motivi kupovine (npr. zdravlje djeteta / kratkoročno zadovoljstvo djeteta slatkišima)? Koliki utjecaj na kupovinu ima dijete? Što je majci prioritet (skratiti vrijeme kupovine, udovoljiti djetetu, djetetovo zdravlje itd.)? Mislite li da bi majka odabrala druge proizvode da je sama u kupovini?

Drugi dio sastojao se od 23 tvrdnje gdje su ispitanici trebali označiti stupanj slaganja s navedenim tvrdnjama i to u rasponu od 1 do 5 pri čemu je vrijednost 1 označavala nikako se ne slažem, dok je vrijednost broj 5 označavala je slažem se u potpunosti. Treći dio ankete odnosio se na socio-demografska pitanja.

4. REZULTATI ISTRAŽIVANJA

Tablica 1 prikazuje demografske podatke ispitanika. Većinu ispitanika čine žene (61,67%), dok muškarci čine 38,33% uzorka. Najzastupljenija dobna skupina je između 36 i 45 godina (51,67%), slijedi dobna skupina 26-35 godina (41,67%), dok je najmanje ispitanika u dobi 46-55 godina (6,67%). Većina ispitanika ima visoko obrazovanje – 80% su magistri znanosti, a 11,67% doktori znanosti, dok 8,33% ima završenu srednju školu. Što se tiče zaposlenja, većina ispitanika je zaposlena (93,33%), dok je manji udio nezaposlenih (5%) i studenata u radnom odnosu (1,67%). Što se tiče broja djece u kućanstvu, najviše ispitanika ima dvoje (36,67%) ili troje djece (36,67%), dok manji broj ima jedno (21,67%), četvero (10%), ili petero i više djece (1,67%).

Tablica 1. Demografski podaci ispitanika

Demografske kategorije	Kategorije	Key findings	Postotak (%)
Spol	Žensko	37	61,67
	Muško	23	38,33
Dob	26-35	25	41,67
	36-45	31	51,67
	46-55	4	6,67
Obrazovanje	Srednja škola	5	8,33
	Fakultet	0	0,00
	Magistar znanosti	48	80,00
	Doktor znanosti	7	11,67
Status zaposlenja	Zaposlen/a	56	93,33
	Nezaposlen/a	3	5,00
	Student u radnom odnosu	1	1,67
Broj djece u kućanstvu	1 dijete	13	21,67
	2 djece	22	36,67
	3 djece	22	36,67
	4 djece	6	10,00
	5 i više	1	1,67

Izvor: autorice rada

4.1. Analiza stavova roditelja o različitim situacijama kupovine

U Tablici 2 prikazana je analiza rezultata scenarija koji su istraživali prioritete roditelja pri kupovini zdrave hrane² i slatkiša. Odgovori su analizirani metodom analize sadržaja, pri čemu su odgovori ispitanika kategorizirani prema ključnim temama: zdravlje djeteta, kratkoročno zadovoljstvo djeteta, utjecaj djeteta na odluke roditelja i praktičnost kupovine.

U prvom scenariju, koji uključuje kupovinu „zdravih“ namirnica poput mrkve, jabuka i mlijeka, roditelji smatraju da je prioritet majke briga za zdravlje obitelji i izbor nutritivno kvalitetnih namirnica. Također, roditelji ističu da majka koristi kupovinu kao priliku za edukaciju djece o „zdravoj“ prehrani, čak i ako to znači da će dulje trajati. Većina ispitanika naglašava da majka vodi računa o zdravlju djece i obitelji te bi čak i da je sama u kupovini odabrala iste proizvode.

U drugom scenariju, koji uključuje kupovinu „nezdravih“ namirnica poput čokoladica i slatkiša, roditelji ističu da majka prvenstveno nastoji zadovoljiti djetetove želje kako bi skratila vrijeme kupovine i izbjegla stres. Djeca su u ovom scenariju imala značajan utjecaj na izbor proizvoda, zbog čega su roditelji percipirali da majka prilagođava svoje odluke u korist djetetovih želja. Roditelji smatraju da u ovoj situaciji majka nije usmjerena na zdravlje već na praktičnost i udovoljavanje djetetu kako bi kupovina prošla što bezbolnije.

Tablica 2. Prikaz analize rezultata scenarija

Kategorija	Scenarij a („zdrava“ hrana)	Scenarij b („slatkiši“)
Zdravlje djeteta	Većina odgovora (45 roditelja) ukazuje na brigu za zdravlje djeteta i edukaciju o zdravoj prehrani.	Mali broj odgovora (5 roditelja) se odnosi na zdravlje; većina je fokusirana na druge prioritete poput smanjenja stresa.
Kratkoročno zadovoljstvo djeteta	Rijetko spomenuto (3 roditelja); roditelji su usmjereni na dugoročne ciljeve zdravlja djeteta.	Često spomenuto (40 roditelja); motivacija za kupovinu slatkiša uključuje trenutnu želju za zadovoljstvom djeteta.
Utjecaj djeteta na odluke roditelja	Djeca imaju mali do umjeren utjecaj (15 roditelja); majka zadržava kontrolu nad izborom.	Djeca imaju značajan utjecaj (35 roditelja); roditelji često popuštaju kako bi smanjili napetost i ubrzali kupovinu.
Praktičnost i skraćivanje vremena kupovine	Nekolicina roditelja (10 roditelja) spominje efikasnost; vrijeme nije primarni faktor.	Često spomenuto (25 roditelja); roditelji žele skratiti vrijeme kupovine zbog prisutnosti djece.

Izvor: autorice rada

Analiza rezultata scenarija pokazuje da roditelji preferiraju „zdravu“ prehranu za dobrobit obitelji, ali njihovo ponašanje varira ovisno o kontekstu. U scenariju „zdravih“ namirnica, roditelji su usmjereni na zdravlje i edukaciju djece, dok u scenariju sa slatkišima češće popuštaju dječjim željama zbog praktičnosti i smanjenja stresa. Ovaj obrazac ponašanja pokazuje kako djeca, iako indirektno, mogu značajno utjecati na prehrambene odluke cijele obitelji.

4.2. Analiza čimbenika koji utječu na kupovne odluke roditelja

Upitnik s 23 izjave ocijenio je stavove roditelja o prehrambenim odlukama. Izjave su ispitivale četiri faktora: percepciju troškova zdrave hrane, utjecaj djece na odabir proizvoda, stres i popuštanje te ulogu cijene „zdrave“ hrane. Odgovori su ponuđeni na Likertovoj skali od 1 do 5, gdje 1 označava „nikako se ne slažem“, a 5 „u potpunosti se slažem“. Varijabla „Percepcija cijene zdrave hrane“ uključuje tvrdnje a) „Smatram da je „zdrava“ hrana skupa,“ b) „U slučaju da je „zdrava“ hrana skuplja za otprilike 10% i dalje bih ju kupovao/kupovala,“ i c) „Cijena mi je presudni faktor u kupovini.“ Varijabla „Utjecaj djece na odabir proizvoda“ uključuje tvrdnje d) „Izbjegavam voditi djecu sa sobom u kupovinu kako bi ju što prije obavila“, e) „U kupovini s djecom u obzir uzimam i njihove želje pa tako često zdrave verzije grickalica zamijenim čokoladama, čipsom itd.“ f) „Često popuštam djeci pa ih ne forsiram da jedu zdravo,“ i g) „Smatram da moja djeca jedu previše slatkiša“. Varijabla „Stres i popuštanje“, uključuje tvrdnje poput f) „Često popuštam djeci oko prehrane kako bih izbjegao/izbjegla konflikte“, g) „Zbog previše obaveza svoju kupovinu obavljam rutinski te u većini slučajeva uvijek kupujem iste proizvode“, i h) „Ponudim slatkiše svom djetetu kao nagradu za dobro ponašanje“. Konačno, varijabla „Preferencije prema zdravoj hrani“ obuhvaća tvrdnje b) „Vjerujem da su „zdravi“ prehrambeni proizvodi bolji za moje zdravlje“, e) „Prilikom kupovine u većini slučajeva biram zdravu hranu“, i c) „Biram zdravu prehranu jer je ona u najboljem interesu za moju obitelj“. Ova metoda osigurala je standardizaciju i omogućila usporedbu među varijablama u analizama.

Tablica 3 prikazuje deskriptivnu statistiku za četiri varijable: 1) percepcija cijene zdrave hrane, 2) utjecaj djece na kupovinu hrane, 3) roditeljski stres i popuštanje te 4) preferencije prema zdravoj hrani.

² U radu se pojmovi „zdrava“ i „nezdrava“ hrana koriste kao opisne kategorije. „Zdrava“ hrana odnosi se na nutritivno bogatu hranu (više vitamina i minerala, manje šećera, masti, kalorija i umjetnih sastojaka). „Nezdrava“ hrana opisuje energetski zasićene proizvode (više šećera, soli, masti, kalorija i umjetnih sastojaka).

Tablica 3. Deskriptivna statistika po faktorima

	Broj ispitanika (count)	Srednja vrijednost (mean)	Standardna devijacija (std)	Minimalna vrijednost (min)	Maksimalna vrijednost (max)
Percepcija cijene zdrave hrane	60	3,68	1,10	2,0	5,0
Utjecaj djece na kupovinu hrane	60	3,27	1,12	2,0	5,0
Roditeljski stres i popuštanje	60	3,30	1,17	2,0	5,0
Preferencije prema zdravoj hrani	60	3,47	1,10	2,0	5,0

Izvor: autorice rada

Provedene su analize za testiranje triju hipoteza kako bi se razumio utjecaj različitih čimbenika na kupovne navike roditelja. Za svaku hipotezu korišten je t-test za nezavisne uzorke kako bi se analizirala značajnost među grupama. Rezultati su prikazani u Tablici 4.

Tablica 4. Rezultati t-test analize za hipoteze

Hipoteza	Varijabla	t vrijednost	p vrijednost	Značajnost ($\alpha = 0,05$)	Zaključak
H1: Visoka cijena smanjuje kupovinu zdravih proizvoda	Percepcija troškova	2,34	0,022	Značajna razlika	Potvrđena
H2: Djeca imaju značajan utjecaj na izbor slatkiša	Utjecaj djece	3,01	0,004	Značajna razlika	Potvrđena
H3: Roditelji popuštaju dječjim željama pod stresom	Stres i popuštanje	2,56	0,013	Značajna razlika	Potvrđena

Izvor: autorice rada

H1: Visoka cijena smanjuje roditeljsku kupovinu „zdravih“ proizvoda

Analiza t-testa pokazala je da postoji statistički značajna razlika između grupa koje su percipirale visoku cijenu „zdrave“ hrane i onih koje nisu. Vrijednost t (2,34) i p-vrijednost (0,022) manja od 0,05 ukazuje na to da cijena ima značajan utjecaj na odluku o kupovini „zdravih“ proizvoda, čime je hipoteza **potvrđena**.

H2: Djeca imaju značajan utjecaj na odluku roditelja o kupovini slatkiša i grickalica

Rezultati t-testa ($t = 3,01$, $p = 0,004$) ukazuju na to da djeca zaista imaju značajan utjecaj na kupovne odluke roditelja prilikom izbora grickalica i slatkiša, čime se hipoteza **potvrđuje**.

H3: Roditelji popuštaju dječjim željama i kupuju „nezdrave“ proizvode kada su pod vremenskim pritiskom ili stresom.

Rezultati t-testa ($t = 2,56$, $p = 0,013$) pokazuju značajnu razliku između roditelja pod stresom i onih koji nisu, ukazujući na veće popuštanje željama djece u stresnim situacijama. Time se potvrđuje da stres i vremenski pritisak značajno povećavaju sklonost roditelja kupovini „nezdravih“ proizvoda, što znači da je hipoteza **potvrđena**.

5. RASPRAVA

Cilj ovog rada je analizirati kako cijena „zdrave“ hrane, prisutnost djece i roditeljski stres utječu na roditeljske odluke pri kupnji hrane za djecu. Rezultati ukazuju da visoka cijena „zdrave“ hrane smanjuje sklonost roditelja kupovini nutritivno bogatih namirnica, što je u skladu s prethodnim istraživanjima koja ističu važnost cijene kao čimbenika pri izboru hrane (Drewnowski & Specter, 2004). Niže ekonomske mogućnosti roditelja mogu ograničiti pristup „zdravoj“ prehrani, te je potrebno kreirati dodatne javne politike koje bi omogućile pristupačnije opcije „zdrave“ hrane.

Utjecaj djece na kupovne odluke roditelja, posebno kada su u pitanju slatkiši i grickalice, također je značajan. Rezultat podržava istraživanja o „moći nagovaranja“ djece, a koja pokazuju da djeca često mogu utjecati na roditelje prilikom donošenja odluka o kupovini, posebice kada su prisutna u prodavaonicama (Lawlor & Prothero, 2011). Taj utjecaj ima implikacije za marketinške strategije i pristupe koji ciljaju djecu, jer pridonosi oblikovanju prehrambenih navika kroz njihove zahtjeve i roditeljske kompromise.

Dodatno, stres i vremenski pritisak pokazali su se kao faktori koji povećavaju roditeljsku sklonost popuštanju dječjim željama, što je u skladu s literaturom koja ističe utjecaj svakodnevnog stresa na prehrabene navike obitelji (Michels et al., 2012). Ti nalazi sugeriraju da stres može djelovati kao okidač za impulzivne kupovine manje „zdravih“ proizvoda, dok roditelji koriste manje vremena za evaluaciju nutritivnih vrijednosti hrane u takvim situacijama.

Ovaj rad podupire postojeće spoznaje o važnosti socio-ekonomskih i psiholoških čimbenika u oblikovanju roditeljskih odluka o prehrani, te ukazuje na potrebu za razvojem obrazovnih programa i politika koje bi pomogle roditeljima da, unatoč ekonomskim i vremenskim ograničenjima, donose „zdravije“ prehrabene odluke za svoju obitelj.

6. ZAKLJUČAK

Ovaj rad omogućio je razumijevanje čimbenika koji oblikuju prehrabene odluke roditelja pri kupovini hrane za djecu, s posebnim naglaskom na cijenu „zdrave“ hrane, utjecaj djece i roditeljski stres. Rezultati pokazuju da visoka cijena „zdrave“ hrane smanjuje njezinu dostupnost u obiteljskim obrocima, posebno kod roditelja s ograničenim budžetom. Utjecaj djece na odluku o kupovini slatkiša i grickalica također je potvrđen, podržavajući teorije o „moći nagovaranja“ kojom djeca često vrše pritisak na roditelje. Roditeljski stres, koji se javlja zbog vremenskih pritisaka i svakodnevnih obaveza, dodatno pojačava sklonost roditelja da udovolje dječjim zahtjevima za „nezdravim“ prehrabnim proizvodima, čime se smanjuje pažnja posvećena nutritivnim vrijednostima odabranih namirnica.

Rezultati ovog istraživanja naglašavaju potrebu za politikama koje bi omogućile pristupačnije cijene „zdravih“ namirnica te za razvijanjem edukativnih programa koji bi podržali roditelje u donošenju „zdravijih“ prehrabnih odluka, čak i u uvjetima stresa i vremenskih ograničenja. S obzirom na to da djeca imaju izražen utjecaj na prehrabene odluke svojih roditelja, politike i strategije bi također trebale obuhvatiti edukaciju usmjerenu prema djeci, kako bi se potaknulo razumijevanje prednosti „zdravije“ prehrane i smanjio broj zahtjeva za „nezdravom“ hranom.

Preporuke za buduća istraživanja odnose se na istraživanje perspektive djece kako bi se dobio potpuniji prikaz dinamike pregovora između roditelja i djece. Također bi bilo korisno istražiti dugoročne učinke roditeljskih strategija u smanjenju zahtjeva za „nezdravim“ namirnicama na opće prehrabene navike obitelji.

Rezultati ovog istraživanja imaju praktičnu primjenu za kreatora politika i marketinške stručnjake koji mogu razviti smjernice za roditelje s ciljem smanjenja dječjih zahtjeva za „nezdravom“ hranom. Ti pristupi trebaju biti usmjereni i prema roditeljima i djeci kako bi se potaknuo pozitivan utjecaj na izbor hrane. Preporuča se uvođenje intervencija u prodavaonicama, poput prilagodbe rasporeda „nezdrave“ hrane, primjerice uklanjanjem s područja blagajni ili postavljanjem na početak trgovine. Nadalje, proizvođači hrane mogu unaprijediti oznake na prehrabnim proizvodima, što bi roditeljima olakšalo pregovore s djecom te smanjilo trud koji ulažu u poticanje zdravijih izbora.

Zaključno, ovaj rad ima nekoliko ograničenja. Prvo, promatrana je isključivo perspektiva roditelja, dok bi uključivanje dječjih stavova omogućilo cjelovitiji uvid u dinamiku pregovora. Drugo, uzorak istraživanja je relativno malen, što ograničava generalizaciju rezultata. Za širu primjenjivost, potrebno je provesti opsežnija istraživanja s većim uzorcima. Treće, ograničenje ovog istraživanja proizlazi iz metodologije koja se oslanjala na analizu scenarija i anketni upitnik, zbog čega su roditelji mogli davati socijalno poželjne odgovore, što potencijalno utječe na objektivnost prikazanih stavova i odluka.

Prijedlog za buduća istraživanja je primjena dubinskih intervjua u kojima sudjeluju svi članovi obitelji ili praćenje kupovine obiteljskih namirnica kroz određeni period. Konačno, bilo bi korisno provesti eksperimente kako bi se analizirala učinkovitost pojedinih strategija u različitim uvjetima, čime bi se omogućilo preciznije razumijevanje dugoročnih učinaka ovih pristupa.

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PARENTAL DECISIONS ABOUT BUYING FOOD FOR CHILDREN³

ABSTRACT

Parental decisions about food purchases are crucial for shaping children's dietary habits but are often influenced by external factors. This study examines the impact of various factors on par-ents' food purchasing decisions for their children. The methodology included analyzing two shopping scenarios and surveying parental attitudes toward everyday purchasing decisions with a sample of 60 parents. The scenario analysis revealed that parents adjust their priorities depend-ing on the situation and context. Healthy foods are purchased to support children's health and upbringing, but high prices often discourage such purchases. Conversely, unhealthy foods are frequently chosen to appease children's demands, reduce stress, and expedite the shopping pro-cess. The findings indicate that food prices significantly influence the choice of healthy prod-ucts, children have a strong impact on the selection of sweets and snacks, and stressed parents are more likely to yield to their children's preferences. These results provide valuable insights for developing effective policies and strategies to promote healthier family dietary habits.

KEYWORDS: parents and food purchasing, family dietary habits, children's influence, food prices

³ The paper is based on the thesis of student Anamari Kožul entitled *Analysis of Factors Influencing Parents' Behaviour When Buying Food*, which was written and defended under the mentorship of Associate Professor Ružica Brečić in September 2021

SMART CHANNEL – THE NEXT STEP IN THE EVOLUTION OF MARKETING CHANNELS

REVIEW PAPER
/ PREGLEDNI RAD

UDK: 658.8

JEL: M31
DOI: 10.56321/IJMBS.10.16.57

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ABSTRACT

The evolution of marketing channels has progressed from multichannel to omnichannel strategies, driven by advancements in technology and shifting consumer expectations. This paper introduces the concept of the smart channel as the next step in this evolution, enabled by technologies from the Fourth Industrial Revolution (4IR), such as artificial intelligence (AI), machine learning, the Internet of Things (IoT), robotics, virtual and augmented reality, big data, etc. The paper examines the historical development of marketing channels, highlights the limitations of existing omnichannel strategies, and explores how smart channels address these gaps. By utilizing intelligent automation and predictive analytics, smart channels enhance customer satisfaction, streamline processes, and provide competitive advantage for the early adopters. This conceptual paper emphasizes the transformative potential of smart channels to unify physical and digital touchpoints, creating a cohesive and adaptive marketing infrastructure. It concludes by identifying key challenges, such as investment needs and technological integration, while suggesting directions for future research. Ultimately, the smart channel represents a pivotal advancement in marketing, redefining the interaction between brands and consumers in an increasingly dynamic marketplace.

KEY WORDS: smart channel, marketing channel, omnichannel, marketing, marketing channel theory

1. INTRODUCTION

Beginning of contemporary marketing can be traced, according to some authors, at the beginning of 20th century (Sheth et al., 1988). Contemporary marketing textbooks typically do not delve into the historical development of marketing or only briefly mention its evolution in stages, starting from the mid-20th century when the discipline gained international recognition. However, authors such as Shaw and Jones (2005) trace marketing thought back to the emergence of systematic trade at the dawn of humanity over 10,000 years ago. They follow its progression through the works of Plato, Aristotle, and the Middle Ages, culminating in the establishment of marketing as a scientific discipline in the early 20th century. According to Bartels, the term “marketing” was first used in 1910 to identify a scientific discipline. In the United States, the Report of the Industrial Commission on the Distribution of Farm Products is considered the first comprehensive book on marketing, as it addressed the costs associated with the distribution of agricultural products. Early researchers primarily focused on studying distribution systems due to significant price disparities for agricultural products between producers and consumers, coupled with growing criticisms at the time about high distribution costs, which pointed to marketing inefficiencies (Usui, 2008; Palić, 2008). It is safe to state that development of contemporary marketing is therefore closely connected to distribution or marketing channels issue. A marketing channel can be defined as “a set of interdependent organizations involved in the process of making a product or service available for use or consumption” (Palmatier et al., 2020). Today, on average, channel members earn margins that account for 30% to 50% of the final retail price which can be contrasted with all around omni-present advertising that typically amounts for maximum of 5% to 7% of the final price (Kotler & Keller, 2016). Another significant role and importance of marketing channels can be attributed to the building of a sustainable competitive advantage for a company. Unlike some other elements of marketing mix, such as price, marketing channels usually require large investments of time and money. For example, building a network

of bank branches or retail shops can take hundreds of millions of dollars and several decades. Network of franchisors or dealers will also be contractually and legally binding, but when networks are established efficiently, they can create a long-lasting competitive advantage as competitors will need a lot of time and finances to match it. However, recent developments of information-communication technologies, in some cases, made classical middleman and physical retail obsolete charting the whole new paradigm through digital channels (Ledford, 2012). Such development made contemporary channels even more versatile and diverse.

Channels structures and strategies are very adaptive and range from single direct channel to complex multichannels consisting of large number of intermediaries spanning the entire globe. Much like the natural world, channel structures adapt and evolve with environment changes, competitive pressure, technology advances, customer expectations and many other variables and influences. Academics and researchers specialized in channels provided many theories, strategies and constructs in order to explain the evolution of channel systems (Watson et al., 2015; Krafft et al., 2015). The main purpose of this paper is to draw on previous developments and theories of marketing channels and lay foundations for its transition from omnichannel as dominant paradigm of channel organization today towards new step in the evolution of this area: The smart channel.

2. STRUCTURE AND METHODOLOGY OF THE STUDY

This conceptual paper is based on a qualitative, exploratory approach designed to advance theoretical understanding of marketing channel evolution, particularly the transition from omnichannel strategies to the proposed concept of smart channels. The methodology integrates the following components:

1. **Conceptual Framework Development:** The paper builds on established marketing theories and frameworks, including multichannel and omnichannel paradigms, to identify the limitations of current channel strategies and outline the foundation for smart channels. The framework incorporates theoretical constructs from transaction cost theory, agency theory, and relationship marketing to conceptualize the smart channel.
2. **Literature Review as Primary Method:** A comprehensive review of academic literature forms the basis of the analysis. The study synthesizes insights from key scholarly articles, books, and industry reports to map the historical progression of marketing channels, evaluate current strategies, and identify gaps that smart channels can address.
3. **Technology and Trend Analysis:** The methodology employs secondary data analysis of technological advancements associated with the Fourth Industrial Revolution (4IR), such as artificial intelligence (AI), machine learning, and the Internet of Things (IoT). These technologies are examined in the context of their potential to enhance marketing channel efficiency and customer engagement.
4. **Comparative Theoretical Analysis:** The study contrasts multichannel and omnichannel models with the proposed smart channel framework, focusing on key differentiators such as customer journey personalization, autonomous processes, and data-driven decision-making. This analysis supports the paper's conceptual contributions.
5. **Exploratory Insights for Future Research:** The paper identifies practical and theoretical challenges in adopting smart channels, offering a roadmap for future empirical research and application. This forward-looking approach ensures the paper's relevance to both academia and industry.

By leveraging these methodological elements, the paper contributes to the theoretical development of marketing channels while offering actionable insights for future research and implementation.

3. THE EVOLUTION OF MULTICHANNEL

Research on marketing channels has taken diverse approaches to understand these essential pathways of economic activity. While early studies were largely rooted in economics, conceptualizing channels of distribution as mechanisms for the flow of goods or services, early 20th century brought into the focus channel network optimization and cost reduction. Vertical marketing systems at that time were treated as extensions of the company, often neglecting non-economic aspects. By the mid-century, research in marketing channels became more prescriptive, focusing on decision-making models that balanced cost considerations, revenue potential, and information management, despite challenges in applying these models to real-world scenarios. Other analytical frameworks, such as functional, organizational, institutional and systems perspectives, also emerged during this time to deepen the understanding of marketing channels

(Watson et al., 2015). At that time, attention shifted toward acknowledging the non-economic dimensions of marketing channels, often emphasizing the broader channel functions, such as the organizational dynamics of distribution systems and behavioral factors impacting channel operations. This marked the beginning of extensive research into relationships between channel partners, incorporating theories on roles, communication, conflict, and power dynamics. These studies also connected earlier research with subsequent inquiries into channel strategies, conflict resolution, and opportunistic behaviors (Krafft et al., 2015).

More recent developments expanded on these theoretical foundations, fostering empirical exploration of intercompany relationships within marketing channels. New constructs emerged to explain channel functions and performance, moving beyond the economic focus of earlier studies to incorporate insights from sociology, social psychology, and political science. Significant progress was made with transaction cost theory and agency theory, which complemented behavioral research and demonstrated the value of integrating economic and behavioral perspectives. Modern studies also introduced structural economic models and advanced dynamic frameworks for analyzing intercompany relationships, ushering in a new era of relationship marketing in channels (Grewal, Kumar & Mallapragada, 2013). Recent academic research reflects the evolution and growth of this field, highlighting the transformative impact of e-commerce and globalization on marketing channels which in business application resulted with multichannel and omnichannel distribution strategies (Hoppner & Griffith, 2015).

Multichannel marketing is a product of two strong environmental forces; first being technological development such as penetration and adoption of internet followed by smartphones which opened a new routes of communication and sales with customers. On the other side, global competitive pressures at reducing costs i.e. delivering higher value or decreasing cost-to-serve (Bruce et al., 2009) caused a number of companies to adopt this strategy. Channel marketing traditionally focused on minimizing cost-to-serve. The strategy involved incorporating lower-cost channels, such as online platforms or offshore call centers, and steering customers toward these options instead of more expensive ones like personal sales representatives or bank branches. At the beginning of XX century many large companies made successful transition to cost-efficient channels and reaped financial benefits.

New, often digital, channels showed a number of advantages beside costs, such as 24/7 availability at any location or a home of a customer with wider selection and offer than physical retail regardless being it FMCG stores, bank branches, booking agencies, etc. This is especially true for mass merchandise selling companies where small change in the channel strategy and costs can translate into very dramatic impacts on profitability. As late adopters followed business leaders in this area and competition embraced multichannel-approach it started to change and evolve from focusing solely on efficiency toward emphasizing effectiveness in building customer preference. In this "new" landscape, utilizing multiple channels offered far more than just cost savings—it has become a critical factor in maintaining a competitive edge. Multichannel marketing became vital for an organization's customer retention strategy, providing valuable insights into customer needs and motivations, and serving as a key component of its overall approach. Operating through multiple channels offered companies much more than just cost savings. It enabled them to adapt to the customer preferences in the way how and where they shop as well as to better target specific segments. Through multiple channels there is more opportunities for up-selling and cross-selling as well (Gensler et al., 2007). From cost savings channel managers' focus shifted to delivering a greater value and enhanced customer experience (Zemanek & Tran, 2021).

At the early development stage, the multichannel strategies begun with a decision what channels should be added to channel mix. Such decision pertained to traditional brick-and-mortar players, as well as at that time emerging new online players, who faced the question of whether they should be present offline as well (Avery et al., 2012). Soon, the scope of multi-channel retailing has, however, been broadened by considering issues such as the management of customers across channels and the integration of the retail mix across channels. With wider adoption of digitalization started second phase in multi-channel retailing characterized by integration of new digital channels such as mobile channels and social media (Leeflang et al., 2014). All this brought a dramatic change in the retail landscape paving a way for the development of a more integrated and seamless multichannel: The omnichannel.

4. OMNICHANNEL AS PREVALENT PRESENT THEORETICAL CONCEPT

In the present digital era customers move through different online and offline channels more than ever. The customer journey become more complex with many touchpoints along the way to the final purchase requiring marketers to guide customers on every step of the way through their journey (Kotler, Kartajaya & Setiawan, 2017). Academic references and industry discussions started differentiating "omnichannel" from "multichannel" marketing around 2010's in order to emphasize the integration and interactivity across all customer touchpoints (Mishra, Singh & Koles, 2020). Omnichannel can be viewed as seamless integration of multichannel used by the company for creating and delivering value to the customer. Levy et al.

(2013) define it as “a coordinated multichannel offering that provides a seamless experience when using all of the retailers shopping channels”. There are several quite similar definitions of omnichannel even though many academics lack consensus where multichannel ends and omnichannel actually begins (Berman & Thelen, 2018). The numerous distinctions between multichannel and omnichannel marketing highlight the complexity and multifaceted nature of omnichannel marketing as shown in Table 1. They also indicate that a company may be at varying stages of implementing an omnichannel marketing strategy, ranging from the initial phase to more advanced or fully integrated stages.

Table 1. Main differences between omnichannel and multichannel approach

Comparative criteria	Multichannel marketing	Omnichannel marketing
<i>Strategy-based differences</i>		
Channel or total firm-based objectives	Focuses on maximizing the performance of a specific channel	Focuses on maximizing a retailer's total performance
Uniformity of message across channels and devices	Does not have a consistent message across all touchpoints	Customers receive a uniform message across channels and devices
Clarity of distinction between the physical and online store	Assumes a division between the physical stores and online facilities exists	There is a smooth and seamless customer experience regardless of the combination of channels and devices used
Role of smartphones, mobile apps and social media	Assumes that the consumer search and purchase behavior is primarily limited to personal computers and in-store facilities	Broadens consumer search and purchase options to include smartphones, mobile apps, tablets, networked appliances and social media. Customers can use multiple touchpoints in a single purchase
Organization format: silo vs integrated	Organized on the basis of silos, with separate organizations, goals, and budgets for online and in-store marketing activities. Each channel is managed independently	A single executive is responsible for merchandising for all channels and devices
Degree of unification of customer and inventory databases throughout the organization	Seeks some cross-functional alignment between store and online. Each channel may sell different products and brands. Each channel has a separate customer and inventory database	Requires a high degree of unification across customer and inventory databases. Markets the same products and brands across all channels. The customer and inventory databases are common across channels
Uniformity of supply chains across channels	Each channel has a separate supply chain	Orders from multiple channels are fulfilled using a common supply chain
<i>Consumer behavior-based differences</i>		
Uniform vs different consumer purchase journeys	Assumes that the consumer purchase journey is similar across customers within a given target audience	Assumes that consumers can have very different purchase journeys. Different purchase journey paths can indicate opportunities to appeal to different target audiences
Linear vs a non-linear purchase journey	Assumes that a traditional sales funnel exists consisting of awareness, search behavior, purchase, and post-purchase behaviors	Assumes that consumers use multiple channels and touchpoints: computers, smartphones, tablets, social media, and in-store experiences at the same point in time. Consumers can employ a non-linear purchase journey by rethinking a purchase option after reviewing online resources
Place of purchase, pickup and return: uniform vs varied	Assumes that the place of purchase, pickup and product return is the same	Consumers have options to purchase, deliver/pickup and return goods through any medium or channel. They could purchase a good via a tablet, have it shipped to their home, and then return it to a nearby store
Ease of movement across channels and devices	Requires a significant effort by consumers as they go from channel to channel	Seeks to minimize the effort customers undertake as they go from channel to channel. Examples include a store's online site showing inventory levels and aisle location at a local store, and allowing an online customer to return an online purchase at a store

Source: Berman & Thelen, 2018

Omnichannel marketing reflects changes in customer behavior and enabling technologies that make it possible for consumers to switch routinely and repeatedly between various channels during a single transaction such as mobile phones, physical retail stores, computers, tablets, in-store kiosks, social media platforms, etc. These channels and touchpoints are utilized interchangeably and often simultaneously by both customers and businesses. In an omnichannel approach, customers can engage with different channel combinations at each stage of their purchase journey, such as product discovery, research, purchase, payment, order fulfillment, and returns (Verhoef et al., 2015). A good example is when customer sees an influencer post promoting certain product on a social network, searches for more product information on a brand's web site and among social network users and reviewers, searches for best prices among different online offers, orders and pays online and schedules pickup in a nearby physical store. Customers could see and try the product in physical store and then go and shop for it online which is sometimes referred as “showrooming” or they can search online and then decide to purchase a product in the physical store which is called “webrooming”, or they can go back and forth using several different channels in the process of the purchase (Gustafson, 2014; Kotler et al., 2017).

Existing academic work on omnichannel marketing focuses on themes such as channel integration, the use of mobile solutions and social media, evolving roles of physical stores, diverse customer needs, balancing personalization with privacy, and supply chain redesign (Baxendale et al., 2015; Beck & Rygl, 2015). Notable contributions, such as Verhoef et al. (2015) matrices, differentiate multichannel and omnichannel strategies based on factors like customer behavior, channel management, and retail mix, revealing significant research gaps in the transition to omnichannel marketing. Studies highlight several benefits of omnichannel strategies. For example, cross-channel integration enhances trust, customer loyalty, conversion rates, and cross-selling opportunities. Recent research shows that omnichannel shoppers spend significantly more both online and in stores compared to single-channel customers, with repeat purchases and loyalty also increasing (Sopadjieva et al., 2017). Studies from Peter & Dalla Vecchia (2021) and others demonstrate the positive financial impact of omnichannel approaches, including increased sales, higher price acceptance, and improved

retailer image through congruent channel integration. For example, some surveys found that omnichannel customers have on average 30% higher CLV than single-channel customers (Kotler et al., 2017). Despite its advantages, omnichannel marketing faces challenges, particularly in meeting customer expectations. Research reveals significant gaps between consumer expectations and retailer performance in areas like inventory visibility, in-store pickup, and seamless cross-channel interactions. Only a small percentage of retailers have fully operationalized omnichannel strategies due to barriers like technological challenges, organizational silos, and poor execution (Huang, 2020; Cai & Lo, 2020). Various frameworks outline the stages of omnichannel integration. For instance, Strang (2013) categorizes omnichannel development and integration into four phases: from basic store and online separation to advanced customer experience and supply chain optimization. Other researchers classify integration into levels ranging from minimal to full alignment of pricing, branding, logistics, and customer data across channels (Domanski, 2021). These frameworks highlight the evolutionary nature of omnichannel marketing, underscoring its potential for greater customer satisfaction and competitive advantage. However, the advent of the 4th Industrial revolution is dramatically redefining future business models and marketing channels will be no exception to this trend.

5. SMART CHANNEL AS THE NEXT STEP IN THE EVOLUTION OF MARKETING CHANNELS

The Fourth Industrial Revolution, commonly referred to as Industry 4.0 or 4IR, represents a transformative shift in industrial processes, characterized by the integration of advanced digital technologies with physical systems. This revolution builds upon the advancements of the previous industrial revolutions, moving from steam power and mechanization in the 18th and 19th centuries, to mass production through electricity in the early 20th century, and finally to the digital revolution brought by computers and automation in the mid-20th century. At its core, Industry 4.0 is defined by the development of cyber-physical systems, where physical machinery is seamlessly integrated with digital control and monitoring mechanisms. This interconnectedness is made possible through the Internet of Things (IoT), which enables machines, devices, and systems to communicate and share data in real time. As a result, manufacturing and other industries can achieve unprecedented levels of efficiency, automation, and customization. (McKinsey & Co, 2022). The phenomenon of the Fourth Industrial Revolution shows the fusion of human and machine intelligence and their intertwining. Wide adoption of Internet that started twenty years ago enabled many technologies that have become mainstream, interconnected and essential for business operations today (Millar, Groth & Mahon, 2018). Meanwhile, increasingly disruptive technologies have emerged, building upon existing tools and shaping innovations like quantum computing, artificial intelligence (AI), the Internet of Things (IoT), virtual reality (VR), augmented reality (AR), neurotechnology, blockchain, and robotics. The volatile, uncertain, complex, and ambiguous nature of today's rapidly evolving world shows no signs of slowing. To thrive in this dynamic business environment, companies must adopt appropriate tools, set clear goals, and develop strategies aligned with the pace of change. Artificial intelligence, while not yet a general-purpose technology, is viewed as a transformative force driving exponential societal progress and a cornerstone of the Fourth Industrial Revolution (Leslie, 2019).

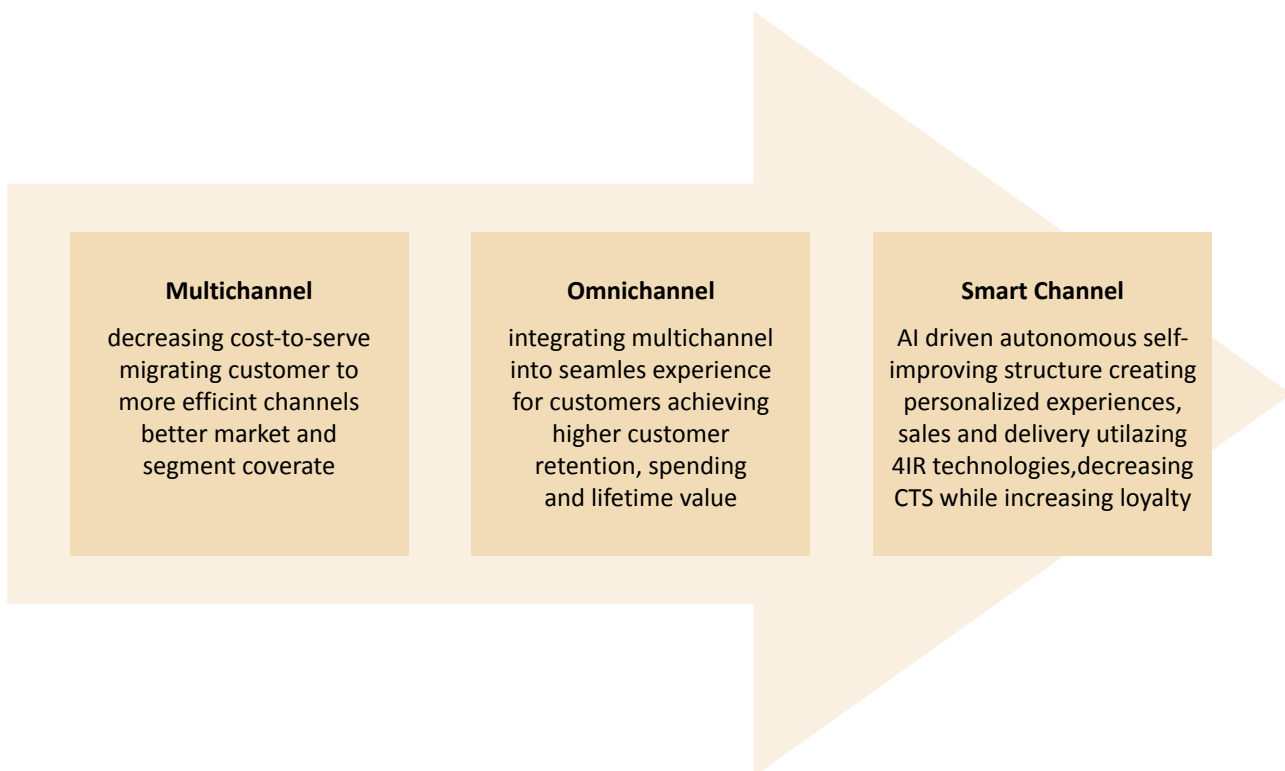
Such "smart" technologies and artificial intelligence systems enable the creation of a new marketing paradigm. This paradigm shifts the traditional passive relationship with brands -characterized by accepting standardized associations and experiences projected by the brand - to an active mode where customers can individualize the brand in their own way and avoid standardization. This eliminates the "dictate" of the brand to impose the same experience on everyone. For luxury brands and niche products or services, this includes immersive experiences associated with the brand, offered both through physical retail spaces and virtual worlds or customer communities. These communities are not merely passive consumers but active co-creators of content and innovations related to the brand. They form a loyal user base collectively advancing the brand and the products or services they utilize.

Application of such 4IR elements into the marketing practice, including sales and distribution are just beginning to emerge (Banjac & Palić, 2020). Thus, the omnichannel strategy, which previously sought to standardize and unify marketing strategy efforts, evolves through technological advancements into the smart channel. This smart channel can not only track the customer journey at every touchpoint but also adapt the journey and its outcomes to the individual preferences of each customer. As a result, customers gain a sense of uniqueness and active participation in every stage of their journey and engagement with the brand (Lišanin, Palić & Tomašević Lišanin, 2024). With the power and massive volume of big data, sensor technology and IoT, using artificial intelligence as a mediator will transform channel processes providing higher efficiency and effectiveness making marketing channels "smart". Smart marketing channel can be defined as an integrated self-improving marketing channel structure that delivers customized value to the customers without or with minimal amount of human involvement. A key feature of Smart channel is integration of key 4IR technologies that enable its intelligent and autonomous functioning. The process of customer acquisition, retention and value delivery should start from the use of big data compiled from customer's digital footprints using machine learning and AI to predict specific needs and tailor customized value offers followed by autonomous communication through social networks, e-mails,

messengers, voice calls and virtual worlds using sales chat-bots/avatars/robots that can communicate with customers through all available channels offering best solutions. Smart channel should not be perceived as purely digital or virtual but should also extend to physical environment using 4IR technologies to make retail outlets “smart” and autonomous (similar to AmazonGo shops). AI technology managing logistics from collecting orders to warehouse and shop fulfillment using IoT, robots and self-driving vehicles and drones for delivery, warehouse and shelf space management, etc. Most of the technological elements for a smart channel of the future, as described here, are present on the market today but are not fully integrated to form such a complex structure or some of them require large investments or/and are under final testing (humanoid robots and self-driving vehicles) before commercialization. Artificial intelligence (AI) and machine learning will further enhance effectiveness by allowing channel systems to learn from data and make intelligent decisions and adjustments without need for direct human intervention thus achieving maximum synergies. Such channels will be an integral part of smart companies that will coordinate and integrate their efforts across the value chain. Across sectors, these advancements are already reshaping traditional practices, fostering innovation, and driving sustainability. Scientific research in this field should focus on enhancing the efficiency and functionality of these technologies while addressing questions related to human-technology interaction, system optimization, and sustainability. By merging physical and digital realms, smart channel is not only revolutionizing distribution but also redefining the relationship between technology, society, and the environment.

Such advanced technologies enable the development of a new style of customer experience management, allowing brands to enhance the purchasing process for the benefit of customers. In the case of fast-moving consumer goods (FMCG), such smart channels alleviate the psychological and physical burdens of shopping. For instance, a smart refrigerator can automatically update a shopping list in the appropriate app with missing items, recommend favorite products to avoid forgetting them, facilitate automatic payments, arrange delivery, and more. AI-powered retail channels or apps, utilizing big data about the customer, can suggest, create, and update shopping lists, automate ordering and payments, and organize deliveries. Customers only monitor the process via their smartphones, approving elements such as the shopping list or payment. Such AI-driven retail channels and smart devices represent the smart channels of the future, where customers are relieved of parts of the purchasing process. These technological solutions will recognize customer needs, offering individually tailored solutions, sometimes even before the customer becomes aware of the need for a specific product or service. Currently, these solutions are being implemented through various channels, but with further technological development, they will converge into a future smart channel.

Figure 1. Evolution pathway of marketing channels



Source: author

6. CONCLUSION

The evolution of marketing channels from multichannel to omnichannel strategies has significantly transformed how businesses interact with consumers. However, with the advent of Fourth Industrial Revolution (4IR) technologies, the limitations of omnichannel approaches necessitate the development of a more advanced and adaptive framework—the smart channel. This paper has introduced the concept of the smart channel as the next evolutionary step, capable of integrating technologies such as artificial intelligence (AI), the Internet of Things (IoT), and big data to create a seamless, intelligent, and personalized customer journey.

Smart channels not only unify physical and digital touchpoints but also adapt dynamically to individual customer preferences, thereby enhancing satisfaction and driving competitive advantage. By leveraging predictive analytics, intelligent automation, and real-time data processing, smart channels redefine the efficiency and effectiveness of marketing strategies, offering businesses a transformative tool for sustaining growth in a dynamic marketplace.

Despite the significant potential of smart channels, challenges such as high investment requirements, technological integration complexities, and organizational readiness remain critical barriers. Addressing these issues will require interdisciplinary collaboration and further empirical research to refine the theoretical framework and validate its practical applications.

Ultimately, the smart channel represents a pivotal advancement in marketing, fostering a paradigm shift in how brands and consumers interact in an increasingly connected world. By embracing the principles of adaptability, personalization, and technological innovation, smart channels promise to set new benchmarks for customer engagement and business performance.

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PAMETNI KANAL – SLJEDEĆA STEPENICA U EVOLUCIJI MARKETINŠKIH KANALA

SAŽETAK

Evolucija marketinških kanala dinamičan je proces koji se u ovom radu prati od multikanalnih do omnikanalnih strategija potaknutih razvojem tehnologije i promjenama u ponašanju i očekivanjima potrošača. Ovaj pregledni rad predstavlja koncept pametnog kanala kao sljedećeg koraka u evoluciji kanala kao posljedice razvoja i aplikacije suvremenih tehnologija Četvrte industrijske revolucije (4IR), poput umjetne inteligencije (AI), strojnog učenja, Interneta stvari (IoT), robotike, virtualne i proširene stvarnosti, velikih podataka itd. Rad istražuje povijesni razvoj marketinških kanala, ističe ograničenja postojećih omnikanalnih strategija te analizira kako pametni kanali nadilaze takve izazove. Korištenjem inteligentne automatizacije i prediktivne analitike, pametni kanali poboljšavaju zadovoljstvo kupaca, pojednostavljaju procese i pružaju konkurentsku prednost za rane usvojitelje ovog koncepta. U radu se naglašavaju transformacijski potencijali pametnih kanala za unifikaciju fizičkih i digitalnih točaka kontakta te stvaranje kohezivne i prilagodljive marketinške infrastrukture. Zaključno, identificiraju se ključni izazovi, poput potreba za investicijama i tehnološkom integracijom, uz prijedloge za buduća istraživanja. U konačnici, pametni kanal predstavlja ključan iskorak u marketingu, redefinirajući interakciju između maraka i potrošača u sve dinamičnijem tržišnom okruženju.

KLJUČNE RIJEČI: pametni kanal, marketinški kanal, omnikanal, marketing, teorija marketinških kanala



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