

Doctoral (PhD) theses

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2024**

**Application of gamification strategies in the field of tourism
marketing - Examining travelers' travel decisions depending on
their personality**

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TABLE OF CONTENTS

1. BACKGROUND AND OBJECTIVES OF THE RESEARCH	4
1.1. History of the research	4
1.2. The research problem	5
1.3. The objectives of the research.....	8
1.4. Research goals and hypotheses	8
2. MATERIAL AND METHOD	11
2.1. Research parameters and methods	12
3. RESULTS	15
3.1. Results of the qualitative research	15
3.2. Results of quantitative research.....	18
3.3. The travel decision process.....	23
3.4. Exploring the connections between gamification and personality dimensions	25
4. CONCLUSIONS AND RECOMMENDATIONS	28
4.1. Evaluation of hypotheses.....	28
5. NEW AND NOVEL SCIENTIFIC ACHIEVEMENTS	43
6. REFERENCES	46
7. PUBLICATIONS	51

1. BACKGROUND AND OBJECTIVES OF THE RESEARCH

When I first encountered the gamification method, I was completely amazed by its complexity and the new possibility of its application in marketing strategy. It acted as the biggest innovation in marketing methods, which could completely reform the currently purely data-driven market. It seemed like a method that combines psychology, the science of consumer behavior and marketing tools, thus reaching the hearts of consumers. During my research, I delved deeper into the literature on the topic and came to a surprising conclusion: gamification is not an invention of our time. In fact! Almost 70 years ago, the game's mechanisms were successfully applied in the field of marketing. The study is nevertheless interesting, as its purpose is to show how consumers react to gamification and interactivity tools. Despite the abundance of available data on consumers, it is still difficult to decipher their decisions. However, if we get to know their reactions better and the correlations arising from their personalities, we will have the opportunity to create more effective marketing strategies.

1.1. History of the research

Based on the processed literature, it can be established that the topic researched in the thesis, i.e. examining the influence of personality on tourism decisions from the perspective of gamification, has no previous history in the Hungarian market. To the best of my knowledge, no comprehensive study has yet been prepared on Hungarian travel habits as a function of personality types and in relation to gamification, so the study will certainly be something new for experts in the field from this point of view.

Although gamification is being researched by more and more people, the exploration of its integration into marketing processes is still incomplete. In the Hungarian market, gamification is now reaching the maturity stage

according to the GARTNER Hype (gartner.com, 2023) curve, but it is more typical that it arouses interest in connection with HR and education. Many studies and implemented good practices show that gamification has a place in the field of tourism as well. (SIGALA, 2015; NEGRUSA et al., 2015; XU et al., 2017; WILLIAMS, 2021) Gamification helps to build relationships with tourists and has a positive effect on the image of destinations. (NEGRUSA et al., 2015) Although XU et al. (2017) summarized the benefits of gamification for tourism, but did not place it in the travel decision process. From the point of view of the role of personality, this research looks for the answer to where gamification has its place in tourism marketing.

1.2. The research problem

Currently, the tourism industry is facing significant changes. Consumer habits were changed to a great extent by COVID-19, which was partly due to compulsion and partly due to own decisions. (VÉGI et al., 2020) The epidemic hit tourism like a real blow and forced industry actors to adapt. The change in consumer habits can still be felt today, and it did not go unnoticed. Accommodation preferences and motivations have changed (HOSCHEK et al., 2020, RAFFAY 2020) and new digital solutions have become more widespread. (PAPP-VÁRY – LUKÁCS, 2022) As a result of the epidemic, these solutions are gaining more space, which is also urged by programs such as NextGenerationEU. The aim of the program is to speed up the recovery from the epidemic, promote the fight against climate change and speed up digitization (EUROPEAN COMMISSION, 2021) The development of the digitization of domestic tourism is also urged by the NTS2030 - Tourism 2.0 strategy, so the mapping of different digital solutions is a very topical issue today. (MTÜ, 2021)

Today, digitalization permeates purchase decisions, so travel decisions typically take place online. (KÖKÉNY-MISKOLCZI, 2022) Guest reviews, word-of-mouth advertising, social media sharing also play a key role in tourism marketing. Thanks to digitalization, communication with consumers also becomes easier. (JANCSIK et al., 2019). Smart tourism is widespread, and its purpose is to make it even more convenient for tourists to relax and use on-site services. (WU - CHENG, 2018) At the same time, online marketing is also developing rapidly, and innovations such as artificial intelligence (Artificial Intelligence - AI) promise even more complex and effective communication options. AI works with the available, large amount of data, looking for patterns and behavioral characteristics. (MUSTAK, 2021) AI can provide development to the industry in countless areas: it also holds great potential in optimizing and personalizing marketing, prices, internal processes, and the utilization of rooms. (BULCHAND-GIDUMAL et al., 2023)

It is difficult to keep up with the evolving environment, and consumers should not be seen as just an organized set of data, trusting that artificial intelligence will do the work instead of humans. In a field like tourism, where personal relationships have a decisive force, it becomes even more important to map emotional ties, and it becomes even more important that, in addition to online solutions, professionals also return to the classic basics of marketing: create a real relationship with the consumer! Digital solutions and personal experiences must support each other. And the biggest challenge is precisely how to implement this in the digitized world.

In order for professionals to be able to adapt to the changed tourism environment and use its strengths to their advantage, it is important to be aware of basics such as how the consumer actually thinks, how to approach

them, so that they ultimately make a favorable tourist decision for them. The development of technology can create a real opportunity for personalized marketing, but the characteristics of the consumer's decision must be known in order to use the new tools. Consumer decisions are strongly influenced by countless factors, including personality (PLOG, 1974, 1990, 1991a, 1991b; KAHN, 2006). Deep learning technology can open up new ways to analyze the personality of consumers, and then marketers will also have the opportunity to deliver marketing messages to consumers according to their personality. (OSSIIYI – DROBINTSEV, 2023; BAGAT et al., 2023) This research focuses on these characteristics of the consumer, that is, on the role of personality.

In the developing, digital environment today, gamification also holds important development potential for the tourism industry. (BELLOVIN, 2018; HARWOOD - GARRY, 2015; LU et al., 2018) Like the authors, I also believe that gamification has a place in tourism marketing and can be incorporated into brand communication. Gamification is a solution, mainly digital, with the help of which a stronger relationship with the consumer can be established, and this can be strengthened in the entire spectrum of the trip. (NEGRUSA et al., 2015; XU et al. 2017) This can be the tool that forms a bridge between the digital space and personal experiences. With its help, data collection can be carried out as well as consumer involvement, commitment and personal motivation can be increased. The goal is therefore for the research to map the decision-making characteristics arising from the personality of the consumers, and then, focusing on the gamification methodology, to find a means to increase commitment and involvement.

1.3. The objectives of the research

While as a marketer we may encounter the rapid development of digitalization, as a consumer we may encounter the problem of advertising noise. What decides which message really reaches the consumer? As the previous chapter highlighted, interaction has become especially important in a data-driven world. The consumer is thirsty for real communication. And a marketer can only build a stable brand if he doesn't ignore emotions. Personal experience is the key to consumers, and for this it is necessary to find tools that combine personal experiences with digitized solutions.

It is important that the methodology of gamification can spread more widely among the actors of Hungarian domestic tourism. Since until now there is little specialized literature that examines the subject from the marketing point of view, I consider it important to provide the profession with a comprehensive methodology on how gamification should be used in the field of tourism marketing. The purpose of the research is to explore more deeply the travel decisions of consumers in the light of their personality, and to show which gamification tools are effective for which consumers.

1.4. Research goals and hypotheses

This research examines the possibilities and effectiveness of the gamification method in tourism marketing, taking into account personality characteristics. The research can help tourism operators to increase the commitment of travelers and strengthen their motivations. You can answer which personalities and which services they prefer, so that different service providers can more easily recognize their target audience, as well as find the most suitable communication strategy for the target group.

C1: Identifying the travel decision process of consumers

C2: To map the travel decision-making behavior of consumers and the influence of their personality on the decision-making process, and to set up a travel decision-making model based on the results.

C3: Mapping the relationship between consumers' personality type and gamer type and then placing them in the travel decision process.

C2. Hypotheses:

H2.1.: The personality type of the consumer determines the active participation in the travel decision

The research examines the relationship between how much personality type affects the travel decision

H2.1.1.: There is a relationship between the consumer's personality type and the online channels used to search for accommodation

H2.2: There is a correlation between consumers' personality and factors influencing pre-trip decision-making

It can be assumed that a strong correlation can be observed between DISG personality types and travel purpose.

H2.2.1.: There are travel destinations whose choice is influenced by personality types

H2.2.2.: Personality type has an impact on who the consumer typically travels with.

H2.3: The personality type determines the decision factors for the choice of accommodation

It can be assumed that different characteristics become important for different personalities when choosing accommodation. Rule-following personalities choose their accommodation more carefully, while influential personalities are probably more likely to book accommodation spontaneously.

H2.4: The personality type determines the behavior during the trip

It can be assumed that certain personalities are more open to active participation, post more often on social media, participate in accommodation programs, recommend accommodation, while this is less typical for other personalities.

C3. Hypotheses:

H3.1.: There is a relationship between the consumers' personality and the consumer's player type

The research aims to shed light on which player type is most typical of which personality type. Based on the relationship, the research intends to assign concrete game mechanisms to the personality types, which it places in marketing communication.

2. MATERIAL AND METHOD

The research methods were selected in accordance with the topic.

Type of research: problem-solving research, segmentation research.

Structure of the research: qualitative and quantitative research. (Figure 1)

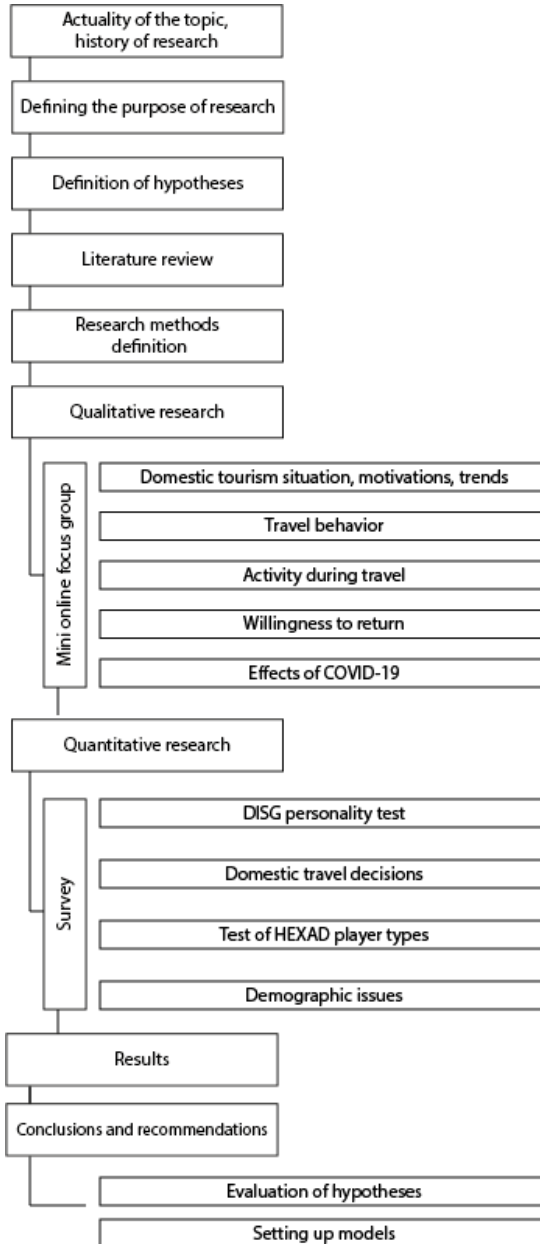


Figure 1: Research plan
Source: Own research, 2023

2.1. Research parameters and methods

During the qualitative research, with the help of focus groups, the situation of domestic tourism was explored in detail from the travelers' point of view.

Qualitative research

A kvalitatív kutatás módszere: struktúrátlan, közvetlen, mini fókuszcsoportos interjú

A csoport összetétele: A fókuszcsoport összetétele homogén, előre szelektált.

Feltételek: felsőfokú végzettség, átlag feletti 1 főre jutó jövedelem, 1980 és 1994 között született, párkapcsolatban él. Mindegyik csoportban 1-1 résztvevő volt szülő.

Fókuszcsoporthoz száma: 4-4 fő

Helyszín és idő: 2022 szeptember, Zoom (online)

A fókuszcsoportos interjú felépítése: Az interjút összesen 6 szakaszból áll, melyek a teljes kutatás céljaival is összhangban vannak. (1. táblázat)

Qualitative research method: unstructured, direct, mini focus group interview

Composition of the group: The composition of the focus group is homogeneous, pre-selected.

Conditions: higher education, above-average per capita income, born between 1980 and 1994, living in a relationship. In each group, 1 participant was a parent.

Number of focus groups: 4 people each

Place and time: September 2022, Zoom (online)

Structure of the focus group interview: The interview consists of a total of 6 sections, which are in line with the objectives of the entire research. (Table 1)

Table 1: Structure of a mini focus group interview

I.	DOMESTIC TOURISM SITUATION, MOTIVATIONS, TRENDS <ul style="list-style-type: none"> - travelers' associations about domestic tourism - motivations for domestic travel - popular accommodation types among average travelers
II.	TRAVEL HABITS <ul style="list-style-type: none"> - frequency of travel - social or individual travel preferences - organized or individual trips - participation in accommodation search - channels used to search for accommodation - accommodation preferences - accommodation communication
III.	ACTIVITY DURING TRAVEL <ul style="list-style-type: none"> - online activity - active or passive travel habits - involvement in the life of the destination
IV.	WILLINGNESS TO RETURN
V.	IMPACTS CAUSED BY COVID-19 ON TRAVEL HABITS <ul style="list-style-type: none"> - willingness to travel - changed preferences

Source: Own research, 2023

Quantitative research - Questionnaire survey

In the second part of the research, a questionnaire survey revealed how much the consumers' personality influences decision-making in the case of travel.

The purpose of the questionnaire: to set up a model that explores travel decisions as a function of personality types and player types, and associates the most appropriate gaming tools with the personality types.

Applied methods: DISG (DISC) personality test and Marczewski's HEXAD.

Inquiry method: online, using Google Forms. Participants could fill out the questionnaire once, self-completing.

The conditions for the applicants: over 18 years of age without any other demographic restrictions, as the focus of the research is not on the age, gender, or social status of the applicants, but on their personality.

Questionnaire structure:

Stage 1: DISG personality test (Persolog® test)

Section 2: Examining domestic travel decisions

Stage 3: Test of HEXAD player types and examination of attitude towards gaming

Section 4: Demographic issues

Types of questions used: Single choice, multiple choice, ranking, Likert scale, open question.

Sample size: 648 people

Representativeness: not representative.

Analysis method: SPSS program

Cross-tabulation analysis (screening out random effects with a chi2 test): I tested the strength of the relationship with Cramer's coefficient.

Pearson's correlation test: comparing the values of the personality dimensions with the values of the player type dimensions.

Factor analysis: examination of consumers' attitudes.

The non-hierarchical, K-means cluster analysis method: To determine the clusters of different traveler types.

Kruskal - Wallis test: I also compare the created clusters with the personality dimensions.

Boxplot analysis and Bonferroni method: To detect differences.

3. RESULTS

The first stage of the research revealed the preferences of average travelers. During the mini online focus group study, the research searched for the answers to objectives C1, while the second stage looked for the answers to objectives C2 and C3.

3.1. Results of the qualitative research

A kutatás az első részben mini fókuszcsoportokon keresztül vizsgálta az utazási szokásokat, a válaszok alapján egy SWOT analízissel kerültek elemzésre a kapott eredményeket.

3.1.1. Travel choice preferences

In the first part, the research examined travel habits through mini focus groups, based on the answers, the obtained results were analyzed with a SWOT analysis.

Table 2: Travel habits based on the responses of the focus group interview participants

	Qualitative	Does a personality get a role?
Travel motivation for domestic tourism	Entertainment, rest, recreation, sport, hobby, culture	Yes
Duration	2-3 nights	No
Frequency of the travel	2 times a year	No
Who is the traveler traveling with?	Family	No
Participation in the travel decision	It varies from person to person	Yes
Choice of accommodation	Boarding houses	No
Use of online channels	Typically OTAs	No
Factors influencing the decision before travel	Individual preferences play a role	Yes
Behavior during travel	Creation of visual content, involvement in local programs, participation in organized programs	Yes
Behavior after travel	Recommendation, evaluation	Yes
COVID-19	It did not affect travel habits	No

Source: Own research, 2023

Other consumer comments

In the 2nd group, at the end of the conversation, an important issue arose related to the fluctuating quality of services: "It would be good if there was a more serious representation of interests."

Although there are several types of certifications in Hungary, they are not uniform, difficult to follow, and not transparent for average travelers, according to the experience of the focus group. Efforts to overcome this have already appeared, the certification of Hungarian accommodation began in 2022, which is carried out by the Hungarian Tourism Quality Certification Board. (turizmus.com, 2021)

Ultimately, the members of the group see the need for reform, which will trigger the development and unification of the tourism industry.

3.1.2. SWOT analysis of domestic tourism

During the focus group interview, the shortcomings that can be developed to strengthen domestic tourism were formulated. Knowing the travel habits and preferences of travelers can help domestic tourism develop and adapt to the needs of average travelers.

Travelers' opinions about domestic tourism can be said to be very mixed. In addition to positive experiences, there were also negative experiences. Unfortunately, based on the discussion, the participants were able to bring up several negatives, but in order to get a clearer picture of domestic tourism, a SWOT analysis summarizes the results of the section below. (Tables 3 and 4)

Table 3: Opportunity matrix

		PROBABILITY OF SUCCESS	
		high	low
ATTRACTIVENESS	high	<ul style="list-style-type: none"> - supporting the development of tourist services belonging to active tourism - supporting rural tourism developments 	<ul style="list-style-type: none"> - development of recreational zones, even from private investment
	low	<ul style="list-style-type: none"> - creating "short-term" packages that match the country's characteristics 	<ul style="list-style-type: none"> - central regulation or official control of pricing

		THE PROBABILITY OF THE THREATS OCCURRING	
		high	low
SERIOUSNESS	high	<ul style="list-style-type: none"> - seasonal fluctuation - lack of tourism professionals - closure of additional catering units due to economic and energy crisis 	<ul style="list-style-type: none"> - choosing abroad instead of domestic locations
	low	<ul style="list-style-type: none"> - in the case of domestic tourism, disappointment in the event of a lack of development - ignoring pet owners in accommodation 	<ul style="list-style-type: none"> - a decrease in the desire to travel due to ill-mannered travelers

Table 4: Strengths and weaknesses of domestic tourism

Strengths	Weight	Weakness	Weight
- SZÉP card options	High	- in addition to the tourist hotspots, the other destinations are neglected	High
- Promotional work of the Tourist Agency	High	- unpredictable service level	High
- many sights, beautiful landscapes	High	- lack of local tourism	High
- medicinal waters, wellness options	High	- lack of public recreation places	Medium
- easily accessible destinations, short distances	Medium	- the infrastructure of active tourism is neglected	Medium

Strenght	Weight	Weakness	Weight
- many programs and exhibitions	low	- there are few program options in rainy weather	medium
- trained tourism professionals, tour guides	low	- inconsistent pricing	medium
		- lack of travel culture	Low
		- the landscape units are beautiful, but not diverse	Low
		- „Oneday” cities	Low
		- lack of thematic and organized city tours	Low
		- lack of development of hiking trails	Low
		- learning paths are rudimentary	Low
		- unused natural resources	Low

Source: Own research, 2023

3.2. Results of quantitative research

The quantitative research was based on the results of the focus group study. During the questionnaire survey, it was also necessary to use statistical methods to identify those points in the travel decision process in which the role of personality is decisive. Therefore, in the first half of the questionnaire, the respondents could complete the Persolog DISG personality test, which identified the individual personality dimensions. After that, travel decisions were examined, and in the third part of the questionnaire, the respondents had to fill out Marczewski's 30-question player typification. At the end of the questionnaire, demographic questions had to be answered.

3.2.1. The role of personality in travel decisions

The research examined the role of personality in travel decisions. The results of the research are summarized in Table 5.

Table 5: Travel habits in terms of quantitative analysis

	Quantitative research	Does a personality get a role?
Frequency of trips	7.04 in the last 3 years	Yes, the higher the "S" value, the less you travel.
Travel motivation for domestic tourism	Sightseeing: "D" is less typical "S" is more typical Rest: „I" is less typical Wine tourism: "D" and "I" are more typical, "S" and "G" less typical Religious tourism „S" is more typical, „G" is less typical	Partly yes
Frequency of travel	„D" dimension travel more	Not
Who are you traveling with?	Family	Not
Participation in the travel decision	Dimension "D" does not participate, but he occupies, Dimension „S is passive	Partly yes, for "D" and "S" dimensions
Choice of accommodation	Hotels and boarding houses	Not
Application use	"D" dimension is more typical to use, S" and "G" S" and "G" are less common	Yes
Use of online channels	Typically OTAs	Not

Source: Own research, 2023

3.2.2. Factors influencing before travel decision-making

The research also assessed the decision factors regarding the choice of accommodation. First, the reliability of the Likert scales was checked with the Cronbach Alpha test, which confirmed that the scale is reliable. Then, the research checked the relationship of the variables with the individual personality dimensions one by one. The results are summarized in Table 6.

Table 6: The role of personality in decisions making before travel

	Quantitative research	Does a personality get a role?
Factors influencing the decision before travel	"D": quick decision, decides alone; "I": search for novelty "S": slower decision, expert opinions, comparison of alternatives; "G": considered decision, well-known accommodation types	Yes

Source: Own research, 2023

Factor analysis:

For a deeper understanding of the results, factors were created from the results of the Likert scale using factor analysis, based on which 7 decision categories were created (Comparison of alternatives, Opinions, Decision duration, Good buy, Bonus and cases, Discovery, Experts). After preparing the factors, a total of 4 groups were formed during the formation of hierarchical clusters. Their characterization is shown in Table 7.

Table 7: Characteristics of the factors influencing the decision before the trip

Social decision making	The joy of discovery	A considered decision	Good bargain
<ul style="list-style-type: none"> - Other people's opinions are important to them - Bonuses or supporting noble causes are important - They value alternatives, but less than others - They are influenced by the opinions of others 	<ul style="list-style-type: none"> - Discovery is important to them, it plays the biggest role in their decision 	<ul style="list-style-type: none"> - Comparing alternatives is important to them - They cancel the reservation for a better offer - The opinions of others do not influence them - They are not characterized by quick decisions 	<ul style="list-style-type: none"> - Alternatives are not compared - They are looking for good deals - Bonuses and cases are important to them
N = 150	N = 300	N = 160	N = 38

Source: Own research, 2023

Is there a relationship between the decision factors for choosing accommodation and the personality dimensions: Yes. There is a significant

relationship for the "D" and "S" dimensions. Table 8 makes the correlations clear.

Table 8: Correlations of the factors influencing the decision before the trip

	Quantitative research	Does a personality get a role?
Factors influencing the decision before travel	„D”: Good bargain „S”: Social desicion making	Yes

Source: Own research, 2023

A significant difference can be shown for the "Good bargain" cluster in the case of the "D" dimension. "Good bargain" shows a significant difference compared to "Social decision-making".

In addition, a weak relationship can also be seen in the case of the "S" dimension ($p=0.052$). In their case, a difference can be detected in "Social decision-making".

3.2.3. Behavior during travel

Different personalities can be involved in the activities at different levels, and if we know the attitude of each personality type, we can develop more effective communication tailored to each personality type. First, the reliability had to be tested, followed by a correlation test according to the DISG dimensions. After the relationship between the dimensions was established, groups were formed from the types of habits using cluster analysis. The characteristics of the groups can be seen in Table 9.

Table 9: Characteristics of clusters of habits during travel

Passive travelers	Self-developers	Social travelers	Social gurus
<ul style="list-style-type: none"> - They are passive with all values - They don't use social media - They do not recommend or evaluate - They do not join the programs 	<ul style="list-style-type: none"> - They are looking for new knowledge - They are happy to join the accommodation's programs - They don't post on social media - The unexpected situation is avoided 	<ul style="list-style-type: none"> - They are positive about the trip - They share their experiences on social media - They like unexpected situations - They are happy to recommend and evaluate 	<ul style="list-style-type: none"> - They do not completely avoid interactive participation, but it is not characteristic of them either - They post enthusiastically - They are reluctant to rate the accommodation - They are reluctant to recommend accommodation
N = 285	N = 115	N = 149	N = 98

Source: Own research, 2023

Is there a relationship between the decision factors of the accommodation choice and the personality dimensions: Yes, each personality dimension shows a correlation with the clusters. The results are summarized in Table 10.

Table 10. Correlations between personality dimensions and clusters of behavior during travel

	Quantitative	Does a personality get a role?
Behavior during travel	Active travelers: "D": Social traveler "I": Social traveler Passive travelers: "S": Social gurus "G": Passive observer	Yes

Source: Own research, 2023

3.2.4. Examining the relationship between before-travel decision-making and behavior during the trip

It can be assumed that there is a relationship between pre-trip decision-making habits and behavior during the trip. The research also examined the relationship of the created clusters with each other using the cross-tabulation method.

What relationship can be shown between the decision-making behavior before the travel and the behavior during the travel: Yes, a relationship can be shown

based on the results of the study. The relationships are summarized in Table 11 based on the cross-tabulation analysis.

Table 11: Correlations between pre-travel decision-making and behavior during the trip

	Quantitativ	Does a personality get a role?
Correlations of behavior before and during travel	Passive travelers: The joy of discovery Self-developers: Social decision-making Social travelers: Good buys Social gurus: Thoughtful decision makers	Yes

Source: Own research, 2023

The above results are also supported by the standardized residuals.

3.3. The travel decision process

The research goal was to map the travel decision process of consumers according to which stages the consumer's personality is important. Based on their answers, it was possible to create a model of travel decisions (Figure 2), which includes the factors influencing travel decisions based on the answers of the focus group participants and the results of the quantitative research. The behavior during the trip can influence the decisions of others, so I supplemented the travel decision process of Goodall and Ashworth (1998) with the behavior during and after the trip, as well as the possibility of returning to the accommodation. In these stages, the consumer can share his experiences and gain new acquaintances. It is important to create visual content during the trip, which, according to the qualitative research, although the traveler may not share it online, he will be happy to show it to his friends later, thus providing motivation for the trip. The extent to which the consumer is involved in the life of the given settlement or accommodation may increase the likelihood of returning. Returning to the accommodation is also influenced by the environment, the quality of the service and the experiences gained.

Two stages were identified in the model, in which the role of personality becomes clearly important. This is the activity during and after the trip. In these areas, gamification can have a place, so we can increase consumer satisfaction and engagement.

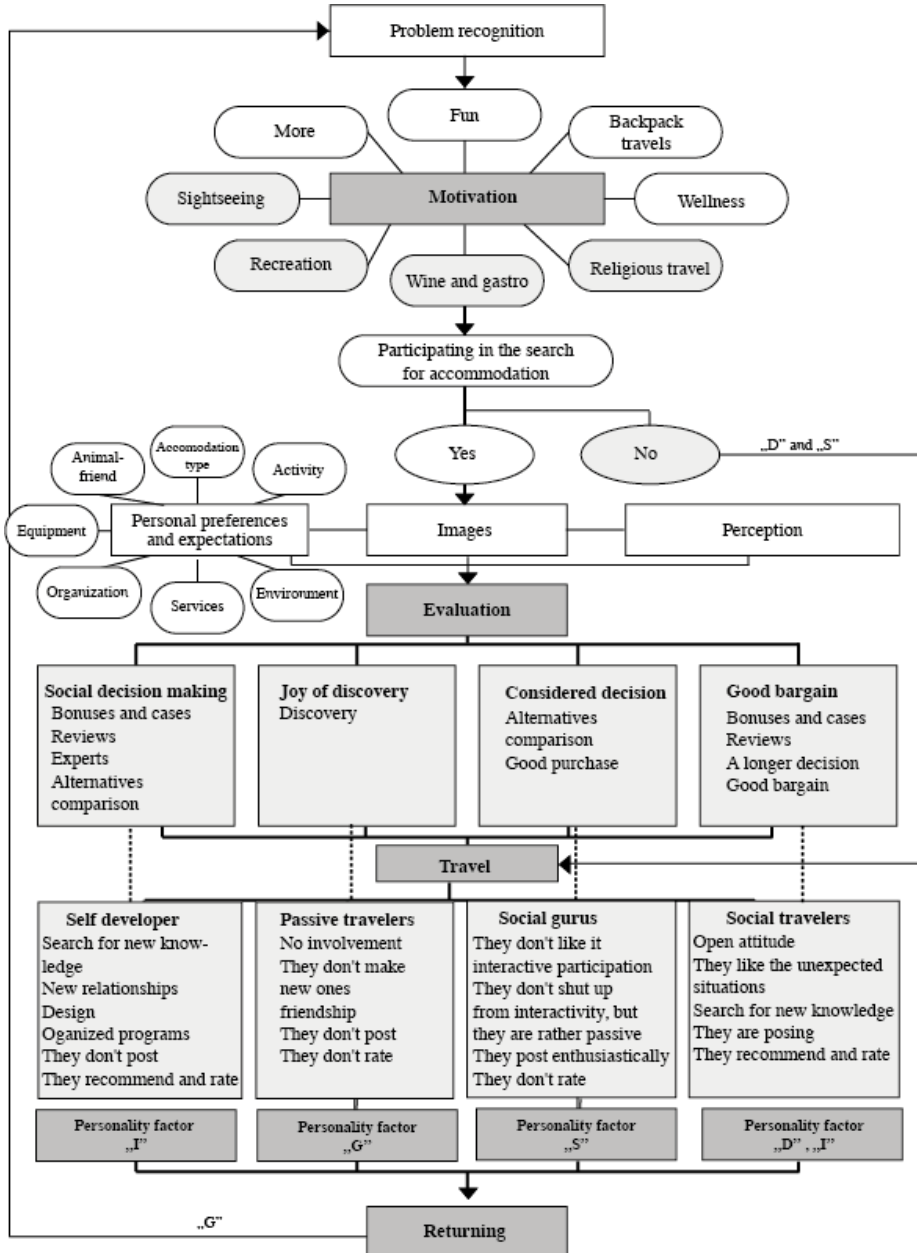


Figure 2: Travel decision process based on the answers of the focus group interview
 Source: Own research research and analysis, 2023

3.4. Exploring the connections between gamification and personality dimensions

During the investigation, Marczewski's 30-question test was used to identify all player types. Already during the processing of the sample, it became clear that there are many mixed types of players, so it could be assumed that because of the mixed types, it is more difficult to identify the correlation with the personality dimensions. Therefore, the research treated player types as player dimensions at the beginning of the investigation. The research first confirmed with a correlation test that the player types appear mixed in each personality, and then created 4 player type groups with a cluster analysis. The 4 types of players are: Task oriented, Team player, Passive observer, Active player. The properties of the different clusters are summarized in Table 12.

Table 12: Characteristics of the gamification clusters

Task-oriented	Teampayer	Passive observer	Active player
<ul style="list-style-type: none"> - Follows the rules - He likes to complete obstacles - Least social - He's not reluctant, he doesn't break the rules 	<ul style="list-style-type: none"> - He likes social roles - Following the rules and pushing the limits is the least characteristic of him 	<ul style="list-style-type: none"> - He shows a negative difference in everything, he is completely passive towards the game 	<ul style="list-style-type: none"> - They show a positive difference in everything - They give themselves over to the gamified process the most
N = 105	N = 180	N = 165	N = 198

Forrás: Saját kutatás, 2023

The research then compared the 4 clusters formed with the personality dimensions in order to reveal the relationships between the personality dimensions and player types.

Is there a relationship between player clusters and personality dimensions:

Yes, each personality dimension is related to the clusters. The results are summarized in Table 13.

Table 13: Correlations between personality dimensions and player clusters

Personality dimension	Player cluster
D	Active player
I	Team player and Active player
S	Passive observer
G	Task-oriented

Source: Own research, 2023

The use of gamification is appropriate in decision-making phases where personality has a clear role. In this way, communication can be put together in a targeted manner, according to the personality, and commitment can be improved. Table 14 summarizes the strategic application of gamification and the tools suggested per personality dimension and the results of the research.

Table 14: Possibilities of using gamification according to personality dimensions

PERSONALITY DIMENSION		„D”	„I”	„S”	„G”
Typical type of player		Active player, Task-oriented	Team player, Active player	Task-oriented, Team player	Passive observer, Task-oriented
BEFORE TRAVEL	BEFORE TRAVEL CLUSTER	GOOD BARGAIN	-	SOCIAL DECISION MAKING	-
	Target	Include them in the accommodation reservation		Include them in the accommodation reservation	
	Mechanism	Bonuses, points for purchases and surprises available with Personal preferences and expectations		Narrative Compilation of individual packages, customizable content, and bonuses available with purchase	
DURING TRAVEL	DURING TRAVEL CLUSTER	SOCIAL TRAVELER	SOCIAL TRAVELER, SOCIAL GURU, SELF-DEVELOPER	SOCIAL GURU	PASSIVE TRAVELER
	Target	Product and spread content	Product and spread content, involvement	Product and spread content	It is not worth involving them in games
	Mechanism	- Completeable missions, - challenge - competition, - points, prizes, leaderboards, - badges, - gambling	- Accomplishable missions, - Challenge - Competition, - Points, prizes, leaderboards, - Badges, - Gambling	- Accomplishable missions - Discovery, - Learning, - Challenge - Group activities - Competition	
	Example	Complex application or local competition with other tourists for rewards.	Group mission with other tourists with challenges for rewards.	Map challenge of attractions, with photo bingo	
AFTER TRAVEL	Target	Recommandation	Recommandation	-	Return
	Mechanism	- Referral bonuses, - loyalty campaign - badge - gambling - prize	- community support - points, badges	Since the recommendation is less typical for this dimension, they should not be focused on	- Quizes - Tasks - Challenges

Source: Own research, 2023

It is important to note that the use of gamification mechanisms does not in itself become gamification. This requires them to be handled in a process, where each mechanism has a purpose in that stage. The process does not necessarily have to take place in the online space, but it must support the marketing goals, the goal cannot be just entertainment.

4. CONCLUSIONS AND RECOMMENDATIONS

An individual's personality also has an influence on their travel decisions, which has already been proven by several studies. Due to the decline experienced in tourism and the often negative image of domestic tourism, innovative marketing solutions are also needed, which can increase the motivation of individuals, make communication more effective, and improve the image of individual destinations. During the research, however, it became clear that the activity of consumers differs according to personality dimensions, so tourism service providers must develop a strategy adapted to personality factors. By knowing the personalities, appropriate communication becomes easier to apply.

4.1. Evaluation of hypotheses

During the research, it was confirmed that there is a connection between personality and certain phases of the domestic travel decision. During the investigation, the research goal was to map travel decision-making behavior among consumers and the influence of player types on decision-making processes. To this end, I examined the decision factors prior to the trip, such as travel motivation, participation in the search for accommodation, and the channels used to search for accommodation. Mapping the behavior during the trip and after the trip, as well as identifying the role of personality can help professionals to improve the effectiveness of marketing communication. The following are the hypotheses of the study, which are summarized in Table 15.

Table 15: Evaluation of hypotheses

Hypotheses	Hipotézis tartalma	Evaluation
H2.1	The personality of the consumer determines the active participation in the travel decision	Partially accepted
H2.1.1	There is a relationship between the consumer's personality type and the online channels used to search for accommodation	Abandoned
H2.2.	There is a relationship between the consumer's personality and travel goals	Abandoned
H2.2.1.	There are travel destinations whose choice is influenced by personality types	Accepted
H2.2.2.	Personality type affects who the consumer typically travels with	Abandoned
H2.2.3.	There is a connection between the consumer's personality and the choice of accommodation type	Abandoned
H2.3.	There is a correlation between the consumer's personality and the factors influencing decision-making before the trip.	Accepted
H2.4	The personality type determines the behavior during the trip	Accepted
H3.1.	There is a strong relationship between consumers' personality and the consumer's gamer type	Accepted

Source: Own research, 2023

H2.1.: The personality of the consumer determines the active participation in the travel decision

Even during active participation in the search for accommodation, we could see that among those who do not participate in the search, the "D" or "S" dimension is significantly higher. This does not mean that the high value of these two dimensions assumes that the consumer does not participate in the search for accommodation, but shows that these values are higher among those who do not participate in the decision.

Since no relationship was found for all personality dimensions, hypothesis **H2.1**, according to which the consumer's personality type determines active participation in the travel decision, can only be **partially accepted**. In cases where individuals do not participate in the search for accommodation, certain dimensions of personality have proven to be more characteristic.

Recommendation: If we want to focus on target group expansion and more active participants, it is worth analyzing the characteristics of the "D" and "S" dimensions. Gamification can be suitable for involving more consumers in the decision. The "D" dimension showed a correlation with the "Active player", so it is worth motivating them with the competition, while the "S" dimension showed a difference in the direction of "Task-oriented", "Passive observer" and "Team player" compared to the "Active player". In this way, we can better involve the "S" dimension in the processes with tasks and helping others.

H2.1.1 There is a relationship between the consumer's personality type and the online channels used to search for accommodation.

During the focus group interview, it was revealed that after making a decision, travelers prefer online payment methods, and they like it when the entire process takes place online. Popular websites provide a safe environment for purchases, so they can complete the transaction quickly, traceably, and simply.

During the quantitative research, however, it was revealed that a relationship between the consumer's personality and the online channels used for accommodation search can only be discovered in the case of a few interfaces. These were the "szallas.hu" and "belfoldiszallasok.hu" channels. However, compared to all the channels, these two surfaces represented a very small proportion, therefore **H2.1.1. hypothesis was rejected**.

H2.2. There is a relationship between the consumer's personality and travel goals

H2.2. under hypothesis, the research investigated the effect of personality on travel purposes. This hypothesis was broken down into sub-hypotheses, so the research analyzed in detail which destinations and types of accommodation the individual personality dimensions prefer, and who they typically choose as travel companions. In light of the results detailed below, **H2.2. hypothesis was rejected** by the research.

H2.2.1. There are travel destinations whose choice is influenced by personality types

Although those interviewed during the focus group interview were primarily looking for active tourism opportunities, the quantitative research showed a different picture. Many people also like sightseeing, adventure tours and backpacking trips, the most popular travel motivations are still rest and vacations by the water.

Sightseeing is less characteristic of the "D" personality dimension, while it is more characteristic of the higher "S" dimension. Rest seems to be a less typical motivation among those with a higher "I" dimension. Wine tourism was related to several dimensions. Those with higher "D" and "I" dimensions are more likely to decide on a gastro tour than those with higher "S" and "G" values. On the other hand, among those who like religious paths, higher "S" and lower "D" values were typical. Out of the 14 travel motivations, I found a correlation with 4 motivations, H2.2.1. hypothesis was accepted. This is partly due to GRETZEL et al. (2014) also confirms the previously presented results, where, based on the Big Five personality model, they found a correlation between travel goals and personality factors in the case of several dimensions. The relationship between religious tourism and personality was confirmed by

ABBATE and DI NUOVO (2013), but in his study he examined those who had already participated in religious trips. Compared to this, the present research also reveals which personality dimension shows a greater willingness to participate in religious journeys. It is interesting that while SCOTT and MOWEN (2000) also found a correlation between adventure tours and personality factors, this was not confirmed for Hungarian travelers in the case of DISG personality factors.

Recommendation: The research also showed that in the case of some motivations, personality also dominates. Thus, for example, in the case of wine and gastronomy trips, which are particularly popular at the moment, there is a significant correlation with personalities. Our country is rich in wine regions, and gastronomic trips are also becoming more and more popular, so this result can help you get to know the personality of travelers with this purpose better. In the continuation of the research, it is worthwhile to examine this segment more deeply, so that it can also be revealed how effective the methodology of gamification during wine tourism is. Further research is also recommended in the field of religious tourism, as interest in religious tourism was low in the sample. By developing active tourism, we can use domestic tourism to a greater extent, with new opportunities even the primary motivations can change. According to the members of the focus group, in the case of active tourism services, the offer of the regions should be expanded with outdoor and indoor program opportunities, as they feel a lack of these in the countryside. The demand for the development and creation of recreation zones appeared as a separate goal. The development of services and infrastructure related to active tourism can therefore open a new market in the field of domestic tourism.

H2.2.2. Personality type affects who the consumer typically travels with

The most typical thing is that the individual travels with the family, which is followed by trips with friends and relatives. A surprising number of people, nearly 5%, said that they are happy to travel alone. However, I found no correlation between personality and who the consumer travels with, so **H2.2.2. hypothesis was rejected**. However, just as in the case of religious tourism, the segment of individual trips should also be examined more deeply in a specialized research.

H2.2.3. There is a connection between the consumer's personality and the choice of accommodation type

H2.2.3. during hypothesis testing, the study looked for the connection between the consumer's personality and the choice of accommodation type. This **hypothesis was also rejected**, as the research found no correlation between the personality dimensions and the preferred type of accommodation.

Compared with the KSH data, however, the sample produced the expected results, the most popular type of accommodation is the hotel, which was indicated by more than 45% of the respondents. Although this was slightly lower than the 67% rate of the KSH, it was still given the greatest weight in this research. The second most popular accommodation, the pension, on the other hand, represented a much larger proportion in this research with a proportion of 37.7%. According to KSH data, only 12.25% of guest nights were spent in boarding houses in 2022. Community accommodation showed similar results to the KSH data, with a value of around 10%. Campsites, on the other hand, fell far short of the expected numbers, since according to the KSH, the number of guest nights spent in campsites is around 6.32%, while the number of people who choose a campsite in the sample is only half, 2.8%. Holiday housing estates showed a value of 4.20% according to KSH data. It should be added to the above results that proportionally the most nights were

spent in hotels, which is followed by the above order. However, it is important to note the fact that the focus group interview pointed out. In 2021, during the coronavirus, every second household in Hungary became a dog owner. While only 36% of households had a dog in 2018, by 2021 this figure had increased to 50.4%. (medicaonline.hu, 2023) Therefore, accommodation providers should also follow this change, since as a result of the epidemic, more and more 4-legged family members are accompanying the traveling public.

Recommendation: Since several studies have proven that travelers show a growing interest in nature, the role of sustainability and the countryside is also being valued. Greater emphasis must be placed on environmentally conscious tourism, which even service providers can promote with the help of gamification. In addition, more attention should be paid to the design of dog-friendly accommodation due to the increased number of dog owners, as this factor has a strong influence on the choice of accommodation.

H2.3. There is a correlation between the consumer's personality and the factors influencing decision-making before the trip.

Many factors play a role in the decision before the trip, but personality plays a clear role. Miskolczi (2022) believed that the quality of information, sources, the possibility of interactivity and the accessibility of information play a role in the travel decision. By proving the hypothesis, the previous ones must be supplemented with the fact that all these can become more or less important according to personality characteristics. For individual personalities, different factors are important in the evaluation phase, which was pointed out by both qualitative and quantitative research. Based on the triad of individual preferences, images and perception, 4 decision types can be identified: social decision-making, the joy of discovery, the considered decision and the search for a good deal.

The higher "D" dimension is more characterized by quick decisions and the search for "Good buys", they ask less for the opinions of others. On the other hand, for those with a higher score on the "I" value, the search for new things is the main motivation when they want to book accommodation. The greater weight of the "S" dimension presupposes slower decisions and the search for second opinions. They seek expert opinions and like to make sure that their decision is the best of the alternatives. The most thoughtful decision-makers are those with a high "G" value. They are mostly characterized by comparing alternatives, giving preference to proven and well-known accommodations, and thinking long and hard before booking. However, the opinion of others is sought less. Jani (2014) examined information-seeking habits based on the Big Five dimensions, on the basis of which he found a relationship along the dimension of neuroticism with the need to reduce uncertainty. This dimension in the Big Five model refers to a more anxious, worried type of person, just like a high "G" value according to the DISG personality traits. Based on these, **H2.3. hypotheses was accepted.**

Recommendation: Knowing these, marketing communication also becomes easier, since professionals can create communication for the 4 different decision types.

Marketing communication must be created in such a way that it satisfies the needs of all 4 personality dimensions. It is worth making up to 4 sales funnels according to the 4 dimensions, so that the message can reach its destination in a more targeted manner. Since personality already plays a strong role in this stage, gamification methods can also be used.

Earlier, in the framework of focus group interviews, the weaknesses of domestic tourism were identified. Among these, encouraging the conscious behavior of tourists and increasing the degree of involvement is particularly important at the micro level. During the advertising activity, I recommend

creating 2 landing pages. When building landing pages, the following must be taken into account:

- The page should have a place for the story (narrative), which weaves through the text of the entire page. As a result, we favor those personalities with an emphasis on the "S" dimension.
- Make it possible to compile individual service packages. This also favors the "S" dimension.
- On the site, bonuses and available discounts should play an important role, so that the offer becomes more attractive for both high "D" and high "S" dimensions.
- Further communication can be strengthened if each choice on the page is measured with separate codes and communication is based on behavior. So, for example, those who choose the individual service packages, but still refrain from purchasing, can be lured back to the site with additional unique solutions.
- The activity shown on the consumer side can also be monitored with a digital heat map, so consumer groups can emerge according to their interests.

H2.4. The personality type determines the behavior during the trip

During the qualitative research, it was clearly visible that individual personalities show very different behavior during their travels. This was confirmed by the qualitative research, personality is important not only in the decisions before the trip, but also in the behavior during the trip. To prove the hypothesis, 4 clusters formed from the types of behavior during the trip (Passive travelers, Self-developers, Social travelers and Social gurus) showed a strong significant correlation with the DISG dimensions. The interaction during the holiday, the joy of discovery, the use of Social Media and the

evaluation of the accommodation all thus showed a clearly recognizable pattern according to the individual personality dimensions.

In the social travel cluster, the higher "D" dimension was characteristic. Since this was not experienced in the other clusters, it can be said that those with higher "D" values are really active travelers who can be built on in the field of word-of-mouth advertising. In fact, they are happy to participate in everything, they do not despise unexpected situations and they are happy to evaluate and recommend the accommodation even after the trip.

The "I" dimension is most characterized by activity, compared to all the clusters, the "Passive travelers" cluster has the lowest "I" value. The value of the "I" dimension is also higher in the "Social travel" cluster.

Since the personality factors "D" and "I" are located along the active dimension, it was expected that they would be negatively correlated with the more passive clusters, such as "Social gurus" and "Passive observers".

In the more passive clusters, the "S" value is significantly higher than the social travelers, and the deviation in the direction of "Passive observers" and "Social gurus" is observed. The biggest difference can be observed between "Social Traveler" and "Social Gurus", so we can say that the "Social Gurus" cluster has the highest "S" value. They are therefore passive travelers who are happy to share their experiences in the community. This can be explained by the fact that the "S" personality dimension is perseverance, team play and supportive behavior. Although this somewhat contradicts CARBERA et al. (2006), who found a correlation along the lines of conscientiousness known from the Big Five (in the case of DISG, the "G" dimension). (CARBERA et al., 2006)

The "Passive observer" group is the most typical for the "G" factor. Considering that activity is less characteristic of factors "S" and "G" due to personality traits, it was expected that they would be the least active. They are the ones who consider the most, like clear processes and are precise. The

results of the research are also in line with their personality traits, according to which they do not like unexpected situations and behave reservedly with others even during the trip. They are reluctant to recommend accommodation to others and prefer familiar things instead of new things. Based on the above, **H2.4. hypothesis was accepted**, between personality and behavior during the trip.

Recommendation: Each of the different personalities can be affected differently during the trips. Since the power of word of mouth is a particularly important factor from a marketing point of view during travel behavior, content production and reviews should be encouraged at this stage. Social gurus are most willing to produce content, where the value of the "S" dimension is outstanding, as well as "Social travelers", in which cluster the "D" and "I" values were higher. The results revealed in the thesis are also worth testing in practice. This can be achieved through an online application or offline, with worksheets posted at the service provider. Solutions suitable for testing can be:

- Placement of a paper-based bingo game in which tasks related to the given location must be completed. If the tourist completes all the tasks, the service provider gives the tourist a prize or points. This type of game is suitable for encouraging involvement, as the tasks can be freely modified. (e.g. "Find out who in the settlement has been making ceramics for the longest time", "Take part in cross-country riding with a local guide", etc.)
- Making best times, wall of fame or leaderboards available for competitive type 'D'
- A map challenge in which you have to look for treasure in the given location, thereby affecting the local cultural and gastronomic landmarks

- Providing points for uploaded photos, hashtag use, and tagging

It is recommended to develop a system that not only tries to strengthen involvement during the trip, but also encourages the willingness to return. Collecting points can be a solution to this, which can be exchanged locally for gifts (e.g. free coffee, cake, program) or for a discount upon return.

H3.1. There is a strong relationship between consumers' personality and the consumer's gamer type

Based on the investigation, Marczewski's player typification did not seem suitable for the precise definition of player types in this study, as it showed too mixed a picture for each individual. Therefore, I reduced the 7 player types to 4 players using the cluster analysis procedure, so the 4 new players became "Task Oriented", "Team Player", "Passive Participant" and "Active Player". Although this grouping is very different from previous player typifications, it already includes those consumers who have a passive approach to various activities. They are the most difficult to get involved either online or offline. Although most research has examined gamification according to the Big Five personality traits, HARTYÁNDI (2022) pointed out that a DISC-focused approach is also needed in the Hungarian context. The new player types are located along 2 dimensions. Players can be grouped according to their activity and social skills. (Figure 3)

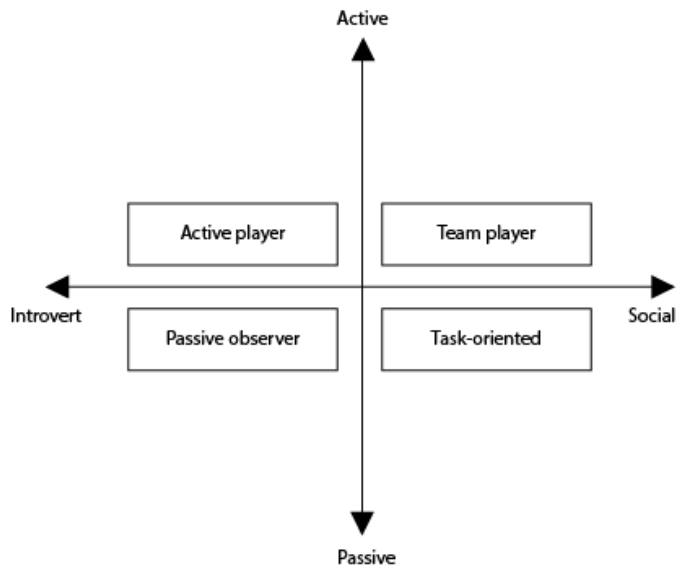


Figure 3: Dimensions of the player types
Source: Own research, 2023

Figure 3 is strongly reminiscent of the DISC 4-quadrant model, which placed the personality dimensions along active and considered, as well as task and person-oriented.

The higher "D" dimension is mostly characterized by the cluster of Active players, that is, they are happy to participate in all levels of the game and in all its aspects. Team play is far from him, which can be explained by the competitive spirit characteristic of the personality dimension. This dimension is characterized by the questioning of the status quo and a result-oriented attitude, which is also confirmed by this result. Managers whose participation is worth building on in marketing as well.

For the "I" personality dimension, the biggest differences can be seen in the case of the "Team player" and "Active player" clusters compared to the other two passive clusters. Similar to the "D" dimension, this consumer likes to be a part of the game, but for him the social experience is also motivating. The "Task-Oriented" player is the least characteristic of him, it is more likely that

he prefers passivity when tasks are difficult for him. In the case of the "I" dimension, the hierarchy is clearly defined in terms of the 4 types of players. The "S" dimension, in contrast to the "D" and "I" dimensions, shows much greater passivity. The biggest difference is between "Task Oriented" and "Active Player" and "Active Player" and "Team Player". In addition, there is a strong difference between "Active player" and "Passive observer" in the direction of "Passive observer". These persons are less active, but do not yet show complete passivity.

The "G" dimension is the most passive of all, which agrees with RAVID and CODISH's (2014) finding that along the dimension of conscientiousness, gamification is less necessary for motivation. MARSTON (1928) initially called the "G" dimension the dimension of conscientiousness, so the parallel with the Big Five personality factor is obvious. The "Passive Observer" and "Task-Oriented" dimensions show a strong deviation from the "Active Player", so they are the least likely to be involved in games.

Compared with the dimensions shown in Figure 3, it is clear that while "D" and "I" are located along the active dimensions, "S" and "G" point in the direction of passivity. People with a high "S" factor can be motivated by social activities and tasks, but "G" shows a high degree of passivity in all respects. The study clearly pointed out that there is a strong relationship between personality dimensions and player types, so **H3.1. hypothesis was accepted.**

Recommendation: Based on Figure 3, it is worth developing a 4-pronged gamified process that focuses on the above 4 types of players, and then deliver these communication funnels to potential travelers based on the DISG personality characteristics profiles. One branch of the communication funnel that focuses on the Passive Observer cannot include any gamification mechanism, as this "type" does not like to participate in games. HEXAD types and proposed mechanisms specific to player types are shown in Table 16.

Table 16: Grouping of the player types

Pacsi	HEXAD players	Suggested mechanism
Task-oriented	Achiever, Free spirit	Challenges, certificates, learning, quests, levels. Enemy, Exploration, Choices, Easter Eggs, Unlockables, Creative Tools
Teampayer	Social, Player, Philanthropist	Groups, social network, social status, social discovery, social pressure, competition, points, prizes, leaderboards, badges, gambling, virtual wealth
Active player	All the player types	It welcomes all known game mechanics.
Passive observer	Neither of the player types	-

Source: Own research, 2023

Deep learning technology can help professionals develop communication and use the results.

5. NEW AND NOVEL SCIENTIFIC ACHIEVEMENTS

1. **A complex definition of gamification was developed**, which better covers the true nature of the methodology and points to its usability. The development of the new definition was based on a comparison of the existing literature. The definition was necessary because the different authors approach the topic in a too diverse and inconsistent way, most definitions are incomplete and omit the key factors of the method. The new definition focuses on behavior and process, and includes experience marketing and its measurability. An important element is that the role of gamification is the transmission of information to the consumer.

"Gamification is a psychologically designed process that affects the consumer's motivation. It uses the game's toolset in non-game areas of life to convey information to consumers. With the help of gamification, the experience becomes measurable, and the transfer of information can be planned."

2. **The strengths and weaknesses of domestic tourism were summarized in a SWOT opportunity matrix.** (Tables 3 – 4) After the exploratory analysis, the thesis proposed the development possibilities. The matrix was developed based on the answers of the focus group interviews, and its purpose was to present the situation of domestic tourism. The research pointed out that the tourism of our country is highly polarized, tourist hotspots have emerged, while many areas are unexploited. Active tourism, ensuring the quality of pricing and services, as well as local and rural tourism were defined as problem areas. Their development is desirable, which can be facilitated by the digitization of the sector.
3. **4 typical types of travel decisions have been identified**, which can be used to make pre-trip communication more targeted. (Table 7) The travel decisions were analyzed using the factor analysis method, and the 4

decision types were determined using the hierarchical cluster analysis. The types of travel decisions are 'Social Decision Making', 'Joy of Discovery', 'Considerable Decision' and 'Good Bargain. These decision types are significant in the evaluation phase of the travel decision.

4. Using the method of hierarchical cluster analysis, **4 typical travel behaviors were identified**, to which the research assigned personality factors using the Kruskal Wallis test and post hoc test (Passive travelers - "G", Self-developers - "I", Social travelers - "D", "I", Social gurus – “I”, “S”). Based on these, it can be identified that high "D" and "I" dimensions should be encouraged for recommendations, while high "D", "I", "S" dimensions should be encouraged for content production, with particular attention to the "I" dimension, which is high value, the willingness to get involved is also higher. (Table 9)
5. **To develop the complex model of the travel decision (Figure 2) in connection with the personality dimensions.** This model can serve as a guide for planning marketing development opportunities for tourism service providers. The model was based on the work of GOODALL and ASHWORT (1998), but was supplemented with behavior before and during the trip, as well as the willingness to return. In the model, it is presented in which phases personality plays a role. The model includes the clusters presented during the research, i.e. the 4 clusters of decision-making before the trip (Social decision-making, Joy of discovery, Considered decision, Good bargain) and the 4 clusters of behavior during the trip (Passive travelers, Self-developers, Social travelers, Social gurus). In the model, according to the DISG dimensions, it is marked in which personality dimensions are correlated in certain stages of the travel decision.
6. **4 player types were identified** using the method of hierarchical cluster analysis (Table 12), to which the DISG personality dimensions were also

assigned (Task-oriented - "G", Active player - "D", "I"; Team player - "I"; Passive observer – "S"), as well as the gamification mechanisms proposed for them. The literature survey showed that there are too many types of categorizations, which make their usability difficult. However, it was a problem that these types were not previously analyzed in connection with the DISG personality factors, which is a widespread methodology, often used by marketing and HR professionals. The 4 player types identified in the study made it possible to more easily apply the gamification methodology in the field of tourism in connection with the DISG model.

- 7. According to player types and DISG personality types, gamification development opportunities aimed at domestic tourism were developed (Table 14).** The table summarizes which personality dimensions the player types defined in the research (Task-Oriented, Active Player, Team Player, Passive Observer) are related to, and which clusters before and during the trip are worth focusing on in the different stages of the trip. The table also summarizes the mechanisms proposed for the types of players and also gives examples of the possibilities of the application.

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7. PUBLICATIONS

1. Publication in journal:

1.1. Published in a foreign language, IF journal:

1. Papp-Váry, Á., Pacsi, D., Szabó, Z. (2023): Sustainable Aspects of Startups among Generation Z—Motivations and Uncertainties among Students in Higher Educations. In: *Sustainability*, 15(21), 15676 <http://doi.org/10.3390/su152115676> (Scopus: Q1; MTA IX. class SZTB: C international; MTA IV. class: A)

1.2. Published in a foreign language, non IF journal:

2. Szcyrba, M., Pacsi, D. (2023): The Role of Serendipity in the Innovation Management Cycle. In: *Forum Scientiae Oeconomia*, 11(4) 145-156. pp. https://doi.org/10.23762/FSO_VOL11_NO4_7 (Scopus: Q3; MTA IX. class GMB: C international)
2. Pacsi, D., Illés, B. Cs. (2023): The role of personality traits in the factors influencing domestic accommodation choice among Hungarian population. In: *SELYE E-STUDIES*, 14(1), 35–49. pp.
3. Papp-Váry, Á., Szabó, Z., Pacsi, D., Kovács, A. (2022): Marketing communication and innovation among the Generation Z. In: *Journal of International Scientific Publication: Economy and Business*, 16, 70–79. pp.
4. Pacsi, D., Illés, B. Cs., Papp-Váry, Á., Szabó, Z., Huseynov, R., Syed, A., Isgandarov, R. (2024): New ways in tourism: Factors influencing the domestic travel decision of generation Z and the correlations of gamification. In: *International Journal of Diplomacy and Economy*, Accepted article, recipient declaration in progress (Scopus: Q3)

2.1. Published in Hungarian, non IF journal:

5. Tóth, G., Brávác, I., Harsányi, D., Pacsi, D., Szabó, Z. (2022): Kihívások a hazai KKV szektor döntéshozatalában – Fókuszban az online kommunikációs megjelenés. In: *Marketing és Menedzsment*, 56(2), 3–12. pp.
<http://doi.org/10.15170/MM.2022.56.02.01> (MTA IX. class GMB: B national)
6. Pacsi, D., Szabó, Z. (2017): A gamifikáció fejlődése és a magyar gamifikációs trend alakulása. In: *Studia Mundi - Economica*, 4(1), 57–68. pp. <http://doi.org/10.18531/Studia.Mundi.2017.04.01.57-68> (MTA IX. class RTB: C national)

3. Conference publications:

3.1. Hungarian language (full paper):

7. Papp-Váry, Á., Szabó, Z., Pacsi, D. (2022): Az innováció marketingkommunikációja a Z-generáció körében.
In: *TRANSZFORMATÍV MARKETING: Társadalmi és üzleti kihívások integrált marketing-megoldásai*, 336–345. pp.
8. Pacsi, D., Komáromi, N., Battay, M. (2018): A Facebook nyereményjátékok történelme. In: *A hatékony marketing*, 959–968 pp.
9. Pacsi, D. (2018): A gamifikáció hatása a fogyasztói döntés folyamatára. In: *Közgazdász Doktoranduszok és Kutatók IV. Téli Konferenciája*, 51–59. pp.

3.2. Foreign language (full paper):

10. Pacsi, D., Szabó, Z. (2018): Experiential Marketing, Interactivity and Gamification. In: *Marketing Instytucij Nakowych i badawczych/*

Marketing of scientific and research organisations, 30(4), 115–136.
pp. <http://doi.org/10.14611/MINIB.30.12.2018.16>

3.3 International conference (abstract):

11. Pacsi, D. (2022): Play like a child – analysis of gamification frameworks / Session Information Center. In: *93rd International Atlantic Economic European Virtual Conference*