

Volume XIX, Issue 2/2022

Economics and Management



SOUTH-WEST UNIVERSITY 'NEOFIT RILSKY'

Faculty of Economics
Blagoevgrad

"ECONOMICS AND MANAGEMENT"

is a scientific journal of the Faculty of Economics at South-West University "Neofit Rilski". It publishes articles on current issues in economics and management at the global, regional and local level.

CHIEF EDITOR

Prof. **Preslav Dimitrov**, PhD, South-West University "Neofit Rilski", Blagoevgrad, Bulgaria

DEPUTY CHIEF EDITORS

Assoc. Prof. **Vyara Kyurova**, PhD, South-West University "Neofit Rilski", Blagoevgrad, Bulgaria

Prof. **Milena Filipova**, PhD, South-West University "Neofit Rilski", Blagoevgrad, Bulgaria

EDITORIAL BOARD

Prof. **Raya Madgerova**, PhD, South-West University "Neofit Rilski", Blagoevgrad, Bulgaria

Prof. **Nadejda Nikolova**, PhD, South-West University "Neofit Rilski", Blagoevgrad, Bulgaria

Prof. **Maria Kicheva**, PhD, South-West University "Neofit Rilski", Blagoevgrad, Bulgaria

Prof. **Georgy Georgiev**, PhD, South-West University "Neofit Rilski", Blagoevgrad, Bulgaria

Prof. **Dimitar Dimitrov**, PhD, South-West University "Neofit Rilski", Blagoevgrad, Bulgaria

Prof. **Zoran Ivanovic**, PhD, University of Rieka, Croatia

Prof. **Manol Ribov**, PhD, University of National and World Economy, Sofia, Bulgaria

Prof. **Bjorn Paape**, PhD, RWTH Aachen, Germany

Prof. **Paul Gallina**, PhD, Williams School of Business, Bishop's University Sherbrooke, Québec, Canada

Prof. **Paulo Águas**, PhD, The School of Management, Hospitality and Tourism of The University of Algarve, Portugal

Prof. **José António Santos**, PhD, The School of Management, Hospitality and Tourism of The University of Algarve, Portugal

Prof. **Olga Prokopenko**, PhD, Collegium Mazovia Innovative University, Siedlce, Poland

Prof. **Jacek Binda**, PhD, Bielsko-Biala School of Finance and Law, Poland

Prof. Dr. of Sc. **Liubov Zharova**, Wyższa Szkoła Ekonomiczno-Humanistyczna, Bielsko-Biala, Poland

Prof. **Tsvetana Stoyanova**, PhD, University of National and World Economy, Sofia, Bulgaria

Prof. **Farhad Sariev**, PhD, K.Tynystanov Issyk-Kul State University, Kyrgyzstan

Prof. **Maksat Erkimbaev**, PhD, K.Tynystanov Issyk-Kul State University, Kyrgyzstan

Prof. Dr. of Technical Sc. **Abdyrakhman Mavlyanov**, Adam University, Kyrgyzstan

Prof. Dr of Economic Sc. **Almakuchukov Mukashevich**, Adam University, Kyrgyzstan

Prof. **Savica Dimitrieska**, PhD, European University, Skopje, Republic of North Macedonia

Assoc. Prof. **Desislava Stoilova**, PhD, South-West University "Neofit Rilski", Blagoevgrad, Bulgaria

Assoc. Prof. **Elena Stavrova**, PhD, South-West University "Neofit Rilski", Blagoevgrad, Bulgaria

Assoc. Prof. **Stefan Bojnec**, PhD, University of Primorska, Faculty of Management Koper – Slovenia

Assoc. Prof. **Cengiz Demir**, EGE University, Izmir, Turkey

Assoc. Prof. Dr. of Sc. **Elena Sadchenko**, Wyższa Szkoła Ekonomiczno-Humanistyczna, Bielsko-Biala, Poland

Assoc. Prof. **Altin Idrizi**, PhD, University "Alexander Xhuvani", Elbasan, Albania

Assoc. Prof. **Ludmila Novacka**, PhD, University of Economics - Bratislava, Slovakia

Assoc. Prof. **Dimitris Aidonis**, PhD, Technological Educational Institute of Central Macedonia at Seres, Greece

Assoc. Prof. Dr. of Sc. **Oleksii Oleksiuk**, Kyiv National Economic University named after Vadym Hetman, Ukraine

Assoc. Prof. **Almaz Kadyraliev**, PhD, Musa Ruskulbekov Kyrgyz Economic University

Assos. Prof. Dr of Economic Sc. **Bakas Bakhtiyar uulu**, Musa Ruskulbekov Kyrgyz Economic University

Assoc. Prof. **Tran Van Hoa**, PhD, Hue University, Vietnam

Assoc. Prof. **Truong Tan Quan**, PhD, Hue University, Vietnam

Assoc. Prof. **Svetlana Sirmbard**, PhD, Adam University, Kyrgyzstan

Dr. of Sc. **Ievgen Khlobystov**, Wyzsza Szkola Ekonomiczno-Humanistyczna, Bielsko-Biala, Poland

Juan Guillermo Estay Sepúlveda, PhD, Universidad de Los Lagos, Chile

Pham Xuan Hung, PhD, Hue University, Vietnam

Katarina Valaskova, PhD, University of Zilina, Slovakia

Pavol Durana, PhD, University of Zilina, Slovakia

Márton Czirfusz, PhD, Hungarian Academy of Science, Budapest, Hungary

PRODUCTION EDITOR

Assoc. Prof. **Dinka Zlateva**, PhD, South-West University “Neofit Rilski”, Blagoevgrad, Bulgaria

RESPONSIBLE EDITORS

Vladislav Krastev, PhD, South-West University “Neofit Rilski”, Blagoevgrad, Bulgaria

Anny Atanasova, PhD, South-West University “Neofit Rilski”, Blagoevgrad, Bulgaria

Mariya Bagasheva, PhD, South-West University “Neofit Rilski”, Blagoevgrad, Bulgaria

Maria Paskaleva, PhD, South-West University “Neofit Rilski”, Blagoevgrad, Bulgaria

Kalina Durova, PhD, South-West University “Neofit Rilski”, Blagoevgrad, Bulgaria

TECHNICAL EDITOR & DESIGN

Lachezar Gogov, South-West University “Neofit Rilski”, Blagoevgrad, Bulgaria

Founders:

Prof. Raya Madgerova, PhD, Prof. Nadezhda Nikolova, PhD and Prof. Chavdar Nikolov, PhD

◆◆◆ 2005 г. ◆◆◆

Editor’s office address:

Journal “Economics and Management”
Faculty of Economics
South-West University “Neofit Rilski”
60 “Ivan Mihailov” Str., 2700 Blagoevgrad
e-mail: em@swu.bg



ECONOMICS & MANAGEMENT

JOURNAL FOR ECONOMICS AND MANAGEMENT SCIENCE OF
FACULTY OF ECONOMICS – SOUTH-WEST UNIVERSITY “NEOFIT RILSKI” –
BLAGOEVGRAD

VOL. XIX, № 2, 2022

CONTENTS

ANTON A. GERUNOV

FORECASTING CUSTOMER SUPPORT RESOLUTION TIMES THROUGH
AUTOMATED MACHINE LEARNING

1

VANYA PETSANOVA

ASSESSMENT OF THE LEVEL OF CONFLICT IN THE REGIONAL
DIRECTORATE "AGRICULTURE" BLAGOEVGRAD

12

MARIELA BOGDANOVA

GLOBALIZATION AND THE IMPACT OF NEW TECHNOLOGIES ON THE
ECONOMY AND THE LABOR MARKET

21

MERAB PUTKARADZE

TOMASZ MICHALSKI

GEORGE ABUSELIDZE

TOURISM AND RECREATIONAL RESOURCES USAGE PERSPECTIVES
THROUGH ACCORDING TO MOUNTAINOUS ADJARIA`S EXAMPLE

27

MILEN FILIPOV

DINKA ZLATEVA

PROMOTION STRATEGIES OF ELECTRONIC NICOTINE DELIVERY SYSTEMS:
AN OVERVIEW

40

SAVICA DIMITRIESKA

TANJA EFREMOVA

PROBLEMS OF THE GENERATIONAL MARKETING

48

MUSTAPHA H. ABDULLAHI
OJELEYE Y. CALVIN
UMAR SALISU

SOCIAL MEDIA AND CONSUMER PURCHASE INTENTIONS IN
TELECOMMUNICATIONS SECTOR OF NIGERIA: MODERATING ROLE OF BRAND
LOVE

57

Each of the articles published in the “Economics & Management” Magazine, edition of the Faculty of Economics at the SWU “Neofit Rilski”, after preliminary selection by the Editorial board, is a subject of preliminary review by two tenured reviewers, specialists in the respective scientific domain.

**All rights over the published materials are reserved.
The views of the authors express their personal opinion
and do not engage the editorial board of the journal.**

FORECASTING CUSTOMER SUPPORT RESOLUTION TIMES THROUGH AUTOMATED MACHINE LEARNING

Anton A. Gerunov¹

Received 4.11.2022, Accepted: 20.11.2022

Abstract

This article focuses on modeling and forecasting the resolution time of customer support tickets. To this end we leverage data from a process aware information system and compare manual training of several state-of-the-art benchmark models (neural network, regression, k-Nearest neighbors, random forest, and support vector machine) to automated model training using the H2O framework. The best performer among the automated machine learning models has much higher forecast accuracy than the benchmark models. This indicates that automated machine learning is a feasible way to approach process modeling problems and may be fruitfully utilized to forecast relevant process metrics.

Keywords: *customer support; resolution time; business process mining; prediction; automated machine learning; AutoML; H2O framework*

JEL Codes: *C44, C45, C53*

Introduction

Business activity in the modern organization is often structured along the lines of well-defined processes that aim to standardize and optimize common activities. Historically, it has been the realm of executives and management consultants to reimagine processes and activities in order to maximize their value. This hinged critically upon best practices and recourse to similar process optimization exercises (see Hammer & Champy, 1993 or Harika et al., 2021 for a more recent treatment). However, the growing preponderance of large volumes of data has enabled a more formal analysis of processes beyond the experience-based intuition. Data and event mining have been instrumental in empowering organizations, large and small, to automatically reconstruct their actual (as opposed to normative) processes and procedures and formally identify ways to improve them (dos Santos Garcia et al., 2019). This article takes this strand of literature one step

¹ Ph.D., D. Sc. and Associate Professor at the Faculty of Economics and Business Administration, Sofia University “St. Kliment Ohridski”, 125 Tsarigrasko Shosse Blvd., Sofia 1113, e-mail: a.gerunov@feb.uni-sofia.bg, ORCID ID: 0000-0001-9357-7375

further by applying automated machine learning to predict the outcome of the customer support process in a specific organization.

We focus on investigating what drives extreme delays in IT customer support by taking recourse to data from a process-aware information system. This process is clearly crucial as it has direct interface with customers and can critically impinge on overall client loyalty, brand preference and the subsequent purchasing behavior. These in turn affect customer lifetime value and overall organizational profitability. The organization would clearly want short support turnaround times which not only increases customer satisfaction but also economizes on internal resources. It is thus of natural interest to predict which individual tickets (cases) are likely to be delayed and thus take corrective action. Advanced machine learning can be leveraged to achieve this task and we demonstrate how its automation can provide superior results over the standard opportunistic model selection.

The structure is as follows. Section two presents a short literature review, and section three outlines the data used and the proposed methodology. Section four outlines a few stylized fact about the data at hand, and section five applies automated machine learning (so-called AutoML) to try and predict process outcomes. Variable importance is used to investigate the relative contribution of different process drivers. Section six discusses the results, presents a few recommendations, and concludes.

Literature Review

Traditionally, process understanding and optimization has crucially depended on two main perspectives – the abstract modeling and optimization one, and the data driven one (see de Leoni et al., 2016 for further discussion). The former focuses on eliciting a normative description of the business process (“as it should be”) and then identifying possible bottlenecks that can be reimaged. This goes very much in the stream of process reengineering thinking a la Hammer & Champy (1993). The latter approach – the data-driven one – relies heavily on collecting process data and identifying key drivers and blockers that can then be leveraged to increase performance in a tangible way. This analysis has more of a positive tinge – defining and improving processes as they actually occur (“as is”).

The missing link between the two is the so-called process mining – a concerted effort to collect actual data from process instances that characterizes every step taken and elicit the process model from the data at hand (de Leoni et al., 2016, Amaral et al., 2018). In a modern organization many business processes are carried out completely or to a large extent in dedicated information systems. The data collection exercise then hinges critically upon accessing the collecting data from those transaction systems. This data are usually in the from of registering process steps, information flows, classification types and business rules implementations. More often than not, such data are found in the system logs but additional data may be brought to bear in the data ingestion and enrichment process.

Amaras et al. (2018) point that a large part of this research program is carried out by taking recourse to rather abstract process representations and calls for more concrete and practical ones. Van der Aalst (2016) provides a handbook for process discovery and optimization through event mining. This approach traditionally goes through a set of high-level steps, starting from gaining process understanding through data identification and collection, log and event mining, automated or expert-led optimization through reengineering, implementation, and ultimately – change management. For an overview of the process mining steps and ideas, the reader is pointed to van der Aalst (2022).

This approach has proven to work well and has been applied in a variety of settings and to a large set of problems such as measuring customer reactions to social media advertising (Boonjing & Pimchangthong, 2017), evaluating enterprise resource planning (ERP) systems (Pawelozsek, 2016) or general improvement of various business processes (Grisold et al., 2020). A mapping study of process mining techniques and applications can be found in dos Santos Garcia et al., (2019).

However, the full automation of process optimization remains an elusive task. An important part of this tasks is the automation of modelling and analysis that identifies process bottlenecks or process features that lead to exceptions, delays and failures. This article focuses on applying an automated machine learning framework to model the drivers behind excessive process delays in a typical client-facing business process – providing customer support.

Currently, automated machine learning is a new paradigm for fitting machine learning models. The traditional way to approach modeling is through what may be considered theory-informed opportunistic model fitting. It consists of the following. Once the analyst has an idea of the general type of problem that needs to be solved (i.e., is it a classification or a prediction/regression problem), then a number of models are iteratively fitted and investigated. While there is best practice and a number of references studies that explore the performance of a large number of alternative algorithms (see e.g. Fernandez-Delgado et al., 2014; Makridakis et al., 2020; Gerunov, 2022) this approach remains human-driven and opportunistic at heart.

The automated machine learning (AutoML) paradigm takes a different angle to the modeling exercise. He et al. (2021) define AutoML as a process of automatically constructing the machine learning pipeline on a limited computational budget. It is essentially the place where machine learning meets automation (Yao et al., 2018). AutoML starts by being fed a dataset and from then on it is able to automatically perform data normalization and preparation. After that a potentially very large number of models from a pre-selected list of algorithms is fitted and their parameters are fine-tuned. The best performing algorithms and parameters are automatically selected based on an error metric or an information criterion. The optimal model can then be used to outline process drivers through variable importance metrics and also generate useful predictions or classifications. The interested reader is referred to He et al. (2021) for a more detailed overview of AutoML.

The AutoML approach is practically implemented in a number of frameworks that easily run on traditional languages for statistical and analytic programming such as R and Python.

This article leverages one of the most mature and extensive AutoML framework to solve its modeling tasks – the H2O AutoML. A description of the framework – its concepts, ideas, methods, and implementations can be found in LeDell & Poirier (2020).

Data, Samples and Descriptive Statistics

To model customer support delays, we leverage data from Amaral et al. (2018). The data hails from a process-aware information system (PAIS) and contains standard markers, including type of incident, processor, handler, request IDs, etc. The dataset also includes a rich set of characteristics of the alerts themselves – incident status, activity, number of assignments and modifications, reporting channel, symptoms and logical place of occurrence, presence of an error message, and more. Ratings are also available for problem severity - strength of effect, urgency, priority, double check for priority, as well as closing characteristics – date and time, close code, close employee ID. The total number of those explanatory features in the original dataset is 36, spanning over 141,712 observations.

Amaral et al. (2018) focus on selecting the appropriate features to include in a predictive model, using the Annotated Transition Systems algorithm. They have three experiments with different selection approaches, finding that expert judgments outperform some but not all automated approaches. Additionally, the authors use mean absolute percentage error (MAPE) to measure the predictive accuracy of their approach, but do not report other indicators of predictive accuracy. We build on the results in this paper (Amaral et al., 2018) regarding the selection of predictors but also perform feature selection ourselves.

More concretely, we remove data that contains identifiers of various circumstances (agents, randomly generated request numbers, etc.), as they do not carry meaningful information. We additionally remove all variables that have a large number of missing observations (over 30%). There are seven such variables; five of those over 98% missing values, so their removal does not result in a significant loss of information. On the basis of the time stamps for the moment of creation of the ticket and the moment of its closing, we construct the target variable – the elapsed processing time. Data is further tested for missing values, with very few of those remaining. Wherever possible, missing values are imputed using multivariate imputation by chained equations, and whenever this is not possible – missing observations are removed. This leaves a final complete dataset of 17 predictors over 141,712 observations.

It is notable that most incidents in the array are of relatively advanced status, given that the status variable is coded from 0 to 7, with higher numbers indicating proximity to resolution (6 being "resolved" and 7 being "closed"). On average, a ticket is assigned once, but this can go up to 27 times. In practice, a very small fraction of tickets are reopened (only 2%), but the most serious tickets can reach up to 6 reopens. Even more indicative in this regard are the statistics on number of system modifications – although the average is relatively low ($\mu = 5.08$), the standard deviation is significant ($\sigma = 7.70$), which means that there are isolated cases with

particularly high activity on them. The highest number of ticket status updates we see in the database is 129.

The vast majority of incidents within this database (94%) fall outside the minimum service level (MSL) set out in the service level agreement (SLA). This highlights that tickets tend to concern extreme cases – both in terms of expectations and contractual obligations. Symptom codes and locations of occurrence and incident termination are useful number for machine-led modeling. Those are difficult to interpret by humans due to the high number of missing values, but can still be extremely useful information for automated algorithms when fitting predictive models. The vast majority of alerts are classified as medium impact strength and medium urgency. However, they were mostly classified as high priority incidents on a 4-point scale ($\mu = 2.98$).

A small percentage of tickets use the organization's knowledge base (15%), which may raise questions about the quality and usefulness of the knowledge base itself. An alternative explanation here would be that the vast majority of incidents are relatively trivial and do not require deep knowledge, making them suitable candidates for automation. The resilience of the business process and the information system serving it can be seen in the indicator for an error message generated – it is almost always 1 ($\mu \approx 1.00$), and very rarely the ticket is not associated with such a message ($\sigma = 0.02$). Looking at the skewness and kurtosis values of the variables under consideration, it is immediately obvious that they do not follow a normal distribution. This should be taken into account in subsequent modeling and thus methods that rely on data normality should be applied with caution.

Table no. 1 – Descriptive Statistics for IT Support Data

Variable	Mean	Std. Dev.	Median	Min	Max	Skewness	Kurtosis
<i>Incident state</i>	4.05	2.83	2	1	8	0.28	-1.68
<i>Active</i>	1.82	0.38	2	1	2	-1.70	0.89
<i>Count of reassignments</i>	1.11	1.74	1	0	27	3.22	18.26
<i>Count of reopens</i>	0.02	0.19	0	0	6	13.61	261.30
<i>Count of system modifications</i>	5.08	7.70	3	0	129	4.77	35.79
<i>Outside Minimum Service Agreement</i>	0.94	0.24	2	1	2	-3.67	11.48
<i>Channel</i>	4.00	0.12	4	1	5	-4.17	202.18
<i>Location</i>	138.34	55.56	143	2	249	-0.33	-0.92
<i>Category</i>	36.74	13.82	37	2	63	-0.17	-0.83
<i>Sub-category</i>	161.60	69.35	174	2	305	-0.50	0.03
<i>Symptom code</i>	398.26	169.78	491	2	609	-1.21	-0.05
<i>Impact</i>	2.01	0.23	2	1	3	0.42	15.70
<i>Urgency</i>	2.00	0.23	2	1	3	0.20	15.79
<i>Priority</i>	2.98	0.33	3	1	4	-2.78	20.51
<i>Use of knowledge base</i>	1.15	0.36	1	1	2	1.97	1.89
<i>Priority confirmation</i>	1.30	0.46	1	1	2	0.90	-1.20
<i>Notification</i>	1.00	0.02	1	0	1	41.41	1713.18

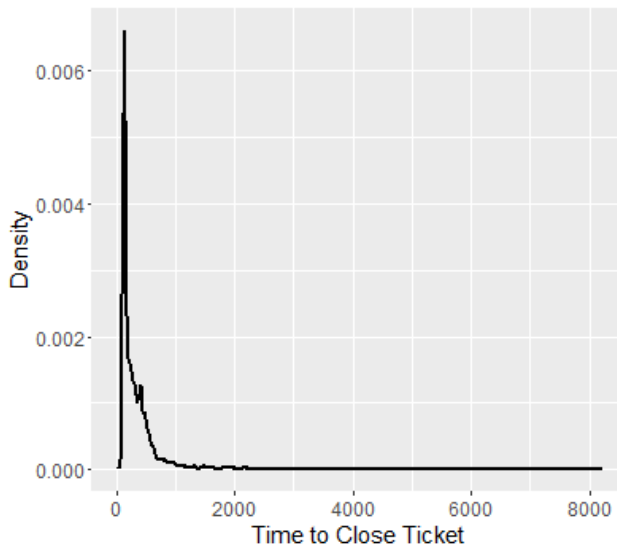
<i>Closed code</i>	6.52	1.73	6	1	17	1.24	9.20
<i>Resolution time, y</i>	400.73	650.97	217.9	0	8140.78	5.58	38.31

Source: Author's calculations based on data by Amaral et al. (2018)

Most tickets in the data set are of relatively advanced status, given that the status variable is coded from 0 to 7, with higher numbers indicating proximity to resolution (6 being "resolved" and 7 being "closed"). On average, a ticket is assigned once, but can be assigned up to 27 times. In practice, a very small fraction of alerts is reopened (only 2%), but the most serious support tickets can reach up to 6 reopens. Even more indicative in this regard are the statistics on new system modifications – although the average is relatively low ($\mu = 5.08$), the standard deviation is significant ($\sigma = 7.70$), which means that there are isolated cases with particularly high activity on them. The highest number of ticket modifications we see in the database is 129.

It is instructive to further investigate the distribution of the target variable – the amount of time it took to close a support ticket. The average time to process and close a ticket is about 400 hours, or 16.7 days. The average is largely driven by the extreme observations in the dataset, with the longest processing time being a whopping 8140.78 hours (339 days) and the shortest being under an hour. The large difference between the different incidents is also visible in the high values of the standard deviation ($\sigma = 650.97$) and the amount of time for resolution has a distribution far from normal.

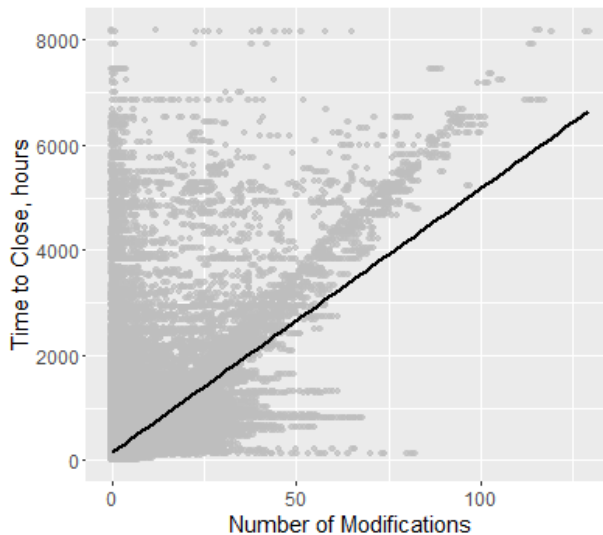
Figure no. 1 Distribution of Target Variable: Ticket Processing Time



Source: Author's visualization based on data by Amaral et al., 2018

In fact, the distribution remarkably resembles a lognormal one with a clearly pronounced peak on the left side and a long tail. Estimating a lognormal distribution on the positive values in the target variable (time to resolution), it seems that the best fitting lognormal has a log mean of 5.39 and a log standard deviation of 0.65. Here we observe a phenomenon that is very typical of the digital world – “winner-takes-all” dynamics underlined by a high degree of inequality. In our instance it is reflected in the fact that very few cases take the lion’s share of time and presumably resources, while the vast majority of tickets are rapidly closed.

Figure no. 2 Correlation between number of support tickets modifications and resolution time



Source: Author’s visualization based on data by Amaral et al., 2018

As a final step in the descriptive analysis, the variable correlations are investigated further. As a general observation, all but one correlation with the dependent variable (time to close) are of very low values. The one exception is the correlation between the number of system modifications and the resolution time – it is statistically significant and high with $r = 0.59$, $p < 0.005$. The link between those seems mostly linear, and robust (see Figure 2).

Modeling and Predicting Ticket Resolution time

The modeling approach used is a standard one. The overall dataset is randomly divided into two sub-samples – one that is used for training the models (approximately 80% of original data) and one that is used for testing model performances (approximately 20% of original data). Their samples sizes are $N_1 = 113,371$ and $N_2 = 28,341$, respectively. As a first pass we compare standard machine learning models that can be applied to this task

(see Gerunov, 2022) with automatically generated ones from the H2O AutoML framework. The standard benchmark models we fit are the following: Multiple Linear Regression, Artificial Neural Network, K-Nearest Neighbors, Random Forest, Support Vector Machine. Those benchmark models are then tested of the test set (i.e. data they have never been exposed to) and key accuracy metrics are calculated (the mean error, the root mean squared error, and the mean absolute error). Results are presented in Table 2.

Table no. 2 – Forecast Accuracy Metrics for Alternative Prediction Models

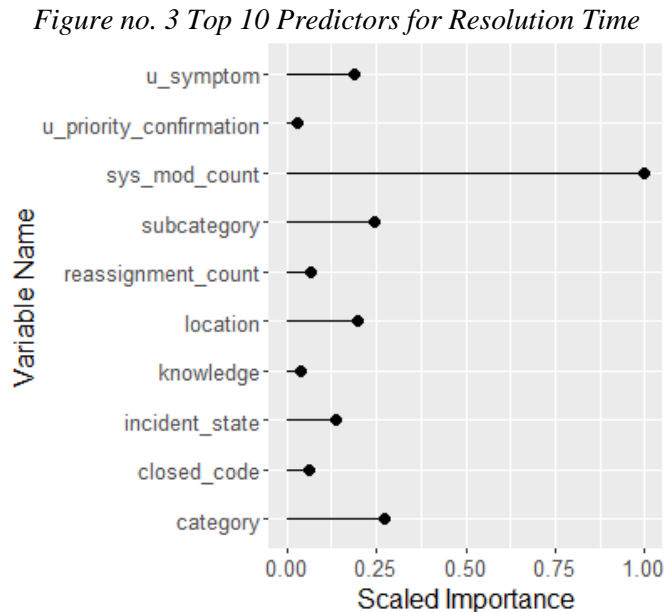
Machine Learning Algorithm	Mean Error, ME	Root Mean Squared Error, RMSE	Mean Absolute Error, MAE
<i>Multiple Linear Regression</i>	-2.39	480.46	214.15
<i>Artificial Neural Network</i>	398.42	759.98	398.42
<i>k-Nearest Neighbors</i>	5.95	351.56	134.57
<i>Random Forest</i>	-3.74	337.09	135.40
<i>Support Vector Machine</i>	77.71	495.42	190.61
<i>AutoML Stacked Model: Ensemble of 100 models</i>	0.04	274.87	111.36
<i>AutoML Best Performer: Gradient Boosting Machine</i>	-1.39	270.05	105.51

Source: Author’s calculations

In contrast to this traditional modeling, we also leverage automated machine learning to fit and find the best model in a rigorous and standardized fashion without the need for expert interferences. The H2O framework automatically fits and evaluated models based on the following algorithms: Distributed Random Forest, Extremely Randomized Trees, Generalized Linear Model (GLM) with regularization, XGBoost Gradient Boosting Machine, H2O Gradient Boosting Machine, Multi-layer Artificial Neural Network, 2 Stacked Models, of which one contains all the models trained, and the other – the best-in-class model. The models are again fitted on the training set and test on the test set to generate out-of-sample accuracy metrics. Results can be seen in Table 2.

It is immediately obvious that AutoML models significantly outperform all other alternatives on all reported metrics. The best performing AutoML models is essentially a stacked ensemble model that combines the predictions of 100 different models, combining 55 neural network models, 2 deep random forest models, 42 gradient boosting machine models, and one general linear model. Its RMSE is by far the lowest, standing at 274.05 as compared to 337.09 (the lowest RMSE of non-AutoML models). The mean error and the mean absolute error metrics are similarly impressive. This result is not unexpected – there is a large body of literatures that shows that ensemble models outperform individual ones (see e.g. Idri et al., 2016 and references therein) but here the magnitude of the difference is notable.

The best performing single models in the AutoML exercise turns out to be a Gradient Boosting Machine (GBM) with 92 trees. Its RMSE is significantly lower than that of competing non-AutoML alternatives, and so are the values of its mean error and its mean absolute error. Remarkably, the GBM's performance is very close to that of the stacked ensemble models – the difference in RMSE is practically negligible – the former one stands at 274.87, while the latter – at 270.05. The mean errors are -1.39 and 0.04, respectively. Thus, for all practical purposes one can use a single GBM model instead of the stacked ensemble. This leads to ease of computation, decreased computational needs and significantly improve model explainability, all coming at the cost of negligible decrease in accuracy.



Source: Author's visualization

Prediction drivers can be further investigated using the relative variable contributions to the forecast errors. The procedure involves removing every single variable and measuring the difference in average forecast errors. Those differences are then rescaled with the largest normalized to one. The intuition behind this is simple – if the removal of a variable significantly worsens the prediction made, then this variable must be an important one. Results from this exercise on the GBM model are presented in Figure 3.

The most important variable in the model is the system modifications count. The more modifications a ticket gets, the longer its processing time will be. This is then followed by the category of the indent, and the code for symptoms. The category and location of the incident are the remaining variables that drive our predictions. It seems that

6 out of the 17 variables under study hold the lion's share of predictive power. All effects are in the expected directions with more critical incidents taking place in specific logical locations being connected with longer resolution times. Trivial tickets get the fastest resolution, and are thus rarely updated, modified, and classified as priority ones.

Discussion and Conclusion

This article has investigated the possibility for automated predictions of business process outcomes. We have taken a classical process found in many contemporary organizations – customer support – and have attempted to model its resolution times. Results are encouraging: automated forecasting models outperform traditional benchmarks, showing that automated prediction is viable. Knowing this, business may choose to increase the level of process automation, delegating it to machine learning algorithms to identify and flag instances with slow resolution times and bring notifications or even undertake actions to speed them up. This holds the potential of both decreasing operational costs as fewer analysts and managers will be needed for monitoring and control, as well as improving service and customer loyalty and retention. The latter may have positive spillovers into actual revenue. The promise of AutoML clearly goes beyond the process investigated here – it can be leveraged across the full spectrum of business processes to make them smarter and more efficient, thus further driving the digital transformation of the organization. Further research will likely elucidate the applications of this approach to analyzing and modeling business activities well beyond customer support and investigate the actual implementations of AutoML in practice.

REFERENCES

- Amaral, C. A., Fantinato, M., Reijers, H. A., & Peres, S. M. (2018). Enhancing Completion Time Prediction Through Attribute Selection. In *Information Technology for Management: Emerging Research and Applications* (pp. 3-23). Springer, Cham.
- Boonjing, V., & Pimchangthong, D. (2017). Data mining for positive customer reaction to advertising in social media. In *Information Technology for Management. Ongoing Research and Development* (pp. 83-95). Springer, Cham.
- De Leoni, M., van der Aalst, W. M., & Dees, M. (2016). A general process mining framework for correlating, predicting and clustering dynamic behavior based on event logs. *Information Systems*, 56, 235-257.
- dos Santos Garcia, C., Meincheim, A., Junior, E. R. F., Dallagassa, M. R., Sato, D. M. V., Carvalho, D. R., ... & Scalabrin, E. E. (2019). Process mining techniques and applications– A systematic mapping study. *Expert Systems with Applications*, 133, 260-295.

- Fernández-Delgado, M., Cernadas, E., Barro, S., & Amorim, D. (2014). Do we need hundreds of classifiers to solve real world classification problems?. *The journal of machine learning research*, 15(1), 3133-3181.
- Gerunov, A. A. (2022). Performance of 109 Machine Learning Algorithms across Five Forecasting Tasks: Employee Behavior Modeling, Online Communication, House Pricing, IT Support and Demand Planning. *Economic Studies journal*, (2), 15-43.
- Grisold, T., Mendling, J., Otto, M., & vom Brocke, J. (2020). Adoption, use and management of process mining in practice. *Business Process Management Journal*.
- Hammer, M., & Champy, J. (1993). Business process reengineering. *London: Nicholas Brealey*, 444(10), 730-755.
- Harika, A., Sunil Kumar, M., Anantha Natarajan, V., & Kallam, S. (2021). Business process reengineering: issues and challenges. In *Proceedings of Second International Conference on Smart Energy and Communication* (pp. 363-382). Springer, Singapore.
- He, X., Zhao, K., & Chu, X. (2021). AutoML: A survey of the state-of-the-art. *Knowledge-Based Systems*, 212, 106622.
- Idri, A., Hosni, M., & Abran, A. (2016). Systematic literature review of ensemble effort estimation. *Journal of Systems and Software*, 118, 151-175.
- LeDell, E., & Poirier, S. (2020, July). H2o automl: Scalable automatic machine learning. In *Proceedings of the AutoML Workshop at ICML* (Vol. 2020).
- Makridakis, S., Spiliotis, E., & Assimakopoulos, V. (2020). The M4 Competition: 100,000 time series and 61 forecasting methods. *International Journal of Forecasting*, 36(1), 54-74.
- Pawłoszek, I. (2016). Data mining approach to assessment of the ERP system from the vendor's perspective. In *Information technology for management* (pp. 125-143). Springer, Cham.
- van der Aalst, W. M. (2022). Process mining: a 360 degree overview. In *Process Mining Handbook* (pp. 3-34). Springer, Cham.
- Van Der Aalst, W. M., & Dustdar, S. (2012). Process mining put into context. *IEEE Internet Computing*, 16(1), 82-86.
- van der Aalst, W.M.P. (2016). *Process Mining - Discovery, Conformance and Enhancement of Business Processes*, 2nd Edition. Springer: Heidelberg.
- Yao, Q., Wang, M., Chen, Y., Dai, W., Li, Y. F., Tu, W. W., ... & Yu, Y. (2018). Taking human out of learning applications: A survey on automated machine learning. *arXiv preprint arXiv:1810.13306*.

ASSESSMENT OF THE LEVEL OF CONFLICT IN THE REGIONAL DIRECTORATE "AGRICULTURE" BLAGOEVGRAD

Vanya Petsanova¹

Received: 14.09.2022, Accepted 15.10.2022

Abstract

This article examines the levels of conflict in the structural units of the Regional Directorate "Agriculture" Blagoevgrad (municipal departments of agriculture and Central Administration) and the influence of the hierarchy, age, gender and professional experience of the employees on them.

In the article, the degree of disturbed relationships at the workplace was assessed by using the Questionnaire for the Assessment of Conflict Relationships according to A. Velichkov (2005), and with it the existing level of conflict in the Directorate was specified.

The questionnaire was designed to diagnose conflicts in the organization according to the Bulgarian environment and culture. 16 questions are formulated, which are assessed on a 5-point Likert scale, for the frequency of the conflict interactions described in them. The proposed tool was validated by Velichkov for the Bulgarian population and application in organizations. The questionnaire has shown high internal consistency (Cronbach's $\alpha=0.91$) from a study in an organizational setting.

To determine the level of conflict, the three-level scale proposed by the author was used. A high degree is associated with the presence of conflicts, and low values reveal the absence of conflicts in the organization. As a result of the conducted research, the main conclusions are summarized.

Keywords: *employees; public sphere; level of conflict; conflict; factorial and outcome signs.*

JEL Codes: *D00; D74.*

Introduction

The management of human resources in public sector organizations is characterized by the contradiction of the goals of activity - of the employees, on the one hand, of the managers, on the other, as well as by the presence of certain limitations of an organizational nature and the operation of distributed and evaluation mechanisms in relation to the material resources, the duties of workers, etc. (Ivanov, 2017, p.16). In view of this, the

¹ South-West University "Neofit Rilski" - Blagoevgrad, Bulgaria, PhD student; v.b.petsanova@abv.bg, ORCID ID: 0000-0002-7929-8705

implementation of separate personnel management functions is accompanied by a significant conflict-generating element.

Conflict is an inevitable phenomenon in public sector organizations because they function by achieving coherence and compromise between the expectations of the individual and the expectations of the organization, as well as between other conflicting elements in their structure and between the individuals and groups employed in them.

The real objects of conflicts in organizations are actually people, but from a theoretical and methodological point of view, organizations become the object of conflicts due to the presence of many variables that should be taken into account in the process of conflict management such as: characteristics of the people involved in the conflict (gender, seniority, experience, age, etc.); the specifics of the organization's activity and structure (places and causes of conflicts); organizational and management goals, as well as conflict management goals; the systems and procedures of activity (potential conflictogens); available technologies (morally and materially outdated equipment, shortage of materials and consumables); the culture of the organization (values, beliefs, ideas, ideals, convictions).

Organizations of the public sphere are social groups in which people are united on the basis of their common goals, whose activities are consciously coordinated and directed to achieve these goals (Mihailova, 2018, pp. 2-4). This is evaluated through the achievements of individual individuals and structural units in the organization. Insight into the nature of individual behavior underlying specific employee differences is critical to effective organizational management.

A guarantee for a normal business climate to suppress the manifestation and development of destructive conflicts with a view to achieving organizational success is a good knowledge of the attitudes, expectations, perceptions and experiences of employees, as well as balancing the variables that negatively affect the organization (Milkov, 2014, pp. 114-116).

Purpose of the study

Determining the level of conflict in the structural units of the Regional Directorate "Agriculture" Blagoevgrad (ODZ) and the influence of the hierarchy, age, gender and professional experience of the employees on it.

Processing and interpretation of the results

The study covers all 14 municipal offices in agriculture in the territory of the Blagoevgrad district and the employees in the Central Department of ODZ. The number of

persons examined (46 in total) constitutes 54.76% of all 84 employees of the Regional Directorate "Agriculture" Blagoevgrad. Employees were divided into two main groups: employees with managerial functions - 9 (19.6%) and employees with expert functions - 37 (80.4%). When comparing the two groups under consideration, employees with expert functions predominate, with the ratio being 1:4 ("managers - experts").

The socio-demographic characteristics of the employees included in the study are presented in Table 1

Table 1. Socio-demographic characteristics of the employees in ODZ Blagoevgrad

Characteristics	Number	%
Hierarchical status		
Executives	9	19.6%
Experts	37	80.4%
Gender		
Men	22	47.8%
Women	24	52.2%
Age (Years)		
< 30	5	10.9%
31-40	17	41.3%
41-50	14	23.9%
51-60	7	17.4%
> 61	2	6.5%
Work experience (Years)		
< 10	17	36.96%
11-20	16	34.8%
21-30	9	19.6%
> 31	3	13.%
Work experience in ODZ (Years)		
< 10	32	69.6%
11-20	10	21.7%
21-30	3	6.5%
> 31	0	0%

Source: Own research

The hierarchical status of the investigated employees is considered as a factor initiating or contributing to the resolution of conflicts in individual administrative units.

In the studied contingent, a statistically significant greater relative share of women was found - 52.2% compared to men - 47.8%

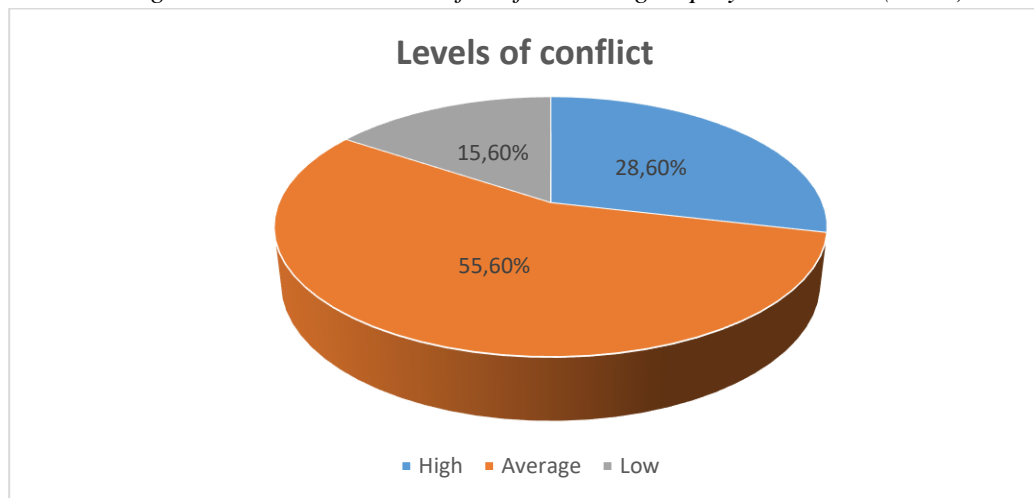
The gender disparity is due to the fact that the pool of administrators in the public sector is predominantly female. This also corresponds to the actual state of engagement of individuals in the country.

The age distribution of the employees participating in the survey is presented in five groups, with the average age of the persons participating in the survey being 42.07 years.

Results and discussion

The assessment of the presence of conflictual relationships was determined for each subject, and the summary data are presented in Figure 1.

Figure no. 1 General level of conflict among employees in ODZ (n=45)



Source: Own research

The analysis of the level of conflict found that the actual working environment is perceived by the employees as:

- ✓ relatively conflicted by 55.6% of respondents;
- ✓ highly conflicted by 28.8% of the respondents in OSZ Gotse Delchev, OSZ Bansko, OSZ Blagoevgrad, Directorate "APFSDCHR" and DG "AR";
- ✓ low conflict by 15.6% of the respondents in the municipal agricultural services of Petrich and Hadjidimovo.

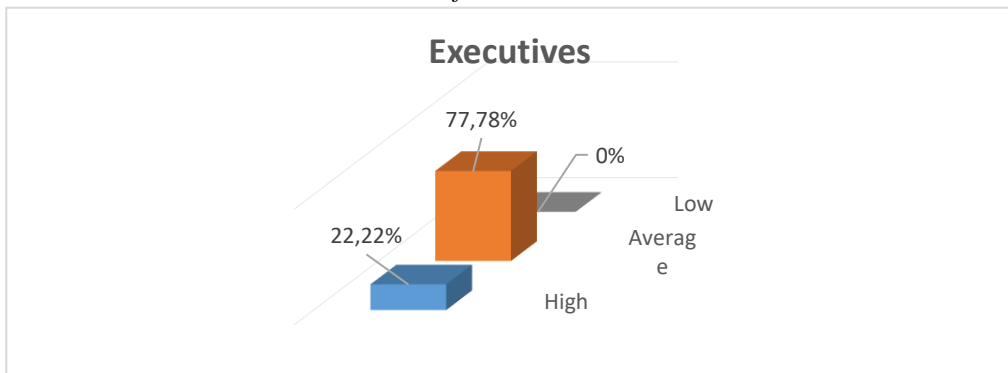
The interpretation of the results shows that for a large part of the employees, conflicts are a serious problem and illustrate the presence of deteriorated relationships and a conflictogenic situation in the administrative structures.

This assessment could be taken as an indicator determining the need for adequate

measures to reduce the degree of conflict relationships in order to optimize the activities of employees.

A thorough examination of the results revealed differences between the high, medium, and low levels of conflict-causing environment for employees with managerial functions and employees with expert functions (Figure 2) and (Figure 3).

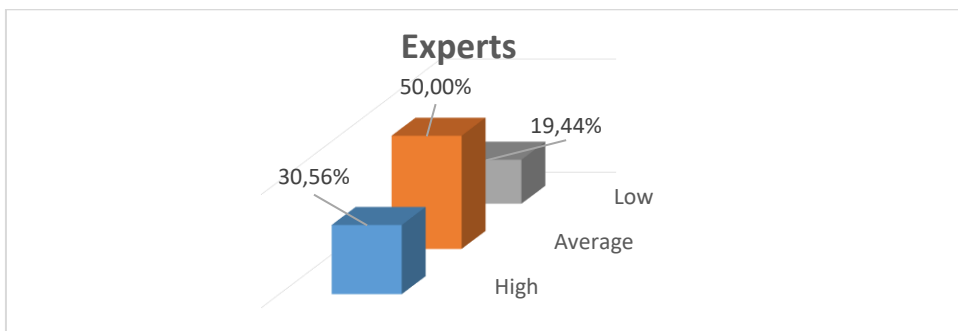
Figure no. 2 Relative share of the level of conflict among employees with managerial functions



Source: Own research

Among the employees with managerial functions, the average level of conflict prevails - 77.8% of the respondents. A high level of conflict is shared by 22.2% of the managers surveyed. The respondents do not share about low levels of conflict.

Figure no. 3 Relative share of conflict level for employees with expert functions

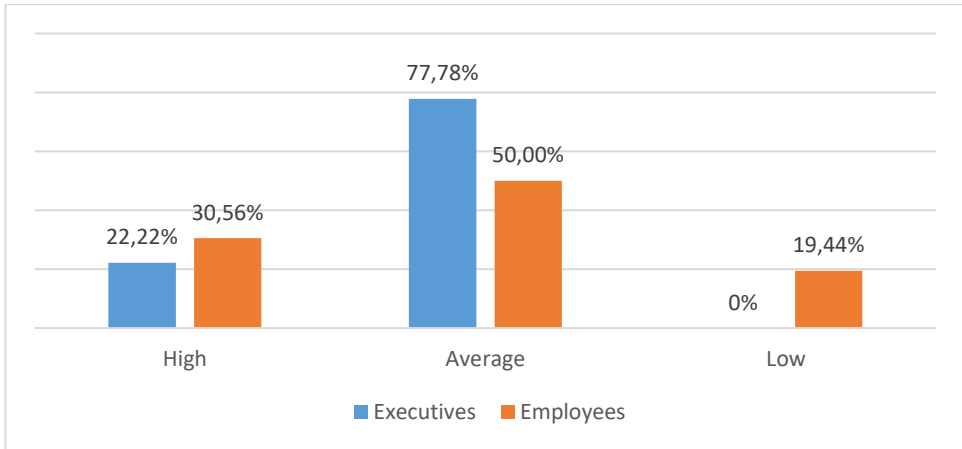


Source: Own research

For employees with expert functions, average levels of conflict are observed in 50% of the respondents. High in 30.6% and low in 19.4% of respondents.

The data from the comparative analysis in the levels of conflict between the employees with management functions and the employees with expert functions are presented in Figure 4.

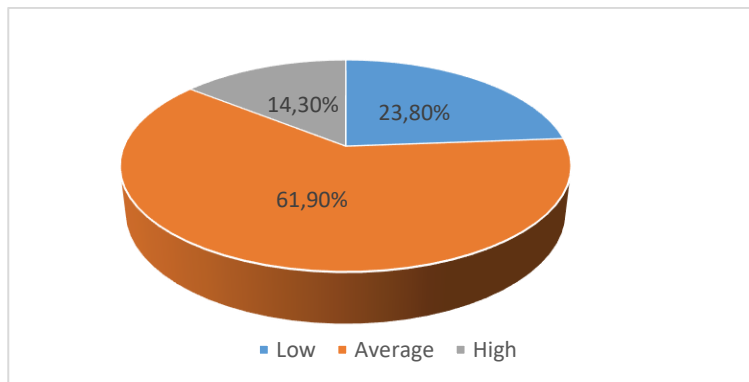
Figure no. 4 Comparative analysis of conflict levels between managers and experts



Source: Own research

Analyzing the ratings for the presence of conflict relationships, significant differences were found in the relative shares of low, medium and high levels of conflict among male and female employees (Figure 5) and (Figure 6).

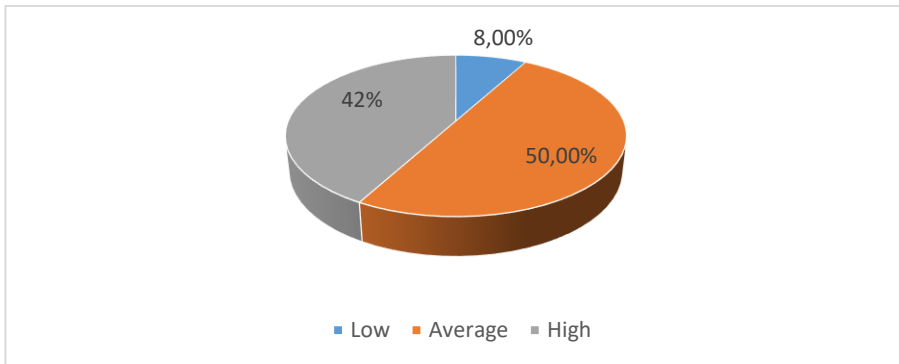
Figure no. 5 Relative share of conflict level among male employees



Source: Own research

Among men, the average level of conflict prevails - 61.9% of the respondents. A low level of conflict is observed in 23.8% and a high level of conflict in only 14.3% of respondents.

Figure no. 6 Relative share of conflict level among female employees



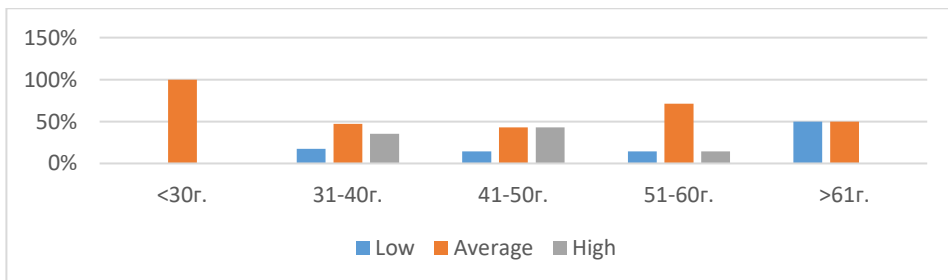
Source: Own research

Among women, the average level of conflict prevails - 50% of the respondents. A high level of conflict is observed in 42%, and a low level of conflict - only in 8% of respondents.

When comparing the estimates for the presence of conflict relationships, significant differences were found in the relative shares of high, medium and low levels of conflict in both sexes. The high level of conflict is more pronounced in women (42%), and the average - (61.9%) and the low level - (23.8%) are more pronounced in men. Due to the observed differences between men and women, it can be assumed that their manifestation in this case depends on the way the conflict is perceived.

When examining the level of conflict, statistically significant differences were found by age (Figure 7).

Figure no. 7 Influence of age on the level of conflict

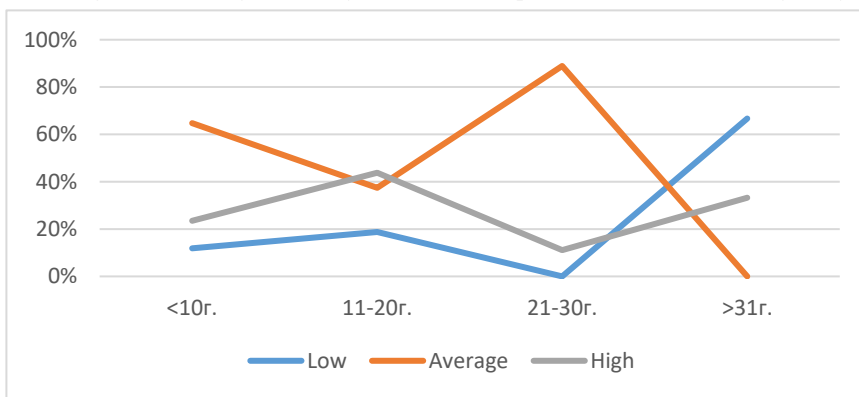


Source: Own research

The results show a predominantly high degree of conflict in the age group from 41 to 50 years (42.9%). The average levels of conflict are most pronounced in the age group up to 30 years. High and low levels of conflict are not reported in this age group. Respondents aged 51 to 60 show high average levels of conflict - 71.4%. In the age group over 61, a high level of conflict is not observed. Low and medium levels in this group are distributed equally - 50%.

Differences were found when comparing the estimates for the degree of conflict relationships and according to the professional experience of the respondents (Figure 8)

Figure no. 8 Influence of total work experience on the level of conflict



Source: Own research

High rates of conflict are reported in the first 10 years of the employees' work experience. With the increase in professional experience, a gradual increase in high levels of a conflictogenic environment is observed. The change is most pronounced among employees with experience between 21 and 30 years (33.33%).

The highest average levels of conflict are shown by employees with work experience from 11 to 20 years (60.00%) and up to 10 years (56%)

The analysis shows a distinct trend of decreasing the level of conflict with increasing age and work experience. With increasing age and length of service, employees are likely to successfully avoid conflict in the workplace as well as improve their non-conflictual interaction skills with each other.

Conclusion

As a result of the analysis of the obtained results, the following conclusions were formulated:

1. The employees of the Regional Directorate "Agriculture" Blagoevgrad perceive the working environment as relatively and highly conflictual. Low levels of conflict are reported only in the municipal agricultural offices of Petrich and Hadjidimovo.

2. High levels of conflict are more pronounced among: women; employees with expert functions; employees in the age group of 41 to 50 years; employees with work experience from 11 to 20 years.

3. A tendency to decrease the level of conflict is observed with the increase in the age and length of service of the employees. The indicated dependence can be explained by the fact that accumulated life and professional experience improve the skills of non-conflictual interaction and successful avoidance of workplace conflicts.

REFERENCES

- Velichkov A. (2005). *A method for evaluating conflict relations in the organization*. In: Velichkov A, Radoslavova M. *Methods of psychodiagnosics*. Sofia: PANDORA PRIM.
- Ivanov I. (2017). *Methods for managing and resolving conflicts in organizations*. Sofia: UNSS.
- Milkov, L. (2014). *Conflictology*. Sofia, Ed. June Express Ltd
- Mihailova I. (2018) *Management strategies for dealing with organizational conflicts*. Sofia; Sofia University.

GLOBALIZATION AND THE IMPACT OF NEW TECHNOLOGIES ON THE ECONOMY AND THE LABOR MARKET

Mariela Bogdanova¹

Received: 10.11.2022, Accepted: 20.11.2022

Abstract

The theme focuses on the impact of globalization and new technologies in the process of creating communities to support social entrepreneurs, social justice, social innovation, and the dynamically changing labor market. Outlines trends and opportunities offered by new technologies to support sustainable job creation, workplace integration, training, and mentoring. Globalization is seen as a process whose influence extends to providing effective solutions to various social problems, namely the risk of unemployment, securing jobs, and inclusion in the common labor market. In the context of globalization, the prospects for the development of the social economy are also taken into account not only as an opportunity to provide employment for the most vulnerable members of society (the socially excluded), but also as trends, policies, and a way of social cohesion, reducing inequalities, creating a competitive social market economy that promotes social justice and protection. Technologies today are tools that can be defined as influential in terms of efficiency and expectations and as a necessity, as seen in the context of the COVID-19 pandemic, where the economy has directed the positive energy of many people to offer solutions to overcome social problems.

Keywords: globalization, technology, COVID-19 pandemic, social economy, social innovation, labor market

JEL Codes: A13, O35, F63, F66

Introduction

The social dimension of globalization is considered through interrelationships between countries and different organizations. That involves a process of creating opportunities and challenges for economic entities. The effect of the COVID-19 pandemic has been a major shock to the global and European economy (Brussels, 2020). This shock, albeit temporary, shook the economy, but looking at the scale of the crisis certainly led to a faster change in business models, work methods, the need for new skills, and upskilling

¹ South-West University “Neofit Rilski”, Blagoevgrad, Faculty of Economics, Ph.D candidate, e-mail: bogdanovamariela72@gmail.com, ORCID: <https://orcid.org/0000-0002-9881-3485>

of human resources. Businesses have found new opportunities and technological solutions to support individuals and the labor market.

The effect of the COVID-19 crisis will most likely continue to change corporate thinking so that companies focus on their home markets (including the labor market).

That does not mean that globalization will disappear, but rather the processes of transformation will be strengthened, which requires the dynamization of labor market processes as well. Today's economy is going through one of its biggest crises, which will also significantly affect employment.

In the period before the current crises, including the effect of COVID-19 pandemic, there was a drive towards full employment (EUR-Lex, 2010). That in part led to the economy's vulnerability, even creating unproductive occupations. Today, more than ever, workers must reorganize very quickly to work remotely. That requires a much faster adaptation of the workforce, improving not only skills but also increasing the quality of work. The process naturally requires investments, through which not only the jobs will be preserved, but also a new way of management, which guarantees the sustainability of employment.

Challenges, solidarity and the labor market

Cohesion policy is the European Union's strategy to promote and support the "overall harmonious development" of its member states and regions (Cohesion policy 2014-2020). The EU Cohesion Policy will continue to invest in all regions of the Union, supporting the three categories (less developed regions, regions in transition, and more developed regions). For the next long-term EU budget 2021-2027, the Commission proposes to modernize cohesion policy, the EU's main investment policy, as one of the most concrete expressions of solidarity in the Union. Five main objectives will stimulate EU investment in 2021-2027, and the envisaged simplification measures in the cohesion policy for this period are 80 (80 Cohesion Policy simplification measures for the period 2021—2027).

The process of globalization is considered in the context of the impact on the economy, the social sphere, technology, policies, cultural convergence, and relationships, which leads to changes not only in the labor market but also in the educational environment that provides the necessary qualification of human resources. There is a growing tendency to implement new technological solutions in this process.

In the short term, these tools would help to expand the possibilities of offering online courses to support the acquisition of the necessary knowledge and skills not only by young people but also by older workers. That will also support the process of knowledge transfer, training, and lifelong learning opportunities.

Good practices focus on:

- The needs of organizations (business entities) for new knowledge and skills of employees.
- Training opportunities for workers of all ages.
- Using methods and approaches to maintain high motivation for learning among workers of all ages.

The main difficulties for the inclusion in the training of persons from different groups (including vulnerable) in the labor market can be summarized as follows:

- lack of motivation in various spheres of life: personal, emotional, social, etc.;
- do not have enough or have lost skills and habits due to being out of work for a long time or encounter difficulties in starting one.

The dynamics of changes in today's open labor market are also a consequence of globalization, but this contributes to the faster development of new types of tools to maintain the qualifications needed by individuals.

Naturally, no sphere or sector will remain unaffected by the changes, and the structure that will require the fastest transformation is education.

The qualification of employed persons is a factor that predetermines the chances of finding/keeping a job. In many cases, the risk of social exclusion is precisely due to insufficient competencies, including permanent unemployment. Another problem in the labor market and in the field of human resources is low mobility and the seasonal factor of employment in some professions.

According to various analyzes and studies of the labor force, the average age of those employed in the economy is growing. Because of the difficulties faced by persons over 54 in finding work, they are also defined as a risk group. Unemployed persons of this age group hardly get a chance to find a new job again. Part of the employers often considers the "age" criterion, considering these persons more difficult to adapt to the dynamics of the changing work environment. Their job applications are much more often rejected at the pre-selection stage. This fact is too discouraging for individuals and further increases their risk of social isolation. The mechanisms provided by the social economy provide an opportunity for this group of persons. In social enterprises, older employees are capital that brings valuable experience. That marks the beginning of a new social dialogue, which outlines prospects for the labor market to meet the new challenges. This trend will reinforce the effect of other processes to restructure our familiar economic and business model into a collaborative economy.

Technologies, labor market and innovations

The Digital Economy and Society Index (DESI) reports that EU member states are improving their performance in digital competitiveness (European Commission, 2022).

The labor market is changing, which makes it necessary to adapt much faster for all workers to master digital skills according to the requirements and jobs. It is expected that by 2025, the employment and professional development of workers will be even more diverse than it is now.

The expected changes will also affect emerging new forms of solidarity, social commitment, and employment, which will increasingly rely on new technologies. Digital divides will require formulating policies that contribute to overcoming labor market problems. The competencies that will be needed (including management) will increasingly expand in the direction of implementing innovations. The technologies will find an increasingly wide application for entering/retaining the market.

Innovation is increasingly essential for the European economy, not only because of the results for economic and regional cohesion but also because it has the potential to put people first. Positioned in different business niches, entrepreneurs can use the expanding opportunities to simultaneously implement technological and non-technological (including social) innovations, thus contributing to compensating the skill gaps of different groups of persons in the labor market. Opportunities for courses and training that contribute to creating sustainable jobs are expanding.

The Center for Social Innovation at Stanford University (Stanford GSB) defines social innovation as: *"The process of developing and implementing effective solutions to challenging and often systemic social and environmental problems in support of social progress."*

Ministry of labor and social policy (MLSP), the Employment Agency, examines the concept of "social innovation" in the context of Regulation 1304/2013 of the European Parliament and of the Council of December 17, 2013 (EUR-Lex, 2013), according to which it is the development and implementation of new ideas (products, services, and models) in order to meet social needs and create new social relations or collaborations.

The innovation agency Innovation Starter Box (Innovation Starter), paraphrases the European Commission's definition of social innovation and define it as the development of ideas, services, and models that better address social problems and involve collaboration between the private and public sectors to improve the environment. Through social innovation, solutions to various problems can be found that are effective and efficient, and sustainable over time. The concept of social innovation focuses on ideas and solutions that create social value.

Applying innovations in the training of young entrepreneurs is also a possible way to balance theoretical training and practice. That will contribute to the following:

- Strengthening the processes of exchanging ideas and values (mentoring models)
- Strengthening the processes of communication and integration instead of the one-way transmission and re-transmission of data and knowledge.
- Change in relations - what is learned in theory is successfully applied in practice.

Today, economic entities find ways to improve their performance, applying good practices and increasingly better and successful solutions. That includes creating new tools to support the process. In the digital age, innovation and technological progress are natural features of developed economies, and they are necessary to maintain and improve sustainable competitiveness in the age of globalization. The EU's digital strategy will lead to more opportunities for people through a new generation of technology. Digital technologies are changing people's lives. The aim of the EU's digital strategy is for this transformation to benefit people and businesses while helping to achieve the goal of a climate-neutral Europe by 2050 (The European Commission's priorities 2019-2024).

Conclusion

In essence, globalization is the exchange of ideas, economic integration, markets, movement of goods and people. Viewed in the context of speed in the transfer of data and information, outsourcing (transfer of activities), digitization and the entry of streaming services, globalization leads to the development of the environment. Global processes will increasingly require a rethinking of many of the traditional tools and policies (including business environment, competitiveness, and training), thus future shocks in the economy and the labor market will be much more quickly mastered.

REFERENCES

Brussels (2020). COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN CENTRAL BANK, THE EUROPEAN INVESTMENT BANK AND THE EUROGROUP- Coordinated economic response to the COVID-19 Outbreak (Brussels, 13.3.2020 COM (2020) 112 final), https://ec.europa.eu/info/sites/info/files/communication-coordinated-economic-response-covid19-march-2020_en.pdf

EUR-Lex (2010). 2010/707/EU: Council Decision of 21 October 2010 on guidelines for the employment policies of the Member States, <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32010D0707>

Cohesion policy 2014-2020,
<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwi>

VvJCW08X7AhVkQvEDHXLhAAAQFnoECCMQAQ&url=https%3A%2F%2Fwww.eufunds.bg%2Farchive%2Fdocuments%2F1321273014.ppt&usg=AOvVaw2CpzlSav80JQOzWGtbpqGF

80 Cohesion Policy simplification measures for the period 2021—2027.

http://www.eblida.org/Documents/EBLIDA_European_Structural_Investment_Funds_2021-2027_Guide_for_Library_Applicants.pdf

European Commission (2022). The Digital Economy and Society Index (DESI) <https://ec.europa.eu/digital-single-market/en/desi>

Stanford GSB, Center for Social Innovation, Defining Social Innovation, <https://www.gsb.stanford.edu/faculty-research/centers-initiatives/csi/defining-social-innovation>

EUR-Lex (2013). Regulation (EU) No 1304/2013 of the European Parliament and of the Council of 17 December 2013 on the European Social Fund and repealing Council Regulation (EC) No 1081/2006, <http://data.europa.eu/eli/reg/2013/1304/oj>

Innovation Starter, INNOVATION AGENCY, <http://innovationstarterbox.bg/en/>

Eurostat, Employment statistics - Statistics Explained https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Employment_statistics#Employment_rates_by_sex.2C_age_and_educational_attainment_level https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Employment_statistics/bg

The European Commission's priorities, https://ec.europa.eu/info/strategy/priorities-2019-2024_bg

TOURISM AND RECREATIONAL RESOURCES USAGE PERSPECTIVES THROUGH ACCORDING TO MOUNTAINOUS ADJARIA`S EXAMPLE

Merab Putkaradze¹, Tomasz Michalski² and George Abuselidze³

Received: 08/07/2022, Accepted: 22/10/2022

Abstract

Application of resources existing in mountainous regions and its involvement in business turnover is one of the urgent issues of modern reality. The problem was more shaped since the world faced the serious challenges during of COVID-19 pandemic period. One of the densely populated mountainous regions of Adjara in Georgia is no exception, which had a quite intense development in tourism business before the pandemic. The tourism development dynamics in mountainous Adjara before the pandemic and after the pandemic is studied and there are shaped a serious problems existing in tourism development as a result of pandemic. The study used social and case studies, balanced theory, statistical, comparative, space-time analysis methods and other methods. The region`s tourism and recreational resources potential is evaluated, some particular type of originalities of tourism developed on its basis and there are set its further development perspectives through post-pandemic period. By foreseeing the environmental sustainability, it is grounded an increase of some particular type of tourism and new touristic routes` development ways. Therefore, the regional economic development trends are set on the basis of tourism development.

Keywords: Resource; Potential; Recreation; Resort; Tourist; Economic development.

JEL Codes: L83, O18, Z32

Introduction

The problems caused by COVID-19 pandemics have covered all the world`s business fields, but especially tourism has faced the special challenges. The condition turned more complex in Georgia, especially in mountainous regions, where the newly established tourism business was found in front of destruction. A numerous researches were

¹ Batumi Shota Rustaveli State University, Doctor of Geography, Professor;
merab.putkaradze@bsu.edu.ge, ORCID ID: 0000-0003-3644-4626

² University of Gdansk, Professor; tomasz.michalski@ug.edu.pl, ORCID ID: 0000-0002-7916-9620

³ Batumi Shota Rustaveli State University, Doctor of Economics, Professor;
E-mail: george.abuselidze@bsu.edu.ge, ORCID ID: 0000-0002-5834-1233

dedicated to solve the problems caused by world-scale pandemic, including those in line with tourism, which needs a complex study and setting a way to solve an existing issue via foreseeing the world experience. The main aim of the study is to reveal the current problems existing in the tourism development in mountainous Adjara and setting the tourism's further development perspectives on the tourism and recreational resources' base at post-pandemic period. The following tasks should be resolved to reach the study aim:

- Evaluate the tourism and recreational resources' potential of mountainous Adjara and its place in tourism business development;
- Analyze the tourism development dynamics of mountainous Adjara and originalities of problems in field development occurred during the pandemic period;
- Establish the tourism types, its geography, potential of tourism business and its further development originalities;
- Evaluate the application level of existing tourism and recreational resources' potential and set its further usage perspectives by foreseeing an environmental sustainability;

The study object is Georgia's one of mountainous regions located in Autonomous Republic of Adjara (in Keda, Shuakhevi and Khulo municipalities) the area of which is 1750 km², where 58,1 thousand population was observed in 2020.

The scales of the tourism development (as one of the dynamic field of world business) play quite big part in social and economic development of stagnant regions (Huber et al., 2005; Messerli, 2012; Wehrli, 2014; Koulov & Zhelezov, 2016; Abuselidze & Devadze, 2021), but because of COVID-19 pandemic its development has revealed a serious problems and some particular country has faced a significant challenges (Abuselidze & Mamaladze, 2020; Abuselidze & Slobodanyk, 2021; Galvani et al., 2020; Kizielewicz, 2020; Mulder, 2020; Diakonidze, 2021; Stępień et al., 2021). Accordingly, in order to solve the problem there should be foreseen the approved theoretical researches of tourism development from one side (Bell & Morse, 2004; Bramwell & Lane, 2011; Dodds, 2007; Dwyer & Kim, 2003; Wahab & Pigram, 1998) and new approaches to reach the desirable outcome in line with field's marketing, management, planning and development on the other side and on the background of modern challenges (Galvani et al., 2020; Kizielewicz, 2020; Mulder, 2020). The researches held in Georgia within the mentioned scope, foresee the field's development potential and the ways to overcome an existing issues (Gugushvili et al, 2017; Diakonidze, 2019; 2021; Putkaradze & Abuselidze, 2019; Salukvadze et al, 2019). We suppose that by identification and analyzing of problems revealed in the tourism development at mountainous Adjara during the COVID-19 pandemic period and with new approaches, the tourism's sustainable development perspectives of post-pandemic period will be set.

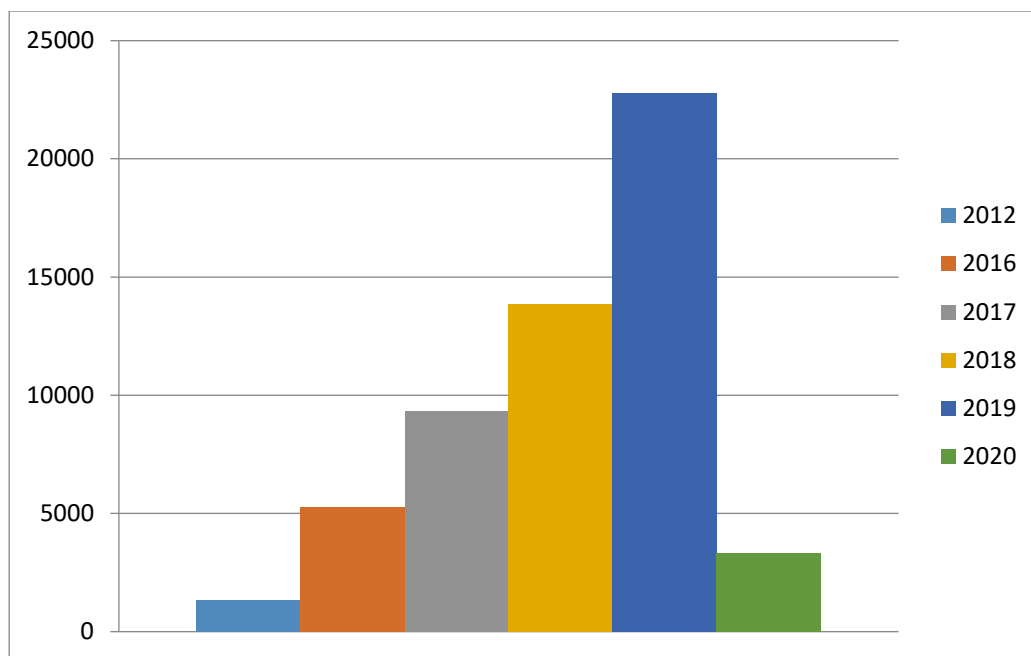
Research Methodology

The problems in tourism field's development revealed as a result of COVID-19 pandemic are especially sharp in mountainous regions, the settlement of which needs new approaches and offering a scientifically grounded outcomes for fulfilment of local municipality programs. Coming out of this, together with qualitative and quantitative methods in line with tourism's sustainable development in mountainous Adjara during of post-pandemic period - more and more popular becomes social researches and case studies. For analytical study, it is important to use the observation, in-depth interview and data modelling, gradation testing, multidimensional modeling, Geoinformation systems and computer simulation methods (Lu & Nepal, 2009). By application of study area's tourism and recreational resources' evaluation method and tourists' flow potential methods (Birjakhov, 2008; Metrevel, 2008) and by foreseeing the rational natural management principles, the tourism's further development perspectives were established. According the balanced theory method (Cooper, 2008), the business development of study area is discussed not according the relation to particular field, but according the all fields' relations between each other as a result of that the existing fields' development perspectives were established. By using the theory of coordination failure (Cooper, 2008), the particular fields' development perspectives were found out and social-economic development ways of study region were set with tourism business development priorities. Besides, statistical, comparative, space-time analysis and other methods were used during the study.

Results and Discussion

During of recent years, tourism is been rapidly developed in mountainous Adjara's business structure, which is based on various tourism and recreation resources and there is a big perspectives for its further usage. As it is known, COVID-19 pandemic has created a world-scale serious problem in many of business fields, especially for tourism. Mountainous Adjara is not an exception in this scope, where the pandemic has created a serious issue for tourism business development. In order to evaluate the existing condition and to define its further perspectives, it is necessary to establish quantitative and qualitative properties of tourism development in the region. Nowadays 3 resorts (Gomarduli, Beshumi and Goderdzi) and some tourism objects (tourist houses) are active in mountainous Adjara. Before the pandemic, a number of tourists in the region were increasing with rapid temp (see the figure 1 below).

Figure no. 1 Tourists` dynamics in mountainous Adjara (2012-2020 years)



Source: Compiled on the basis of the results of the Authors' research and data from the statistical office of Georgia

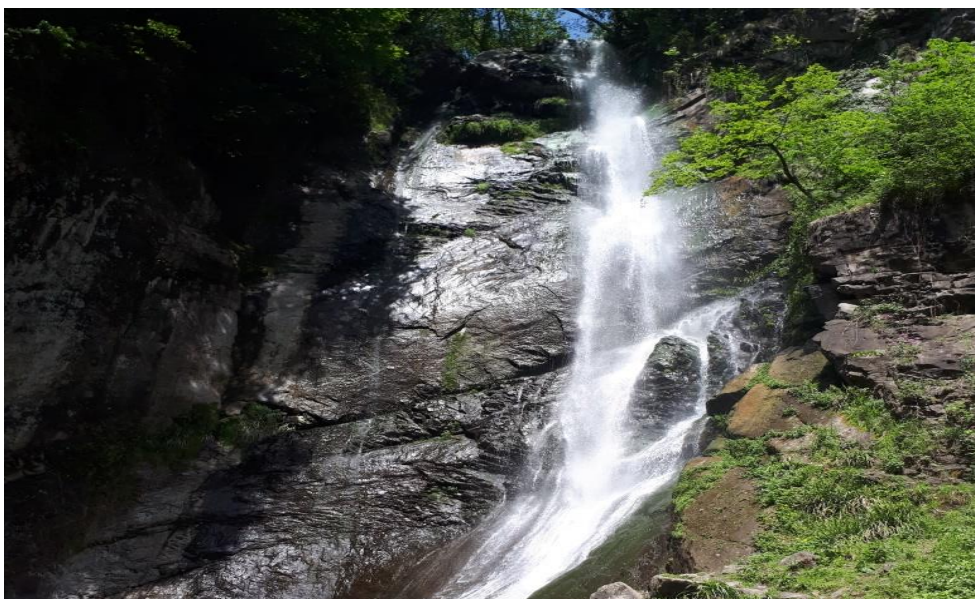
The given data (see figure 1) makes obvious that a number of tourists in mountainous Adjara was 17-times (from 1339 up to 22780) increased in 2012-2019 years, whilst the mentioned field`s increase indicator for the country in average is 5-7%. As of 2020, during the pandemic period - the number of tourists were decreased to 3340, which has forced the field`s development to face a serious challenge. It is generally known that tourism`s development temp is mostly defined by tourism and recreational potential and with tourism industry`s development properties. In case of usage of full potential of all 3 resorts in mountainous Adjara (Gomarduli, Beshumi and Goderdzi), the number of tourists might be up to 80 thousand, and field`s weighed share in the regional economy might be increased from currently existing 3% to 15% (Putkaradze & Abuselidze, 2019).

Tourism business has faced the hardest problem during the COVID-19 pandemic period. Many of the companies and sole proprietor had serious financial problems in improving of the works commenced regarding the tourism service for the increasing tourism industry and the field development is actually endangered. Coming out of this, the ways to solve existing problems lays in the right application of tourism and recreational resources existing in the region itself.

Mountainous Adjara is known for its various tourism and recreation resources, with its beautiful natural landscapes, fresh air, historical and cultural sightseeing, local traditions

and cuisine, resources for development of mountainous climatological, mountain ski, extreme tourism and other. There should be noted that study area is quite close from city Batumi (20-115 km away), where annually over 370 thousand tourists arrive. The most of Batumi tourists visits the sights of mountainous Adjara, but they are not counted as the tourists of mountainous Adjara. The region has a huge potential to increase its tourism potential on the basis of arranging 1-2 day tours for the mentioned tourist. Actually, Batumi`s sea tourists should be taken into the mountainous Adjara during the period, while there is no good weather (climate conditions) for sea tourism. For this purpose, in order to develop the tourism business on the study area, the tourism and recreational resources of Makhuntseti waterfall (20-30 km away), “Adjarian Wine House” and Riv. Adjaristskali should be applied.

Picture no. 1 Makhuntseti waterfall



Source: Compiled by the authors

Makhuntseti waterfall is situated in Keda municipality, 30km away from Batumi city. The main quality of mentioned tourism and recreational resource is its beauty (see the picture 1), where the mentioned area has a convenient thermal condition during the big heat. Besides, the originality of landscape and the plants` green cover creates exotic landscape, which attracts the tourists. The mentioned object during the summer season, in average is visited by more than 130 thousand foreigner tourists. Adjacent to the waterfall (250 m) extreme tourism of rafting is active since 2015, gradually establishing as one of

the active tourism products of Riv. Adjaristskali base. In 2018, 8070 tourists have used rafting service and in 2019 - 14700 tourists. Actually, existing resources give the opportunity for extreme tourism's further development. Not less tourism attraction perspectives possess "Adjarian Wine House", which is one of the types of ecotourism - a wine tourism. "Adjarian Wine House" is located 20 km away from Batumi and 10km away from Makhuntseti waterfall, near to Batumi-Akhalsikhe international highway. Because of its convenient location, being near to Makhuntseti waterfall, the average of its visitors is about 45 thousand. Actually, there is a huge perspective for forming as one summer resort in Makhuntseti area on the basis of three tourism and recreational resources (Adjarian Wine House, Makhuntseti waterfall and Riv. Adjaristskali), that should be linked with sea tourism, on the basis of which the tourists will be given with opportunity to acquire a various tourism product. The mentioned tour should be added with adventure and hiking, also cycling at the Adjaria-Guria northern slopes, that is under the establishment process.

Goderdzi mountain ski resort has the big potential for increase the tourist flow in mountainous Adjaria. The exploitation of resort was commenced at 2012 and during of short period of time it has turned into dynamically increasing tourist object, the amount of which's visitors before the pandemic was increased in average. In particular - 4850 tourists in 2012 and 12790 tourists in 2019. The resort has all the conditions for its further development. The basic properties of the resort are as follows: 1. comfortable geographical location - is situated along the Batumi-Akhalsikhe international highway, 105 km away from Batumi city, whilst the country's main mountain ski resort - Gudauri is located 370km away distance; 2. It has a special resource for development of mountain ski tourism. In particular, nominal snow cover, best characteristics of slope inclinations and extensions, comfort thermal conditions and open horizon (from where the landscapes of mountainous Adjaria are seen); 3. The resort has a huge perspective to attract international tourists because of Batumi city, where during of New Year period lots of visitors arrive and during of that period many of them visit the resort. 4. Thanks to resort's geographical location, the number of internal tourists annually increases. The given data makes obvious that newly formed resort has a big perspectives. Coming out of this, the enhance of resort's functionality and increase of international tourists is mostly depended on tourism industry's further development, also on performance of proper marketing and management.

Quite good tourism and recreational potential has Gomarduli mountain ski resort, which is situated 75km away from Batumi city. According to our evaluation, in case of Gomarduli resort's full tourism service, its potential is determined by 12 thousand tourists (Putkaradze & Abuselidze, 2019). During of recent years, we have a serious defects in the mentioned resort's management, which became more complicated during the pandemic period, thus seriously endangering of its existence. Resort's further operation and application of its resource potential should be performed on the basis of internal tourists'

attraction, in particular on account of days off of Batumi population. For this purpose, firstly there should be established 1-2 day tours, where all the tourism production services will be prescribed.

The study makes obvious that by foreseeing the resources existing among the tourism development priorities, the big perspectives possess the mountain ski tourism, which will promote the employment of seasonally released labor resources during the winter period in the region with scarce land resources, thus it will play a simulative part for increase the mountain region`s social and economic growth.

The main charm of another regional mountain ski resort Beshumi`s tourism and recreational resource is that it is located 3 km away from Batumi-Akhaltzikhe international highway. Thus it has an easy accessibility by transport not only for international but for internal tourists as well. Besides, the resort is located at 1920-198 altitude from the sea level and it has best thermal conditions during the summer time. The ionized and fresh air of local pine forest, beautiful landscapes with open horizon and other properties typical to it make the best condition to rest (see pic. 2). Before the pandemic, an average amount of tourists at the resort was 6700-7200 recreants, whilst tourists` receipt potential is evaluated by 40 thousand tourists (Putkaradze & Abuselidze, 2019). Coming out of tourism and recreational potential, the number of tourists in case of industry`s development will be further increased. Accordingly, the tourism industry should be created at modern standards level. Nowadays, just one hotel and up to 480 hostel houses are active on the resort. Most of resort`s visitors consist of population from Adjarian sea coast and the number of international tourists are minimal. Coming out of resort`s geographical location and natural potential, its development tendencies should be directed to international tourists. For this purpose, the tourists visiting the Adjarian sea coast should be interested to visit the mountainous landscapes and tourism package should cover 2-3 day tours in mountainous Adjaria together with its sea coast as well. This will use the region`s climate resources at its maximum. In particular, in case of bad weather for sea tourism, the tourist should be able to visit the mountainous Adjaria by considering the fact that many times, when in Adjarian sea coast rains - mountainous Adjaria has a sunny weather without precipitation. Besides, by visiting Beshumi resort, the tourist will be able to visit also another wonders of nature situated adjacent to it - "Alpine garden" and the green lake, it will be able to taste ecologically pure, delicious dishes made of local milk products (Matsoni, Cream, Adjarian cheese, Borano, etc.), collect mushrooms and wild fruit (strawberry, blackberry, blueberry), walk through fresh and ionized air of pine forest and other. We consider that mentioned tourism production will be acceptable for the tourists, those who are interested in non-urbanized environment. Actually, a different tourism product acquired by connecting the sea and mountainous resorts might become as one of the priority trends of tourism. For this purpose, first of all the special place in tourism industry should be taken by information

service. In particular, the mentioned tour and area should be prescribed in details in the World Travel Guide. Besides, the above mentioned tour`s placement objects should be activated in world global information systems and tourism booking automatized systems (Amadeus, Sabre, Booking, etc.).

Picture no. 2 Beshumi resort



Source: Compiled by the authors

One of the priority trends of tourism development in mountainous Adjara is sustainable tourism, in particular - the village tourism a.k.a. the tourism at village (Putkaradze & Abuselidze, 2019). The region has various tourism and recreational resources for the tourism at village, the following should be noted among them: exotic natural landscapes (mountains, green cover, pure and cold springs, mineral springs, waterfalls and other), historical monuments and cultural heritages, delicious dishes made of ecologically pure agricultural products, folk and ethnographical places, introduction with local population`s activities (knitting, weaving, spinning, making the cradle, making the godori (cylindrical basket), making musical instruments, chopping the tobacco, etc.), visiting the picnic and camping places, fishing on mountain trout, tasting the local wine and other. Currently, the tourism at village is marked in all the region`s municipalities. The following tours should be noted among them: in Keda municipality - Batumi-Merisi,

Batumi-Gobroneti, Batumi - Adjaraian Wine House and in Shuakhevi municipality - Batumi-Nigazeuli.

One of tourism trends in mountainous Adjara is wine tourism, which is based on “Adjarian Wine House”, ancient winepresses cut in stone and family wine cellars in Keda municipality. It should be noted that in mountainous Adjara there are some local grape species, the best quality wine is being produced out of which. White and pink “Chkhaveri” are recognized amongst them and they constitute the main degustation drink of “Adjarian Wine House”. Besides, here one is possible to taste different types of wines made of local grape species. Before pandemic, “Adjarian Wine House” was visited by local and foreign tourists as well. Most of local visitors are newly married couples, which visit the place at their wedding day and take some wedding photos. It should be noted that tourism and recreational resources existing for wine tourism development are not fully involved in tourism industry. Under the existing resources` reasonable usage terms, we can turn the visitors involved in wine tourism into regional tourists. In this scope the most beneficial is establishment of Makhuntseti resort perspectives and priorities as we have mentioned above.

Number of international tourists involved in ecotourism was up to 750, which fell to 70 in 2020, during the pandemic. In post-pandemic period, actually there is various tourism and recreational resources to enhance tourism in ecotourism direction and its further application perspectives should be based on maintenance of rational natural management principles, in a manner that economic result should be achieved, at the same time natural complexes and local population interests should be observed. For these purposes, the following events should be performed: 1. Work out eco-tours by foreseeing the environmental sustainability and main principles of rational natural management; 2. In order to arrange new eco-tours, it is necessary to establish an international standard level tourism industry; 3. The priorities of some trends of tourism at village (visit and study the folk craft methods, taste ecologically pure dishes - gourmand or food tourism) should be shaped on the basis of existing resources, where the focus should be made on international tourists` attraction; 4. Attraction of eco-tourists should be mainly done on the basis of Adjarian sea coast tourists, according to that and coming out of the weather condition, the time should be rationally used and thus different tourism production might be acquired; 5. The development of ecotourism should be based on proper marketing and management research on the basis of that the economic activity`s usefulness and environmental protection events should be grounded in business plans of new tours.

In order to determine the tourism development perspectives in mountainous Adjara, it is necessary to evaluate the potential of study area`s tourism and recreational resources, which implies the unity of natural and social-economic Geosystems, which might be used for tourism activity (Birzhakov, 2008; Metrevel, 2008; Ukleba, 2009). According the

research it is confirmed that mountainous Adjara is known for its various tourism and recreational resources, which sets the tourism's further development perspectives. Besides, the study conducted by us before pandemic makes obvious that by full usage of resources existed on 3 resort base at this time and creation of tourism infrastructure in the region, the number of tourists might be increased up to 80 thousand tourists (Putkaradze & Abuselidze, 2019). The opportunity of tourists' increase is given by fact, that notwithstanding the mountain region's lesser environmental sustainability, tourists' ecological flow potential, some tourism object is able to handle without serious damages, negative impact and rise of social-economic issues in population (Birjshakov, 2008; Metrevel, 2008) does not exceed the maximum norm, or there are much less tourists comparing to existing ecological flow potential. In order to issue's complex study, the sociological research was arranged, in particular - by conducting one of the tourists ecological flow ability methods - "Local social flow ability potential" (Birjshakov, 2008) - we found out local population's attitude in line with sustainable tourism development. In particular, according to 247 persons (from local population) questioning whether they wished to increase a number of tourists or not - the positive answer was 239 and negative - 8. Besides, the population has a good attitude towards the foreign tourists that sets the perspectives for international tourism's development.

Balancing theory method might be used for mountainous Adjara's tourism and recreational potential's further usage and determination of region's post-pandemic economy (Cooper, 2008). According the mentioned theory and as a result of research conducted by us (Putkaradze & Abuselidze, 2019; Putkaradze & Gorgiladze, 2016), there was found out, that for development of the leading business field - agriculture, there are no further perspectives on the background of scarce land resources and worsened ecological condition. Besides, other business fields (hydropower engineering, food industry) are separately developed from each other and they are unable to significantly increase the economy. Coming out of this, the region's business development has no big perspectives by applying the balancing theory. By foreseeing the fact that mountainous Adjara has a big opportunities for tourism development, by theory of coordination failure (Cooper, 2008) there were analyzed some particular business fields of the region, on the basis of that and by above mentioned research there was determined, that tourism business should be granted with priority trends in regional economy's further development. Therefore, by realization of ways set for development of some particular types of tourism, it will be possible to reach the sustainable development of mountain regions' social and economic fields.

Conclusion and Recommendations

The analysis of tourism and recreational resources of mountainous Adjara gives the possibility to tourism industry to play the special part for region`s economic development during the post-pandemic period. Tourism and recreational resources` evaluation analysis (necessary for development of tourism`s particular fields) gives the possibility to operate summer and winter resorts as well during the whole year period. By foreseeing the results acquired out of resource usage perspectives in this scope of view, would highly encourage region`s social-economic development. Besides, tourism industry formation should be promoted by state via different types of marketing, management, financial and municipal projects.

REFERENCES

- Abuselidze, G., & Mamaladze, L. (2020). The Impact of the COVID-19 Outbreak on the Socio-Economic Issues of the Black Sea Region Countries. *Lecture Notes in Computer Science*, **12253**, 453–467. doi:10.1007/978-3-030-58814-4_32
- Abuselidze, G., & Slobodanyk, A. (2021). Pandeconomic crisis and its impact on small open economies: a case study of COVID-19. *Advances in Intelligent Systems and Computing*, **1258**, 718-728. doi:10.1007/978-3-030-57450-5_61
- Abuselidze, G., & Devadze, N. (2021). Stakeholder Perceptions and Models of Engagement for Sustainable Tourism Development in Adjara Autonomous Republic. *International Journal of Innovative Technologies in Economy*, **3(35)**, 1-6. doi:10.31435/rsglobal_ijite/30092021/7638
- Bell, S., & Morse, S. (2004). Experiences with sustainability indicators and stakeholder participation: a case study relating to a “Blue Plan” project in Malta. *Sustainable Development*, **12(1)**, 1–14. doi:10.1002/sd.225
- Birjshakov, M. (2008). *Theory of Tourism* Tbilisi, p 270. (in Georgian language).
- Bramwell, B., & Lane, B. (2011). Critical research on the governance of tourism and sustainability. *Journal of Sustainable Tourism*, **19(4-5)**, 411–421. doi:10.1080/09669582.2011.580586
- Galvani, A., Lew, A.A., & Perez, M. S. (2020). COVID-19 is expanding global consciousness and the sustainability of travel and tourism. *Tourism Geographies*, **22(3)**, 567–576. doi:10.1080/14616688.2020.1760924
- Gugushvili, T., Salukvadze, G., & Salukvadze, J. (2017). Fragmented development: Tourism-driven economic changes in Kazbegi, Georgia. *Annals of Agrarian Science*, **15(1)**, 49-54.
- Diakonidze, M. (2019). Development of Tourism Services and Employment Perspectives: A Case Study. *European Research Studies Journal*, **22(3)**, 132-148. doi:10.35808/ersj/1462

- Diakonidze, M. (2021). Tourism Insurance Market, Risks and Prospects. *Journal of Corporate Governance, Insurance and Risk Management*, **8(1)**, 75–83. doi:10.51410/jcgirm.8.1.5
- Dodds, R. (2007). Sustainable Tourism and Policy Implementation: Lessons from the Case of Calviá, Spain. *Current Issues in Tourism*, **10(4)**, 296–322. doi:10.2167/cit278.0
- Dwyer, L., & Kim, C. (2003). Destination Competitiveness: Determinants and Indicators. *Current Issues in Tourism*, **6(5)**, 369–414. doi:10.1080/13683500308667962
- Huber, U.M., Bugmann, H.K.M., & Reasoner, M. A. (Eds.). (2005). Global Change and Mountain Regions. *Advances in Global Change Research*. doi:10.1007/1-4020-3508-x
- Cooper, C.P. (2008). *Tourism: principles and practice* Harlow: Pearson Education.
- Kizielewicz, J. (2020). COVID-19 Consequences and Travel Insurance Policy in Leading Cruise Shipping Corporations. *European Research Studies Journal*, **23(4)**, 600-611. doi:10.35808/ersj/1703
- Koulov, B., & Zhelezov, G. (Eds.) (2016). *Sustainable Mountain Regions: Challenges and Perspectives in Southeastern Europe*. doi:10.1007/978-3-319-27905-3
- Lu, J., & Nepal, S. K. (2009). Sustainable tourism research: an analysis of papers published in the Journal of Sustainable Tourism. *Journal of Sustainable Tourism*, **17(1)**, 5–16. doi:10.1080/09669580802582480
- Messerli, B. (2012). Global change and the world's mountains. *Mountain research and development*, **32(S1)**, S55-S63. doi:10.1659/mrd-journal-d-11-00118.s1
- Metrevel, M. (2008). *Tourism and Environment Protection (Basics in Ecotourism)* Tbilisi, p 204 (in Georgian language).
- Mulder, N. (Coordinator) (2020). *The impact of the COVID-19 pandemic on the tourism sector in Latin America and the Caribbean, and options for a sustainable and resilient recovery*. Santiago: Economic Commission for Latin America and the Caribbean (ECLAC), United Nations.
- Salukvadze, G., Gugushvili, T., & Salukvadze, J. (2019). Spatial peculiarities of local tourism supply chains in High-Mountainous Georgia: Challenges and perspectives. *European Journal of Geography*, **10(3)**, 173-188.
- Salukvadze, G., & Backhaus, N. (2020). Is Tourism the Beginning or the End? Livelihoods of Georgian Mountain People at Stake. *Mountain Research and Development*, **40(1)**, R28.
- Stępień, J., Michalski, T., Grabowski, J., Waszak, P., Grabkowska, M., Macul, A., & Rojek, J. (2021). Social response and spatial mobility change due to COVID-19 pandemic in Poland. *Geographia Polonica*, **94(3)**, 381-396

- Putkaradze, M., & Abuselidze, G. (2019). The Impact of Tourism on Business Development in Mountain Regions: A Case Study. *International Journal of Economics and Business Administration*, **7(3)**, 70-83. doi:10.35808/ijeba/308
- Putkaradze, M., & Gorgiladze, N. (2016). Tourism and Ecology in Adjara. *International Journal of Environmental Sciences*, **5(2)**, 86-88.
- Ukleba, M. (2009). *Tourism and recreational resources (assessment, transformation)*. Tbilisi (in Georgian language).
- Wahab, S., & Pigram, J. J. (1998). Tourism and sustainability: Policy considerations In S. Wahab and J.J. Pigram (eds) *Tourism, Development and Growth. The Challenge of Sustainability*, pp 277-290. London: Routledge.
- Wehrli, A. (2014). Why Mountains Matter for Sustainable Development. *Mountain Research and Development*, **34(4)**, 405–409. doi:10.1659/mrd-journal-d-14-00096.1

PROMOTION STRATEGIES OF ELECTRONIC NICOTINE DELIVERY SYSTEMS: AN OVERVIEW

Milen Filipov¹, Dinka Zlateva²

Received: 5.11.2022, Accepted: 20.11.2022

Abstract

Smoking e-cigarettes has increased exponentially in the last several years in smokers' search for a healthier alternative to conventional cigarettes. An explanation for it can be found in the global legal restrictions on promoting tobacco products, including Electronic nicotine delivery systems (ENDS). The research overviews scientific literature on how the major ENDS players promote their products. It also sheds light on the most common under-the-radar strategies producers and distributors implement to avoid legal restrictions and achieve higher consumption.

The findings of the research show that ENDS producers and distributors actively use Word-of-Mouth (WoM) and surrogate advertising. Thus, the many bonus programs offered to ENDS smokers prompt the audience's positive WoM. As a result, the consumers of ENDS are more predisposed to share their opinion on their positive experiences. Social media celebrities are also actively used to create an image of ENDS as stylish, modern and high-tech than conventional cigarettes. This perception is facilitated by social media promotion of ENDS products as a part of a modern lifestyle also positively impacts electronic smoking. ENDS still enjoy the comfort of not depicting repulsive images of the harmful effects of smoking on their ENDS products.

Keywords: *electronic nicotine delivery system; surrogate advertisement; word-of-mouth*
JEL Codes: *M31, M37*

Introduction

Consumption of tobacco products (cigarettes, cigars, tobacco, vapes, and e-cigarettes) is the main reason for developing cancer and other life-threatening diseases (Notley et al., 2019). Unfortunately, proactive public awareness initiatives fail to limit tobacco product consumption globally. For example, tobacco products, which fall in the category of goods posing a threat to human health, are restricted by local or international regulations. They aim to minimize the negative health impact on active and passive

¹ PhD, Associate professor, KIMEP University, Kazakhstan, mfilipov@kimep.kz, ORCID 0000-0002-1230-1930

² PhD, Associate professor, South-West University "Neofit Rilski", Bulgaria, didi210@swu.bg, ORCID 0000-0003-2227-7871

consumers. Therefore, one of the ways to limit tobacco product consumption is by restricting the direct advertising of such products. However, producers and distributors utilize aversive integrated marketing communications campaigns to avoid legal restrictions and to change attitudes, particularly toward *electronic nicotine delivery systems* (ENDS). Therefore, overviewing the most commonly employed strategies in promoting ENDS could help legislators and policymakers close more communication nooks for promoting a “healthier” alternative to conventional tobacco products.

Electronic nicotine delivery systems (ENDS)

Electronic nicotine delivery systems (ENDS) were introduced on the market in 2007 (Padon, Lochbuehler, Maloney, & Cappella, 2018; Stroup & Branstetter, 2018). Collins, Glasser, Abudayyeh, and Pearson (2019) found that by 2014, the annual e-cigarette ROI had reached more than 2 billion USD in the US alone. They also accounted for the increased consumer interest in ENDS due to intensive advertising internationally.

ENDS producers’ marketing strategies focusing on its relative convenience result in the number of smokers who decide to substitute conventional smoking with electronic devices increasing yearly. Dave, Dench, Grossman, and Kenke (2019) claimed that aggressive advertising attracted non-smokers to start smoking ENDS. These products were initially designed as a cigarette substitutes, which was explicitly highlighted in design campaigns. In addition, the advertisers paid explicit attention to promoting the health benefit of ENDS relative to conventional cigarettes.

Such advertising methods resulted in the perceived health benefit from the smokers’ side. In other words, the consumers of conventional cigarettes started to perceive the product as an adequate cigarette replacement (Villanti et al., 2016). Therefore, the companies’ most popular advertising techniques utilized were similar to promotional tools of conventional cigarettes: product placement, celebrity endorsement and emotional appeals. In addition, more lenient legal regulations on advertising the product made ENDS accessible to a larger audience (van der Tempel, 2016). As a result, it became increasingly popular among youth, who got most exposed to bright advertisements initiated by product producers.

IQOS

The biggest international producer of ENDS devices is Altria Group Inc. Following the introduction of ENDS as an alternative to cigarettes in the last decade, Altria Group entered the top rating of the Silicon Valley companies with an accumulated budget of over 38 billion USD. This achievement indicated the popularity of ENDS and the high

effectiveness of the company's marketing campaigns. Currently, the company is responsible for producing and distributing IQOS and JUUL ENDS systems.

IQOS is one subtype of ENDS that Philip Morris International Inc. (PM) developed, an affiliated branch of Altria Group Inc. Originally, the company focused on producing conventional cigarettes. However, following the wave of strict anti-tobacco restrictions and the increasing popularity of ENDS, the company established its product for e-smoking back in 2014. As a result, PM selected IQOS as the name for their ENDS product as a core marketing strategy. It stands for — I quit ordinary smoking (Jackler et al., 2020). It can be inferred from the title that the word *ordinary* is expected to prompt an emotional and psychological response to the product as a unique and distinctive solution to conventional cigarettes.

Therefore, the IQOS device is presented as a unique small piece of equipment which uses a particular tobacco heating system. In general, the device utilized the technical principles of any other ENDS, but the distinctive feature of IQOS is substituting the liquid substance with special sticks. These sticks are given the form of a conventional cigarette with a slightly shorter length. The form of the sticks is also expected to target past smokers and create associations with smoking conventional cigarettes.

In the first stages, PM's marketing campaign for IQOS targeted smokers of conventional cigarettes. The marketers carefully chose the frames of reference for the product. IQOS was associated with an *alternative*, *switch*, and *quit* conventional cigarettes (Jackler et al., 2020). The word choice implied IQOS was a means to give up on conventional cigarettes in the long run. Additionally, the key messages compared IQOS to conventional cigarettes. For instance, they state that "IQOS is a healthier alternative to conventional cigarettes" because "Heat Control technology, which heats the tobacco to 350°C, prevents the substance from burning like in the case of cigarettes" (IQOS official website, 2020 para 4). So, in general, the marketing positioning of IQOS is developed to sustain an image of the brand that is more 'luxury' than vaping and healthier than smoking conventional cigarettes.

JUUL

JUUL is the second big player in the ENDS market. It is also a product of Altria Group Inc., unlike IQOS; this device requires a smoker to purchase a particular nicotine-containing liquid rather than a stick. The largest customer share among JUUL smokers includes American teenagers and youth (Jackler et al., 2019). The official positioning of the company is similar to the one of IQOS. The design and public image of the brand were based on the principle of the Apple Company. As a result, numerous media publications

labelled the product “iPhone for e-cigarettes” (Jackler et al., 2019, p.2). In addition, similar to IQOS, the main message that the advertisers deliver of the product is that JUUL is the satisfying alternative to cigarettes or the evolved version of smoking.

One of the most distinctive features of JUUL marketing is that it did not utilize any paid traditional means of advertisement for the first half a year of product distribution. On the other hand, the tactic distributors of JUUL products utilized a hashtag marketing strategy. This strategy was relatively new and was directly related to the increasing popularity of social networks. The strategy raises the popularity and sales of a product by creating a product-specific hashtag on a chosen social media platform. In most cases, the distributors choose Instagram as the platform for spreading the product. The peculiarity of this strategy is that apart from increasing the number of passive viewers who witness the product, this technique creates the so-called imaginary community around the device.

Interestingly, the research by Stanford University Team indicated that even after the company stopped spreading product awareness through Instagram, Juul hashtag publications continued to increase (Jackler, Ramamurthi & Louis-Ferdinand, 2019). In this sense, the product was spread and advertised by the representatives of the company and the users themselves. This tool was used such that the potential customers started to perceive the product as part of a bright modern lifestyle. In addition, the promotion took place through social media celebrities and the organization of promotional youth-oriented events.

GLO

GLO is the third big player in the ENDS market produced by British American Tobacco (BAT). The device heats tobacco neo-sticks, similar to IQOS. As with other ENDS products, GLO is compared with conventional cigarettes. However, the image of GLO BAT projects is a better alternative to cigarettes by comparing the heating points of GLO neo-sticks as opposed to conventional cigarettes. Moreover, unlike IQOS, GLO does not strive to be associated with luxury. Interestingly, even though the device has relatively better functional features (lower heating point than IQOS and a longer battery charge) than IQOS and JUUL, the company’s sales still need to grow.

Common promotional strategies of ENDS

Product placement

The strategy utilized by most producers and distributors of tobacco-containing products is product placement (Eagle & Dahl, 2018). This technique is based on implicit and non-open marketing (Eagle & Dahl, 2018). The main idea behind this advertising

strategy is to get the audience familiar with the product without explicit and open advertising (Eagle & Dahl, 2018). It can usually be achieved via product placement, i.e., the depiction of a particular product in films and movies (Chan, Lowe & Petrovici, 2017). The nature of promotion via this marketing strategy implies that it is usually used by the ‘legally bounded’ goods such as tobacco and alcohol (Raj, 2011).

For instance, despite a widespread international ban on smoking promotion on TV and radio channels, smoking is widely depicted in popular TV series and films. Such images can create an interest in smoking among non-users and prevent current smokers from quitting the habit (Griffin & Murphy, 2017). Furthermore, in movies, smoking also exemplifies freedom, ruggedness, relief, romance and others (Charlesworth & Glantz, 2005).

Surrogate advertisement

Surrogate advertising is another strategy which the producers and distributors of cigarettes often use is surrogate advertising. Similar to product placement, this technique is aimed at implicit and indirect advertising of a product. Sharma and Chander (2007) comment that the main idea of a surrogate advertisement is to find the legal measures to depict the product in locations of substantial public gatherings. They suggest the most important thing is to present the brand name, product and slogan. It means that, unlike direct advertising, surrogate advertising does not direct the audience’s attention to the product’s benefits. It is rather publicly present at important public or corporate occasions. For instance, in India, tobacco-selling companies always engage in charity events, international holiday celebrations, sports competitions and fashion shows through sponsorship (Singh, 2015). It is due to the legal restrictions to direct and explicit advertising of harmful health products — tobacco products.

Word-of-Mouth (WoM)

People are social by nature. It means that daily interaction with the close circle of friends, acquaintances, colleagues and relatives significantly impacts human behaviour and the perception of norms. Word-of-Mouth (WoM) is a social phenomenon that allows the exchange and sharing of individual experiences regarding a particular product and service. In other words, WoM should be regarded as “informal advice passed between consumers” (East, Uncles, Romaniuk & Lomax, 2016, p. 54). In the past, the WoM power was limited to a relatively close circle of people, including family members and friends. However, with the development of technologies, consumers can share their experiences online with a much larger audience. As a result, WoM seriously impacts the perceived quality of any brand.

Therefore, it can strongly influence consumers' purchasing decisions. It increases brand recognition, shapes brand image, and creates positive or negative attitudes. Therefore, WoM is an essential tool in brand promotion and retention of a brand image (East, Romaniuk, Chawdhary & Uncles, 2017). Unfortunately, individuals are more influenced by negative word-of-mouth rather than positive word-of-mouth. Negative word-of-mouth has twice the more significant effect on consumer perception of a brand (East et al., 2017). It is vital to consider that the impact of WoM is also directly related to the power of expression (East, Hammond & Lomax, 2008).

Conclusion

Legal regulations and restrictions force producers and distributors to implement under-the-radar strategies for promoting tobacco products, including ENDS. For example, ENDS producers and distributors actively use WoM and surrogate advertising. Thus, the many bonus programs offered to ENDS smokers prompt the audience's positive WoM. As a result, the consumers of ENDS are more predisposed to share their opinion on their positive experiences. Social media celebrities are also actively used to create an image of ENDS as stylish, modern and high-tech than conventional cigarettes. This perception is facilitated by social media promotion of ENDS products as a part of a modern lifestyle also positively impacts electronic smoking. Nevertheless, ENDS still enjoys the comfort of not depicting repulsive images of the adverse effects of smoking on their ENDS products.

References

- Chan, F. F. Y., Lowe, B., & Petrovici, D. (2017). Young adults' perceptions of product placement in films: An exploratory comparison between the United Kingdom and Hong Kong. *Journal of Marketing Communications*, 23(3), 311–328.
- Charlesworth, A., & Glantz, S. A. (2005). Smoking in the movies increases adolescent smoking: a review. *Pediatrics*, 116(6), 1516–1528.
- Collins, L., Glasser, A. M., Abudayyeh, H. & Pearson, J. L. (2019). E-cigarette marketing and communication: how e-cigarette companies market e-cigarettes and the public engages with e-cigarette information. *Nicotine and Tobacco Research*, 21(1), 14–24.
- Dave, D., Dench, D., Grossman, M., & Kenkel, D. S. (2019). Does e-cigarette advertising encourage adult smokers to quit? *Journal of Health Economics*, 68, 102–127.
- Eagle, L., & Dahl, S. (2018). Product placement in old and new media: examining the evidence for concern. *Journal of Business Ethics*, 147(3), 605–618.

- East, R., Hammond, K., & Lomax, W. (2008). Measuring the impact of positive and negative word of mouth on brand purchase probability. *International journal of research in marketing*, 25(3), 215–224.
- East, R., Romaniuk, J., Chawdhary, R., & Uncles, M. (2017). The impact of word of mouth on intention to purchase currently used and other brands. *International Journal of Market Research*, 59(3), 321–334.
- East, R., Uncles, M. D., Romaniuk, J., & Lomax, W. (2016). Measuring the impact of positive and negative word of mouth: A reappraisal. *Australasian Marketing Journal*, 24(1), 54–58.
- Griffin, B., Murphy, M. (2017). Is social marketing just smoke and mirrors? Adolescent female smoking. In: Campbell, C.L. (eds) *The Customer is NOT Always Right? Marketing orientations in a dynamic business world. Developments in Marketing Science: Proceedings of the Academy of Marketing Science*. Springer, Cham.
- Jackler R.K., Chau C., Getachew B.D., Whitcomb M.M., Lee-Heidenreich J., Bhatt A.M., Kim-O’Sullivan S.H., Hoffman Z.A., Jackler L.M. & Ramamurthi D. (January 31, 2019). JUUL Advertising Over its First Three Years on the Market, SRITA White Paper, 1–48.
- Jackler R.K., Ramamurthi D., Axelrod A., Jung J.K., Louis-Ferdinand N.G., Reidel J.E., Yu A.W., Jackler L.M. & Chau C. (February 21, 2020). Global Marketing of IQOS The Philip Morris Campaign to Popularise “Heat Not Burn” Tobacco. SRITA White Paper.
- Jackler, R. K., Ramamurthi, D. (2019). Nicotine arms race: JUUL and the high-nicotine product market. *Tobacco Control*, 28(6), 623–28.
- Notley, C., Gentry, S., Livingstone-Banks, J., Bauld, L., Perera, R., & Hartmann-Boyce, J. (2019). Incentives for smoking cessation. *Cochrane Database of Systematic Reviews*, 7, 60–70.
- Padon, A. A., Lochbuehler, K., Maloney, E. K., & Cappella, J. N. (2018). A randomized trial of the effect of youth appealing e-cigarette advertising on susceptibility to use e-cigarettes among youth. *Nicotine and Tobacco Research*, 20(8), 954–961.
- Raj, R. (2011). Role of Surrogate Advertisements: Impact on Recall of Parent Product and Attitude Formation. *Marketing: Delivering Value in Turbulent Times*, 44, 44–45.
- Sharma, R. R., & Chander, S. (2007). Consumer Psychographics and Surrogate Advertising: An Application of Multiple Discriminant Analysis. *Journal of Consumer Behavior*, 2(4), 25–47.
- Singh, C. (2015). Evaluation of surrogate advertising and its legal measures with special reference to India. *Management Insight*, 11(1), 104–107.

- Stroup, A. M., & Branstetter, S. A. (2018). Effect of e-cigarette advertisement exposure on intention to use e-cigarettes in adolescents. *Addictive behaviors*, 82, 1–6.
- Tuchman, A. E. (2019). Advertising and demand for addictive goods: The effects of e-cigarette advertising. *Marketing Science*, 38(6), 994–1022.
- van der Tempel, J., Noormohamed, A., Schwartz, R., Norman, C., Malas, M., & Zawertailo, L. (2016). Vape, quit, tweet? Electronic cigarettes and smoking cessation on Twitter. *International journal of public health*, 61(2), 249–256.
- Villanti, A. C., Rath, J. M., Williams, V. F., Pearson, J. L., Richardson, A., Abrams, D. B. & Vallone, D. M. (2016). Impact of exposure to electronic cigarette advertising on susceptibility and trial of electronic cigarettes and cigarettes in US young adults: a randomized controlled trial. *Nicotine & Tobacco Research*, 18(5), 1331–1339.
- WHO. (2019). A report on tobacco and nicotine consumption. Adapted from: https://www.who.int/substance_abuse/facts/tobacco/en/

PROBLEMS OF THE GENERATIONAL MARKETING

Savica Dimitrieska¹, Tanja Efremova²

Received: 10.11.2022, Accepted: 20.11.2022

Abstract

In marketing theory, it is considered that an undifferentiated “one-product-fits-all” marketing strategy is not very effective because people are different and need various products and services. Companies, especially small and medium-sized enterprises as well as those companies with limited financial resources, are better off segmenting the market into smaller homogeneous groups with the same or similar needs. Market segmentation can be done according to a variety of variables, such as geographic, demographic, psychological, and behavioral. However, these variables should only be taken as a guide to where companies should direct their efforts, their products and services, marketing strategies, communications to satisfy consumers and make a profit. Age, as a demographic variable, divides people into different generational groups according to the time of their birth. Several generations are distinguished, such as G.I generation, Silent generation, Baby boomers, generation X, millennials, generation Z, generation Alpha. This paper describes generational marketing, but also points out the dangers if it is exclusively used as a variable for market segmentation. The paper concludes that as part of demographic variables, generation should be used in combination with other variables for better and more accurate market segmentation and targeting.

Keywords: undifferentiated marketing; segmentation; age; generation; demographic variables

JEL Codes: M30, M31, M39

Introduction

Consumers have different needs and wants that they satisfy with diverse and various products and services. Their different needs arise from the fact that consumers live in different geographical areas, with different climates, belong to different generational groups, have different educational, cultural, political, religious points of view, have different interests, aspirations, activities, ambitions, as well as different buying attitudes

¹ International Balkan University, Faculty of Economics and Administrative Sciences, Republic of North Macedonia, Professor in Marketing, PhD, Savica.Dimitrieska@ibu.edu.mk, <https://orcid.org/0000-0001-9808-6647>

² National Bank of the Republic of North Macedonia, Statistics Department, Advisor, M.Sc., Vodolija_73@yahoo.co.uk, <https://orcid.org/0000-0001-9469-0329>

and buying practices. Hence, companies can hardly satisfy all consumers with one product. They need to divide the large heterogeneous market into smaller homogenous target segments in order to be more efficient and effective on the market and make a profit. The market segmentation is a very complicated process and there is no recipe for ideal segmentation. In marketing theory, geographic, demographic, psychological and behavioral variables are used for market segmentation (Kotler, Armstrong, 2016). The content of the individual variables is presented in the following table:

Table no. 1 - Major segmentation variables

Major Segmentation Variables	
Segmentation Variable	Examples
Geographic	Nations, regions, states, counties, cities, neighborhoods, population density (urban, suburban, rural), climate
Demographic	Age , life-cycle stage, gender, income, occupation, education, religion, ethnicity, generation
Psychographic	Social class, lifestyle, personality
Behavioral	Occasions, benefits, user status, usage rate, loyalty status

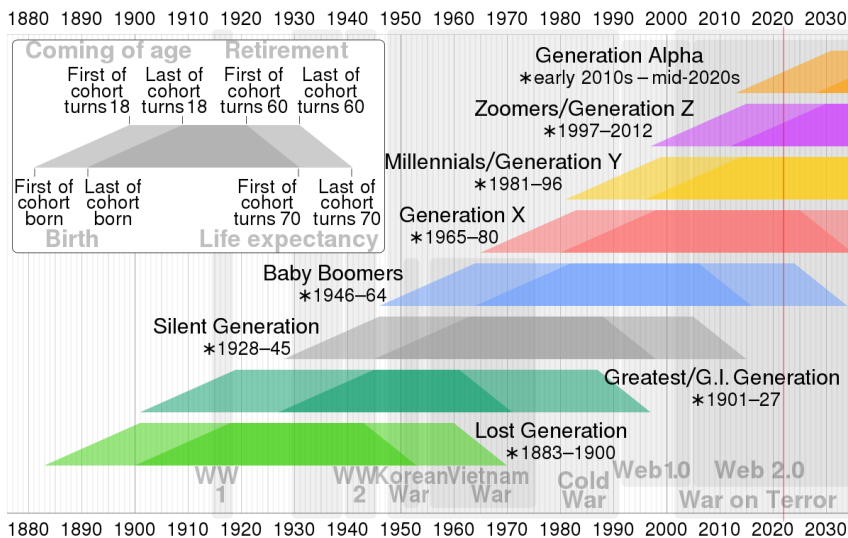
Source: Kotler Ph, Armstrong G (2016), “*Principles of Marketing*”, Global 16th Edition, Pearson Education Limited, p. 224

Age, i.e. generation, are part of the demographic variables for market segmentation along with gender, income, life cycle stage, education, occupation, religion and ethnicity. Demographic variables are mostly used for segmentation because they are easily measurable compared to other variables. However, there is a difference between age and generation. According to American Marketing Association (AMA, 2022), generations are about “starting point”. More precisely, “contrasting young and old today is an age comparison, not a generational or cohort comparison. Generations are about trajectories of belief and action that began at particular starting points. The relevant contrasts for generations are those comparing the opinions and behaviors of cohorts at comparable ages. A generational comparison of millennials versus boomers is not millennials today versus boomers today. Rather, it is millennials and boomers at comparable ages, which is boomers when they were 19 to 36 years old, or the ages of millennials today.” Williams (2011) define the generation as “a group of people who travel through life together and experience similar events”. Emile Littré, French philosopher, in 1863 defined the generation for the first time as “all men living more or less at the same time” (Chaney, Touzani, Slimane, 2017). Sociologist Mannheim, in his theory of generations in 1923 defined the generation as “individuals who experience the same historical, social, cultural, political and economic

events during their coming of age years”. So, generation is a group of persons that share common values and behaviors over the course of their lives (Chaney, Touzani, Slimane, 2017). AMA is defining generation as “all of the people born and living at about the same time, regarded collectively.” Also, AMA describes the generation on a very interesting way, as “the average period, generally about 20-30 years, during which children are born and grow up, become adults and begin to have children.” In social sciences, the term generation means “a delineated population who experience the same significant events within a given period of time.”

Generational marketing means adapting goods and services and other components of the marketing mix to a specific generation (Chaney, Touzani, Slimane, 2017). In generational marketing, customers are segmented and targeted by generation, determined by the year they were born. The generation types are more illustratively shown in the following graph:

Graph no. 1 Types of Generations (1883-2020)



Source: Glad Tim (2021), “Leading Across the Generations”, Salem University, West Virginia, USA

Marketers need to be very careful when they use generational segmentation to guard against stereotypes. So, for example, some 70-year-old women are stereotypical and fit the description of baby boomers, but some are active, travel, play sports, follow fashion and eat healthy.

Literature Review

The application of the undifferentiated marketing strategy, “one size fits all”, is considered neither practical nor efficient. A single product isn’t likely to appeal to everyone. The product that is interesting for a 22-year-old student is not a challenge for a 50-year-old lawyer with a family. In order companies to serve the market more efficiently and effectively, it is best for them to divide the large, wide and heterogeneous market into smaller groups-segments. The segments should be as homogeneous as possible inside, and as heterogeneous as possible in relation to the rest of the market. Dividing the market into smaller homogeneous segments, each with a common variable, allows companies to use their time and resources more efficiently. However, segmentation is a very complex process for companies. Marketing theory offers so-called variables for easier segmentation of the market, such as geographic, demographic, psychographic and behavioral variables. Age, and generation as well, are part of the demographic variables along with income, education, life cycle stage, gender, occupation, religion and ethnicity (Kotler, Armstrong, 2016). Demographic segmentation is the most commonly used method. According to age, people can be divided into segments, such as babies, children, adolescents, adults, middle-age, and seniors. Generation based segmentation relates to the segments such as baby boomers, Generation X, Generation Y, Alpha, etc. Members within each generation were born around the same time and grew up with similar experiences, so they often share similar characteristics and thought processes. They share common political, social, historical, economic, cultural environment. Hence, generational marketing is defined as “a strategy for understanding how a certain age group behaves as consumers by considering their upbringing shaped by trends, developments and events” (Buesnel, 2022). A generation is a group of people who fall in the same age group, and their lives are shaped by the same kinds of trends and experiences. It is useful to see what different researchers think about the labels and boundaries of generations (Table 2).

Table no. 2 - Generation labels and periods in different sources

Source	Labels					
Howe and Strauss, 2000	Silent Generation (1925-1943)	Boom Generation (1944-1960)	Generation 13 (1961-1981)	Millennial Generation (1982-2000)		
Lancaster and Stillman, 2002	Traditionalists (1900-1945)	Baby Boomers (1946-1964)	Generation Xers (1965-198)	Millennial Generation, Echo Boomers, Generation Y, Baby Busters, Generation Next (1981-1999)		
Martin and Tulgan, 2002	Silent Generation (1925-1942)	Baby Boomers (1946-1960)	Generation X (1965-1977)	Millennials (1978-2000)		
Oblinger and Oblinger, 2005	The Mature (<1946)	Baby Boomers (1947-1964)	Gen-Xers (1965-1980)	Gen-Y; NetGen, Millennials (1981-1995)	Post-Millennials (1995-2005)	
Tapscott, 1998	-	Baby Boom Generation (1946-1964)	Generation X (1965-1975)	Digital Generation (1976-2000)		
Zemke et al., 2000	Veterans (1922-1943)	Baby Boomers (1943-1960)	Gen-Xers (1965-1980)	Nexters (1980-1999)		
Reeves and Oh (2008)	Mature Generation (1924-1945)	Boom Generation (1946-1964)	Generation X (1965-1980)	Millennial Generation (1982-2000)	Generation Z (2001-present)	
Perano (2019)	Silent Generation (1928-1945)	Baby Boomers (1946-1964)	Generation X (1965-1980)	Generation Y, Millennials (1981-1996)	Generation Z, Zoomers (1997-2012)	Generation Alpha (2012-2022)

Source: Torocsik, Szucs, Kehl, (2014), p.27

Of interest to the market today, there are 6 groups of generations, namely: Silent Generation (1928-1945), Baby Boomers (1946-1964), Generation X (1965-1980), Generation Y (Millennials) (1981-1996), Generation Z (1997-2012) and Generation Alpha (2012-2022). Before these generations, there were the so-called Lost Generation (1883-1900) and G.I. or The Greatest Generation (1901-1927). These last two generations are from the period of the First World War, the Roaring Twenties, the Great Depression, radical social changes and veterans from the Second World War. So, their characteristics are that they are conservative, altruistic, patriotic, but considering that the youngest are 95 years old as of 2022, they are not the subject of great interest of companies. These generations are important because they brought up the next generations to whom they passed on traditions, histories, stories, ways of behaving, buying and spending habits. Below generations are shown separately, by periods, common characteristics, interests and activities.

1) **Silent Generation** (Traditionalists, Depression generation, Swing generation, Lucky-few generation)

Period: 1928-1945 (at the age between 77-94 as of 2022)

Features: frank, moral, altruistic, strong, practical, believe in authority and rules, dedicated to family, distrust change

Marketing approach: traditional media (TV, radio, magazines, direct mail)

Appropriate goods/ services: oldest generation on the market in a need of healthy products such as low fat/sugar/salt/cholesterol food, recreational events, travels. Famous as “customers for life”!

2) **Baby Boomers** (Me generation, Baboo, Love generation, Woodstock generation, Sandwich generation)

Period: 1946-1964 (at the age between 58-76 as of 2022)

Features: technophobes (they lived without technology), optimists, self-centric, self-expressive, prosperous, wealthy, with highest purchasing power and buying capacity, loyal to brands

Marketing approach: traditional media (TV, radio, print), but they embraced mobile phones and social media, also word-of-mouth

Appropriate goods/ services: ageing generation in a need of healthy products, spas, cosmetics for males and females, hair-coloring, botox, plastic surgery, baldness treatments, adventurous vacations, expensive meals, clothes, famous like “entitled to a good life”!

Note: only 5-10% of marketing is targeted to baby boomers despite their highest purchasing power which is a huge mistake for companies (Wong, 2021).

3) **Generation X** (Slackers, Why Me Generation, Baby Bust, Gen X, Xers)

Period: 1965-1980 (at the age between 42-57 as of 2022)

Features: skeptical, critical outlook to life, highly educated, free agents (no team players), distrust change and innovations, smallest age group, due to recessions cautions with money, nostalgic, need reassurance for their choice, good purchasing power, loyal to brands

Marketing approach: word-of-mouth, loyalty programs, rewards and discounts for loyalty, coupons, informal communication, multimedia, direct mail

Appropriate goods/ services: for this generation that is in saturation phase appropriate goods are books, home appliances, children’s products, games, magazines. Famous as “nostalgic generation”!

4) **Generation Y** (Millennials, Echo Boomers, Net Gen, Gen Wired, We generation, Dot Net, Nexters, Ne(x)t Generation, First Globals, iPod Generation)

Period: 1981-1996 (at the age between 26-41 as of 2022)

Features: lazy, detached, the largest generation in the phase of growth, first generation exposed to technology, crave changes, need of peer acceptance

Marketing approach: multichannel communication, Internet, word of mouth, social platforms, video games (advergaming), online and offline media, influencers, digital marketing

Appropriate goods/ services: largest generation on the market now, all marketers focus on this generation, all products and services: apparel, accessories, furniture, entertainment, prestigious goods, cars, vacation. Famous for “live today and spend big”!

5) **Generation Z** (Generation 9/11, Zoomers, baby Boomers, Gen XD, Gen Z)

Period: 1997-2012 (at the age between 10-25 as of 2022)

Features: oversensitive, demanding, new traditionalists, responsible spenders due to the experience with Covid-19, economic recession, Russian-Ukraine conflict, never lived without Internet and technology, most diverse and most tech-savvy generation

Marketing approach: Internet, TikTok, Snapchat, Instagram, YouTube, influencers, mobile interactions, video ads

Appropriate goods/ services: online goods and services, music, fashion, cosmetics, tattoos, haircuts. Even young, they have a good spending power. Famous as “spenders of tomorrow”!

6) **Generation Alpha** (Newest generation)

Period: 2012- present (at the age 10 and more as of 2022)

Features: first to be born entirely in the 21 century!

Marketing approach: still very young to be targeted by marketers.

Methodology

This paper uses secondary data, that was collected from different sources, such as reports, books, opinions, studies, papers, published online and offline. Also, authors use descriptive, historical and comparative methods.

Analysis and discussion

The question that arises is what are the disadvantages, the problems that generational marketing is faced with. The problems mostly relate to the framing of this marketing and how marketers use its data. All these problems can be categorized into 3 groups:

1) Lack of consistent definition of generational marketing: questions that here are asked are about the beginning and ending of each generation and its duration. Majority of authors have indicated a different starting and different ending time for a same generation. For some authors Millennials lasts from 1977-1995, for others 1981-1996. What are the criteria that determine how long a generation lasts? Why do some generations last 10 and some 26 years? Which criterion determines that a generation lasts 10,15,17,18 or 26 years? What is the logic behind the duration of a generation? There is also the question of choosing the name of the generation. Some names are illogical, misleading, confusing, like Silent

Generation, the Greatest Generation, Alpha Generation, etc. Those names that group millions of people into one single generational profile are really unclear and incomprehensible.

2) Generational marketing entirely is based on stereotypes: how are the values cherished by a generation determined? How is the set of qualities possessed by a generation determined? Why are Millennials considered lazy and Generation X cynics? Why is the Silent Generation considered technologically illiterate in the 21st century? In the 21st century, generations have new information habits. The Internet is part of the daily life of people who actively search, communicate, and share in an online environment regularly. (Zlateva, 2020) The values do not come from the time of birth, but from a number of other factors such as parents, geography, nationality, peers, the aging process, traditions, religion, education, rewards, punishments, economy, etc. It is unfair to target an entire generation with a single marketing program.

3) The ultimate problem is that people change: A person who belongs to a generation when he is 20 years old has different values than when he is 60 years old. Over time, personality changes. You cannot expect the same results from the same people year after year. Likewise, today's data for a generation tomorrow is invalid. Each generation has its own life cycle, with its own birth, rise, growth, saturation, decline, death. And almost every generation behaves similarly in these particular stages of the life cycle. With the aging process, people are increasingly concerned about health and a stress-free life.

Conclusion

Generational marketing has positive and negative sides. On the one hand, generational marketing helps companies to more easily segment the market, more efficiently to satisfy consumers, thus making higher profits. It helps companies to find consumers more easily, communicate with them, offer them the most suitable products and services and make them loyal customers. However, generational marketing should only be a starting position, a guide for determining consumer preferences and a way for their engagement with products and services. In market segmentation, generational marketing must be combined with other segmentation variables. Otherwise, companies will face ineffective marketing results. The biggest mistake that companies make is that when using generational marketing, they greatly generalize, oversimplify, and stereotype consumer behavior. It is not exactly true that the older generations save more than spend, and the younger generations do only online shopping. The challenge of every marketer, when segmenting the market, is to determine the values that are common for generations. And the values are not coming from the time of birth, but from a number of other factors such

as parents, geography, nationality, peers, the aging process, traditions, religion, education, rewards, punishments, economy, etc.

REFERENCES

- AMA (American Marketing Association), (2022), “*Generational Insights and The Speed of Change*”, <https://www.ama.org/marketing-news/generational-insights-and-the-speed-of-change/>
- Buesnel, L. (2022), “*What is generational marketing and how does it help your business*”, Story League
- Chaney, D., Touzani, M., Slimane, K. (2017), “*Marketing to the (new) generations: summary and perspective*”, ISSN: 1466-4488, Journal of Strategic Marketing, DOI: 10.1080/0965254X.2017.1291173
- Kotler, Ph., Armstrong, G. (2016), “*Principles of Marketing*”, Global 16th Edition, Pearson Education Limited
- LaFleur, G. (2022), “*Generational marketing explored: Everything you need to know*”, Swing Education, <https://www.techtarget.com/whatis/feature/Generational-marketing-explained-Everything-you-need-to-know>
- Shirey, T. (2021), “*Does Generational marketing work?*” blog, WebFX, <https://www.webfx.com/blog/marketing/does-generational-marketing-work/>
- Starr, E. (2020), “*The Pitfalls of Generational Marketing*”, blog, <https://estarrassociates.com/pitfalls-generational-marketing/>
- Torocik, M., Szucs, K., Kehl, D. (2014), “*How Generations think: Research on Generation Z*”, <http://www.acta.sapientia.ro/acta-comm/C1/comm1-3.pdf>
- Walker, S. J., (2016). “*The differences between age and generation comparisons*”, AMA – American Marketing Association, <https://www.ama.org/marketing-news/the-difference-between-age-and-generation-comparisons/>
- Williams C Kaylene, Page Robert (2011), “*Marketing to the Generations*”, Journal of Behavioral Studies, USA, Research Gate, https://www.researchgate.net/publication/242760064_Marketing_to_the_Generations
- Wong Sammi (2021), “*What is Generational Marketing? (Examples included)*”, Blog, 3Tier Logic, <https://www.3tl.com/blog/what-is-generational-marketing-examples-included>
- Zlateva, D., (2020), “*Digital transformation of Marketing Communications*” Economics and Management, 17(1):171-181, http://em.swu.bg/images/SpisanieIkonomikaupload/SpisanieIkonomika2020/_vol.XVII_issue_1_2020-171-181.pdf

SOCIAL MEDIA AND CONSUMER PURCHASE INTENTIONS IN TELECOMMUNICATIONS SECTOR OF NIGERIA: MODERATING ROLE OF BRAND LOVE

Mustapha H. Abdullahi¹, Ojeleye Y. Calvin², Umar Salisu³

Received: 24.11.2022, Accepted: 30.11.2022

Abstract

The frenzy with which the online shopping took over the world is unmatched by any other phenomena in recent times. The objective of this study is to examine the moderating role of brand love on the relationship between social media and purchase intentions. The research is quantitative in nature employing both survey and cross-sectional research designs. The population of the study is infinite and the sample size is 422. The study utilised purposive sampling techniques to administer copies of questionnaire to respondents. The study utilised structural equation modelling to ascertain the hypothesised relationship. The results indicated that firm created content has significant impact on purchase intention, like wise user generated content. The findings also revealed that brand love moderates the relationship between social media and purchase intention. The study recommends that brand managers ought to leverage social media to produce content that can be used as a source for learning more in-depth details about consumer preferences, buy intentions, and patterns.

Keywords: *Social media; Firm created content; User generated content; Brand love; Purchase intention*

JEL Codes: *M30, M31, M37*

Introduction

Online shopping has been greatly helped and made possible by the expansion of the telecommunications sector and the adoption of the internet in Nigeria. Consumers are using the internet more frequently and investing more time in information research, which has a significant impact on their purchase intentions. Given these possibilities, businesses and

¹ Ph.D. Student of Department of Business of Administration, ABU Business School Ahmadu Bello University Zaria, e-mail: hauwam95@gmail.com, ORCID ID:0000-0003-2580-2985

² Ph.D. Student of Department of Business of Administration, ABU Business School Ahmadu Bello University Zaria, e-mail: calojeleye@gmail.com, ORCID ID: 0000-0003-1682-8542

³ Assoc. Prof., Ph.D Department of Business Administration, Ahmadu Bello University Zaria, e-mail: salumar2002@gmail.com, ORCID ID: 0000-0002-6743-2364

their brands have embraced social media marketing, which has become the most well-liked and successful marketing and communication medium (Poturak & Softic, 2019). To influence buying intentions, social media marketing calls for extra care and strategy creation. Relationship marketing and social media marketing are related; in relationship marketing, businesses must switch from "trying to sell" to "building connections" with customers (Gordhamer, 2009).

As can be seen in the current marketing environment, social media uprising has significantly changed the communication landscape and altered marketing communication. Due to the change, there are now connections between marketers and other customers. The change has quickly changed the current marketing industry (Majeed, Owusu-Ansah & Ashmond, 2021). As more consumers have access to a variety of brands of goods and services, this evolution has created fresh potentials and opportunities within trade and commerce that are changing how consumers react to purchases (Shaw, 2012). Brands and merchants can use social media as a tool to interact with and sway their customers. Mersey, Malthouse, and Calder (2010) pointed out that social media gives businesses a chance to engage and communicate with potential customers, encourage an increased sense of intimacy with consumers, and build relationships with potential consumers.

The proliferation of business and marketing initiatives on social media has influenced consumers' purchase intentions. Permatasari and Kuswadi (2018) assert that social media has altered customer behavior dynamics by speeding up the purchasing process. Consumers move through several stages of the purchasing process in a sequential manner.

In light of the foregoing, the study aims to examine the effect of social media from a holistic point of view. Therefore, the model of social media by Poturak and Softic (2019) was adopted. Poturak and Softic (2019)'s model has two determinants of social media namely, user generated content and firm created content.

Firm Created content occurs as a result of Web 2.0 technologies which enables people from all walks of life to connect online through a variety of digital sources of information that are produced, launched, shared, and consumed by internet users as a way to educate one another about goods, services, people, and issues. This phenomenon is known as firm created content (Chauhan & Pillai, 2013). Companies are now conscious of the need to concentrate on creating personal, two-way relationships with customers to promote interactions (Bernoff & Li, 2011). Marketing managers anticipate that their use of social media will help them build relationships with devoted customers, change how people view their products, share knowledge, and understand their audience (Brodie, Ilic, Juric, & Hollebeck, 2013). This is made feasible by the novel and alluring methods that businesses and clients can continue to maintain interactions with one another.

User generated content (UGC), on the other hand, is created by the general public as opposed to marketing experts, focuses on the consumer dimension, and is predominantly distributed online, according to the content classifications presented by Daugherty, Eastin, and Bright (2008). The Organisation for Economic Cooperation and Development (OECD, 2007) provides a more thorough definition, defining it as i) a content that is made publicly available over the internet, ii) content that reflects a certain amount of creative effort, and iii) content created outside of professional routines and practices. User-generated content is defined as "the total of all ways that people utilize social media, typically used to represent the numerous types of media material that are made by end users and made publicly available" (Kaplan & Haenlein, 2010, p. 61).

Consumer purchase intention is the willingness of a person to purchase a specific good or service (Yoong & Lian, 2019). Purchase intent is a useful indicator of the buying process. The consumer's buying intention demonstrates the anticipated outcome of a particular behavior (Lilima, 2020). According to Alnsour, Ghannam and Al-Natour (2018), purchase intention is also described as the likelihood that a consumer would buy a good or a service in the future and is correlated with attitude and preference. Alnsour et al. (2018) argued that, this means that customer purchase intention indicates a strong likelihood that someone will buy the product and a readiness to do so the next time a need for it arises. Purchase intention refers to the likelihood that customers will intend to buy a specific good or service in the future. In other words, the demonstrated purchasing behavior is driven by the intention to make a purchase (Martins, Costa, Oliveira & Branco, 2019). According to earlier research, rising buying intentions are a reflection of rising likelihood of purchase. Favorable brand commitment results from the consumers' positive purchasing intentions, which encourages them to actually make the purchase (Wu, Yeh & Hsiao, 2011).

It has been established by a plethora of studies (e.g., Hasan & Sohail, 2020; Sharma, 2018; Maoyan, Zhujunxuan, & Sangyang, 2014; Chafidon, Margono, & Sunaryo, 2022; Aileen, Gaberamos, Bernarto, & Pasaribu, 2021; Manzoor, Baig, Hashim, & Sami, 2020; Alhadid & Alhadeed, 2017) that social media has a positive impact on consumer purchase intentions. However, other studies (e.g., Ceyhan, 2019; Suprpto, Hartono, & Bendjeroua, 2020; Savitri, Hurriyati, Adi, & Hendrayati, 2022) have also established that social media has an insignificant impact on purchase intentions. This informed the decision to introduce brand love that may strengthen the relationship that already exists.

One of the strongest brand alliances is thought to be brand love, which goes beyond the idea of simple brand preference (Ferreira, Rodrigues, & Rodrigues, 2016). The renowned definition of brand love given by Carroll and Ahuvia (2006) is the level of intense emotional attachment a happy consumer has for a specific brand name. Brand loyalty is crucial because brand managers can improve the relationship between consumers and their

brands by creating appropriate purchase and post-purchase experiences and programs and by paying attention to consumer preferences. This prevents consumers from switching brands and promotes favorable purchase intentions (Mustapha, Bashir, Umar & Abdullahi, 2022). Brand love does in fact adopt brand-loyal customers and transform them into brand champions or influencers (Le, 2021).

Although not all interactions with brands on social media result in positive buy intentions, the existence of an emotional connection to the brand can prompt consumers to reevaluate their purchase intentions, which may result in real purchases. Without a love-chain for the company, social media may not be able to influence a consumer's intention to buy (Majeed et al, 2021).

Despite its significance as a sign of consumers' ongoing interest in a product or service, brand love hasn't been extensively studied in the context of the telecommunications industry in connection to the interaction between social media and purchase intention. Researchers and practitioners can use this concept to generate brand love because there is no moderating influence of brand love between social media and purchase intention (Ceyhan, 2019).

The amount to which social media is influencing purchase intention with the moderating influence of brand love, however, is limited, despite all the efforts made by stakeholders in the telecommunications industry to promote value through social media. The prevalence of unfavorable social media posts that are published practically everyday makes the impact of social media marketing more apparent. Another issue is the speed at which individuals create postings on social media platforms. According to Ndurura (2020), more than 10,000 social media messages are posted everyday on average by users of telecommunications. These messages have a significant impact on how other consumers behave, both favorably and unfavorably. Amongst the unresolved issues in social media marketing in the telecommunication industry in Kaduna, is the problem of how to turn “likes” into purchases. This study therefore seeks to examine how social media can be used effectively in the telecommunication industry so as to enhance desirable purchase intention towards brands loved by consumers.

Even though there is huge number of studies also on social media and purchase intention (Majeed, Owusu-ansah, & Ashmond, 2021; Choedon & Lee, 2020; Subasinghe & Weerasiri, 2020; Laksamana, 2018), there is inadequate research investigating social media, purchase intention and (moderated by) brand love of Twitter users. Consequently, the focus of this study is to investigate the moderating effect of brand love on the relationship between social media and purchase intention in the context of telecommunication industry in Kaduna. Similarly, based on the research objective, the following hypotheses were formulated to guide the study:

H₀₁: Firm-created content does not have significant effect on purchase intentions in telecommunication sector of Nigeria.

H₀₂: User-generated content does not have significant effect on purchase intentions in telecommunication sector of Nigeria.

H₀₃: Brand love does not have significant effect on purchase intentions in telecommunication sector of Nigeria.

H₀₄: Brand love does not moderate the relationship between firm-created content and purchase intentions in telecommunication sector of Nigeria.

H₀₅: Brand love does not moderate the relationship between user-generated content and purchase intentions in telecommunication sector of Nigeria.

Uses and Gratification Theory

This study's theoretical framework is based on Katz and Blumler's Uses and Gratification Theory (UGT) (1974). This theory is mostly used to traditional media in an effort to understand customer behavior. However, the same theory has also been heavily applied to social media studies since the introduction of the internet and new venues for interactions including Twitter, emails, instant messaging, blogging, skypeing, whatsapp, and several other kinds of communication (Ngai, Taoa, & Moon, 2015). The application of the UGT in the context of this study is predicated on the idea that the consumer actively and consciously contributes to media choice and is motivated by personal goals rather than the effect of the media. This hypothesis therefore presupposes that customers will look for media that satisfies their wants and, consequently, their fulfillment. Consequently, repeat media use would result from the consumer's satisfaction. Therefore, it is believed that consumer media choices are value-driven and objective (Dahl, 2014).

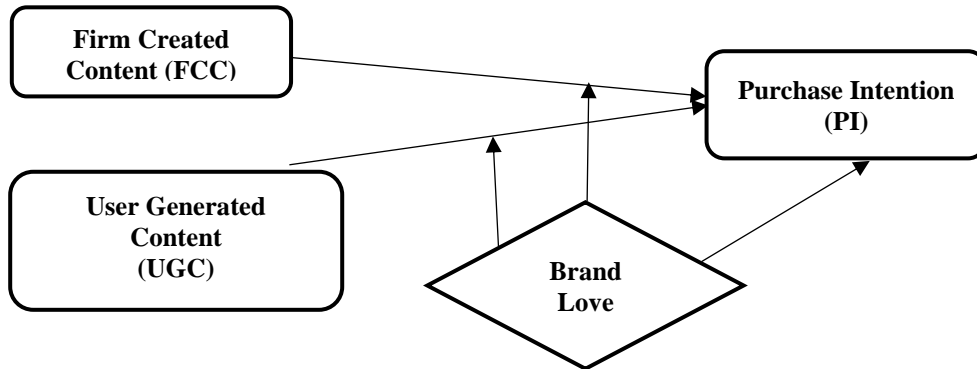
One of the earliest theories to examine the dynamic role of the audience in media selection was UGT, which advocated for individuals to actively seek out, identify with, and use media to satisfy particular demands for fulfillment. This viewpoint acknowledges that users of social media, such as Twitter, are engaged participants rather than only passive consumers of media. This study specifically examines the UGT's utilization of Twitter users with a moderator variable operating in the background.

Businesses that provide services and goods are rethinking their marketing tactics and practices in an effort to capture the interest of users of social networks. One shift that is intended to project their goods, services, and brands to the outside world is the approach of using social media into their marketing plan in order to arouse purchase intention among customers.

Research Model

The model in figure 1 represents the research framework. The predictor variables are user generated social media communication and firm created social media communication influencing the criterion variable which is purchase intention while brand love is moderating the relationship.

Figure no.1 Conceptual Framework



Source: Authors' systemization

Research Methodology

The study took a quantitative approach to data collection and analysis, employing statistical tools to investigate the correlations between two or more variables (Ojeleye, Abu-Abdissamad, Umar, & Usman, 2022). Survey and cross-sectional research designs were used in this study. Because the study requested responses from respondents using a well-structured questionnaire, the survey research technique was used. The use of a questionnaire is quick, reduces bias, and is less costly (Ojeleye, Bakare, Umar, & Ojeleye, 2021). The current study was carried out in the Kaduna State city of Zaria. Social media (firm-created content and use-generated content) is the predictor variable, brand love is the moderating variable, and purchase intentions is the criterion variable. The respondents are the customers of the four main telecommunication firms (MTN, Globacom, Airtel and 9Mobile) in Zaria Metropolis. The period for data collection was two weeks in order to seek the perception of the respondents. The population of the study are the customers of telecommunications outfits in Zaria metropolis in Kaduna state. And accordingly, due to pervasive nature of the customer, the population is infinite and the study have utilized the formula for infinite population to arrive at the sample size of 384. Using the infinite sample size of 384, and the sample was added by 10 percent Israel (2013) to take care of non-response bias,

making the sample to be 422. This study as well utilized purposive sampling techniques in administering the questionnaires to the respondents. Purposive sample was used because it gives the researcher the opportunity to rely on their own judgement when choosing members of the population to participate in their surveys. In terms of sampling, the target group of respondents for this research included active social media users in Kaduna. The largest age group among social media users is 18-24, followed by age 25-34.

Measures

Factors measuring the effects of Firm-Created Content were adapted from Schivinski and Dabrowski (2013) with four (4) items. Samples of the items include: "I am satisfied with the company's social media communications" with a potential answer of 1 (strongly disagree) to 5 (strongly agree) and Cronbach alpha ranging from 0.87 to 0.93 which demonstrates the consistency of the scale and its appropriateness for this study. For this study, the Cronbach alpha is 0.821. Also, factors measuring the effects of User Generated Content (UGC) were adapted from Schivinski and Dabrowski (2013) with four (4) items. Samples of the items include: "I am satisfied with the content generated on social media sites by other users about the services provided" with a potential answer of 1 (strongly disagree) to 5 (strongly agree) and Cronbach's alpha ranging from 0.82 to 0.92 which demonstrates the consistency of the scale and its appropriateness for this study. For this study, the Cronbach's alpha is 0.834. Measurement scales for the purchase intention were adapted from Yoo, Donthu and Lee, (2000) with three (3) items. Samples of the items include: "I am willing to recommend that others buy this brand or product" with a potential answer of 1 (strongly disagree) to 5 (strongly agree) and Cronbach's alpha ranging from 0.89 to 0.94 which demonstrates the consistency of the scale and its appropriateness for this study. For this study, the Cronbach's alpha is 0.815. Measurement scales for Brand love were adapted from Heinrich, Albrecht & Bauer, (2012) with three (3) items. Samples of the items include: "The brand makes me very happy" with a potential answer of 1 (strongly disagree) to 5 (strongly agree) and Cronbach's alpha ranging from 0.84 to 0.91 which demonstrates the consistency of the scale and its appropriateness for this study. For this study, the Cronbach's alpha is 0.759.

Data Analysis

Using SPSS 24, preliminary analysis and data screening on the obtained data were carried out, including the verification and treatment of missing values, outliers, normality tests, common method variance tests, and multicollinearity tests. These tests were run to ascertain the data's type and to ensure that it had been cleansed and ready for further examination. The measurement model and structural model of partial least square (PLS) path modelling were computed by the study using structural equation modelling, namely Smart-PLS 3.2.8. This is utilised because it can be adjusted for distribution and study population, and it calculates

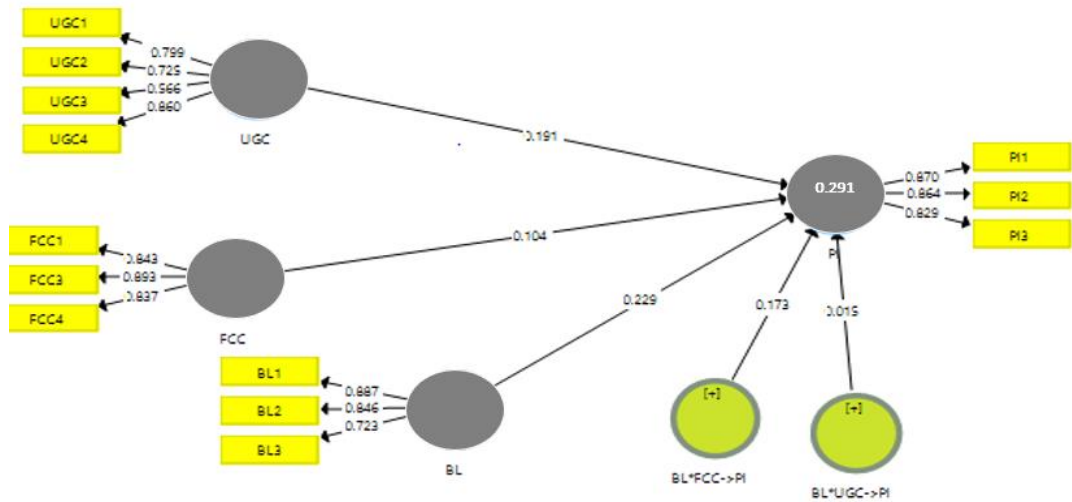
mediation and moderating effects accurately since it corrects errors that might deflate or inflate putative correlations (Hair, Hult, Ringle, & Sarstedt, 2017).

Research Findings

The study's findings are discussed under the two basic models of structural equation modelling (SEM); the measurement and structural models used below:

Measurement Model

Figure no. 2 Pictorial display of measurement model



Source: Authors' systemization of Smart-pls output

The measurement model explored factor loadings, reliability (Cronbach's alpha and composite reliability), and validity (convergent and discriminant). Only items that loaded over 0.4 were maintained, as advised by (Hair, Hult, Ringle, Sarstedt, Danks, & Ray, 2021), whereas those that loaded below the specified threshold were discarded (i.e., FCC2). Furthermore, the constructs' reliability was evaluated using Cronbach's alpha and composite reliability, and they all met the criterion of 0.700, as recommended by (Sekaran & Bougie, 2016). Cronbach's alpha values vary from 0.759 to 0.834, whereas composite reliability values range from 0.861 to 0.893. In the same vein, average variance extracted (AVE) was analysed to establish the convergent validity of the constructs, and as advised by Fornell and Larcker (1981), the values were all above 0.5 prescribed limit.

Table no. 1 - Study(n=422): Factor Loadings, Reliability and Convergent Validity (AVE)

Construct	Indicators	Loadings	Cronbach's Alpha	Composite Reliability	AVE
Brand Love	BL1	0.887	0.759	0.861	0.675
	BL2	0.846			
	BL3	0.723			
Firm-Created Content	FCC1	0.843	0.821	0.893	0.736
	FCC3	0.893			
	FCC4	0.837			
Purchase Intention	PI1	0.870	0.815	0.890	0.730
	PI2	0.864			
	PI3	0.829			
User-Generated Content	UGC1	0.799	0.834	0.891	0.556
	UGC2	0.725			
	UGC3	0.566			
	UGC4	0.860			

Source: Authors' systemization of Smart-pls output

Furthermore, the discriminant validity was also evaluated using Heterotrait-Monotrait (HTMT) ratio as provided by Henseler, Ringle, and Sarstedt (2015) employed to ascertain the degree to which a test is not related to other tests that measure a different construct. Henseler et al. (2015) stated that when the constructs are conceptually dissimilar a conservative threshold of 0.85 should be picked while when constructs are conceptually similar a more relaxed threshold of 0.900 be utilised. Hence, since the constructs are conceptually comparable, 0.900 was used. In the table 2 below the values of the Heterotrait-Monotrait (HTMT) ratio are less than the chosen threshold. The study therefore concludes that discriminant validity has been established.

Table no. 2 - HTMT Ratio of Correlations for Discriminant Validity

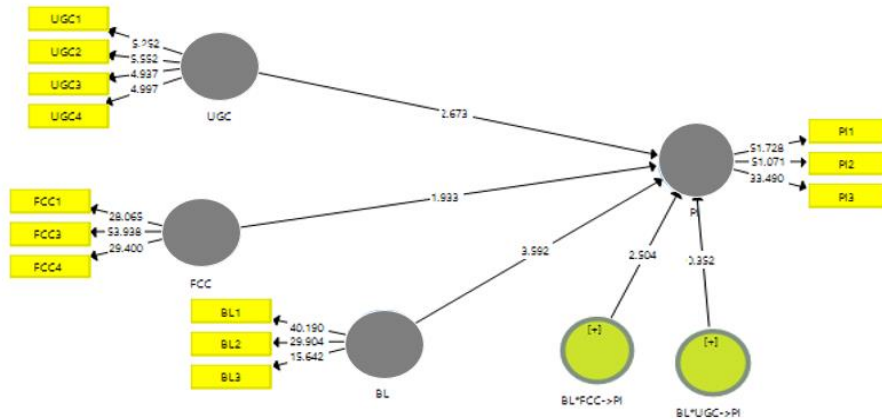
Construct	BL	FCC	PI	UGC
BL				
FCC	0.503			
PI	0.397	0.346		
UGC	0.146	0.385	0.256	

Source: Authors' systemization of Smart-pls output

Structural Model

The structural model was studied in order to test the two hypotheses. To figure out the relationship between the predictor, moderator, and criterion variables, 5000 bootstrapping was used. The study also calculated the effect size (f^2), predictive relevance (Q^2) and coefficient of determination (R^2).

Figure no. 3 Pictorial display Structural model



Source: Authors' systemization of Smart-pls output

Table no. 3 - Test of direct and moderating effect

Hypothesis	Relationship	Beta	Standard Error	T-value	P-value	Decision
H ₀₁	FCC->PI	0.229	0.064	3.592	0.000**	Rejected
H ₀₂	UGC->PI	0.104	0.054	1.933	0.054*	Rejected
H ₀₃	BL->PI	0.191	0.071	2.673	0.008**	Rejected
H ₀₄	BL* FCC->PI	0.173	0.069	2.504	0.013**	Rejected
H ₀₅	BL* UGC->PI	0.015	0.044	0.352	0.725	Fail to be Rejected

Source: Authors' systemization of Smart-pls output

Decision Rule: **P-value Significant at 5%; *P-value Significant at 10%

Discussions

The study formulated five hypotheses (three direct and two indirect) to guide the study. Analysing the first hypothesis the study found that firm-created content has positive and significant effect on purchase intentions. The positive beta figure indicated that a 1%

increase in firm-created content will result into a 0.23% increase consumer purchase intention in telecommunication sector of Nigeria. Consequently, the first hypothesis that states that firm-created content does not have significant effect on purchase intentions in telecommunication sector of Nigeria is rejected. The finding is in congruence with previous studies (e.g., Poturak & Softić, 2019; Kim, 2019; Sidharta, Syah, & Saptaningsih, 2021). The finding is contrary to the finding of Tardin, Pelissari and Braga (2020) which reported that firm-created content was not a significant predictor of consumers' purchase intention. In the same vein, second hypothesis outcome showed that user-generated content has positive and significant effect on consumers' purchase intentions. The beta value depicted that a 1% increase in user-generated content will result into a 0.10% increase in consumer purchase intention in telecommunication sector of Nigeria. Thus, the second hypothesis that states that user-generated content does not have significant effect on purchase intentions in telecommunication sector of Nigeria is also rejected. The finding is in tandem with previous studies (e.g., Maksimova, 2018; Kim, 2019; Poturak & Softić, 2019; Sidharta et al., 2021). It is however in contrast with the study of Tardin et al. (2020). Similarly, the third hypothesis which states that brand love does not have significant effect on purchase intentions in telecommunication sector of Nigeria is also rejected. The positive beta in table 3 above showed that brand love has positive and significant effect on consumers' purchase intention. A 1% increase in brand love will lead to a 0.19% increase in consumers' purchase intention intentions in telecommunication sector of Nigeria.

The moderating effect of brand love on the relationship between firm created content and purchase intention was assessed in hypotheses four. Specifically, hypothesis four assessed the moderating effect of brand love on the relationship between firm created content and purchase intention in telecommunication sector of Nigeria and found it to be positive and significant. The study therefore concluded that, brand love significantly moderated the relationship between firm-created content and consumer purchase intentions. Gardner, Harris, Li, Kirkman and Mathieu (2017) posited that when the moderating effect is positive, it is called strengthen effect which describe instances in which the conditional predictor and criterion variables relationship becomes stronger as moderator increases. Contrarily, the fifth hypothesis which states that brand love does not moderate the relationship between user-generated content and purchase intentions in telecommunication sector of Nigeria failed to be rejected. Although the beta value is positive, however, the moderating effect of brand love on the relationship between user-generated content and consumers' purchase intentions was not significant. As such, the study concluded that brand love does not significantly moderate the relationship between user-generated content and purchase intentions in telecommunication sector of Nigeria.

Furthermore, the R^2 which explains the variance in the criterion variable consumers' purchase intentions that is caused by the predictor and moderator variable variables i.e., firm-generated content, user-generated content and brand love was reported to be 0.291 (29%) shown in the measurement model. While the remaining 71% is explained by other variables not included in the research model.

Effect Size and Predictive Relevance

The study investigated the effect size (f^2) of the predictor and moderator variables on the criterion variable. This is undertaken to ascertain which among the predictor and moderator variables best explain the criterion variable. Cohen (1988) suggested that f^2 values of 0.02, 0.15, and 0.35, to represents small, medium, and large effects respectively. Analysing table 4 below it can be derived that firm-created content, user-generated content, brand love and the moderating effect of brand love on firm-created content and consumers' purchase intention have small effect. While moderating effect of brand love on user-generated content and consumers' purchase intention has no effect. Furthermore, predictive relevance Q^2 was used to determine the practical utility of the exogenous variable. Hair et al. (2021) is of the opinion that Q^2 value of 0 or negative showed that the model is irrelevant in predicting the endogenous variable the results are presented in table 4 revealed that the model has practical utility since value of 0.167 is greater than zero (0).

Table no. 4 - Effect Size (f^2) and Predictive Relevance (Q^2)

Construct	f^2	Effect size
FCC	0.050	Small
UGC	0.019	Small
BL	0.040	Small
BL* FCC->PI	0.028	Small
BL* UGC->PI	0.000	No Effect

$Q^2 = 0.167$

Source: Authors' systemization of Smart-pls output

Conclusion and Recommendations

The study examined the moderating effect of brand love on the relationship between social media and purchase intentions. The social media-purchase intention-brand love relationship which has not gotten much attention in research was tested. When the brand love is strong the intention to purchase the brand also becomes stronger. In literature, brand love has a considerable impact on purchase intention. Stronger brand love leads to stronger purchase intention. This study proves that the stronger the brand love, the intention to purchase also increases, this is because social media leads to a higher intention to purchase

when the brand is loved by consumers. It is by creating brand love that telecommunication firms can assure a higher purchase intention through the use of social media. Telecommunication firms must concentrate on creating relationship and passion with the customer in order to survive the dynamic market. Purchase intention is paramount for the success of a brand. The study concluded that firm created content and user generated content both have a significant impact on purchase intention. Also, the study adds to knowledge by determining and validating the function of brand love in moderating the social media-purchase intention relationship. Based on the findings of the study, the following recommendations were made:

i. The result shows that firms created content plays a great role in enhancing purchase intention. Therefore, brand managers ought to leverage social media to produce content that can be used as a source for learning more in-depth details about consumer preferences, buy intentions, and patterns.

ii. Going by the positive impact of user generated content on purchase intention, it is recommended that firms should enhance the adaptability and feedback capabilities of their social media pages to enable consumers to participate in online communities by liking, commenting, posting, and creating content. This will help marketers learn more about users and their preferences and create more effective marketing tools.

iii. The results shows that brand love positively and significantly moderates the relationship between social media and purchase intention. In light of this conclusion, brand managers are hereby exhorted to concentrate on developing their marketing plans that would foster consumer-brand interaction on social media in order to build a strong emotional connection to the brand, which will lead to favorable purchase intention, which will in turn improve the financial prospects of the brand's company.

iv. The findings, however, demonstrate that brand love moderates the association between firm-created content and purchase intention in a meaningful way. However, it is advised that corporate representatives actively engage with social media as part of their marketing strategy, comprehend how prospective customers behave online, and recognize the client as a strong ally.

v. Finally, it has been determined that the association between user generated content and purchase intention is not considerably moderated by brand love. This can be because businesses are unaware of the value of user-generated content. Brand managers are advised to be aware that user likes, shares, and comments, as well as the posts the brand promotes on social media sites, have a significant impact on the dissemination of information about the specific brand, leading to an increase in brand love and subsequently generating purchase intention. Consumer purchase selections are greatly influenced by online recommendations and suggestions from other customers.

REFERENCES

- Aileen, E., Gaberamos, O., Bernarto, I., & Pasaribu, L. H. (2021). The effect of social media marketing, word of mouth and effectiveness of advertising on brand awareness and purchase intention on grab application users domicile of Tangerang. *Enrichment: Journal of Management*, 12(1), 426–439.
- Alhadid, A. Y., & Alhadeed, A. Y. (2017). The impact of social media marketing on purchase intention. *International Journal of Managment*, 11(11), 1844–1847.
- Alnsour, M., Ghannam, M. & Al-Natour, R. (2018). Social media effect on purchase intention: Jordanian airline industry. *Journal of Internet Banking and Commerce*, 23(2), 3-17.
- Bernoff, J., & Li, C. (2011). Effects of brand attitude and familiarity. *The Journal of Marketing*, 59(1), 63–77.
- Brodie, R. J., Ilic, A., Juric, B., & Hollebeek, L. (2013). Consumer engagement in a virtual brand community: An exploratory analysis. *Journal of Business Research*, 66(1), 105–114. <https://doi.org/10.1016/j.jbusres.2011.07.029>
- Carroll, B.A. & Ahuvia, A. (2006). Some antecedents and outcomes of brand love. *Marketing Letters*, 17(2), 79-89
- Chauhan, K., & Pillai, A. (2013). Role of content strategy in social media brand communities: A case of higher education institutes in India. *Journal of Product & Brand Management*, 22(1), 40-51. <https://doi.org/10.1108/10610421311298687>
- Ceyhan, A. (2019). The impact of perception related social media marketing applications on consumers' brand loyalty and purchase intention. *Emerging Markets Journal*, 7(2). <https://doi.org/10.5195/emaj.2018.134>
- Chafidon, M. A. A. Z., Margono, M., & Sunaryo, S. (2022). Social media marketing on purchase intention through mediated variables of perceived value and perceived risk. *Interdisciplinary Social Studies*, 1183–1195.
- Choedon, T., & Lee, Y. (2020). The effect of social media marketing activities on purchase intention with brand equity and social brand engagement: empirical evidence from Korean cosmetic firms. *Knowledge Management Research*, 141–160. <https://doi.org/10.15813/kmr.2020.21.3.008>
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). New York: Lawrence Erlbaum Associates, Publishers.
- Dahl, S. (2014). *Social Media Marketing: Theories and Applications*. Hull University: SAGE Publications.

- Daugherty, T., Eastin, M., & Bright, L. (2008). Exploring consumer motivations for creating user-generated content. *Journal of Interactive Advertising*, 8(2), 16–25. <https://doi.org/10.1080/15252019.2008.10722139>
- Ferreira, P., Rodrigues, P., & Rodrigues, P. (2016). Brand love as mediator of the brand experience-satisfaction-loyalty relationship in a retail fashion brand. *Sciend*, 14(3), 278–291. <https://doi.org/10.2478/mmcks-2019-0020>
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: algebra and statistics. *Journal of Marketing Research*, 18(3), 382–388. <https://doi.org/10.2307/3150980>
- Gardner, R. G., Harris, T. B., Li, N., Kirkman, B. L., & Mathieu, J. E. (2017). Understanding “it depends” in organizational research a theory-based taxonomy, review and future research agenda concerning interactive and quadratic relationships. *Organizational Research Methods*, 20(10), 1–29. <https://doi.org/10.1177/1094428117708856>
- Gordhamer, S. (2009). 4 Ways Social media is Changing Business. Retrieved from <http://Mashable.Com/2009/09/22/Social-Media-Business/>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2rd ed.). Los Angeles: SAGE Publications, Inc.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R*. Cham: Springer Nature Switzerland. <https://doi.org/10.1007/978-3-030-80519-7>
- Hasan, M., & Sohail, M. S. (2020). The influence of social media marketing on consumers’ purchase decision: investigating the effects of local and nonlocal brands. *Journal of International Consumer Marketing*, 1–18. <https://doi.org/10.1080/08961530.2020.1795043>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of Academic Marketing Science*, 43, 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Heinrich, D., Albrecht, C. M., & Bauer, H. H. (2012). Love actually? Measuring and exploring consumers’ brand love, consumer-brand relationships: Theory and practice,” in *Consumer Brand Relationships*: eds S. Fournier, M. Breazeale, and M. Fetscherin, (London: Routledge), 137–150.
- Israel, G. D. (2013). Determining sample size. *Journal of Business Research*, 1, 1–5. Retrieved from [https://www.psychosphere.com/Determining sample size by Glen Israel.pdf](https://www.psychosphere.com/Determining%20sample%20size%20by%20Glen%20Israel.pdf)
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite!The challenges and opportunities of social media. *Business Horizons*, 53(1), 59–68.

- Katz, E., & Blumler, J. (1974). *The Uses of Mass Communications: Current Perspectives on Gratifications Research*. Beverly Hills, CA: Sage Publications.
- Kim, Y. (2019). The relative impact of user- and marketer-generated content on consumer purchase intentions : the case of the social media marketing platform, 0.8L. *International Association of Societies of Design Research Conference*, 1–13. Manchester: Manchester School of Art Manchester Metropolitan University.
- Laksamana, P. (2018). Impact of social media marketing on purchase intention and brand loyalty : evidence from Indonesia's banking industry. *International Review of Management and Marketing*, 8(1), 13–18.
- Le, M. (2021). The impact of brand love on brand loyalty: the moderating role of self-esteem, and social influence. *Spanish Journal of Marketing*, 25(1), 152–175. <https://doi.org/10.1108/SJME-05-2020-0086>
- Lilima, M. (2020). The effects of social media marketing on consumer behaviour. *International Journal of Human Behavior*, 2(5), 1755-1767.
- Majeed, M., Owusu-ansah, M., & Ashmond, A. (2021). The influence of social media on purchase intention: The mediating role of brand equity. *Cogent Business & Management*, 8(1). <https://doi.org/10.1080/23311975.2021.1944008>
- Maksimova, D. (2018). *Impact of user generated content on consumer purchase intention case: company X*. Lapland University of Applied Science.
- Manzoor, U., Baig, S. A., Hashim, M., & Sami, A. (2020). Impact of social media marketing on consumer's purchase intentions: the mediating role of customer trust impact of social media marketing on consumer's purchase intentions: the mediating role of customer trust. *International Journal of Entrepreneurial Research*, 3(2), 41–48. <https://doi.org/10.31580/ijer.v3i2.1386>
- Maoyan, M., Zhujunxuan, Z., & Sangyang, S. (2014). Consumer purchase intention research based on social media marketing. *International Journal of Business and Social Science*, 5(10), 92–97.
- Martins, J., Costa, C., Oliveira, T., Gonçalves, R., & Branco, F. (2019). How smartphone advertising influences consumers' purchase intention. *Journal of Business Research*, 94: 378-387.
- Mersey, R. D., Malthouse, E. C., & Calder, B. J., (2010). Engagement with online media. *Journal. Media Business Studies*, 7 (2), 39–56
- Ndurura, N. (2020). The significance of social media as a marketing tool. *International Journal of Business and Environmental Studies*, 7(1), 12-26.

- Ngai, E.W., Taaa, S.S., & Moon, K. K. (2015). Social media research: Theories, constructs, and conceptual frameworks. *International Journal of Information Management*, 35(1), 33-44, doi: 10.1016/j.ijinfomgt.2014.09.004.
- Ojeleye, Y. C., Abu-Abdissamad, A. M., Umar, S., & Usman, A. (2022). Job resources and employee engagement among employees of Federal Medical Centre Gusau, Zamfara State. *Sokoto Journal of Management Studies*, 31(2), 130–148. Retrieved from <https://www.researchgate.net/publication/362965224>
- Ojeleye, Y. C., Bakare, M., Umar, S., & Ojeleye, C. I. (2021). Fear of Covid-19 and employees' turnover intentions among state-owned hospitals in Zamfara state: the role of job estrangement. *Lapai International Journal of Management and Social Sciences*, 13(2), 53–69.
- Poturak, M. & Softić, S. (2019). Influence of social media content on consumer purchase intention: mediation effect of brand equity. *Eurasian Journal of Business and Economics*, 23(12), 17-43. <https://doi.org/10.17015/ejbe.2019.023.02>
- Savitri, C., Hurriyati, R., Adi, L., & Hendrayati, H. (2022). The role of social media marketing and brand image on smartphone purchase intention. *International Journal of Data and Network Science*, 6, 185–192. <https://doi.org/10.5267/j.ijdns.2021.9.009>
- Schivinski, B., & Dabrowski, D. (2013). The impact of brand communication on brand equity dimensions and brand purchase intention through Facebook. *GUT FME Working Paper Series A. Gdansk (Poland): Gdansk University of Technology, Faculty of Management and Economics*, 4(4), 1–24.
- Sekaran, U., & Bougie, R. (2016). *Research Method for Business: A Skill Building Approach* (7th ed.). Chichester: John Wiley & Sons Ltd.
- Sharma, K. (2018). The impact of social media marketing strategies on consumer purchase intention. *Multi-Knowledge Electronic Comprehensive Journal for Education and Science Publications*, 5, 172–182.
- Sidharta, M. W., Syah, T. Y. R., & Saptaningsih, A. B. (2021). The relationship between social media communication and word of mouth inside brand image and purchase intention. *Journal of Multidisciplinary Academic*, 05(01), 61–66.
- Subasinghe, U., & Weerasiri, R. A. S. (2020). The impact of social media marketing on purchase intention of connected consumers: a study based on natural ingredient-based personal care products. *The Conference Proceedings of 11th International Conference on Business & Information ICBI, University of Kelaniya*, 507–529. Sri Lanka.
- Suprpto, W., Hartono, K., & Bendjeroua, H. (2020). Social media advertising and consumer perception on purchase intention. *SHS Web of Conferences* 76, 01055, 01055, 1–8. EDP Sciences. <https://doi.org/10.1051/shsconf/20207601055>

- Tardin, M. G., Pelissari, A. S., & Braga, L. D. (2020). Social media marketing communication: effects on brand equity and on consumer ' s purchase intention. *International Journal for Innovation Education and Research*, 8(6), 441–457.
- Wu, P. C. S., Yeh, G.Y., & Hsiao, C. (2011). The effect of store image and service quality on brand image and purchase intention for Private Label Brands. *Australasian Marketing Journal*, 19: 30-39
- Yoo, B., Donthu, N., & Lee, S. (2000). An examination of selected marketing mix elements and brand equity. *Journal of the Academy of Marketing Science*, 28(2), 195–211. [https://doi.org/10.1016/S0148-2963\(99\)00098-3](https://doi.org/10.1016/S0148-2963(99)00098-3)
- Yoong, L. & Lian, S. (2019). Customer engagement in social media and purchase intentions in the hotel industry. *International Journal of Academic Research in Business and Social Sciences*, 9(1), 54-68. <https://doi.org/10.6007/IJARBS/v9-i1/5363>

ISSN: 2683-1325

