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A Budapesti Corvinus Egyetem szakfolyóirata
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ÁGNES HALÁSZ – ZSÓFIA KENESEI

ONLINE LEARNING ACCEPTANCE IN HIGHER EDUCATION – DO WE KNOW EVERYTHING?

AZ ONLINE TANULÁS ELFOGADOTTSÁGA A FELSŐOKTATÁSBAN – ISMERÜNK-E MINDENT?

Research on the acceptance of educational technologies in higher education has become a high priority in recent years, particularly in the context of COVID-19. Numerous articles have been published on the subject, building on basic technology adoption models to investigate the impact of a wide range of factors on adoption. The proliferation of variables frequently makes it challenging to interpret results and may generate confusion. In order to synthetize and organize this knowledge, the authors collected 143 variables from 47 systematically selected studies. Based on the results of an in-depth analysis of the content and effects of each variable, they developed a framework that helps provide insights into state-of-the-art research on technology acceptance in higher education. The results of their study not only summarize what they know so far but also point to gaps where new findings in the field are expected.

Keywords: **online learning, technology acceptance models, higher education**

A technológiaelfogadás kutatása a felsőoktatásban az utóbbi években kiemelt jelentőségűvé vált, különösen a COVID-19 kontextusában. Számos cikk jelent meg a témában, amelyek a technológia elfogadásának alapvető modelljeire építve vizsgálják a különböző, használat során fontosnak bizonyuló tényezők elfogadásra gyakorolt hatását. A változók nagy számossága gyakran kihívást jelenthet és zavart okozhat az eredmények értelmezésében. A rendelkezésre álló kutatási eredmények szintetizálása és rendszerezése érdekében 47 szisztematikusan kiválasztott tanulmányból 143 változót gyűjtöttek össze a szerzők. Az egyes változók jelentéstartalmának és hatásainak mélyreható elemzését követően kidolgoztak egy olyan keretrendszert, amely segít betekintést nyújtani a technológiaelfogadással kapcsolatos legmodernebb kutatásokba a felsőoktatás kontextusában. Tanulmányuk eredményei nemcsak összefoglalják az eddigi ismereteinket, hanem rámutatnak azokra a hiányosságokra is, ahol új eredmények várhatók a területen.

Kulcsszavak: **online tanulás, technológiaelfogadási modellek, felsőoktatás**

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The use of digital technology and information and communication technology (ICT) based teaching tools has long been part of higher education (HE). Numerous studies have examined the advantages and disadvantages of using technology in HE (Fidalgo et al., 2020). Since spring 2020, however, the use of ICT tools in education in general, and in HE in particular, is no longer an issue (Szabó et al., 2022). In parallel with the outbreak and the continuing threat of COVID-19, HE globally switched to distance learning. Consequently, the question of what influences the acceptance of technology-based education in HE and what factors will make students effectively and willingly use online learning has become particularly important.

There is a wealth of study on technology adoption in HE contexts; a wide range of models and variables have been studied. These factors have now become so diverse that it is often difficult to see them in a coherent way, thus, it is hard to tell if something has been investigated or if there's more to discover. Singh and Thurman (2019) found 46 definitions of online learning alone. Accordingly, many factors have been identified that influence technology adoption in some way. These variables are often educa-

tion-related, but in some cases, they refer to the general acceptance of technology. The multiplicity of variables means that variables with similar meanings are often included in the models under different names. Research results on the same factor are not published under the same name, generating confusion, and making it difficult to generalize the results and formulate a common vision. As research on technology adoption has become an important topic in HE, it is essential to contextualize the variables already studied, their interrelationships, and the research gaps that emerge from them.

Research, which explores and categorizes the variables that appear in online learning technology adoption research, has not yet been performed. The purpose of this study is to offer a framework that identifies and categorizes the factors that affect the acceptance of online learning. Based on these considerations the main research questions of this study are:

RQ1: What are the factors that emerge in HE online learning acceptance research using technology adoption models?

RQ2: What is the exact content (definition or description) of these variables and what is their relationship to each other? How do they affect adoption?

RQ3: Based on the interrelationships of the variables used, what are the main nodes and themes that emerge in the research of online learning?

RQ4: What research gaps are outlined based on the examination and grouping of the variables?

In order to answer our research questions, on the basis of a thorough analysis of the variables found in the articles collected, we determine and categorize the factors contributing to the adoption of online learning in higher education using the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Keszey & Zsukk, 2017). These two models are the dominant technology adoption models in general and in online learning. We developed a framework that helps understand the interrelationships and differences between these factors. In the analysis, we grouped 143 variables (127 antecedent, 11 outcome, and 5 moderating variables) of different titles based on 47 articles and created 6 categories in total. We provide tables detailing the results already available on the factors of technology acceptance and help identify the nodes, gaps, and contradictions. The detailed analysis and the resulting implications of the established framework provide future direction in the research of the topic.

Method

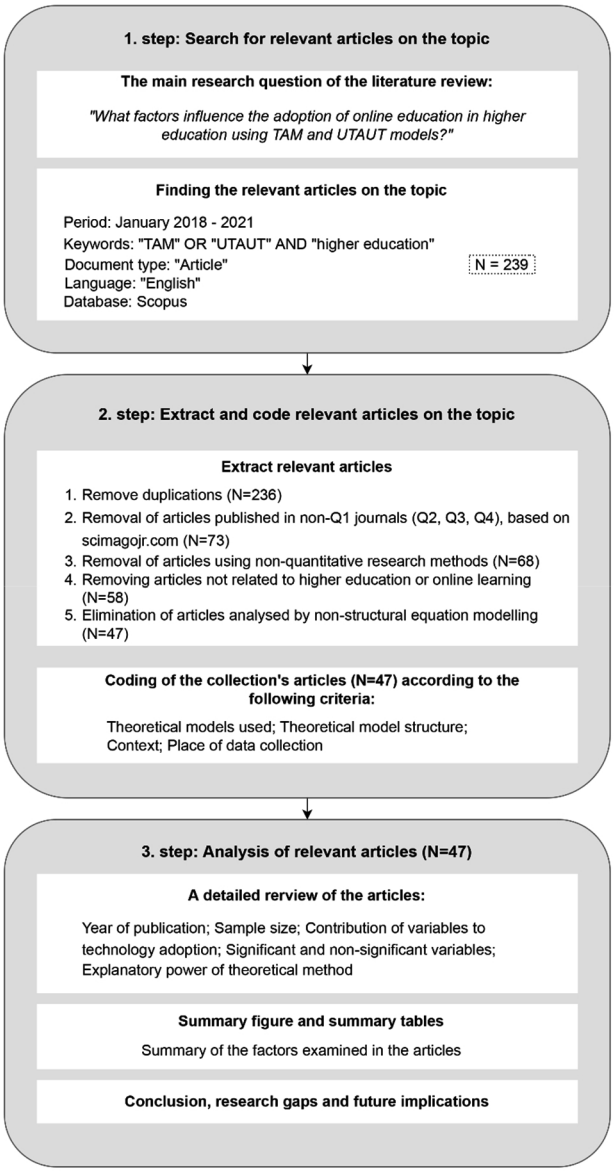
Sample selection process

Our goal is an in-depth understanding of the factors used in the articles to explain the acceptance and adoption of online learning. Based on this goal, our approach to analyzing the selected studies is more in a framework-based than in a bibliometric way (Paul & Criado, 2020), therefore a more qualitative focus was applied. Accordingly, the aim of the selection process was not to identify and analyze all the articles published on the topic but to develop a sample from which to build the framework. To ensure that our sample was still based on a sufficiently systematic choice. We collected articles for the analysis using the process shown in Figure 1 (PRISMA; Moher et al., 2009).

In an educational context, Abdullah and Ward (2016) found that 85% of research used TAM or UTAUT while 15% used other models. Similarly, based on systematic reviews, Kaushik and Verma (2019) and Granić and Marangunić (2019) found that studies on online learning adoption predominantly use TAM or UTAUT. In our analysis of factors that relate to online learning adoption, we draw on TAM and UTAUT and present those articles that examine the adoption factors of online learning with the application of these two models.

Figure 1

Process flow of the article selection process



Source: own compilation

As our objective was not to present publication trends or provide statistics on the publications within the topic but

rather to comprehend the underlying meaning of the variables used, we had to decide how to narrow down the number of studies. To this end, we restricted the range of articles in the study, both in terms of quality and time span.

As a first step, we used the Scopus search engine with the keywords "TAM" or "UTAUT" and "higher education". In addition to the three keywords, the restriction "article" was also applied; we only analyzed research published in this format. The search included the language "English" as input. Finally, we filtered the period to the interval from January 2018 until December 2021, the date of the selection process. First, this timeframe resulted in a sufficient number of publications containing the most recent research findings, second, previous literature reviews of technology adoption in HE online learning have collected and analyzed academic work until 2018 (Kaushik & Verma, 2019; Sarker et al., 2019; Martin et al., 2020).

We subjected the resulting proprietary database of 239 articles based on the search options to the PRISMA filtering criteria to retain only research relevant to the research question. Of the 239 hits, 3 duplicate items were detected, leaving 236 items after filtering. We further narrowed down the range of articles and created a selection of the 237 articles based on journal ranks. We ranked articles (by journal) using the Scimago Journal Rank website (www.scimagojr.com), filtering out Q2, Q3, and Q4 ranked articles, leaving only Q1s (Keszey, 2020). Subsequently, we filtered out articles that did not use a quantitative research method. In combing through the 68 remaining articles, we excluded 10 that did not relate to higher education or online learning. From the remaining 58 articles, we removed 11 that were not based on the testing of structural effects of TAM or UTAUT.

A list of the selected 47 studies can be found in the Supplementary material.

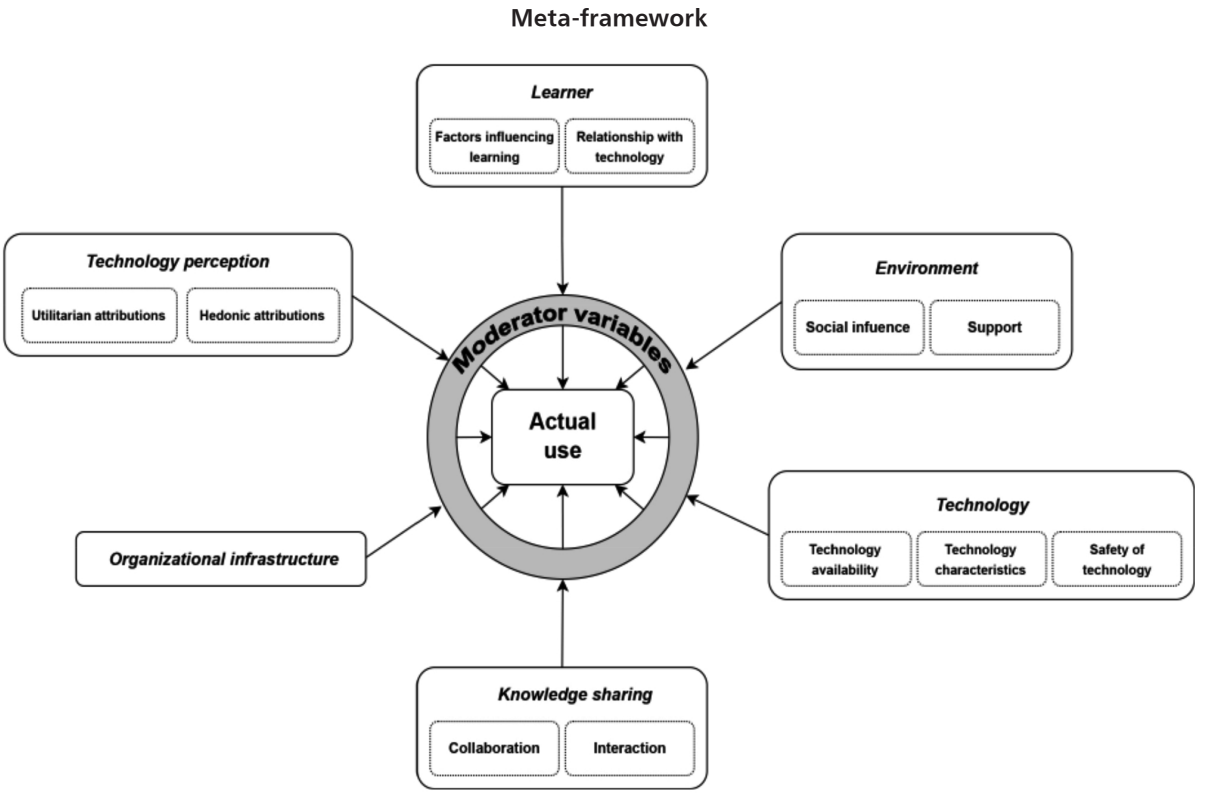
Overview of the studies

We coded the 47 selected articles according to the following aspects: theoretical models used, context (online learning, mobile learning, social media, online learning environment), size of the sample, theoretical model structure (dependent, moderator, mediator, and independent variables), contribution of variables to technology adoption, and significant and non-significant effects.

The articles can be grouped into four themes based on their context. In the 16 articles classified under online learning, the authors focus on the adoption of online learning or tools to support it. Fourteen studies relate to mobile learning, examining the use and adoption of mobile phones as smart devices for learning. The central theme of seven studies is technology adoption related to social media, which functioned as a platform for collaboration and interaction in online classes. The online learning environment (OLE) context was the focus of ten papers.

In terms of sample sizes, the studies vary between 150 and 1,385. Articles belonging to the categories TAM and UTAUT. TAM alone was used in 30 articles, UTAUT in 13, while the two models were combined in 4 articles. Besides TAM and UTAUT, some articles involved other technology acceptance models (e.g. Diffusion of Innovations, Theory of Planned Behavior).

Figure 2



Source: own compilation

Meta-framework

Our study summarizes and organizes the variables that may affect technology adoption using an iterative coding procedure. Research on technology acceptance in higher education has investigated the contribution of different independent, mediating, and moderating variables to the outcome variables, most often intention to use and actual use. To organize these variables into a meaningful structure, we created a meta-framework (Figure 2) following an iterative process.

First, as the name of the variables alone often did not properly indicate its real meaning, we collected the definitions or, when it was not provided, the description (i.e. scales) of the 143 variables and grouped them accordingly. Based on the definitions or descriptions, both researchers independently created groups covering the meanings of the variables. After grouping the variables separately, we discussed the result and redesigned the groups together. If there was a discrepancy, we modified existing groups or created new groups. After a new round of the individual grouping process, we reviewed the groups and redesigned them again. We continued this process until we both agreed on the groups and the grouping of the variables. After the classification process, small groups of variables with similar meanings began to emerge. We then created subcategories of these similar variables, which we further grouped together to form the main categories.

In the next section, we present the main and sub-categories into which we classified the variables based on their definitions. Variables with similar meanings are indicated and analyzed in one batch. The articles that included the variables under study are referred to by the numbers found in the reference list. We also present the variables and their

Table 1

Learner main category

					Number of tested effects		Role(s) of the variable in the models			
Main category	Sub-categories	Variables	Articles	Number of appearances in the articles	Number of significant effects	Number of insignificant effects	Antecedent	Mediator	Outcome	Moderator
Learner	Factors influencing learning	Self-regulated Learning	[4]	1	1			1		
		Engagement for Learning	[10]	1	1		1			
		Understanding	[22]	1		1	1			
		Cognitive gratification	[3]	1	1		1			
		Interest	[22]	1		1	1			
		Learning and applying learned knowledge capability	[22]	1	1		1			
		Grade Improvement	[22]	1		1	1			
		Programming Capability	[22]	1	1		1			
		Family responsibilities	[22]	1		1	1			
		Employment status	[22]	1		1	1			
	Relationship with technology	Self-efficacy	[13], [17], [20], [42]	4	4	1	5			
		Perceived self-efficacy	[31]	1	1		1			
		Computer self-efficacy	[4], [16], [25], [34], [36]	5	5	2	7			
		Self-motivation and confidence	[22]	1		1	1			
		Self-computer competency	[34]	1	2		2			
		Experience	[42]	1	1	1	2			
		Computer anxiety	[29]	1	1			1		
		Anxiety	[26], [27]	2	2		1	1		
		Perceived awareness	[13]	1	1		1			
		Innovativeness	[18], [25]	2	2	1	3			
		Personal innovativeness	[20], [38], [39]	3	2	1	3			
		Resistance to change	[37]	1	1		1			
		Attitude strength	[30]	1	1		1			
		Compatibility	[11]	1	1			1		
		Perceived compatibility	[8], [9], [13]	3	3	1	4			
		Job relevance	[24]	1	1		1			
		Attachment	[37]	1	1	1	2			
		Familiarity with classical digital tools	[29]	1	1		1			
		Familiarity with high-tech digital tools	[29]	1	1		1			

Source: own compilation

effects on the outcome variable in systematic tables. These role of the variables can be either antecedent, mediator, moderator or outcome, and the effect can be significant or non-significant depending on the strength of the evidence. Summary of the resulting tables are presented as each category is discussed.

Learner main category

The Learner category includes variables that are closely related to the inherent personal characteristics or knowledge of the learner. Based on the definitions of variables in the selected studies, we divided this main category into two subcategories: *Factors influencing learning* and *Relationship with technology*. Variables in the subcategories are summarized in Table 1.

Factors influencing learning

Factors influencing learning include personal characteristics that may specifically affect an individual's learning effectiveness and learning outcomes. These variables are essential factors for online learning, as the reduced presence of an instructor compared to face-to-face teaching requires the ability to self-manage, and a certain level of engagement and motivation to complete the learning process (Martin et al., 2020). *Self-regulated learning* [4] helps the ability to work, learn, manage time, and plan independently, since in online learning environments with little instructor presence, learners need to manage their learning workflow autonomously. *Engagement for learning* [10] not only affects their performance but also their behavior and intentions and is therefore an important factor in the acquisition of knowledge and skills. *Cognitive gratification* [3] refers to the focus on acquiring and understanding information, knowledge and understanding, self-education, and learning.

Relationship with technology

The characteristics of relationships with technology are independent of the given technology (online education), referring to the general personal characteristics and knowledge of the learner that existed before the specific technology was used. In this subcategory, we include those variables that reflect a general user attitude, behavior, emotions, or knowledge of technology in general.

Self-efficacy [13, 17, 20, 42], *Perceived self-efficacy* [31], and *Computer self-efficacy* [4, 16, 25, 34, 36] are the learner's self-belief in their ability to perform tasks with the help of technology. Researchers have concluded that self-efficacy is a key component of the acceptance of educational systems; learners with low self-efficacy will not be able to cope with a complex system, will not put in much effort, and will therefore be less likely to overcome the challenges they may face when using the system [13]. Contrary, *Computer anxiety* [29] is a response to perceived threats of technology when it is too difficult to use or when the benefits of use outweigh the user's efforts. This significantly affects the user's behavior, makes them less willing to think about using the technology, and increases their anxiety about using it. These variables can affect technology acceptance in the initial, so-called phase 0, as even trying can be sabotaged by fear and anxiety.

Perceived awareness [13] refers to the extent to which users are aware of, understand, and subsequently exploit the beneficial features of the technology through its adoption. *Innovativeness* [18, 25] and *Personal innovativeness* [20, 38, 39] indicate that users who are willing to innovate are more willing to try to use technology than those who are reluctant to change their habits [18, 39]. *Resistance to change* [37] refers to the difficulty of breaking with routine and the emotional stress that this entails, making this variable a barrier to technology adoption.

The intention to use technology can be significantly influenced by the values, norms, current needs, intentions, or past experiences of the learner, which is by definition the *Compatibility* variable [11, 8, 9, 13]. *Compatibility* can also be linked to *Attachment* [37], i.e., the bond connecting a person's self and the device that is developed in the user because of object-human interaction. When designing and implementing technical parameters and features, hardware and software developers should also focus on the user's goals and needs when using the system.

Environment main category

The Environment category includes those variables whose content is related to the role of a third party, beyond the scope of the learner or the technology itself. Based on their content, the variables in this main category could be sorted into two subcategories, *Social influence* and *Support*. Variables in the subcategories are summarized in Table 2.

Social influence

Social influence includes variables that refer to the role of the community that may impact the user's acceptance of the technology. *Social characteristics* [6] is the umbrella term that includes social influence, relational capital, and social impact. *Social influence* is one of the main variables in UTAUT measuring the extent to which a learner is interested in what the people most important to them (e.g. peers, tutors and friends) think about the new system they are using.

The variables *External factors* [389], *External influence* [39], and the TAM2 variable *Subjective norms* [14, 17, 24, 35, 36, 37] are also similar in meaning to this variable. When users start to use and gradually learn about a technology, they encourage their peers to use it. For the variables *Social recognition* [43], P*ersonal integrative gratification* [3], and *Social image* [35], not only opinions but also recognition of the external environment matter. Users expect to be recognized for their skills and abilities when using the system or innovation and seek to develop a positive image of themselves through subjective norms or peer influence.

Support

The variables in the Support subcategory may play an important role in the implementation, operation, and support of the system and, although not directly for all vari-

Table 2

Environment main category

					Number of tested effects		Role(s) of the variable in the models			
Main – category	Sub-categories	Variables	Articles	Number of appearances in the articles	Number of significant effects	Number of insignificant effects	Antecedent	Mediator	Outcome	Moderator
Environment	Social influence	Social Characteristics	[6]	1	1		1			
		Social Influence	[1], [5], [13], [16], [20], [21], [23], [26], [27], [30], [32], [33], [40], [43], [46], [47]	16	12	10	15	2		
		Peer influence	[25]	1		1	1			
		External factors	[38]	1	1			1		
		External Influence	[39]	1	1		1			
		Subjective Norms	[14], [17], [24], [35], [36], [37]	6	4	3	6	1		
		Social recognition	[43]	1	1		1			
		Personal Integrative gratification	[3]	1		1	1			
		Social Image	[35]	1	1	1	1			
		Social trust	[14]	1	1		1			
		Reputation	[25]	1		1	1			
	Support	Government support	[19], [20]	2	2		2			
		Learning Tradition	[4]	1	1		1			
		Senior leadership support	[19]	1	1		1			
		Employer encouragement	[27]	1	1	1	1			
		Institutional Support	[2]	1	1	1	2			
		School support	[25]	1	1		1			
		Vendor support	[19]	1	1		1			
		Technical Support	[17]	1	1	1	2			
		Content Quality	[15], [36]	2	1	2	3			
		Learning Content Quality	[20]	1	1		1			
		Information Quality	[15], [17], [36]	3			2	3		
		Perceived Information Quality	[13]	1			1			

Source: own compilation

ables, may impact the user's acceptance of the technology. Support can come from several sources. On a macro level, it can be from the state or government; on a micro level, it can be the university, either by creating a supportive environment or through content development.

Government support [19, 20] is defined as the influence of the governing bodies of the country, as a measure of support for technology. Another variable with a social context is *Learning traditions* [4], which encompasses long-established educational cultures, learning habits, traditions, and routines (e.g. students are grouped by age; a teacher teaches, and students listen; instruction is delivered in a classroom). Innovation can also disrupt or change these practices; thus, learning traditions may serve as a barrier to the adoption of a new system, as it can lead to resistance to innovation.

The variables *Senior leadership support* [190] and *Institutional support* [2], however, can impact adoption at the micro level, closer to the learner. If users see that the leadership is committed and involved in the dissemination of technology; if they ensure that the right environment, rules, and policies are in place to ensure quality online learning activities (e.g. technical infrastructure, technical requirements, incentives); and if the use of technology is included in the long-term vision of the management, then organizational resistance to adopting new technology will be lower [19].

Vendor support [19] condenses the operator's general service tasks into a single variable, including user education, infrastructure provision, security control, and data accessibility. *Technical support* [17] examines the impact of the existence of a team providing technical support and advice from the university. The meaning of vendor support and technical support covers the institutional and human side of service delivery and refers to the extent to which the organization supports the learner in using technology.

The variables *Content quality* [15, 36], *Learning content quality* [20], *(Perceived) Information quality* [13, 15, 17, 36], provided by the organization (university), refer to the relevance, reliability, quality, and timeliness of the materials and information (e.g. lectures, exercises, tests) provided to the users (students) for learning purposes.

Technology main category

Technology includes variables where researchers focused more on the specific characteristics and physical proper-

ties of the technology to be implemented and used (i.e., not only a device but also a complete system). We created three further subcategories for ease of interpretation: *Availability*, *Characteristics*, and *Safety*. Variables in the subcategories are summarized in Table 3.

Technology availability

Technology availability variables refer to characteristics related to the usability and availability of technology. *Availability of resources* [13], *Perceived accessibility* [36], and *Access device* [2] are related to the availability of the necessary technological resources, such as hardware, software, or internet connection; the availability of the system; and the technology. On the contrary, *Perceived barriers* [29] and *Mobile device limitations* [20] include factors that hinder adoption, like costs, short battery life, software problems, inadequate user interface, or low bandwidth on the internet connection for mobile devices.

Technology characteristics

Technology characteristics [6] and *Task-technology fit* [6, 11, 43] indicate the extent to which a given technology supports and assists an individual in performing a given task. Experienced users select the tools and technologies that offer the greatest benefits to perform their job, while those that cannot provide the right value (e.g. better results) are ignored. *Competitive advantage* [19] shows how much more advantage a given device or system offers over other systems in possession of similar characteristics based on the objective features of technology. For example, in the

Table 3

Technology main category

					Number of tested effects		Role(s) of the variable in the models			
Main category	**Sub-categories**	**Variables**	**Articles**	**Number of appearances in the articles**	Number of significant effects	Number of insignificant effects	Antecedent	Mediator	Outcome	Moderator
Technology	**Technology availability**	Availability of Resources	[13]	1	1		1			
		Perceived Resource	[24]	1	1		1			
		Perceived Accessibility	[36]	1	1		1			
		Accessibility	[22]	1	1		1			
		Access Device	[2]	1	1	1	2			
		Perceived barriers	[29]	1	1			1		
		Mobile Device Limitations	[20]	1		1	1			
	Technology characteristics	Technology Characteristics	[6]	1	1		1			
		Task-Technology Fit	[6], [11], [43]	3	3	1	2	2		
		Competitive advantage	[19]	1	1		1			
		Storage Mechanism	[22]	1	1		1			
		Personalization	[45]	1	1	1	2			
		User Interface	[20]	1	1		1			
		Trialability	[8], [9]	2	2	2	4			
		Observability	[8], [9]	2	2	1	3			
		Complexity	[8], [9]	3	2	2	4			
		Technological complexity	[25]	1	1		1			
		Mobility	[45]	1	1	1	2			
		Perceived Mobility Value	[31]	1	1		1			
		Sharing	[22]	1	1		1			
		Attendance	[22]	1		1	1			
		Submissions	[22]	1	1		1			
		Cost advantage	[19]	1	1		1			
		Price value	[5]	1	1	2	3			
		Financial factor	[38]	1	1			1		
	Safety of technology	Privacy	[2]	1	2		2			
		Perceived Security	[13]	1	1		1			
		Security concerns	[19]	1	1		1			
		Perceived Trust	[13]	1	1		1			
		Trust	[5], [20], [32]	3	4	1	4	1		

Source: own compilation

case of a cloud-based system, this could be faster service, simpler installation and upgrade process, lower payment, or more flexible access.

Several studies have used technology-specific variables that refer to the characteristics of the technology: *Personalization* [45], *User interface* [20], *Trialability* [8, 9], *Observability* [8, 9], *Complexity* [8, 9, 19], and *Mobility* [45] are all attributes that can affect technology adoption. Indeed, the design of a given device can play a major role in technology acceptance, as *Personalization* and *Observability* can help to create a user's intention to use it [45, 8, 9], and the *Trialability* and *Testability* of the technology can reduce uncertainty and possible resistance [8, 9].

and *Trust* [5, 20, 32] can be defined as the user's confidence in the system's ability to provide a reliable and efficient service. Several factors can affect the user's trust, such as the level of security of data and transactions, or the level of privacy protection.

Knowledge sharing main category

In this main category, we included variables that relate to how knowledge is shared among the participants of the learning process with the help of technology. This main category distinguished itself from the others, as the ability to transfer and share knowledge is a very important part of the perception of technology in an educational context. We have further broken down this category into

Table 4

Knowledge sharing main category

					Number of tested effects		Role(s) of the variable in the models			
Main category	Sub-categories	Variables	Articles	Number of appearances in the articles	Number of significant effects	Number of insignificant effects	Antecedent	Mediator	Outcome	Moderator
Knowledge sharing	Collaboration	Engagement	[7], [27]	2	2		1	1		
		Active collaborative learning	[7]	1	1			1		
		Collaboration for learning	[10]	1	1			1		
		Collaboration and engagement	[11]	1	1			1		
		Collaborative learning	[12]	1	1		1			
		Collaboration	[45]	1	1		1			
		Social media use	[7], [12]	2	2			2		
		Social networking sites usage	[11]	1	1			1		
	Interaction	Interactivity	[20]	1	1		1			
		Interaction	[18], [22]	2	2		2			
		Interaction with peers	[7], [11]	2	2		2			
		Interaction with lecturers	[7], [11]	2	2					
		Social integrative gratification	[3]	1	1		1			
		Learning community	[27]	1		1	1			
		Interaction for learning	[10]	1	1		1			
		Online communication	[10]	1	1			1		
		Student motives to communicate	[10]	1	1		1			
		Social Isolation	[33]	1	1		1			

Source: own compilation

The monetary characteristics of the technology are incorporated into the models through the variables *Price value* [5], *Cost advantage* [19], and *Financial factor* [38]. While the latter refers to the need for financial inputs indispensable for the user to use the technology (e.g. purchase of software and hardware), cost advantage refers to the characteristics of the technology that allow certain costs to be saved (e.g. operating and maintenance costs).

Safety of technology

Privacy [2], *Perceived security* [13], and *Security concerns* [19] all focus on the importance of, and concerns about, information and data security. *Perceived trust* [13]

Interaction and *Collaboration* subcategories. Variables in the subcategories are summarized in Table 4.

Interaction

Interaction variables focus on communication between the individual learner and community, or individual-community and instructor. We have grouped several variables with related meanings here. *Interactivity* [20], *Interaction* [18, 22] *Interaction with peers and lecturers* [7, 11], *Interaction for learning* [10], *Satisfaction with social integrative gratification* [3], and *Online communication* [10] deal with the exchange of messages, communication with lecturers and peers, and possibilities and perception during online learning.

In contrast, *Social isolation* [34] has the opposite meaning, i.e., an individual's social absence or a low number of meaningful interactions with others that make them socially isolated. The lockdown imposed by COVID-19 reduced opportunities for contact and interaction, leading to isolation at a global level. In such an environment, for example, the variable *Student motives to communicate* [10] can be important because the cooperation that develops during learning can positively influence students' motivation to communicate, which in turn contributes to reducing drop-out.

Collaboration

Collaboration includes variables that are closely related to learner collaboration and knowledge sharing. *Engagement* [7, 27], *Active collaborative learning* [7], *Collaboration and engagement* [11], *Collaborative learning* [12], *Collaboration for learning* [10], and *Collaboration* [46] all refer to a teaching method whereby students and learners work together, sharing information, ideas, and opinions, and understanding each other's perspectives to achieve a learning goal. In contrast to individual learning, those who actively learn together can exploit each other's strengths. Hence, the participants' communication skills, self-esteem, motivation, critical thinking, and learning outcomes are enhanced.

Collaboration using social networking sites and social media is cited as a specific example. *Social media use* [7, 12] and *Social networking sites usage* [11] are factors in the development of collaborative learning and engagement.

Organizational infrastructure main category

In the Organizational infrastructure main category variables not only focus on the human resources and organizational support needed for technology adoption (part of the Environment main category), but also on the adequacy and availability of the technology, provided by the organization (here mainly by the HE institutes). We included variables that emphasize the integration of technology into the organization. Variables in this category were not further disaggregated as they all related to a specific aspect of infrastructure. Variables in the category are summarized in Table 5.

Most of the variables here are linked to the facilitating conditions of using the technology. *Facilitating conditions* is a main UTAUT variable (occurs in 15 articles) and refers to the extent to which an individual believes that the use of the system is supported by the organization and an efficient technical infrastructure [47]. *System quality* [17, 36], *Quality of the system* [15], *Service quality* [15], and *Quality of services* [39] were almost identical in definition to the *Facilitating conditions* in the articles.

Facilitating conditions can therefore be described as the organizational *Infrastructure* [2], defined as the set of basic systems and technical services necessary for the proper and efficient functioning of the organization (i.e., university). Infrastructure includes, for example, the availability of internet, electricity, communication facilities, or computer rooms and laboratories, just like *Connected classroom climate* [47]. Similarly, the variables *Technology readiness* [19] of the organization, *Technology compatibility* [19], and *Task characteristics* [6] attempt to describe the degree of connection and fit between the organization and the technology from two angles. On the one hand, they measure the readiness of the organization to adopt the new technology (e.g. availability of the necessary platforms, technical infrastructure or specialized human resources). On the other hand, they also indicate

Table 5

Organizational infrastructure main category

					Number of tested effects		Role(s) of the variable in the models			
Main category	**Sub-categories**	**Variables**	**Articles**	**Number of appearances in the articles**	Number of significant effects	Number of insignificant effects	Antecedent	Mediator	Outcome	Moderator
Organizational infrastructure	–	Infrastructure	[2]	1	1	1	2			
		Facilitating Conditions	[1], [13], [16], [20], [21], [23], [25], [26], [27], [32], [33], [40], [41], [46], [47]	15	10	8	18			
		Connected Classroom Climate	[39]	1	1					
		Technology compatibility	[15]	1	1					
		Task Characteristics	[17], [36]	2	1	2	2	1		
		Technology readiness	[15]	1	1			1		
		Quality of Services	[47]	1	1			1		
		Service quality	[19]	1	1			1		
		System Quality	[6]	1	1			1		
		Quality of the system	[19]	1	1			1		

Source: own compilation

the degree of fit of the new technology with the organization's current technology, systems, processes, problems to be solved, tasks, activities, culture, etc.

Technology perception main category

The variables herein refer to the learner's perceptions and feelings related to a given educational technology. These are not objective characteristics of the technology (as in Technology main category) but the subjective perception of the user. Within this category, we separated two additional subcategories for ease of interpretation. Variables in the subcategories are summarized in Table 6.

Utilitarian attributions

Utilitarian attributes deal with the utility or functional value of an object (Batra and Ahtola, 1991). The variables were assigned to this subcategory according to the extent to which the individual considers the technology to be functional and useful in the learning process. This subcategory includes the basic TAM and UTAUT variables, thus, most of the studies included them in the research. *Perceived ease of use*, one of the main variables of TAM (was used in 32 studies) and similarly, *Effort expectancy*, the main variable of UTAUT (in 14 studies), are both refer to the amount of energy and effort required to use the technology as perceived by the user. *Recognized usability* [19] has a similar meaning but with a different name.

Perceived usefulness (part of TAM – 32 studies) and *Performance expectancy* (part of UTAUT – 14 studies) refer to the perceived performance improvement achieved by the user using the technology. *Recognized usefulness* [19] has a similar meaning. It is noteworthy that all the 47 articles used these two UTAUT or TAM baseline variables in their theoretical models, either as independent or mediating variables.

Relative advantage(s) [8. 9. 25] is also a variable in this subgroup; it indicates the extent to which the learner assumes that the new system or innovation is better than the old, traditional technology.

Hedonic attributions

Hedonic attributes of a technology deal with the emotional or sensory experiences of the user (Batra & Ahtola, 1991). We use this subcategory to classify variables that deal with a learner's sense of satisfaction or pleasure when using the technology. *Perceived enjoyment* (TAM-3) [6, 8, 9, 10, 12, 31, 36], *Enjoyment* [19, 22, 42] *Hedonic motivation* (UTAUT-2) [1, 5, 40], and *Hedonic gratification*

Table 6

Technology perception main category

					Number of tested effects		Role(s) of the variable in the models			
Main – category	**Sub-categories**	**Variables**	**Articles**	**Number of appearances in the articles**	Number of significant effects	Number of insignificant effects	Antecedent	Mediator	Outcome	Moderator
Technology perception	**Utilitarian attributions**	Relative Advantage(s)	[8], [9], [25]	3	3					
		Perceived Usefulness	[1], [2], [3], [4], [6], [7], [8], [9], [10], [11], [12], [14], [15], [18], [20], [22], [24], [25], [28], [29], [31], [34], [35], [36], [37], [38], [41], [42], [43], [44], [45]	32	30	3	9	24		
		Performance Expectancy	[5], [13], [16], [21], [23], [26], [27], [30], [32], [33], [39], [40], [46], [47]	14	14	3	13	4		
		Perceived Ease of Use	[1], [2], [3], [4], [6], [7], [8], [9], [10], [11], [12], [14], [15], [18], [20], [22], [24], [25], [28], [29], [31], [34], [35], [36], [37], [38], [41], [42], [43], [44], [45]	32	32	2	12	22		
		Effort Expectancy	[5], [13], [16], [21], [23], [26], [27], [30], [32], [33], [39], [40], [46], [47]	14	13	6	17	2		
		Recognized usability	[5], [13], [16], [21], [23], [26], [27], [30], [32], [33], [39], [40], [46], [47]	1		1	1			
		Recognized usefulness	[19]	1		1	1			
	Hedonic attributions	Perceived Enjoyment	[6], [8], [9], [10], [12], [31], [36]	7	8		8			
		Enjoyment	[18], [22], [42]	3	2	1	3			
		Hedonic Motivation	[1], [5], [40]	3	4		3	1		
		Hedonic Gratification	[3]	1	1		1			
		Student Satisfaction	[6], [11]	2	2			2		
		Satisfaction	[22], [27]	2	2	1	3			
		Research Students Satisfaction	[7]	1	1			1		
		Perceived Playfulness	[1]	1	1		1			
		Computer Playfulness	[36]	1	1	1	2			
		Perceived Convenience	[4]	1	1		1			

Source: own compilation

[3] carry the meaning of the user's perceived enjoyment, pleasure, and fun when using the system. For example, in mobile learning, emoticons and games can help to make learning more enjoyable, which can reinforce the intention to use [3]. Similarly, *Perceived playfulness* [1] and *Computer playfulness* [36] are associated with feelings of curiosity, exploration, and enjoyment. *Perceived convenience* [4] encapsulates the convenience factors experienced during use (e.g. temporal, and spatial freedom in the case of MOOCs). *Student satisfaction* [6, 11] and *Research students' satisfaction* [7] are defined as the sense of successful and satisfactory learning experiences used as independent variables in the studies.

Moderator variables

The variables presented were all the main effects in the research models. We found very few studies that included any moderating variables [11, 17, 33, 42], in which a total of four moderating variables were examined. These are factors that can influence the strength and even direction of the relationships between variables. [11] and [17] examine three moderating variables (*Age, Gender,* and *Experience*). Fear of the virus (*Corona fear*; [33]) has an attenuating effect on the relationship between *Expected performance* and *Intention to use*, and a strengthening effect on the relationship between *Peer influence* and *Intention to use*. *Geographical areas* in article [42] does not significantly moderate the impact of most predictors on their exogenous constructs.

Outcome variables

Our aim was primarily to present the variables that affect the adoption of online learning, but it is important to note that the output variables were different in many cases, with different variables measuring technology adoption. Table 7 presents the moderator and outcome variables.

Based on TAM, *Attitude* is one possible consequence of the factors listed previously. In the context of technology adoption research, it is defined as an individual's general affective, i.e., emotional, mood response to the use of new technology, and is usually included as a mediating variable between independent variables and *Intention to use*. In the studies listed, attitudes of students toward online learning and learning technologies were investigated in 16 articles.

(Behavioral) Intention to use is defined as a deliberate, thoughtful decision to make an effort to carry out an action. The variable is a significant predictor of actual use, which is evidenced by the fact that in all 18 articles in which it is used as a mediating variable, it has a positive, significant effect on final use. *Behavioral intention to use* was used not only as a mediating but also as an outcome variable in 18 articles, followed by *Actual use* or *Actual usage behavior* in 15 articles, indicating that the user actually uses the technology.

The variables related to adoption, *Acceptance* [1, 47] and *Intention to adopt* or *Adoption* [19, 45], examine the literal adoption of the technology as an outcome variable. *Performance* [6, 7, 10, 11] is used in the articles as a vari-

Table 7

Moderator and outcome variables

					Number of tested effects		Role(s) of the variable in the models			
Main category	**Sub-categories**	**Variables**	**Articles**	**Number of appearances in the articles**	Number of significant effects	Number of insignificant effects	Antecedent	Mediator	Outcome	Moderator
Moderator variables		Age	[17], [26]	2						2
		Gender	[17], [26]	2						2
		Experience	[17], [26]	2						2
		Geographical areas	[42]	1						1
		Corona Fear	[33]	1						1
Outcome variables		Quality of use	[28]	1					1	
		Quantity of use	[28]	1					1	
		Acceptance	[1], [47]	2					2	
		Actual Use	[2], [13], [14], [16], [17], [36], [41], [42], [44], [46]	10					10	
		(Behavioral) Intention to use	[1], [2], [3], [4], [6], [8], [9], [10], [13], [14], [15], [16], [17], [18], [20], [21], [22], [23], [24], [25], [27], [29], [30], [31], [32], [33], [35], [36], [37], [38], [39], [40], [41], [42], [43], [46]	32				18	18	
		Actual/Usage/Use Behaviour	[21], [22], [23], [24], [33]	5					5	
		Performance	[6], [7], [10], [11]	4					4	
		Collaborative Authoring	[12]	1					1	
		Adoption / Intention to adopt	[19], [45]	2					2	
		Persistence in online courses	[26], [27]	2					2	
		Attitude	[1], [2], [9], [14], [16], [21], [23], [25], [31], [34], [36], [37], [41], [42], [43], [44]	16				15	1	

Source: own compilation

ety of variables, such as academic, learning, and student performance. *Collaborative authoring* [12] is explained by the variables examining the collaboration required for researchers as academic actors to work online. The use of *Quantity of use* and *Quality of use* [28] variables refer to the quantity and quality of students' participation in online learning. These variables are included in the studies as final outcome variables.

Discussion

In this study, we analyzed and categorized the variables that were found to affect the adoption of educational technologies in the selected studies as explanatory or explained variables using either UTAUT or TAM. We found 127 independent, 11 outcome, and 5 moderating variables in the 47 articles. We created a framework to shed light on the relationships between the variables and trends in their use. The research resulted in a meta-framework with six main categories. We further subdivided these six categories into subcategories to provide a complete picture of the variables under study. In addition to the presentation and grouping of the variables, some implications became apparent during the development of the meta-framework.

Of the six main categories, *Technology* had the same number of variables as *Learner*, resulting in the two most populous categories (30 variables). This is somewhat surprising as in the field of online learning past frameworks concentrate mainly on the learner, course+instructor, and organization (Martin et al., 2020; Martin & Bolliger, 2022). While these are important elements of online learning, the role of technology is brought to the fore in research on online learning technology adoption.

Technology has not only a large number of variables but also a high number of unique variables, i.e., used by only one study. Thus overall, the variables associated with the different technologies are not universally accepted factors and it is difficult to generalize about their role. However, some important implications emerge.

Although with different designations, the availability of technology was identified as an important aspect in many of the studies. While the use of some technologies in education is obvious to many, it is also necessary to consider circumstances and technical requirements that are not yet available or not self-evident for certain social groups or countries. When designing a system, it is worth considering and investigating factors that may be barriers to technology adoption at the device level.

Variables related to technology safety and trust have received relatively little attention in the research. This is interesting for several reasons. First, a high proportion of the effects examined are significant (only 1 out of 10 effects was not significant) (Table 3). To gain students' trust, online learning systems must offer high-quality services in a secure manner. On the other hand, in most technology acceptance models, the perceived risk and trust factor (Siegrist, 2021) is considered significant, thus it may be worthwhile strengthening this factor in the case of education through further research.

The variables classified in the *Learner* category appear just as often as the technology-related variables, which is surprising given that the key actor in technology acceptance is the learner who experiences and uses technology. Without knowledge of the learner's intentions, needs, feelings, and experiences, there is no point in introducing a new technology, as individual characteristics are essential to the development of adoption. This main category was the only one in which the factors related to education were distinctly separated. Although variables related to the industry context, i.e., education, also appeared in the other main categories, they were only clearly distinguishable in the *Learner* category. Individual characteristics may become particularly important in the context of online learning, as the learner must achieve results independently without personal presence.

In terms of the number of variables, the third main category, *Environment,* included variables that might influence adoption in some external way beyond the learner and technology characteristics. Social influence is part of both TAM2 (subjective norms) and UTAUT (social influence) and the selected studies examined their effects often (29 effects in total), yet in many cases (13) this factor was not significant (Table 2). This may be because, although peer pressure or the presence of key people may have a strong effect on the adoption of certain technologies, these variables may be less important in the adoption of an educational system. The use of educational technologies is in many cases (and particularly during the pandemic) a mandatory and essential condition for course completion.

The other subcategory of *Environment* refers to support. The extent to which the student is supported in the use of online technologies plays a significant role in the selected studies (12 variables). The implementation of technologies represents a major investment in terms of financial, technical, and human resources, both at the national and institutional levels. Governmental and organizational leadership has a strong influence in supporting and disseminating educational technologies. At the same time, at the organizational level, the transition to online education must not lead to a deterioration in the quality of education. To ensure high standards, the HE institution should provide human and organizational support, and ensure the quality of the teaching material. Many of the teaching materials used in face-to-face teaching cannot be used in one-to-one online classes and need to be adapted.

Knowledge sharing between the educators, the learner and peers seems to be an important aspect of online learning based on the number of variables investigated. The two subcategories, *Collaboration* and *Interaction*, appeared to be the most homogeneous in the analysis in terms of meaning. Interaction and cooperation are basic prerequisites of successful traditional learning; thus, researchers considered it important to investigate whether knowledge transfer and sharing in an online environment can be developed through communication and discussion. This has an important role to play in the research on technology acceptance in online learning in terms of learning outcomes and system effectiveness. Variables related to

interaction can be considered pillars of cooperative learning, without which there is no collaboration, task sharing among students, or feedback from instructors.

Organizational infrastructure refers to the quality and quantity of the technology that is provided by the organization (HE institution). While the UTAUT factor, facilitating conditions, has a similar meaning, organizational infrastructure includes the quality of services as well as the fit of technology with the available infrastructure of the organization. These variables reveal that without the right infrastructure and its integration with existing systems, it is not possible to provide any online education.

Finally, when learners meet the specific educational technology, they develop their subjective perception of the given technological solution. The perception of ease of use (effort expectancy) and usefulness (performance expectancy), are the most often investigated variables of the selected studies, as these are the basic factors of both TAM and UTAUT. Although education is fundamentally a utilitarian service, it is important to see that the more enjoyable the student feels their education is, the more willing they will be to learn. Although not as numerous as in the case of utilitarian characteristics, several studies have investigated the effect of hedonic characteristics of educational technology, and only 3 of the 26 effects examined were found to be non-significant (Table 6). With the rise of online technologies, gamification can be easily integrated into the teaching and learning process, creating intrinsic motivation for active participation. Although external motivators are important in learning (grades, scores, ladders), long-term engagement in learning requires an internal drive that can be more easily created through hedonistic factors, like games.

Finally, we should also mention the outcome variables. Although *Behavioral intention to use* was used in most of the studies (32 cases), *Actual use* (15 cases) also appeared in several cases. There were relatively few measures of *Performance*, which suggests that most studies have insisted on the original models (TAM, UTAUT) in this respect. Although the output variables of technology adoption are logically actual use or intention to use, it would be important to also examine the factors that impact the learning outcome, at least as a mediating variable, and measure its impact on adoption.

Limitations

In addition to its contribution, the study has limitations. The selection process was limited to articles that used TAM or UTAUT. Although these are the two most used models in the literature, other models may include other types of variables. Based on the quantitative nature of TAM and UTAUT, only quantitative research was selected, thus, variables from qualitative research were not integrated into the model. The selection process has been limited to four years, in order to examine the most recent results. Finally, we limited the search to articles in English, so we did not examine variables from research available in other languages.

Conclusions and future perspectives

The meta-framework we created based on the selected studies aims to help researchers in the field of online learning to understand the variables and their effects that have already been researched in the field, and to include new variables to identify research gaps. In the following, we highlight some additional gaps and identify new research directions.

Variables related to education and learning are few among all variables. It may be worthwhile investigating pedagogy-related individual characteristics that could influence the process and effectiveness of learning. This could be the perception of innovation (webinars, Kahoot, virtual reality (VR), serious games) in the structure of the curriculum and the lesson, which could be a motivating force. Factors related to learning styles (Kolb's learning styles) could also provide exciting results, as well as explore the extent to which synchronous/asynchronous learning styles help the outcome. Although no educational technology-related variables were found in the collection, it could be worth exploring whether the provided technology is compatible with education. The online platforms most used for distance learning, such as Teams or Zoom, were originally designed for maintaining friendships or work contacts and conducting meetings; many features (e.g. quality projection of video material and reporting functions) were not available at the beginning or after the start of distance learning. However, the technologies that were already in place (e.g. Moodle) were not necessarily integrated with these systems. In many cases, this created a multi-platform problem, making life difficult for both students and educators.

In the context of technology, it may be a surprising finding that trust in and security of the technology are studied in only a few research articles, even though the topic is relevant, as proven by the selected studies. It would be worthwhile including these factors in further models, as either the perception of security related to data protection or the stability of the system can be compromised in real, everyday situations (e.g. loss of learning outcomes, temporary failure of a platform for collaboration or task submission).

It is noticeable that the hedonistic perception of technology has been investigated by different variables, but the articles do not discuss the eudemonic dimension of the perception of technology, which is best described in terms of self-fulfillment, well-being, and flourishing (Ryan & Deci, 2009; Meybri et al., 2022). By considering and applying these factors, the learning process can be not only effective but also meaningful.

Concerning the design of the models, we consider it important to highlight the negligible number of moderating variables in the set. Several factors may influence the strength or direction of the effects, such as educational attainment, type of degree, field of education, or interests. It would be important to take these contextual aspects into account using moderating variables.

Although one limitation of our research is that it only looked at selected articles from a limited period, model (TAM and UTAUT), and set, we believe that the meta-framework, based on more than 100 variables, can provide a basis for further analysis. Variables from additional articles written since our analysis or using different models can be easily incorporated into the framework and thus further enriched with these variables. Nevertheless, based on the experience of the analysis, in some cases the variables used in the research are new in name only, and have strong similarities in meaning. For future research to make a further contribution, it is important to create a certain coherence in the naming of variables, and thus facilitate both literature analyses and the development of new models, not to mention meta-analyses.

Note

1 The articles in detail, extracting year of publication, specific theoretical model, context, sample size, and explanatory power of the tested model R2 can be found in the Supplementary material.

References

Abdullah, F., & Ward, R. (2016). Developing a general extended Technology Acceptance Model for e-learning (GETAMEL) by analysing commonly used external factors. *Computers in Human Behavior*, *56*, 238-256. https://doi.org/10.1016/j.chb.2015.11.036

Batra R. & Ahtola O.T. (1990). Measuring the hedonic and utilitarian sources of consumer attitudes. Marketing Letters, *2*(2), 159–70. https://doi.org/10.1007/BF00436035

Granić, A. & Marangunić, N. (2019). Technology acceptance model in educational context: A systematic literature review. *British Journal of Educational Technology*, *50*(5), 2572–2593. https://doi.org/10.1111/bjet.12864

Kaushik, M.K. & Verma, D. (2020). Determinants of digital learning acceptance behavior: A systematic review of applied theories and implications for higher education. *Journal of Applied Research in Higher Education*, *12*(4), 659-672. https://doi.org/10.1108/JARHE-06-2018-0105

Keszey, T., & Zsukk, J. (2017). Az új technológiák fogyasztói elfogadása. A magyar és nemzetközi szakirodalom áttekintése és kritikai értékelése. *Vezetéstudomány – Budapest Management Review*, *48*(10), 38-47. https://doi.org/10.14267/VEZTUD.2017.10.05

Keszey, T. (2020). Behavioural intention to use autonomous vehicles: Systematic review and empirical extension. *Transportation Research Part C: Emerging Technologies*, *119,* 102732. https://doi.org/10.1016/j.trc.2020.102732

Martin, F. & Bolliger, D.U. (2022). Developing an online learner satisfaction framework in higher education through a systematic review of research. *International Journal of Educational Technology in Higher Education 19* (50), 1-21. https://doi.org/10.1186/s41239-022-00355-5

Martin, F., Sun, T., & Westine, C.D. (2020). A systematic review of research on online teaching and learning from 2009 to 2018. *Computers & Education*, *159*, 104009. https://doi.org/10.1016/j.compedu.2020.104009

Moher, D., Liberati, A., Tetzlaff, J., Altman, D.G., & PRISMA Group*. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Annals of Internal Medicine*, *151*(4), 264-269. https://doi.org/10.7326/0003-4819-151-4-200908180-00135

Ryan, R.M. & Deci, E.L. (2009). Promoting self-determined school engagement: Motivation, learning, and well-being. In K.R. Wenzel & A. Wigfield (Eds), *Handbook of Motivation at School* (pp. 171–195). Routledge/Taylor & Francis Group.

Paul, J. & Criado, A.R. (2020). The art of writing literature review: What do we know and what do we need to know? *International Business Review*, *29*(4), 101717. https://doi.org/10.1016/j.ibusrev.2020.101717

Siegrist, M. (2021). Trust and risk perception: A critical review of the literature. *Risk Analysis*, *41*(3), 480-490. https://doi.org/10.1111/risa.13325

Singh, V. & Thurman, A. (2019). How many ways can we define online learning? A systematic literature review of definitions of online learning (1988-2018). *American Journal of Distance Education*, *33*(4), 289–306. https://doi.org/10.1080/08923647.2019.1663082

Szabó, K., Juhász, T., & Kenderfi, M. (2022). Felsőoktatás a COVID-19 árnyékában: Hazai tapasztalatok oktatói oldalról. *Vezetéstudomány – Budapest Management Review*, *53*(6), 2-12. https://doi.org/10.14267/VEZTUD.2022.06.01

Selected articles in the analysis

[1] Abdul Rabu, S.N., Hussin, H., & Bervell, B. (2018). QR code utilization in a large classroom: Higher Education Students' initial perceptions. *Education and Information Technologies*, *24*(1), 359–384. https://doi.org/10.1007/s10639-018-9779-2

[2] Aburagaga, I., Agoyi, M., & Elgedawy, I. (2020). Assessing faculty's use of social network tools in Libyan higher education via a technology acceptance model. *IEEE Access*, *8*, 116415–116430. https://doi.org/10.1109/access.2020.3004200

[3] Aburub, F., & Alnawas, I. (2019). A new integrated model to explore factors that influence adoption of mobile learning in Higher Education: An empirical investigation. *Education and Information Technologies*, *24*(3), 2145–2158. https://doi.org/10.1007/s10639-019-09862-x

[4] Al-Adwan, A.S. (2020). Investigating the drivers and barriers to moocs adoption: The perspective of Tam. *Education and Information Technologies*, *25*(6), 5771–5795. https://doi.org/10.1007/s10639-020-10250-z

[5] Alowayr, A., & Al-Azawei, A. (2021). Predicting mobile learning acceptance: An integrated model and empirical study based on Higher Education Students' perceptions. *Australasian Journal of Educational Technology*, 38–55. https://doi.org/10.14742/ajet.6154

[6] Al-Maatouk, Q., Othman, M.S., Aldraiweesh, A., Alturki, U., Al-Rahmi, W.M., & Aljeraiwi, A.A. (2020). Task-technology fit and technology acceptance model application to structure and evaluate the adoption of social media in Academia. *IEEE Access*, *8*, 78427–78440. https://doi.org/10.1109/access.2020.2990420

[7] Al-Rahmi, W.M., Alias, N., Othman, M.S., Marin, V.I., & Tur, G. (2018). A model of factors affecting learning performance through the use of social media in Malaysian higher education. *Computers & Education*, *121*, 59–72. https://doi.org/10.1016/j.compedu.2018.02.010

[8] Al-Rahmi, W.M., Yahaya, N., Aldraiweesh, A.A., Alamri, M.M., Aljarboa, N.A., Alturki, U., & Aljeraiwi, A.A. (2019). Integrating technology acceptance model with Innovation Diffusion Theory: An empirical investigation on students' intention to use E-Learning Systems. *IEEE Access*, *7*, 26797–26809. https://doi.org/10.1109/access.2019.2899368

[9] Al-Rahmi, W.M., Yahaya, N., Alamri, M.M., Aly-oussef, I.Y., Al-Rahmi, A.M., & Kamin, Y.B. (2019). Integrating innovation diffusion theory with technology acceptance model: Supporting students' attitude towards using a massive open online courses (moocs) systems. *Interactive Learning Environments*, *29*(8), 1380–1392. https://doi.org/10.1080/10494820.2019.1629599

[10] Alalwan, N., Al-Rahmi, W.M., Alfarraj, O., Alzahrani, A., Yahaya, N., & Al-Rahmi, A. M. (2019). Integrated three theories to develop a model of factors affecting students' academic performance in Higher Education. *IEEE Access*, *7*, 98725–98742. https://doi.org/10.1109/access.2019.2928142

[11] Alamri, M.M., Almaiah, M.A., & Al-Rahmi, W.M. (2020). The role of compatibility and task-technology fit (TTF): On Social Networking Applications (SNAS) usage as sustainability in higher education. *IEEE Access*, *8*, 161668–161681. https://doi.org/10.1109/access.2020.3021944

[12] Alenazy, W.M., Mugahed Al-Rahmi, W., & Khan, M.S. (2019). Validation of TAM model on social media use for collaborative learning to enhance collaborative authoring. *IEEE Access*, *7*, 71550–71562. https://doi.org/10.1109/access.2019.2920242

[13] Almaiah, M.A., Alamri, M.M., & Al-Rahmi, W. (2019). Applying the UTAUT model to explain the students' acceptance of Mobile Learning System in higher education. *IEEE Access*, *7*, 174673–174686. https://doi.org/10.1109/access.2019.2957206

[14] Alshurafat, H., Al Shbail, M.O., Masadeh, W.M., Dahmash, F., & Al-Msiedeen, J.M. (2021). Factors affecting online accounting education during the COVID-19 pandemic: An integrated perspective of social capital theory, the theory of reasoned action and the technology acceptance model. *Education and Information Technologies*, *26*(6), 6995–7013. https://doi.org/10.1007/s10639-021-10550-y

[15] Alshurideh, M.T., Al Kurdi, B., AlHamad, A.Q., Salloum, S.A., Alkurdi, S., Dehghan, A., Abuhashesh, M., & Masa'deh, R. (2021). Factors affecting the use of smart mobile examination platforms by universities' postgraduate students during the COVID-19 pandemic: An empirical study. *Informatics*, *8*(2), 32. https://doi.org/10.3390/informatics8020032

[16] Altalhi, M. (2020). Toward a model for acceptance of moocs in higher education: The modified utaut model for Saudi Arabia. *Education and Information Technologies*, *26*(2), 1589–1605. https://doi.org/10.1007/s10639-020-10317-x

[17] Ameen, N., Willis, R., Abdullah, M.N., & Shah, M. (2018). Towards the successful integration of e-learning systems in Higher Education in Iraq: A student perspective. *British Journal of Educational Technology*, *50*(3), 1434–1446. https://doi.org/10.1111/bjet.12651

[18] Balouchi, S., & Samad, A.A. (2020). No more excuses, learn English for free: Factors affecting L2 learners intention to use online technology for informal English learning. *Education and Information Technologies*, *26*(1), 1111–1132. https://doi.org/10.1007/s10639-020-10307-z

[19] Bhardwaj, A.K., Garg, L., Garg, A., & Gajpal, Y. (2021). E-learning during COVID-19 outbreak: Cloud computing adoption in indian public universities. *Computers, Materials & Continua*, *66*(3), 2471–2492. https://doi.org/10.32604/cmc.2021.014099

[20] Chavoshi, A., & Hamidi, H. (2019). Social, individual, technological and pedagogical factors influencing mo-

bile learning acceptance in higher education: A case from Iran. *Telematics and Informatics*, *38*, 133–165. https://doi.org/10.1016/j.tele.2018.09.007

[21] García Botero, G., Questier, F., Cincinnato, S., He, T., & Zhu, C. (2018). Acceptance and usage of mobile assisted language learning by Higher Education Students. *Journal of Computing in Higher Education*, *30*(3), 426–451. https://doi.org/10.1007/s12528-018-9177-1

[22] Gupta, C., Gupta, V., & Stachowiak, A. (2021). Adoption of ICT-based teaching in engineering: An extended technology acceptance model perspective. *IEEE Access, 9*, 58652–58666. https://doi.org/10.1109/access.2021.3072580

[23] Hoi, V.N. (2020). Understanding higher education learners' acceptance and use of mobile devices for language learning: A Rasch-based path modeling approach. *Computers & Education*, *146*, 103761. https://doi.org/10.1016/j.compedu.2019.103761

[24] Kaewsaiha, P., & Chanchalor, S. (2020). Factors affecting the usage of learning management systems in Higher Education. *Education and Information Technologies*, 26(3), 2919–2939. https://doi.org/10.1007/s10639-020-10374-2

[25] Khlaisang, J., Teo, T., & Huang, F. (2019). Acceptance of a flipped smart application for learning: A study among Thai University Students. *Interactive Learning Environments*, *29*(5), 772–789. https://doi.org/10.1080/10494820.2019.1612447

[26] Lakhal, S., & Khechine, H. (2021). Technological factors of students' persistence in online courses in Higher Education: The moderating role of gender, age and prior online course experience. *Education and Information Technologies*, *26*(3), 3347–3373. https://doi.org/10.1007/s10639-020-10407-w

[27] Lakhal, S., Khechine, H., & Mukamurera, J. (2021). Explaining persistence in online courses in Higher Education: A difference-in-differences analysis. *International Journal of Educational Technology in Higher Education, 18*(1). https://doi.org/10.1186/s41239-021-00251-4

[28] Larmuseau, C., Desmet, P., & Depaepe, F. (2018). Perceptions of instructional quality: Impact on acceptance and use of an online learning environment. *Interactive Learning Environments*, *27*(7), 953–964. https://doi.org/10.1080/10494820.2018.1509874

[29] Lazar, I.M., Panisoara, G., & Panisoara, I.O. (2020). Digital technology adoption scale in the blended learning context in higher education: Development, validation and testing of a specific tool. *PLOS ONE*, *15*(7). https://doi.org/10.1371/journal.pone.0235957

[30] Nistor, N., Stanciu, D., Lerche, T., & Kiel, E. (2019). "I am fine with any technology, as long as it doesn't make trouble, so that I can concentrate on my study": A case study of university students' attitude strength related to educational technology acceptance. *British Journal of Educational Technology*, *50*(5), 2557–2571. https://doi.org/10.1111/bjet.12832

[31] Qashou, A. (2020). Influencing factors in M-learning adoption in higher education. *Education and Information Technologies, 26*(2), 1755–1785. https://doi.org/10.1007/s10639-020-10323-z

[32] Rahman, T., Kim, Y.S., Noh, M., & Lee, C.K. (2021). A study on the determinants of social media based learning in higher education. *Educational Technology Research and Development, 69*(2), 1325–1351. https://doi.org/10.1007/s11423-021-09987-2

[33] Raza, S.A., Qazi, W., Khan, K.A., & Salam, J. (2020). Social isolation and acceptance of the Learning Management System (LMS) in the time of COVID-19 pandemic: An expansion of the UTAUT model. *Journal of Educational Computing Research*, *59*(2), 183–208. https://doi.org/10.1177/0735633120960421

[34] Reddy, P., Chaudhary, K., Sharma, B., & Chand, R. (2020). The two perfect scorers for technology acceptance. *Education and Information Technologies, 26*(2), 1505–1526. https://doi.org/10.1007/s10639-020-10320-2

[35] Rejón-Guardia, F., Polo-Peña, A.I., & Maraver-Tarifa, G. (2019). The acceptance of a personal learning environment based on Google Apps: The role of subjective norms and social image. *Journal of Computing in Higher Education*, *32*(2), 203–233. https://doi.org/10.1007/s12528-019-09206-1

[36] Salloum, S.A., Qasim Mohammad Alhamad, A., Al-Emran, M., Abdel Monem, A., & Shaalan, K. (2019). Exploring students' acceptance of e-learning through the development of a comprehensive technology acceptance model. *IEEE Access*, *7*, 128445–128462. https://doi.org/10.1109/access.2019.2939467

[37] Sánchez-Prieto, J.C., Huang, F., Olmos-Migueláñez, S., García-Peñalvo, F.J., & Teo, T. (2019). Exploring the unknown: The effect of resistance to change and attachment on mobile adoption among secondary preservice teachers. *British Journal of Educational Technology*, *50*(5), 2433–2449. https://doi.org/10.1111/bjet.12822

[38] Shorfuzzaman, M., Hossain, M.S., Nazir, A., Muhammad, G., & Alamri, A. (2019). Harnessing the power of Big Data Analytics in the cloud to support learning analytics in Mobile Learning Environment. *Computers in Human Behavior*, *92*, 578–588. https://doi.org/10.1016/j.chb.2018.07.002

[39] Sidik, D., & Syafar, F. (2020). Exploring the factors influencing student's intention to use mobile learning in Indonesia higher education. *Education and Information Technologies*, *25*(6), 4781–4796. https://doi.org/10.1007/s10639-019-10018-0

[40] Sitar-Tăut, D.A. (2021). Mobile learning acceptance in social distancing during the COVID-19 outbreak: The mediation effect of hedonic motivation. *Human Behavior and Emerging Technologies, 3*(3), 366–378. https://doi.org/10.1002/hbe2.261

[41] Sukendro, S., Habibi, A., Khaeruddin, K., Indrayana, B., Syahruddin, S., Makadada, F. A., & Hakim, H. (2020). Using an extended technology acceptance model to understand students' use of e-learning during

covid-19: Indonesian sport science education context. *Heliyon*, *6*(11). https://doi.org/10.1016/j.heliyon.2020.e05410

[42] Syahruddin, S., Mohd Yaakob, M.F., Rasyad, A., Widodo, A.W., Sukendro, S., Suwardi, S., Lani, A., Sari, L.P., Mansur, M., Razali, R., & Syam, A. (2021). Students' acceptance to distance learning during covid-19: The role of geographical areas among Indonesian sports science students. *Heliyon, 7*(9). https://doi.org/10.1016/j.heliyon.2021.e08043

[43] Vanduhe, V.Z., Nat, M., & Hasan, H.F. (2020). Continuance intentions to use gamification for training in Higher Education: Integrating the technology acceptance model (TAM), social motivation, and task technology fit (TTF). *IEEE Access*, *8*, 21473–21484. https://doi.org/10.1109/access.2020.2966179

[44] Wai, I.S., Ng, S.S., Chiu, D.K., Ho, K.K., & Lo, P. (2018). Exploring undergraduate students' usage pattern of mobile apps for Education. *Journal of Librarianship and Information Science*, *50*(1), 34–47. https://doi.org/10.1177/0961000616662699

[45] Yadegaridehkordi, E., Shuib, L., Nilashi, M., & Asadi, S. (2018). Decision to adopt online collaborative learning tools in Higher Education: A case of top Malaysian universities. *Education and Information Technologies*, *24*(1), 79–102. https://doi.org/10.1007/s10639-018-9761-z

[46] Yakubu, M.N., & Dasuki, S.I. (2018). Factors affecting the adoption of e-learning technologies among higher education students in Nigeria. *Information Development*, *35*(3), 492–502. https://doi.org/10.1177/0266666918765907

[47] Yang, H.H., Feng, L., & MacLeod, J. (2018). Understanding college students' acceptance of Cloud Classrooms in flipped instruction: Integrating utaut and connected classroom climate. *Journal of Educational Computing Research*, *56*(8), 1258–1276. https://doi.org/10.1177/0735633117746084

Supplementary Table Description of the selected articles

ID	Author(s)	Year	Basic models			Context	Sample size	Journal	R2 value
			T	U	O				
[1]	Abdul Rabu et al.	2018	X	X		Online learning	204	Education and Information Technologies	0.641
[2]	Aburagaga et al.	2020	X			Social Media	382	IEEE Access	0.18
[3]	Aburub & Alnawas	2019	X		X	Mobile learning	820	Education and Information Technologies	0.47
[4]	Al-Adwan	2020	X			Online Learning Environment	403	Education and Information Technologies	0.507
[5]	Al-Azawei & Alowayr	2021		X		Mobile learning	469	Technology in Society	0.511 & 0.419
[6]	Al-Maatouk et al.	2020	X			Social Media	162	IEEE Access	-
[7]	Al-Rahmi et al.	2018	X		X	Social Media	723	Computers and Education	-
[8]	Al-Rahmi et al.	2019	X		X	Online learning	1286	IEEE Access	-
[9]	Al-Rahmi et al.	2019	X		X	Online learning	1148	Interactive Learning Environments	-
[10]	Alalwan et al.	2019	X		X	Social Media	863	IEEE Access	-
[11]	Alamri et al.	2020	X			Social Media	602	IEEE Access	-
[12]	Alenazy et al.	2019	X			Social Media	1118	IEEE Access	-
[13]	Almaiah et al.	2019		X		Mobile learning	697	IEEE Access	-
[14]	Alshurafat et al.	2021	X		X	Online Learning Environment	274	Education and Information Technologies	0.020
[15]	Alshurideh et al.	2021	X			Mobile learning	566	Informatics	0.726
[16]	Altalhi	2020	X	X		Online learning	169	Education and Information Technologies	0.661
[17]	Ameen et al.	2018	X	X		Online learning	181	British Journal of Educational Technology	0.45
[18]	Balouchi & Samad	2020	X			Online learning	218	Education and Information Technologies	0.749
[19]	Bhardwaj et al.	2021	X		X	Online learning	465	Computers, Materials and Continua	-
[20]	Chavoshi & Hamidi	2019	X	X		Mobile learning	257	Telematics and Informatics	0.437
[21]	García Botero et al.	2018		X		Mobile learning	587	Journal of Computing in Higher Education	0.13
[22]	Gupta et al.	2021	X			Online Learning Environment	300	IEEE Access	-
[23]	Hoi	2020		X		Mobile learning	293	Computers and Education	0.19

[24]	Kaewsaiha & Chanchalor	2020	X			Online Learning Environment	584	Education and Information Technologies	-
[25]	Khlaisang et al.	2019	X			Mobile learning	1339	Interactive Learning Environments	0.84
[26]	Lakhal & Khechine	2021		X		Online learning	430	Education and Information Technologies	0.291
[27]	Lakhal et al.	2021		X		Online learning	759	International Journal of Educational Technology in Higher Education	0.245
[28]	Larmuseau et al.	2018	X			Online Learning Environment	161	Interactive Learning Environments	0.12
[29]	Lazar et al.	2020	X			Online learning	310	PLoS ONE	0.62
[30]	Nistor et al.	2019		X		Online Learning Environment	225	British Journal of Educational Technology	0.29
[31]	Qashou	2020	X			Mobile learning	402	Education and Information Technologies	0.514
[32]	Rahman et al.	2021		X		Social Media	300	Educational Technology Research and Development	0.577
[33]	Raza et al.	2020		X		Online Learning Environment	516	Journal of Educational Computing Research	0.289
[34]	Reddy et al.	2020	X			Online learning	1385	Education and Information Technologies	0.374
[35]	Rejón-Guardia et al.	2019	X			Online Learning Environment	267	Journal of Computing in Higher Education	0.75
[36]	Salloum et al.	2019	X			Online learning	435	IEEE Access	0.681
[37]	Sánchez-Prieto et al.	2019	X			Mobile learning	222	British Journal of Educational Technology	0.712
[38]	Shorfuzzaman et al.	2019	X			Mobile learning	160	Computers in Human Behavior	0.62
[39]	Sidik & Syafar	2020		X		Mobile learning	284	Education and Information Technologies	-
[40]	Sitar-Tăut	2021		X		Mobile learning	311	Human Behavior and Emerging Technologies	0.576
[41]	Sukendro et al.	2020	X			Online learning	974	Heliyon	0.389
[42]	Syahruddin et al.	2021	X			Online learning	1291	Heliyon	0.351
[43]	Vanduhe et al.	2020	X		X	Online Learning Environment	375	IEEE Access	0.547
[44]	Wai et al.	2018	X			Mobile learning	150	Journal of Librarianship and Information Science	0.164
[45]	Yadegaridehkordi et al.	2018	X			Online learning	209	Education and Information Technologies	0.412
[46]	Yakubu & Dasuki	2018		X		Online learning	286	Information Development	-
[47]	Yang et al.	2018		X		Online Learning Environment	289	Journal of Educational Computing Research	-

Basic models: T- TAM; U- UTAUT; O- other

Source: own compilation

ESAYAS DEGAGO DEMISSIE – DANIEL KIBET KOECH – EDINA MOLNÁR

EXPLORING OCCUPATIONAL STRESS AMONG EMPLOYEES IN THE FINANCIAL INDUSTRY – A PERSPECTIVE FROM DEVELOPING ECONOMIES IN ADDIS ABABA, ETHIOPIA

A MUNKAHELYI STRESSZ FELTÁRÁSA A PÉNZÜGYI ÁGAZATBAN DOLGOZÓK KÖRÉBEN – EGY KITEKINTÉS A FEJLŐDŐ GAZDASÁGOKBÓL ADDISZ-ABEBÁBAN, ETIÓPIÁBAN

The study aims in analyzing the role of workplace stressors on occupational stress levels. A descriptive and explanatory research design has been used. A mean scale as a measure of central tendency was used to explain the existing situation. Correlation and multiple regression have been implemented to measure the association of variables and the stress level prediction ability of the constructs. A random sampling technique was used in determining the sample size. Mainly primary data is collected through a structured questionnaire and distributed to people online through Google form. Occupational stresses have shown a strong and significant association with stress constructs. The cumulative prediction ability of the constructs is stronger on the occupational stress level of the organization. Social support and job control are inversely associated with occupational stress levels. However. role ambiguity and role overload have a direct relationship with the magnitude of occupational stress.

Keywords: **occupational stress. role ambiguity. role overload. social support. job control**

A tanulmány célja a munkahelyi stresszorok szerepének elemzése a foglalkozási stressz szintjén. Leíró és magyarázó kutatási tervet készítettek a szerzők. A központi tendencia mérőszámaként egy átlagos skálát használtak a fennálló helyzet magyarázatára. Korrelációt és többszörös regressziót alkalmaztak a változók asszociációjának és a konstrukciók stressz-szint előrejelző képességének mérésére. A minta méretének meghatározásához véletlenszerű mintavételi technikát alkalmaztak. Főleg az elsődleges adatok gyűjtése egy strukturált kérdőíven keresztül történt. és a Google űrlapon keresztül online érték el az embereket. A foglalkozási stressz erős és jelentős összefüggést mutatott a stresszkonstrukciókkal. A konstrukciók kumulatív előrejelző képessége erősebb a szervezet foglalkozási stressz szintjén. A szociális támogatás és a munkakontroll fordítottan függ össze a foglalkozási stressz szintjével. A szerep kétértelműsége és a szereptúlterhelés azonban közvetlenül hat a foglalkozási stressz nagyságára.

Kulcsszavak: **foglalkozási stressz. szerep kétértelműsége. szereptúlterhelés. társadalmi támogatás. foglalkozási kontroll**

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The financial industry plays an important role in driving economic development. capital mobilization and resource allocation. which is a fundamental element of the global economic system. The financial industry is undergoing rapid change and expansion in emerging economies such as Ethiopia. contributing significantly to the country's growing economy. However. this rapid growth in the financial sector has its own consequences and one of

the most profound yet often underestimated is job stress among workers.

Addis Ababa. the hub of Ethiopia's economy. is a bustling metropolis that has witnessed unprecedented growth and transformation in its financial sector. This dynamic environment. in which employees are faced with the complex balancing act between ambition and the physical and psychological toll that accompanies a demanding career in finance.

The modern workforce is characterized by increasing diversity. intense competition. and rapid technological advancements. These converging dynamics present significant challenges for businesses today. Organizations place high demands on their employees. resulting in a linear increase in work-related stress. Operating in such an environment restricts employees from fully utilizing their creativity. intelligence. and decision-making abilities. ultimately leading to stress. The prevalence and causes of stress in the organizational setting are complex and dynamic. with varying manifestations over time.

In today's demanding work environment. where teams strive to prove their competence. employees often experience high stress and anxiety levels. Consequently. employee efficiency suffers and it is a significant hindrance to productivity. Stress not only poses a threat to individual well-being but also impacts social well-being and overall organizational efficiency. It directly affects morale. motivation. engagement. initiative. and participation. The rapidly changing global landscape further intensifies the pressure on the workforce to achieve optimal results and enhance competitiveness. The burden of that change directly transfers to the organizational staff which makes them drown in stress affecting their productivity. effectiveness. personal health and quality of work (European Agency for Safety and Health at Work. 2002). As the business world adapts to ever-evolving technology. processes. and demands. employees face increased workloads and overwhelming tasks. and insufficient resources to fulfil job requirements further exacerbating their stress levels (Last. 2022).

The psychological and emotional well-being of employees who are at the forefront of innovation and creativity must be prioritized. Recognizing that employees are crucial assets within an organization. it becomes vital to ensure their well-being in order to sustain their performance. The energy and vitality of employees are crucial factors in enhancing productivity. Reducing workplace demands. such as workload and improving the work environment can help alleviate stress levels among staff. By addressing stress both the health and performance of employees can be maintained and improved (Mirzaei. Mozaffari & Aghil. 2022).

The selection of work-related factors of stressors is a crucial decision that relies on the researcher's experience and observation. Stressors are situations or conditions that induce stress and can vary in terms of their frequency and severity. In today's highly competitive world. it is evident that there is significant pressure within work environments. By relying on personal observation and discussions. researchers can identify the primary factors that employees pay close attention to. The study aims to examine the relevance of these factors in predicting stress and their significance in the field of research. By investigating these four factors – workload. support. role confusion. and autonomy – the study aims to shed light on their relevance in predicting and understanding stress in the workplace.

The study embarks on a journey to explore and dissect the intricate web of occupational stress experienced by employees in the financial industry in Addis Ababa. Ethiopia. Though the literature on occupational stress is vast. it remains underexplored within the Ethiopian context. particularly in the context of the financial sector. This study. rooted in the local and socio-economic realities of Ethiopia. seeks to bridge this knowledge gap by providing a comprehensive perspective on the dynamics of occupational stress in this specific setting.

Background of the study

In recent years. Ethiopia has undergone rapid economic development driven by sectors such as agriculture. manufacturing. and services. This economic growth presents both opportunities and challenges for the workforce. Increased competition and work demands can contribute to high levels of work-related stress (Rees. Childs & Freckleton. 2012). Despite the progress made. Ethiopia still faces high poverty rates and income inequality. Employees from disadvantaged backgrounds may experience additional stress due to financial pressures and limited access to resources (Sinclair & Cheung. 2016).

Teamwork and cooperation is a common orientation in the financial sector of Ethiopia. But this can be accompanied by peer pressure. excessive conformity and personal sacrifices which have a detrimental impact on employees' well-being. Furthermore. the hierarchical structure in the finance sector with a high level of respect for authority can put pressure on employees to express their concerns or make decisions independently leading to an increase in stress levels (Hasen. Seid & Mohammed. 2023).

Challenges associated with physical infrastructure and limited access to digital services may further increase workload and stress levels in the financial sector. In certain regions or organizations. providing and accessing mental health support programs to cope with work-related stressors may be challenging. This could lead to a worsening of employees' ability to effectively cope with stressful situations at work (Rees. Childs & Freckleton. 2012).

The financial industry is known to be highly demanding. characterized by long working hours. tight deadlines and high levels of urgency in meeting targets. Balancing personal life and commitment can be particularly difficult. leading to a higher level of stress especially for workers who have been in the midst of stressful working situations or are obliged to work long hours (Sinclair & Cheung. 2016).

The study aims to examine stress levels caused by ambiguity in roles. lack of control. social support and role overload in some specific financial sectors located in the

capital of Ethiopia. southwest Addis Ababa. The study provides valuable information on the contextual relevance. cultural peculiarities and industry-specific stressors faced by employees through research carried out specifically for the context of Ethiopia. This research contributes to an in-depth understanding of the dynamics of work-related stress and helps develop targeted interventions and strategies to promote employee well-being in the targeted area of study and similar undertakings.

The nature and frequency of work stress are strongly influenced by the particular social condition in Ethiopia. which has a diverse set of economic conditions that reflect factors like Economic Growth. Cultural Norms and Political Environment. Stress at the workplace may lead to a rise in burnout rates. decreased job satisfaction. reduced productivity and adverse cumulative health outcomes for staff Physical. mental or emotional well feeling is adversely affected by stress. It is therefore important to study work related stress in Ethiopia so that an assessment of the extent and effect for individuals and workers as a whole can be carried out. It is necessary to understand the special challenges faced by staff in this context. thus enabling them to identify prevailing stressors and develop tailored interventions and strategies for their effective management.

There is a need for regular checking of the level of stress among organizations so that it can meter its effect on employees and the organization itself (Kim. 2021). A better understanding of how everyday work situations contribute to the experience of stress is essential for developing stress management strategies that can be applied in daily work life (Lukan et al.. 2022). Furthermore. considering that employees from different backgrounds may react differently to stressors and have varying perspectives on the importance of work-related stress. studying the work characteristics and sources of stress in the organization is crucial for tailoring interventions and minimizing negative effects (De Smet et al.. 2005; Rehman et al.. 2012; Kendal et al.. 2000).

Objectives of the research

1. Assess the levels of social support. lack of control. role overload. role ambiguity. and occupational stress in Ethiopian financial industry. Addis Ababa.
2. Analyze the interrelationship between job stressors/ factors and occupational stress.
3. Determine the relative contributions of social support. control. role overload. and role ambiguity in predicting occupational stress.
4. Provide insights and commendations for interventions and strategies that can effectively mitigate occupational stress in the industry.

Literature review

Perspectives of stress and its meaning

Workplace stress is the detrimental physical and emotional reaction that can occur when there is a tussle between the demands of the job on the employee and the amount of control the employee has to meet these demands. In general. the combination of high demands at work and a low level of control over the circumstances can lead to stress. Stress in the workplace is caused by a discrepancy between job demands and the control individuals have to meet those demands. It is characterized by intense pressure and can have harmful effects on employees' mental and physical well-being (World Health Organization. 2020). Work-related stress occurs when the demands of the job are inconsistent or exceed the employee's skills. abilities. or knowledge (Forastieri. 2013).

Work-related stress is a strong negative emotional reaction to work. Work-related stress is non-trivial and can significantly alter the behavior of the person involved. impair the quality of their life and damage their health. Lost working days are mostly attributed to stress which represents a huge cost in terms of both human distress and impaired economic performance. Besides the serious effects on workers' mental and physical health. the impact of work stress is obvious in 'organizational symptoms' such as high levels of absenteeism and labor turnover. poor safety performance. low employee morale. a lack of innovation and poor productivity (European Agency for Safety and Health at Work. 2002).

Stress is influenced by various factors. including excessive work pressure. role ambiguity. lack of support. and limited control over resources (Altindag. 2020; Kim. 2021). In today's dynamic and competitive work environment. employees often face heightened levels of stress due to changes in job demands and organizational structures (Kendal et al.. 2000).

Stress is the way a human being reacts to changes. events and situations in his life. both physically and mentally. People experience stress in different ways and for different reasons. The response depends on the perception of an event or situation. The stress that prevails in the environment needs to be treated timely if not it complicates the organizational processes (Wadhera & Bano. 2020). As Valentina Forasteri (2013) inscribed in her article writing to the International Labour Office entitled the prevention of psychosocial risks and work-related stress. it is important to ensure and protect the safety and health of employees if we want their contribution to society.

It is essential to devise targeted interventions with a view to reducing occupational stress. Those interventions should address. amongst other things. improvement of control and independence in terms of employment tasks. clarification of expectations and responsibility. management of workload and enhancement of social support networks (Gharibi et al.. 2016; Lina & Ling. 2018). Organizations can promote the well-being of their staff. decrease stress levels and increase overall productivity by introducing these interventions.

Theoretical underpinning

Numerous studies have demonstrated the negative effects of occupational stress on workers' well-being and organizational outcomes (Rees. Childs & Freckleton. 2012;

Sinclair & Cheung. 2016). Understanding the factors associated with occupational stress is crucial for promoting employee health and productivity. particularly in the context of Ethiopia's social environment. This literature review focuses on examining the role of insufficient control. ambiguity about roles. work overload. and social support as key determinants of occupational stress in the Ethiopian financial sector.

The lack of control concerns the perception that workers are not sufficiently influential or have decision-making powers over working practices and outcomes. There have been numerous studies that show higher levels of workplace stress in employees who lack control (Birhanu. Gebrekidan. Tesefa & Tareke. 2018). Employees may be in a situation where they face less autonomy and decision-making powers. leading to an increase in stress levels because of the hierarchical structure and power disparities observed in Ethiopia (Johnson & Hall. 1988; Karasek. 1979).

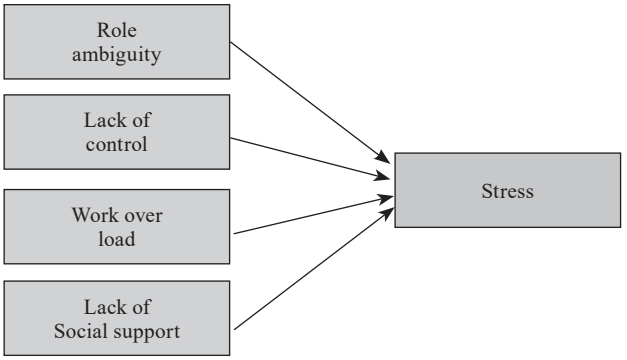
Role ambiguity. characterized by uncertainty and unclear expectations about job responsibilities and performance criteria. is another significant source of stress (Jackson & Schuler. 1985; Rizzo et al.. 1970). In Ethiopia. where organizational structures are often less formal. employees may experience role confusion due to ambiguous job descriptions. communication relationships. and blurred task boundaries (Birhanu. Gebrekidan. Tesefa & Tareke. 2018). This lack of clarity can contribute to increased stress levels.

Work overload. characterized by excessive demands that surpass employees' available time and resources. has consistently been associated with occupational stress (LaRocco. House & French Jr. 1980; Wang. Cai. Qian & Peng. 2014). The rapid economic growth and limited resources in Ethiopia. particularly in the financial sector. can lead to high levels of workload and unrealistic expectations (Birhanu. Gebrekidan. Tesefa & Tareke. 2018; Mengist et al.. 2021). These factors put additional pressure on employees. potentially leading to extended working hours and an imbalance between work demands and individual capacity. ultimately resulting in increased stress levels.

Social support. including emotional. instrumental. and informational assistance from supervisors. colleagues. and social networks. is recognized as a crucial factor for reducing occupational stress (Cohen & Wills. 1985; House. 1981; Wang. Cai. Qian & Peng. 2014). In the Ethiopian socio-economic context. where collectivism is valued. social support networks and relationships within organizations play a critical role in buffering occupational stress (Dagget. Molla & Belachew. 2016; Mengist et al.. 2021). However. limited access to support services and a lack of awareness about mental health issues may pose challenges for employees in seeking and receiving adequate social support.

Based on the reviewed literature. Figure 1 presents a conceptual framework illustrating the relationships between lack of control. role ambiguity. work overload. social support. and occupational stress in Ethiopia's financial sector within its socioeconomic context.

Figure 1 Conceptual Framework



Source: own compilation

The interlink of role overload and occupational stress

Employees may experience occupational stress due to role stress. which refers to the negative effects of organizational roles on individuals (Kahn & Quinn. 1970). Role-related stress includes role ambiguity and role conflict (Alexandros-Stamatios et al.. 2003). High levels of role overload. where individuals perceive their jobs as demanding and exceeding their capacity. have been linked to increased stress levels (Nixon. 2011). Role overload can lead to decreased job satisfaction and increased job tension (French & Caplan. 1973). While work overload is generally associated with negative outcomes. some studies suggest that it can trigger psychological empowerment when employees receive sufficient support from leaders (Lina & Ling. 2018).

H1: Higher levels of role overload are positively associated with higher levels of occupational stress.

The role of ambiguity in predisposing occupational stress

Ambiguity refers to the lack of clarity and uncertainty about job duties and responsibilities. leading to role ambiguity. Studies have consistently shown that role ambiguity has a significant adverse effect on performance (Gilboa et al.. 2008; Jackson & Schuler. 1985; Tubre & Collins. 2000). Role ambiguity can trigger negative emotions. withdrawal behaviors. and low performance (Lazarus & Folkman. 1984; Wallace et al.. 2009). It is crucial for employees to have clear role expectations to develop commitment to the organization. Employees may remain in the organization due to a lack of alternatives. even in stressful situations. but they are more likely to leave if opportunities outside become available (Addae & Parboteeah. 2008). Role ambiguity is a threat that inhibits psychological empowerment and reduces service quality. even when employees receive support from leaders (Lina & Ling. 2018).

H2: There is a positive correlation between higher levels of role ambiguity and increased levels of occupational stress.

The power of social support in moderating stress

social support. including support from supervisors. coworkers. and other networks. plays a crucial role in mitigating occupational stress. It provides individuals with emotional. instrumental. and informational assistance when needed (Cohen & Wills. 1985). Social support networks offer stability. predictability. and positive effects (Cohen & Wills. 1985). The support provided by supervisors and leadership is linked to employees' physical and mental health (Kuoppala et al.. 2008; Skakon et al.. 2010). Supervisors can influence the success of workplace programs aimed at improving health and managing stress. Support from supervisors positively influences employee well-being and job outcomes (Horan et al.. 2018). It is crucial to pay attention to supportive supervision. as poor support can reduce job satisfaction and lead to burnout and various physical and mental problems (Boschman et al.. 2013; Honda et al.. 2015).

H3: The lack of social support is positively associated with higher levels of occupational stress.

Job control

job control. also known as decision latitude. refers to an individual's ability to control work activities and make decisions. Higher job control is associated with reduced employee stress and increased learning opportunities (Doef & Maes. 1999). However. workplace reorganizations that lead to perceived lack of control can cause stress (Forastieri. 2013). High physical and mental demands combined with low control negatively impact the work ability of employees (Gharibi et al.. 2016). Decision-making autonomy provides employees with a sense of efficacy and coping ability. Jobs with high levels of autonomy are associated with less stress and higher job satisfaction. perceived empowerment. and professionalism (Kalleberg et al.. 2009; Pearson & Moomaw. 2005). Enhancing job autonomy empowers employees to develop. share. and apply their expertise effectively. contributing to better organizational efficiency (Cappelli & Rogovsky. 1998). Therefore. for the purpose of dealing with workplace stress. it is necessary to promote autonomy in decision making.

H4: Increased levels of job control are negatively associated with occupational stress.

Materials and methodology

Research method

the study implemented a combination of descriptive and explanatory research methods. The descriptive research design was used to obtain information about the current status of the phenomena and designate the existing variables or conditions in the situation. Mean scales were used as a measure of central tendency to depict the concentration of responses. The explanatory method of research was used to explore the relationships between multiple decision variables. Correlation statistics were employed to determine the strength of the relationships between variables. Multiple regression analysis was utilized to measure the degree of change caused by work stressors on occupational stress levels within organizations.

The study employed a quantitative research approach through a survey administered to a sample of the population to determine its characteristics. Primary data was collected using a structured questionnaire. The target population for data collection was employees working in microfinance institutions and banks. Due to the difficulty of covering all finance firms. data was gathered from institutions located in the southwest parts of Addis Ababa. The questionnaire was distributed to 300 randomly selected individuals working in different microfinances and banks in the designated area. Google Forms was used as a tool to distribute the questionnaire. and a total of 277 appropriately filled questionnaires were collected. The study adopted a cross-sectional design. capturing data at a specific point in time.

Materials

The measurement scale utilized in this study was sourced from various authors who have measured stress and its contributing factors. The work stress scale was adopted from Lovibond and Lovibond (1995) and employed a five-point Likert-type scale ranging from 1 (did not apply to me at all) to 5 (applied to me very much or most of the time). This scale assessed various anxiety traits. including impatience. irritability or over reactivity. irritability. nervousness. and difficulty relaxing. The scale has demonstrated good internal consistency and acceptable test-retest reliability.

To measure role ambiguity and role overload. the study made use of the scales reviewed by González-Romá and Lloret (1998) based on Rizzo et al. (1970). which confirmed the construct validity of the scales. The job control and social support factors were measured using the Job Demand-Control-Support model developed by Karasek (1985). The factor analysis performed on these scales demonstrated adequate construct validity and reliability. Job control was assessed by exploring the decision latitude and autonomy employees had over their jobs. Social support was measured in two dimensions: support from supervisors and support from coworkers.

The questionnaire items were adapted to the local culture and communication style while maintaining the basic meaning of each question. This approach aimed to ensure that respondents easily understood the purpose of each question. Although the scales were adopted from previous researchers who had established the internal consistency and content validity of the measures. necessary adjustments were made to align them with the study's objectives. The adapted scales indicated the relevance and adequacy of the measuring instruments for the constructs under investigation (Table 1).

Table 1

Reliability Statistics

Variables	Cronbach's Alpha	N of Items
Job Control	.781	9
Social Support	.811	8
Role ambiguity	.741	6
Role overload	.712	6
Stress	.762	14

Source: own compilation

the highest consistency with the center value. followed by job control. social support. role ambiguity. and role overload. These results suggest that the participants' responses are closely centered around the mean value for each construct. indicating a relatively uniform distribution of data.

Correlation

The correlation table vividly showing how the factors of stress are strongly correlated with the stress level in the organization and their direction of relationship. The negative sign on social support and job control indicates the association that exists between stress and those two constructs are inverse. In measuring how closely the two variables (role ambiguity and role overload) move in tandem the Table 3 shows same direction relationship with stress level in the organization. As it can be observed in the above table all the correlation are significant and strong.

Table 2

Descriptive Statistics

		Social Support	Job Control	Role Ambiguity	Role Overload	Stress
N	Valid	277	277	277	277	277
	Missing	0	0	0	0	0
Mean		4.3141	4.0722	3.9819	4.1949	4.6778
Std. Error of Mean		.04395	.04195	.04472	.05502	.01449
Std. Deviation		.73147	.69823	.74433	.91579	.24119

Source: own compilation

Result analysis and discussion

The study sought to assess the effects of low social support. workload. weak controls and role ambiguity on occupational stress within Ethiopia's financial sector. Addis Ababa. These findings reveal valuable insights as to the relationship between these factors and staff's experience of workplace stress in this particular context. The study has used correlation and multiple regression analysis in pinpointing the reality of how stress is formed and how the existing factors cause changes over level of stress in the organization. The magnitude of changes observed in employee occupational level of stress was significant and it is found strong association with the factors under study.

Descriptive results

The descriptive results provide insights into the shape of the distribution and the proximity of individual data values to the mean value. The Table 2 presents the mean. standard deviation. and standard error. which collectively depict the overall picture of how close the sample mean is to the true mean of the population. Examining the values of the constructs. it is evident that they portray a consistent pattern. The data points are clustered around the mean. indicating a relatively small spread. Among the variables. stress shows

Table 3

Correlation statistics

		Social Support	Role Ambiguity	Role Overload	Job Control
Stress	Pearson Correlation	-.408**	.414**	.464**	-.59**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	277	277	277	277

Source: own compilation

Model summary

as it has been observed from the summary table (Table 4) the four constructs of employee occupational stressors have a momentous positive relationship with stress level of employees. The adjusted r square (.462) of model summary tells the constructs together predicts the stress level of an employee significantly and have strong and direct relationship (.685).

Table 4

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.685[a]	.469	.462	.45292	.469	60.171	4	272	.000	1.750

a. Predictors: (Constant), Job Control, Role Overload, Role Ambiguity, Social Support
b. Dependent Variable: Stress
Source: own compilation

Coefficients

The multiple regression coefficient of the analysis shows how each construct predicts and contributes to the level of changes in the stress condition of an individual. The beta value of the constructs reflects the prediction capability of the stress. The Table 5 vividly indicates the existence of role ambiguity (B: .406) in the organization and shows the direct relationship of role ambiguity with the stress and significant prediction capability of the level of stress. Additionally. the excessive workload (B: .272) in the organization is a direct correlation and considerable prediction. Contrary. the prevalence of social support and the degree of employee job control in the organization have an inverse relationship with the stress level. The social support provided (B: -.360) and the level of Control over the job (B: -.489) meaningfully and strongly predicts the stress magnitude in the working atmosphere. The negative sign implies for every unit increase in the constructs. the stress level decreases by the value of the coefficient shown in the table. Correspondingly. for every unit decrease in those two factors. the stress level increase by the value of the specified coefficient.

detrimental effects of limited decision-making and autonomy on employee well-being (Johnson & Hall. 1988; Karasek. 1979). In the case of Financial Services industries. where hierarchical structures and power differentials exist employees may be deprived of the management decision-making power and competence. The deprival of control can lead to a rise in stress levels. as employees may feel a lack of influence over their work environment and are having trouble adjusting to job demands (Girma. Nigussie. Molla & Mareg. 2021). The provision of flexibility or decision latitude and autonomy to employees is vital for organizations to effectively manage stress levels. Remarkably. the results of this study correspond to existing findings. suggesting that reduced autonomy and influence over job-related decisions contribute to increased levels of stress (Joshi. 2018). Employees need to be entitled the freedom to make decisions about their tasks and need to have autonomy in scheduling their work activities. The extent to which organizations involve employees in decision-making and provide autonomy significantly affects the level of stress experienced by its staff (Kim & Stoner. 2008; Pearson & Moomaw. 2005).

Table 5

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	12.242	.206		59.338	.000	11.836	12.648		
	Social Support	.303	.050	-.360	6.085	.000	.205	.402	.559	1.790
	Role Ambiguity	.337	.047	.406	7.157	.000	.244	.429	.606	1.651
	Role Overload	.183	.032	.272	5.663	.000	.119	.247	.848	1.179
	Job Controlt	-.432	.050	-.489	-8.605	.000	-.531	-.334	.604	1.656

Source: own compilation

Model fitness

The ANOVA table (Table 6) confirms the model fitness and the result shows that the prediction ability of the constructs are proved significant in explaining the occupational stress level in the work setting.

The study findings also indicate a positive association between role ambiguity and occupational stress. This aligns with previous research highlighting the negative effects of unclear job expectations and responsibilities on employee well-being (Jackson & Schuler. 1985; Rizzo et al.. 1970).

Table 6

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.373	4	12.343	60.171	.000[b]
	Residual	55.797	272	.205		
	Total	105.170	276			

a. Dependent Variable: Stress

b. Predictors: (Constant). Job Control. Role Overload. Role Ambiguity. Social Support

Source: own compilation

Discussion

The study findings indicate a positive correlation between the lack of control and occupational stress. This finding aligns with previous research that has demonstrated the

Within the Ethiopia Financial Sector. where organizational structures may be less formal. employees may face role ambiguity due to ambiguous job descriptions. lack of reporting relationships. and blurred task boundaries. Role ambiguity can lead to increased occupational stress

as employee experience uncertainty and difficulties in meeting job expectations (Khattak. Quarat-ul-ain & Iqbal. 2013). Clarity of information and understanding among employees play a significant role in reducing stress levels. Insufficient information and unclear job descriptions and organizational objectives contribute to stress caused by role ambiguity (McCormack & Cotter. 2013). Role ambiguity negatively impacts individuals. leading to poor self-image. reduced job satisfaction. decreased affectivity. and extreme behaviors (Nyanga. Mudhovozi & Chireshe. 2017). Surveys conducted with managers have consistently identified role ambiguity as a primary factor contributing to stress and hindering the utilization of their full potential. resulting in job dissatisfaction (Ram. Khoso. Shah. Chandio & Shaikih. 2011). Role ambiguity. along with role overload. plays a significant role in explaining role stress (Chang & Hancock. 2003). The coexistence of role ambiguity and role overload complicates work effectiveness and contributes to increased stress levels (Yongkang. Weixi. Yalin. Yipeng & Liu. 2014; Khattak. Quarat-ul-ain & Iqbal. 2013).

The study findings also reveal a positive relationship between the lack of social support and high levels of workplace stress. This finding aligns with extensive research demonstrating the positive impact of social support on reducing employee stress (Cohen & Wills. 1985; House. 1981). Limited access to social assistance programs or counselors within the Ethiopia Financial Sector can hinder employees' ability to manage work pressures and cope effectively with stress. The absence of a strong support network in the workplace may contribute to increased levels of occupational stress (Birhanu. Gebrekidan. Tesefa & Tareke. 2018). Conversely. strong social support from coworkers and immediate supervisors can significantly reduce stress levels. Social support enhances confidence. cooperation among staff. and commitment. Conversely. a lack of support can undermine motivation. trust. and ultimately cause stress. Lack of a supportive work environment is recognized as a significant workplace stressor (Ahmad. Gul & Kashif. 2022). Support has been found to have a strong link with depression (Cutrona. 1984). Social support is expected to inject positive energy among employees. while a lack of support drains employees' confidence and trust. leading to feelings of helplessness and distress that impact well-being. Perceived stress is negatively correlated with perceived social support. meaning that a lack of social support increases the perception of stressful situations (Hamdan-Mansour & Dawani. 2008). Social support provided by supervisors and coworkers inversely affects job-related stress levels and strains (LaRocco. House. & French Jr.. 1980). Social support can manifest in various forms during employee interactions within the organization.

The study findings also indicate a positive association between role overload and occupational stress. This finding is consistent with previous research demonstrating the negative impacts of excessive workload on employee health and well-being (Honda et al.. 2015). The rapid economic growth. increased workload expectations. and resource constraints within the Ethiopia Financial Sector contribute to higher levels of role overload. Employees may face pressure to meet demanding targets and work long hours. resulting in increased stress levels and a higher risk of experiencing occupational stress (Dagget. Molla & Belachew. 2016). Excessive workload is a major cause of burnout in various professions. as it diminishes employees' capacity to cope with job demands. The findings of this study affirm that excessive workload leads to stress among employees in the work environment. Overwork negatively affects job performance. as it reduces employees' strength and ability to meet work requirements. Disproportionate workloads lead to inefficiency and stress (Chu. Hsu. Price & Lee. 2003; Seo. Ko & Price. 2004). Excessive work pressure leaves little time for rest and recovery from fatigue. Various factors within corporations contribute to employees taking on multiple tasks and struggling with time constraints. resulting in physical exhaustion and mental strain. commonly referred to as stress (Joshi. 2018).

Conclusion

The study examined various constructs of stress within the context of banks and micro finances located in the capital of Ethiopia. the southwestern part of Addis Ababa. The findings highlight the importance of considering these factors to safeguard employees' well-being before any crisis arises. The analysis demonstrated that these constructs significantly impact the development of stress among employees. The results support the current literature and underline the importance of dealing with these factors in promoting employees' well-being and reducing stress levels.

The results of the multiple regression analysis indicated that the combined effect of the studied constructs had a substantial influence on stress levels. However. when examining the individual factors separately. their predictive ability for stress was comparatively lower. Among the factors analyzed. job control. encompassing decision latitude and discretion. emerged as the most influential predictor of employee stress. It was followed by role ambiguity. social support. and role overload.

Notably. the findings underscore the inverse relationship between the support provided and the level of stress experienced by employees. Increasing support and job control. which provide employees with autonomy and decision-making authority. were associated with lower levels of stress. On the other hand. role ambiguity and role overload exhibited a direct relationship with stress levels. indicating that reducing these factors can alleviate the magnitude of stress within the workplace.

These findings contribute to understanding stress dynamics and its determinants in organizational settings. By recognizing the pivotal role of job control. role ambiguity. social support. and role overload. organizations can implement targeted interventions to mitigate stress and promote employee well-being. Strategies should focus on enhancing employees' decision-making authority. clarifying job expectations. fostering supportive work environ-

ments. and managing workload demands effectively.

Further research in this area is warranted to explore additional factors and their specific impacts on stress within different organizational contexts. By continuing to investigate and monitor stress-related issues. organizations can develop evidence-based interventions to create healthier work environments and ultimately improve their employees' overall well-being and performance.

Recommendations

Understanding resource capacity and determining the proportion of loads based on it helps to maintain physical and psychological well-being. Managing demanding jobs. working on job clarity. and ensuring the sufficiency of information become more efficient in decreasing the stress level if it is purported by enabling an environment in which employees are given autonomy to maneuver the job and guaranteeing a supportive and collaborative team atmosphere. Social support is an interaction of workmen in the organizations for the provision of care. backing up crises. sharing information and relieving tensions. enthusiasms and filling in gaps of others which helps settle stress.

Enhancing employee control and autonomy: The aim of organizations should be to ensure that they provide their staff with flexibility and autonomy in the course of their work. It may help reduce stress levels and improve overall well-being by empowering workers to decide on their own what kind of job they work and controlling the processes in which they do it. Strategies can be put in place such as delegating authority. promoting participatory decision making and providing opportunities to develop skills and manage oneself.

Clarifying job expectations and responsibilities: In the field of work. efforts need to be made to eliminate misunderstandings between roles. It may be possible to help employees understand their duties and manage stress more effectively by having clear job descriptions. clearly structured reporting relationships as well as transparently communicated responsibilities. To reduce the degree of ambiguity in roles. organizations should periodically examine and revise their job descriptions. provide staff with training and assistance as well as set up effective communication channels.

Strengthening social support systems: The setting up of supportive working conditions should be a priority for organizations. The stress level can be significantly reduced if supervisors and coworkers are encouraged to provide social support for their staff. In order to do so it is possible to promote positive relationships. encourage teamwork and collaboration as well as the provision of resources for employee assistance programs and counselling services. Social support networks may also be facilitated by the implementation of mentorship or buddy schemes.

Managing workload and role expectations: Excessive workloads and overcapacity of roles must be monitored and addressed by organizations. Employees can be helped to deal with their workload demands and stress by implementing effective workload management strategies. e.g. the allocation of tasks on a proportionate basis. efficient task prioritization and time management training. A healthy work environment can be improved by regular workload assessments. a yearly review of job obligations and the provision of resources and support in order to cope with workload demands.

There is a need for ongoing research and monitoring of stress factor levels in the work environment. To find out the special dynamics of stressful situations in specific contexts it is necessary for organizations to invest in continuing studies. It will improve the understanding of workers' problems and enable them to come up with effective intervention and stress management strategies

Limitation

The limitation of the study maybe attributed that the researcher experience and observations affect the choice of factors to be taken into account within a research environment. Although efforts have been made to identify the appropriate stressor constructs. there is a need to recognize that additional potentially harmful forces may be present. In order to build up a more complete understanding of employee stress. further research needs to be conducted on the other types of stressors and consider various work environments. Furthermore. the data for this study was collected exclusively from employees working in the service sector (Microfinance & Bank). Recognizing that stress levels may differ depending on various industries and roles in the work has to be borne in mind. In doing so. caution must be exercised as regards the generalization of results into other sectors or occupations.

Future researchers should endeavor to extend their scope of investigation through the inclusion or exclusion of specific stressor components. taking into account the vast literature on stress and its varied range of constructs. That will allow for a more thorough examination of stress in different work environments and contribute to better understanding of the complexities linked with workplace stress.

References

Addae. H.M.. & Parboteeah. K.P. (2008). Role stressors and organizational commitment: public sector employment in St Lucia. *International Journal of Manpower. 29*(6). 567-582. https://doi.org/10.1108/01437720810904220

Ahmad. A.. Hussain. A.. Saleem. M.Q.. Qureshi. M.A.. & Mufti. N.A. (2015). Workplace stress: a critical insight of causes. effects and interventions. *Technical Journal. 20*(II). 46-48. https://www.semanticscholar.org/paper/Workplace-Stress-%3A-A-Critical-Insight-of-Causes-%2C-Ahmad-Hussain/4552df3dc0a937dae2f2aa5e28d30561bae60e88

Ahmad. I.. Gul. R.. & Kashif. M. (2022). A Qualitative Study of Workplace Factors Causing Stress Among University Teachers and Coping Strategies A Qualitative Study of Workplace Factors. *Human Arenas*. 1-23.

https://link.springer.com/article/10.1007/s42087-022-00302-w

Alexandros-Stamatios. G.A.. Marilyn. J.D.. & Cary. L.C. (2003). Occupational stress. job satisfaction and health state in male and female junior hospital doctors in Greece. *Journal of Managerial Psychology. 18*(6). 592-621. https://doi.org/10.1108/02683940310494403

Altindag. O. (2020). Relationship between stress management and job performance in organizations. *International Journal of Research in Business and Social Science. 9*(2). 43-49. https://doi.org/10.20525/ijrbs.v9i2.636

Anupmaurya. (2022. September 25). *Organizational behavior.* https://www.businesspedia.in/stress-definition-model-level-potential-stressors/#:~:text=Stress%20is%20the%20body's%20reaction.releasing%20chemicals%20into%20the%20blood.

Australian Government Statutory Agency. (2022. October 7). *Managing health and safety: Mental health.* Safe Work Australia: https://www.safeworkaustralia.gov.au/safety-topic/managing-health-and-safety/mental-health/psychosocial-hazards

Badar. M.R. (2011). Factors Causing Stress and Impact on Job Performance: A Case Study of Banks of Bahawalpur. Pakistan. *European Journal of Business and Management. 3*(12). 9-17. https://www.iiste.org/Journals/index.php/EJBM/article/view/717/625

Basit. A.. & Hassan. Z. (2017). Impact of job stress on employee performance. *International Journal of Accounting and Business Management. 5*(2). 13-33. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3125336

Beehr. T.A.. Walsh. J.T.. & Taber. T.D. (1976). Relationships of stress to individually and organizationally valued states: Higher order needs as a moderator. *Journal of Applied Psychology. 61*(1). 41-47. https://psycnet.apa.org/doi/10.1037/0021-9010.61.1.41

Birhanu. M.. Gebrekidan. B.. Tesefa. G.. & Tareke. M. (2018). Workload determines workplace stress among health professionals working in felege-hiwot referral Hospital. Bahir Dar. Northwest Ethiopia. *Journal of Environmental and Public Health*. https://doi.org/10.1155/2018/6286010

Boschman. J.S.. Van der Molen. H.F.. Sluiter. J.K.. & Frings-Dresen. M.H. (2013). Psychosocial work environment and mental health among construction workers. *Applied Ergonomics. 44*(5). 748-755. https://doi.org/10.1016/j.apergo.2013.01.004

Cappelli. P.. & Rogovsky. N. (1998). Employee involvement and organizational citizenship: Implications for labor law reform and "Lean production# x201D". *ILR Review. 51*(4). 633-653. https://doi.org/10.1177/001979399805100405

Chang. E.. & Hancock. K. (2003). Role stress and role ambiguity in new nursing graduates in Australia. *Nursing and Health Sciences. 5*(2). 155–163. https://doi.org/10.1046/j.1442-2018.2003.00147.x

Chu. C.I.. Hsu. H.M.. Price. J.L.. & Lee. J.Y. (2003). Job satisfaction of hospital nurses: an empirical test of a causal model in Taiwan. *International Nursing Review. 50*(3). 176-182. https://doi.org/10.1046/j.1466-7657.2003.00165.x

Cohen. S.. & Hoberman. H.M. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology. 13*(2). 99-125. https://doi.org/10.1111/j.1559-1816.1983.tb02325.x

Cohen. S.. & Wills. T.A. (1985). Stress. social support. and the buffering hypothesis. *Psychological Bulletin. 98*(2). 310-357. https://psycnet.apa.org/doi/10.1037/0033-2909.98.2.310

Cutrona. C.E. (1984). Social support and stress in the transition to parenthood. *Journal of Abnormal Psychology. 93*(4). 378–390. https://doi.org/10.1037//0021-843x.93.4.378

Dagget. T.. Molla. A.. & Belachew. T. (2016). Job related stress among nurses working in Jimma Zone public hospitals. South West Ethiopia: A cross sectional study. *BMC Nursing. 15*. 1-10. https://doi.org/10.1186/s12912-016-0158-2

De Smet. P.S.. Dramaix. M.. Boulenguez. C.. De Backer. G.. Ferrario. M.. & Kornitzer. M. (2005). Gender and regional differences in perceived job stress across Europe. *The European Journal of Public Health. 15*(5). 536-545. https://doi.org/10.1093/eurpub/cki028

Doef. M.V.. & Maes. S. (1999). The Job Demand-Control(-Support) Model and psychological well-being: a review of 20 years of empirical research. *Work and Stress. 13*(2). 87-114. https://psycnet.apa.org/doi/10.1080/026783799296084

Eisenberger. R.. Stinglhamber. F.. Vandenberghe. C.. Sucharski. I.L.. & Rhoades. L. (2002). Perceived supervisor support: Contributions to perceived organizational support and employee retention. *Journal of Applied Psychology. 87*(3). 565-573. https://psycnet.apa.org/doi/10.1037/0021-9010.87.3.565

European Agency for Safety and Health at Work. (2002). *Working on Stress. Magazine 5.* Luxembourg: Office for Official Publications of the European Communities. https://www.google.hu/url?sa=t&source=web&rct=j&opi=89978449&url=http://www.mentalhealthpromotion.net/resources/magazine5_en.pdf&ved=2ahUKEwjroInF_dyFAxUg7AIHHU5DC1UQFnoECBAQAQ&usg=AOvVaw1JlWbx-8lvQT1cFcz6wWOC

Forastieri. V. (2013). Psychosocial risks and work-related stress. *MEDICINAy SEGURIDAD Del Trabajo. 59*(232). 297-301. https://dx.doi.org/10.4321/S0465-546X2013000300001

Gharibi. V.. Mokarami. H.. Taban. A.. Aval. M.Y.. Samimi. K.. & Salesi. M. (2016). Effects of Work-Related Stress on Work Ability Index among Iranian Workers. *Safety and Health at Work. 7*(1). 43-48. https://doi.org/10.1016/j.shaw.2015.10.005

Gilboa. S.. Shirom. A.. Fried. Y.. & Cooper. C. (2008). A meta-analysis of work demand stressors and job performance: Examining main and moderating effects. *Personnel Psychology. 61*(2). 227-271.

https://doi.org/10.1111/j.1744-6570.2008.00113.x
Girma. B.. Nigussie. J.. Molla. A.. & Mareg. M. (2021). Occupational stress and associated factors among health care professionals in Ethiopia: A systematic review and meta-analysis. *BMC Public Health. 21*(1). 539. https://doi.org/10.1186/s12889-021-10579-1
González-Romá. V.. & Lloret. S. (1998). Construct validity of Rizzo et al.'s (1970) Role Conflict and Ambiguity Scales: A multisample study. *Applied Psychology: An international review. 47*(4). 535-545. https://doi.org/10.1111/j.1464-0597.1998.tb00042.x
Halbesleben. J.R. (2006). Sources of social support and burnout: A meta-analytic test of the conservation of resources model. *Journal of Applied Psychology. 91*(5). 1134. https://doi.org/10.1037/0021-9010.91.5.1134
Hamdan-Mansour. A.M.. & Dawani. H.A. (2008). Social support and stress among university students in Jordan. *International Journal of Mental Health and Addiction. 6*(3). 442-450. https://doi.org/10.1007/s11469-007-9112-6
Hasen. A.A.. Seid. A.A.. & Mohammed. A.A. (2023). Anxiety and stress among healthcare professionals during COVID-19 in Ethiopia: Systematic review and meta-analysis. *BMJ Open. 13*(2). e070367. https://doi.org/10.1136/bmjopen-2022-070367
Hessels. J.. Rietveld. C.A.. & van der Zwan. P. (2017). Self-employment and work-related stress: The mediating role of job control and job demand. *Journal of Business Venturing. 32*(2). 178-196. https://doi.org/10.1016/j.jbusvent.2016.10.007
Honda. A.. Abe. Y.. Date. Y.. & Honda. S. (2015). The impact of multiple roles on psychological distress among Japanese workers. *Safety and Health at Work. 6*(2). 114-119. https://doi.org/10.1016/j.shaw.2014.12.004
Horan. K.A.. Moeller. M.T.. Singh. R.S.R.W.. O'Brien. W.H.. Matthews. R.A.. . . . Barratt. C.L. (2018). Supervisor support for stress management and intervention process. *International Journal of Workplace Health Management. 11*(4). 260-272. https://doi.org/10.1108/IJWHM-12-2017-0113
International Labour Office. (2016). Psychosocial risks. stress and violence in the world of work. *International Journal of Labour Research. 8*(1-2). https://webapps.ilo.org/wcmsp5/groups/public/---ed_dialogue/---actrav/documents/publication/wcms_551796.pdf
Islam. S.. Rahman. M.A.. Reza. M.S.. & Rahman. M.M. (2014). Factors causing stress and impact on job performance: a case study on banks of Dinajpur. Bangladesh. *Journal of Science and Technology. 12*. 85-89. https://www.academia.edu/download/40895109/14_JST_13_16.pdf
Jackson. S.E.. & Schuler. R.S. (1985). A meta-analysis and conceptual critique of research on role ambiguity and role conflict in work settings. *Organizational Behavior and Human Decision Processes. 36*(1). 16-78. https://doi.org/10.1016/0749-5978(85)90020-2
Jamal. M. (1984). Job stress and job performance controversy: An empirical assessment. *Organizational Behavior and Human Performance. 33*(1). 1-21. https://doi.org/10.1016/0030-5073(84)90009-6
Johnson. J.V.. & Hall. E.M. (1988). Job strain. work place social support. and cardiovascular disease: a cross-sectional study of a random sample of the Swedish working population. *American Journal of Public Health*. *78*(10). 1336-1342. https://doi.org/10.2105%2Fajph.78.10.1336
Joseph. T.D. (2013). Work Related Stress. *European Journal of Business and Social Sciences. 1*(10). 73-80. https://www.academia.edu/download/33123937/EJBSS-12-1195-_WORK_RELATED_STRESS.pdf
Kahn. R.L. (1964). *Organizational stress: Studies in role conflict and ambiguity.* John Wiley.
Kahn. R.L.. & Quinn. R.P. (1970). Role stress: A framework for analysis In A. McLean (Ed.). *Occupational Mental Health* (pp. 50-115). Rand McNally.
Kalleberg. A.L.. Nesheim. T.. & Olsen. K.M. (2009). Is Participation Good or Bad for Workers? Effects of Autonomy. Consultation and Teamwork on Stress Among Workers in Norway. *Acta Sociologica. 52*(2). 99-116. https://doi.org/10.1177/0001699309103999
Karasek. R.A.Jr. (1979). Job Demands. Job Decision Latitude. and Mental Strain: Implications for Job Redesign. *Administrative Science Quarterly. 24*(2). 285-308. https://doi.org/10.2307/2392498
Kendal. E.. Murphy. P.. O'Neill. V.. & Bursnall. S. (2000). *Occupational Stress: Factors that Contribute to its Occurrence and Effective Management.* Western Australia: Workers' Compensation and Rehabilitation Commision.
Khattak. M.A.. Quarat-ul-ain. & Iqbal. N. (2013). Impact of Role Ambiguity on Job Satisfaction. Mediating Role of Job Stress. *International Journal of Academic Research in Accounting. Finance and Management Sciences. 3*(3). 28-39. https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=381187923dfd557559eb2121bc38213636447574
Kim. H.. & Stoner. M. (2008). Burnout and turnover intention among social workers: Effects of role stress. job autonomy and social support. *Administration in Social Work. 32*(3). 5-25. https://psycnet.apa.org/doi/10.1080/03643100801922357
Kim. J.H. (2021). The Relationship between Employee's Work-Related Stress and Work Ability based on Qualitative Literature Analysis. *Journal of Industrial Distribution & Business. 12*(7). 15-25.
Kuoppala. J.. Lamminpää. A.. Liira. J.. & Vainio. H. (2008). Leadership. job well-being. and health effects – a systematic review and a meta-analysis. *Journal of Occupational and Environmental Medicine. 50*(8). 904-915. https://doi.org/10.1097/jom.0b013e31817e918d
LaRocco. J.M.. House. J.S.. & French Jr. J.R. (1980). Social support. occupational stress. and health. *Journal of Health and Social Behavior. 21*(3). 202-218. https://doi.org/10.2307/2136616
Last. B.S.. Schriger. S.H.. Becker-Haimes. E.M.. Fer-

nandez-Marcote. S.. Dallard. N.. Jones. B.. & Beidas. R.S. (2022). Economic precarity. financial strain. and job-related stress among Philadelphia's public mental health clinicians. *Psychiatric Services. 73*(7). 774-786. https://doi.org/10.1176/appi.ps.202100276

Lazarus. R.S.. & Folkman. S. (1984). *Stress. appraisal. and coping.* Springer.

Lin. M.. & Ling. Q. (2018). Is role stress always harmful?-Differentiating role overload and role ambiguity in the challenge-hindrance stressors framework. *Tourism Management. 68*. 355-366. https://doi.org/10.1016/j.tourman.2018.04.007

Lovibond. P.F.. & Lovibond. S.H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy. 33*(3). 335-345. https://doi.org/10.1016/0005-7967(94)00075-u

Lukan. J.. Bolliger. L.. Pauwels. N.S.. Luštrek. M.. Bacquer. D.D.. & Clays. E. (2022). Work environment risk factors causing day-to-day stress in occupational settings: a systematic review. *BMC Public Health. 22*(240). 1-13. https://doi.org/10.1186/s12889-021-12354-8

Maslach. C.. & Leiter. M.P. (2008). *The truth about burnout: How organizations cause personal stress and what to do about it.* John Wiley & Sons.

Mathews. A.. & MacLeod. C. (2002). Induced processing biases have causal effects on anxiety. *Cognition & Emotion. 16(3). 331-354.. 16*(3). 331-354. https://psycnet.apa.org/doi/10.1080/02699930143000518

McCormack. N.. & Cotter. C. (2013). *Managing Burnout in the Workplace: A guide for information professionals.* Elsevier Science & Technology.

Mengist. B.. Amha. H.. Ayenew. T.. Gedfew. M.. Akalu. T.Y.. Assemie. M.A.. . . . Desta. M. (2021). Occupational stress and burnout among health care workers in Ethiopia: A systematic review and meta-analysis. *Archives of Rehabilitation Research and Clinical Translation. 3*(2). 100125. https://doi.org/10.1016/j.arrct.2021.100125

Mirzaei. A.. Mozaffari. N.. & Aghil. H.S. (2022). Occupational stress and its relationship with spiritual coping among emergency department nurses and emergency medical services staff. *International Emergency Nursing. 62*. 101-170. https://doi.org/10.1016/j.ienj.2022.101170

Murtaza. S.A.. & Molnár. E. (2021). Leader motivating language – The fuel for employee vitality. *Hungarian Statistical Review. 4*(2). 95-110. http://dx.doi.org/10.35618/hsr2021.02.en095

Nielsen. K.. & Randall. R. (2009). Managers' active support when implementing teams: The impact on employee well-being. *Applied Psychology: Health and Well-Being. 1*(3). 374-390. https://psycnet.apa.org/doi/10.1111/j.1758-0854.2009.01016.x

Nixon. A.E. (2011). Can work make you sick? A meta-analysis of the relationships between job stressors and physical symptoms. *Work & Stress. 25*(1). 1-22. http://dx.doi.org/10.1080/02678373.2011.569175

Nyanga. T.. Mudhovozi. P.. & Chireshe. R. (2017). Causes and Effects of Role Ambiguity as Perceived by Human Resource Management Professionals in Zimbabwe. *Journal of Social Sciences. 30*(3). 293-303. https://doi.org/10.1080/09718923.2012.11893006

Pearson. L.C.. & Moomaw. W. (2005). The relationship between teacher autonomy and stress. work satisfaction. empowerment. and professionalism. *Educational Research Quarterly. 29(1). 38-54.. 29*(1). 38-54. https://eric.ed.gov/?id=EJ718115

Phakthongsuk. P. (2009). Construct Validity of the Thai Version of the Job Content Questionnaire in a Large Population of Heterogeneous Occupations. *Journal of the Medical Association of Thailand = Chotmaihet thangphaet. 92*(4). 564–572. https://www.researchgate.net/publication/24305467_Construct_validity_of_the_Thai_version_of_the_job_content_questionnaire_in_a_large_population_of_heterogeneous_occupations

Pines. A.. & Aronson. E. (1988). *Career burnout: Causes and cures.* Free Press.

Prince. A. (2018). The perils of job burnout. *International Education and Research Journal. 4*(7). 13-15. https://ierj.in/journal/index.php/ierj/article/view/1606/1616

Rafferty. Y.. Friend. R.. & Landsbergis. P.A. (2001). The association between job skill discretion. decision authority and burnout. *Work & Stress. 15*(1). 73-85. https://www.tandfonline.com/doi/abs/10.1080/02678370120791

Ram. N.. Khoso. I.. Shah. A.A.. Chandio. F.R.. & Shaikih. F.M. (2011). Role conflict and role ambiguity as factors in work stress among managers: A case study of manufacturing sector in Pakistan. *Asian Social Science. 7*(2). 113-118. http://dx.doi.org/10.5539/ass.v7n2p113

Rees. M.. Childs. D.Z.. & Freckleton. R.P. (2012). Assessing the role of competition and stress: A critique of importance indices and the development of a new approach. *Journal of Ecology. 100*(3). 577-585. https://doi.org/10.1111/j.1365-2745.2011.01946.x

Rehman. M. u.. Irum. R.. Tahir. N.. Ijaz. Z.. Noor. U.. & Salma. U. (2012). The Impact of Job Stress on Employee Job Satisfaction: A Study on Private Colleges of Pakistan. *Journal of Business Studies Quarterly. 3*(3). 50-56. https://www.researchgate.net/publication/343382391_Impact_of_Job_Stress_on_Employees%27_Job_Satisfaction_An_Empirical_Study_of_Private_Banks_of_Pakistan

Rhodes. S.R.. & Steers. R.M. (1978). *Summary Tables of Studies of Employee Absenteeism.* University of Oregon. https://apps.dtic.mil/sti/citations/ADA052992

Sales. S.M. (1969). Organizational Role as a Risk Factor in Coronary Disease. *Administrative Science Quarterly. 14*(3). 325-336. https://doi.org/10.2307/2391126

Seo. Y.. Ko. J.. & Price. J. L. (2004). The determinants of job satisfaction among hospital nurses: a model estimation in Korea. *International journal of nursing studies. 41*(4). 437-446.

https://doi.org/10.1016/j.ijnurstu.2003.11.003
Shah. A.M.. & E. Molnár (2021). Leader motivating language – The fuel for employee vitality. *Hungarian Statistical Review. 4*(2). 95-110. https://doi.org/10.35618/hsr2021.02.en095
Sinclair. R.R.. & Cheung. J.H. (2016). Money matters: Recommendations for financial stress research in occupational health psychology. *Stress and Health. 32*(3). 181-193. https://doi.org/10.1002/smi.2688
Skakon. J.. Nielsen. K.. Borg. V.. & Guzman. J. (2010). Are leaders' well-being. behaviours and style associated with the affective well-being of their employees? A systematic review of three decades of research. *Work & Stress. 24*(2). 107-139. https://doi.org/10.1080/02678373.2010.495262
Steers. R.M.. Mowday. R.T.. Krackhardt. D.. McKenna. J.. & Porter. L.W. (1978). *Goal-Setting. Supervisory Behavior. and Employee Turnover: A Field Experiment.* University of Oregon. https://apps.dtic.mil/sti/citations/ADA062965
Szymanski. E.M. (1999). Disability. Job Stress. the Changing Nature of Careers. and the Career Resilience Portfolio. *Rehabilitation Counseling Bulletin. 42*(4). 279-89.
Thoits. P. A. (1986). Social support as coping assistance. *Journal of Consulting and Clinical Psychology. 54*(4). 416-423. https://psycnet.apa.org/doi/10.1037/0022-006X.54.4.416
Viswesvaran. C.. Sanchez. J.I.. & Fisher. J. (1999). The role of social support in the process of work stress: A meta-analysis. *Journal of Vocational Behavior. 54*(2). 314-334. https://doi.org/10.1006/jvbe.1998.1661
Wadhera. T.. & Bano. S. (2020). The Role of Workplace Spirituality and Emotional Stability in Occupational Stress Among College Teachers. *IUP Journal of Organizational Behavior. 19*(3). 41-67. https://ssrn.com/abstract=3810559
Wallace. J.C.. Edwards. B.D.. Arnold. T.. Frazier. M.L.. & Finch. D.M. (2009). Work stressors. role-based performance. and the moderating influence of organizational support. *Journal of Applied Psychology. 94*(1). 254-262. https://doi.org/10.1037/a0013090
Wang. X.. Cai. L.. Qian. J.. & Peng. J. (2014). Social support moderates stress effects on depression. *International Journal of Mental Health Systems. 8*(1). 1-5. https://doi.org/10.1186/1752-4458-8-41
Warr. P. B. (1990). Decision latitude. job demands. and employee well-being. *Work & Stress. 4*(4). 285-294. https://psycnet.apa.org/doi/10.1080/02678379008256991
World Health Organization. (2020. April 29). *Doing What Matters in Times of Stress: An Illustrated Guide.* World Health Organization. https://www.who.int/publications/i/item/9789240003927?gclid=Cj0KCQjw166aBhDEARIsAMEyZh739xtb9DtyvxaqNrsXGUdXc7BmCEsVnjZ_IVX2yGF_5hHyDyvUHjMaAu7REALw_wcB
Yongkang. Z.. Weixi. Z.. Yalin. H.. Yipeng. X.. & Liu. T. (2014). The relationship among role conflict. role ambiguity. role overload and job stress of Chinese middle-level cadres. *Chinese Studies. 3*(1). 8-11. http://dx.doi.org/10.4236/chnstd.2014.31003
Yoon. K.L.. Shaffer. V.. & Benedict. A. (2020). Resolving ambiguity: Negative interpretation biases. *Cognitive Biases in Health and Psychiatric Disorders.* 119-138. https://doi.org/10.1016/B978-0-12-816660-4.00006-4
Yunita. P.I.. & Saputra. I.G. (2019). Millennial generation in accepting mutations: Impact on work stress and employee performance. *International Journal of Social Sciences and Humanities. 3*(1). 102-114. http://dx.doi.org/10.29332/ijssh.v3n1.268

SYRINE BASSI – KRISZTINA KOLOS

STUDY-ABROAD DECISION- MAKING – COMBINING MARKETING AND BEHAVIORAL ECONOMICS PERSPECTIVES

HOGYAN HOZNAK DÖNTÉSEKET A HALLGATÓK A KÜLFÖLDI TANULMÁNYAIKRÓL? MARKETING ÉS VISELKEDÉSI KÖZGAZDASÁGTAN EGYÜTTES ALKALMAZÁSA

Student mobility has grown substantially in the past decades. Study abroad opportunities provide long-lasting advantages for students but, at the same time, represent complex decisions for applicants, usually involving a high degree of uncertainty. This paper aims to obtain a deeper understanding of study-abroad decision-making in higher education by combining marketing and behavioral economics perspectives. The authors conducted in-depth interviews with North African scholarship holders and adapted the customer journey framework to a study abroad decision context. Three stages of the customer journey were considered: the pre-application stage, the application stage, and the post-admittance stage. Loss aversion, group identification, social norms, endowment effects, and priming, as core concepts from behavioral economics, were identified and enriched the practical implications of the customer journey framework. Higher education institutions may benefit from our findings when designing their communication and recruiting strategies.

Keywords: **study abroad decision-making, customer journey, behavioral economics, student mobility**

A hallgatói mobilitás számottevően megnőtt az elmúlt évtizedekben. A külföldi tanulási lehetőségek hosszú távú előnyöket nyújtanak a hallgatók számára, de egyben komplex döntéseket is jelentenek, amelyek jellemzően nagyfokú bizonytalansággal párosulnak. A tanulmány célja, hogy a marketing és a viselkedési közgazdaságtan összekapcsolásával mélyebb ismereteket lehessen szerezni arról, hogy a felsőoktatás esetében hogyan hoznak a hallgatók külföldi tanulmányokkal kapcsolatos döntéseket. A szerzők mélyinterjúkat készítettek észak-afrikai ösztöndíjasokkal és a vevői út (customer journey) keretrendszerét adaptálták a külföldi tanulmányokkal kapcsolatos döntések kontextusára. A vevői út három szakaszát különböztették meg: jelentkezés előtti szakasz, jelentkezés szakasza és a felvételt követő szakasz. A viselkedési közgazdaságtan alapkoncepciói közül a veszteségkerülés, a csoportidentifikáció, a társadalmi normák, a birtoklási hatás és az előhangolás érvényesült a kutatásukban és hozzájárultak a vevői út keretrendszerének gazdagításához. A felsőoktatási intézmények a kutatás eredményeit hasznosíthatják a kommunikációs és toborzási tevékenységük során.

Kulcsszavak: **külföldi tanulmányok, vevői út, viselkedési közgazdaságtan, hallgatói mobilitás**

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International students' presence on local campuses is no longer a strange sight. According to Project Atlas, in 2022, the worldwide count of international students exceeded 6.4 million, indicating a growth of over four times compared to the 1.6 million international students registered in 2000.

Education-related migration has gained more popularity as a pathway to international and high-level educa-

tion opportunities that might not be available in students' home countries. Several benefits have been linked to student mobility. Not only does it offer them the advantage to compete in a global marketplace by acquiring more relevant skills required for employability in the international market (Souto-Otero, Huisman, Beerkens, De Wit & Vujić, 2013), but it also improves international interactions among citizens from different cultures, enhancing their intercultural communication (Institute of International Education, 2011).

There are numerous governmental and regional policy initiatives that encourage students to pursue studies abroad. One of those programs is the Stipendium Hungaricum program, launched in 2013 by the Hungarian government. The program covers the fees of higher education institutions and provides financial aid, making it very attractive for potential students. The number of Stipendium Hungaricum scholarship beneficiaries have consistently increased since its inception, without any changes to their actual marketing campaign. The number of applicants exceeded 52,000 in 2022, representing a 45% increase compared to 2020/2021, according to the official Stipendium Hungaricum website.

The objective of our study is to obtain an in-depth understanding of international students' decision-making in the context of the Stipendium Hungaricum (SH) Scholarship program by combining marketing and behavioral economics approaches. Current research on study-abroad decisions investigates the various factors in the home and host countries that influence student decision-making (Mazzarol & Soutar, 2002) such as availability of education, direct cost of education or the reputation of the host institution. In our study, we use a multidisciplinary research approach to gain relevant and new insights into the drivers of the student decision process. Furthermore, since most studies focus on Westward mobility (Lipura & Collins, 2020), we chose to focus on North African students applying in Hungary, which has not been covered in previous studies, despite considerable growth in applications to the SH program from North African countries. One example of this growth is the increasing number of applicants, which went from 71 in 2017 to over 700 in 2020.

The relevance of behavioral economics has already been demonstrated in different contexts within marketing. Behavioral economics has been linked to financial services marketing (Chuah & Devlin, 2011), consumer behavior (Foxall & Sigurdsson, 2013; Foxall, 2017), consumer decision-making (Bertrand, Mullainathan & Shafir, 2006; Leiser & Azar, 2008), and even digital marketing (Krajnović, Sikirić & Bosna, 2018). Our aim is to extend the opportunities to link behavioral economics to marketing in the field of study-abroad decision-making.

This paper is not intended to offer a systematic review of behavioral economics but rather focuses on a few relevant concepts and highlights their usability for study abroad decision-making. From a practical point of view, our goal is to provide guidance for higher education institutions to attract potential students and improve communication content and style with students before, during, and after the application process.

Theoretical background

Consumer decision making in Marketing

From a marketing perspective, consumer decision-making process models have long-lasting roots (Stankevich, 2017). Broad and encompassing theories are provided by Howard and Sheth (1969) or Engel, Kollat and Blackwell (1968), which describe the process from problem recognition to search, purchase, and after-sales.

Those early models provided frameworks to think about consumer decisions holistically. However, with the explosion of new products and brands and the emergence of a variety of offline and online channels, the relevance of customer touchpoints has led to the framing of consumer decision-making as the customer decision/purchase journey. This concept is defined as "the process a customer goes through, across all stages and touchpoints, that makes up the customer experience" (Lemon & Verhoef, 2016, p. 3). In this approach, the customer journey consists of three stages: prepurchase, purchase, and post-purchase stages, and in each stage, brand-owned, partner-owned, customer-owned, and social/external touchpoints can be identified. The customer may interact with any of these touchpoints during the customer journey, but their relevance might change depending on the product/service or contextual factors.

New research interests include the investigation of the prepurchase stage (Fuller, Stocchi, Gruber & Romaniuk, 2023) by integrating service brand awareness and service brand retrieval into the key stages involved in decision-making, or the exploration of the post-purchase stage (Pizzutti, Gonçalves & Ferreira, 2022), which incorporates the post-decision information search (PDIS) research stream in customer journey models. A further development of the customer journey is the introduction of the idea of the social customer journey (Hamilton, Ferraro, Haws & Mukhopadhyay, 2021), which emphasizes that the decision-making process does not happen in isolation; various social others or "traveling companions" influence the decision-making journey. Additionally, some customer journeys take place in the form of decision-making units of more than one individual. These joint journeys might be different and more complex than independent journeys because of relationship dynamics.

Without denying the usefulness of the existing approaches to the customer journey, we propose to further enrich it with theories of behavioral economics.

Relevance of behavioral economics to the customer journey

Behavioral economics was brought into perspective due to the increasing amount of evidence that economics on its own is not enough to explain human behavior. The assumptions neoclassical economics is built on are too rigid and, as proven by a lot of experiments, might lack practical support. Behavioral economics is "the combination of psychology and economics that investigates what happens in markets in which some of the agents display human limitations and complications" (Mullainathan & Thaler, 2000, p. 1).

Research in behavioral economics over the past decades has provided evidence that individuals' decision-making is influenced by behavioral biases (Dowling, Guhl, Klapper, Spann, Stich & Yegoryan, 2020). Behavioral economists have successfully created theories that explain why an individual's decision may deviate from what is expected of a "rational" decision-maker. The marketing field can also benefit from these results, given the fact that marketing has traditionally been concerned with the predictability of consumer behavior when designing marketing strategies.

Behavioral economics provides a huge opportunity to study various marketing phenomena. In the following part, we focus on some selected concepts that we believe are likely to contribute the most to the customer journey framework.

One fundamental principle in behavioral economics is *loss aversion* which states that the pain of loss is typically more intense than the pleasure of gain (Tversky & Kahneman, 1984). For instance, losing $100 feels more impactful than gaining the same amount, leading to a heightened sense of pain compared to pleasure. As a result, individuals tend to prioritize avoiding loss rather than pursuing gain when the magnitudes are similar. This aversion to loss serves as a significant motivator for consumers to opt for alternatives that minimize potential losses and acts as a driving force behind risk avoidance.

Herding is the assumption that something is good based on other people's previous behavior and behaving according to that (Ariely & Jones, 2008). Self-herding, on the other hand, is judging something's quality based on the customer's own past behavior, which will eventually lead to the formation of habits. Herding is apparent in information search behavior as well. For example, when consumers tend to overestimate the relevance of online reviews. In general, herding manifests in social or external touchpoints in the customer journey framework.

Behavioral economics has proven that not only do individuals have limited rational capacity when making decisions, but they are also influenced by their social environment. One-way social factors influence behavior is through *group identification*, where group standards, referred to it as "collective awareness" (Turner 1987), become more important than individual standards, (Corr & Plagnol, 2023). This idea is in line with the social customer journey, which emphasizes the specificities of decision-making units. From a marketing perspective, group identification influences the selection of informants, and the similarity of profiles increases the reliability of the source and the trustworthiness of the content of the referral.

Another way social context affects economic behavior is through *social norms*. According to several studies (Schultz et al., 2007; Nyborg et al., 2016), social norms impact a wide range of behaviors and have a critical influence on societal outcomes. Individuals learn about these rules as they grow up and live in a certain society, by observing others, as these norms tend to be contagious. Social norms are relevant in consumer decision-making as they create standards against which alternatives are considered.

The *endowment effect* was first introduced by Thaler (1980) and describes the tendency to give more value to what we possess in comparison to what we don't. This can be seen when people sell their belongings, as they overvalue the price compared to their worth. The endowment effect can explain the post-purchase stage when consumers evaluate their consumption experience, make referrals, or sell their belongings on secondary markets.

Finally, *priming* can be defined as "the scientific finding that thoughts, emotions, and acts make further thoughts, emotions, and acts more readily accessible" (Corr & Plagmol, 2018, p. 121). Priming occurs when brain networks can be triggered by a "prime," creating a state of readiness in the cognitive system that is able to identify and process different encountered events and incentives. The field of marketing might be concerned with the identification of cues that call to mind certain situations, which influence individuals' reactions and decisions (Molden, 2014).

Decision-making of international students

Mobility movement can be defined from several perspectives, one of which is related to graduate students' need to be occupationally mobile (Yakhina et al., 2016) either to achieve more power or prestige. This falls within the concept of boundaryless career orientation pushing and encouraging worldwide movements in social, economic, cultural, and political aspects. Mobility student decision-making is a very important decision in students' lives. Students are faced with a choice between improving their economic and job opportunities in the future or maintaining their comfort zone.

When individuals from different cultures interact, usually their behavior patterns need to be changed as well. This is related to the concept of acculturation which is "a process of cultural and psychological changes that involve various forms of mutual accommodation, leading to some longer-term psychological and sociocultural adaptations between both groups" (Berry, 2005, p. 699). Indeed, students may encounter a cultural shock in the destination country mainly due to the lack of prior mental preparation (Mucsi, Malota & Török, 2020).

Different studies around the decision-making of international students discuss the *push-pull framework* conceptualized by McMahon (1992). Push factors describe the factors in the home country that drive the students to change their study location, while pull factors are related to the host country's characteristics which are inviting students to study there (Mazzarol & Soutar, 2002). Push factors can be related to the difficulty of entering a higher education institution, the unavailability of the desired program or specialization, the influence of family members, etc. (Fang & Wang, 2014). Pull factors, on the other hand, can be related to the accessibility of the university, its affordability, employment horizons, lifestyle, and personal security (Böhm et al., 2004). The push-pull framework represents a decision process as well, where the relevance of push vs. pull factors may change over time; for example, in the first stage where the decision to study abroad is made push factors are more dominant, while in subsequent

stages pull factors play a more important role. Besides the sequential nature of this framework, a general shift from push to pull factors is also identified (Wilkins & Huisman, 2011) as the higher education landscape is becoming more and more competitive.

Mobility can also be defined according to a comparison between the origin and destination countries and/or institutions. Prazeres (2013) defines *vertical mobility* as the movement of students from developing countries to developed countries, as opposed to the *horizontal mobility* where students would move between institutions of similar economic and academic quality.

The mobility decision is influenced by several factors (Albien & Mashatola, 2021). The first determinant is related to the costs of the program or institution (Verbik & Lasanowski, 2007). The second determinant is also cost-related but incorporates the living costs in the new country compared to the potential income after graduation (Beine, Noël & Ragot, 2013). The third determinant is the sociopolitical ties between the original and the host country (Hou & Du, 2020). Finally, students' demand for quality higher education is an important influencing factor (Hou & Du, 2020), supported by Dowling-Hetherington's (2020) findings, which proved that international rankings and accreditation have a significant impact on students' decision-making process.

Not enough research has specifically investigated the Stipendium Hungaricum case; one qualitative study by Trujillo, Mohammed and Saleh (2020) examined the motivations of students moving to Hungary (particularly Debrecen) for higher education. The results showed that most students wanted to gain educational experience and trusted the European standards in Hungary to develop their professional skills. They were highly encouraged by the free, high-quality education offered through the scholarship. Another study by Keri (2019) investigated the motivations of students studying at Szeged University. His results showcased that students typically exhibit intrinsic motivations when choosing a study destination, such as the desire to explore and discover the country. However, the results revealed alongside these intrinsic motivations, there are also discernible extrinsic motivations, notably the pursuit of a higher degree or qualification.

Research methods

The main objective of our study is to gain an understanding of study abroad decisions using the customer journey framework enhanced with behavioral economics factors. We utilized in-depth interviews as a research method and considered the participants in three roles:

- the participant as a potential applicant,
- the participant as an applicant,
- the participant as an admitted student.

This design allows us to incorporate the implications of the social customer journey (Hamilton et al., 2021), which suggests that customer journeys occur with "travel companions" who interact with the decision maker.

We structured our interviewing process according to the stages in the customer journey and relevant theory. All three stages are included; however, more emphasis is given to the pre-purchase and post-purchase stages. In the case of study abroad decisions, the purchase stage is less

Table 1

Customer journey stages with links to behavioral economics concepts

Theme	Related Theory from Behavioral Economics	Main issues
Prepurchase stage: The participant as a potential applicant	**Loss Aversion**	Awareness about the risks involved in study abroad decision-making, techniques to deal with perceived risk
	Group Identification	Impact of reference groups, group values and social class, similarities in personal profiles
	Social Norms	The home country's judgment and expectations of study abroad decisions
	Endowment Effect	Judgment of the person referring the scholarship (for example, was this person exaggerating the benefits of the program)**?**
Purchase stage The participant as an applicant	**Loss Aversion**	Fear of rejection versus the pleasure of succeeding in the entrance exam
	Endowment Effect	Role of stress, investment of money and time in the application process
Post purchase stage The participant as an admitted student	**Priming**	Experience compared to expectations, drivers of satisfaction
	Loss Aversion	Attitudes of admitted students toward new applicants, their perceptions about new applicants' concerns
	Group Identification	Perceptions of admitted students about the impact of reference groups, group values and social class, similarities in personal profiles
	Social Norms	Perceptions of admitted students about potential applicants with regard to the home country's judgment and expectations of study abroad decisions
	Endowment Effect	The relation between the type and depth of referral and the feeling of being a successful applicant (do admitted students exaggerate the benefits of the program)

Source: own compilation

under the control of executives compared to services of a transactional nature where factors like atmospherics and store layout have a strong impact.

Based on the literature review we formed potential links between customer journey stages and behavioral economics concepts and proposed some relevant issues which could be investigated in our interviews (Table 1). This framework will be used to structure our analysis which has the final aim of developing a study abroad decision journey map.

Our sample consists of 20 North-African students studying in various educational programs, some of whom are current students while others are former scholarship holders. (The profile of the respondents is presented in the Appendix). We were able to establish connections with the interviewees as they all belonged to a community of foreign students in a small city, and we conducted the interviews in our native language. Choosing the same university (the University of Pécs) also allowed us to control for contextual factors such as the size of the city.

The interviews were conducted face-to-face, which contributed to the quality of the extracted data. We used the most comfortable language for the participants, mainly Arabic, French, and English, to avoid language barriers. The interviews were all recorded and later transcribed and translated into English.

The translation of interviews creates special challenges in qualitative research (Xian, 2008). Although the main objective of the translation is to make the research output understandable for English-speaking audiences, it should not be considered merely a technical issue. Indeed, translators play active roles as they transfer "meanings of the data" from the source language to the target language. In this process, they must consider the social and cultural context in which words and expressions are functioning. As Xian (2008, p. 10) puts it: "the translator is firstly an inter-cultural communicator". In this study, the main researcher who performed the translation has experience with living in both the Western and Arabic worlds. This characteristic of the translator makes it possible to fully grasp the cultural meaning of the texts and reproduce them during the translation.

Research results

The participant as a potential applicant

Most of the participants had someone refer the opportunity to them, and all the participants who came to study in Hungary starting in 2019 heard about the opportunity from a friend. The pandemic has proved to be a major factor affecting the experience of newcomers. As for those who arrived in a pre-pandemic year, they had a positive perception of what they found here, which was similar to the descriptions given by their referral friend.

Loss aversion

Loss aversion, as previously mentioned, refers to our tendency to assign greater significance to potential losses than equivalent gains. During the interviews, we specifically sought indications of students' cautiousness in decision-making, driven by the fear of losing what they were already engaged in.

Overall, we observed a tendency among the participants to ask questions in order to mitigate the perceived risk associated with accepting the scholarship and making a significant life decision.

Most students were aware of the risks and understood that pursuing this opportunity could cost them in comparison to what they were currently engaged in (such as pursuing a study program in their country, working, or applying for other scholarships). Consequently, they sought to ask scholarship holders more questions to minimize this risk and emphasize the program's benefits, ensuring that the advantages far outweighed any drawbacks.

> *"Even though I really wanted to experience living abroad and becoming an international student, I had to make sure I would not be losing the opportunity to finish my other master, I did not want to lose my progress even for an opportunity like this." (Participant 1)*

> *"I already took that (the risk) into consideration, and I made sure to keep the option to return to my university after one year of experiencing the Hungarian faculty system. So, I had a safety net in both cases." (Participant 2)*

In other instances, students displayed a strong awareness of the risks involved and came up with mitigation plans or sought reassurance during the application phase by reaching out to other scholarship holders they were acquainted with or just contacted for this purpose. Notably, participants who had friends or relatives in Hungary emphasized feeling more comfortable with their decision, as having a direct source of information from trusted individuals minimized the perceived risk and amplified the perceived benefits of obtaining the scholarship.

> *"My cousin was a very important element when it came to reducing the risk. He speaks the language, and he has been here for a while, already 5 years. Having someone so close made the risk shrink significantly." (Participant 6)*

> *"My boyfriend had already come here before me, and it made me feel safer choosing Hungary. He kept mentioning how great the program was, and it made me less scared about coming." (Participant 18)*

Group identification

Group identification suggests that people's decisions may be influenced by their desire to conform to the norms, values, and goals of the group to which they belong or with which they identify. In the context of our study, we specifically examined indications of participants identifying with individuals who shared similar characteristics or backgrounds

when they sought information. By looking for these signs of identification, we aimed to gain insights into how group affiliation may shape decision-making processes and information-seeking behaviors among the participants.

Participants showed a tendency to talk to people with similar profiles when it came to the opportunity to study abroad. Identifying with the source of referral helped potential applicants consider the feedback. Identification could be based on various factors, one of which is social class:

> *"When people within my social class, who had similar financial capacities, were accepted or started applying, I felt better." (Participant 1)*

Informal relationships also proved to be helpful by creating trust, and participants actively sought out individuals with similar interests, tastes, academic backgrounds, or work experience, considering them as reliable sources of information:

> *"We spent so much time together... We had common interests and common plans. We highly influenced each other." (Participant 2)*

On the other hand, one participant did not inquire about the profiles of other scholarship holders. Their goal was to understand if they had a chance of being accepted without seeking social identification with other Stipendium holders, expressing that "the profile of accepted people or applicants did not have any effects on my decision." (Participant 10).

Social norms

As defined earlier, social norms refer to the unwritten rules, expectations, and standards of behavior that are widely accepted and followed within a particular social group or society. In this section, we examined indicators of both implicit and explicit conformity to these social norms. We sought to identify cues or behaviors that suggested individuals were aligning their decisions and actions related to studying abroad with the prevailing social expectations and standards.

Most of the respondents were aware of the existence of social norms that encourage young people to seek opportunities abroad, but only a very few admitted that social norms influenced their decisions. However, implicitly, social norms are apparent in some explanations:

> *"In our country, I believe the definition of success is to be abroad. Going abroad is branded as a success." (Participant 7)*

> *"I wouldn't call it pressure, rather a trend. Most of my friends are now abroad. It doesn't pressure me to go abroad, but it motivates me." (Participant 17)*

Other motivational factors were also reported, such as experience-seeking, the quality of education, or the desire for change and new opportunities.

> *"I wanted to change, try something new. It's a scholarship in Europe, so it was tempting." (Participant 5)*

> *"I think it's not about being trendy, but more about seeking better education quality." (Participant 10)*

> *"The educational part was tempting, but more importantly, the experience my friends abroad were talking about was my main motivation." (Participant 15)*

Endowment effect

The endowment effect refers to the psychological bias where individuals ascribe more value to an object or possession simply because they own it. Through the interview questions, we actively looked for indications from the participants that the individuals they sought information from were placing a higher value or glorifying the opportunity they were discussing. Our aim was to identify any potential signs of overvaluation or exaggerated praise conveyed by the information sources.

Respondents usually claimed that their peers were objective and only gave the opportunity the credit it deserved.

> *"We could feel she was happy about the experience, and she was openly sharing info about it to a curious friend. She shared her opinion spontaneously." (Participant 2)*

While some of them admitted the exaggeration in their friends' feedback, many of them acknowledged the positive aspect their friends communicated by clearly stating:

> *"It felt they were making it sound a bit better than what it actually is." (Participant 11)*

Another aspect that participants concerned the motivation to confirm the prior decision to study abroad by taking on the role of advocate:

> *"I think it helps Stipendium students to feel better about themselves if they promote the opportunity." (Participant 6)*

> *"Well, when you talk positively about something, you start believing it, so maybe it was the case with me talking about the opportunity to some people. I just remember all the good things about it." (Participant 18)*

The endowment effect proved to be difficult to identify. We can only assume that some respondents might not have been able to detect or recall the exaggeration in their friends' feedback or their judgment is distorted by the fact that they are current scholarship holders.

The participant as an applicant

We wanted to determine what served as a stronger motivator during the application process: the fear of rejection

(loss aversion) or the pleasure of succeeding in obtaining the scholarship. Additionally, we aimed to investigate the potential impact of the endowment effect as students become more invested in the application process, and whether priming influences their perceptions and actions as they progress from one step to the next.

Most applicants did not experience fear or stress until the later phases of the application.

> *"I did not have much to lose. For me, the scholarship was a second choice, I was not very stressed about the results, I wanted to succeed, but it wasn't as stressful for me." (Participant 6)*

> *"The more I advanced in the process, the more stressed I became about it." (Participant 11)*

> *"Before, I was more relaxed, but once the interview phase was over, it was all I could think about." (Participant 16)*

All the participants who answered this part expressed more excitement about the results, likely because the scholarship did not require a significant investment of money and time, especially in the beginning, and in most cases, it was one option among others. However, some participants mentioned that they became more stressed and feared rejection of their application once they progressed beyond the initial step.

This emphasizes the impact of the endowment effect, whereby students develop a stronger sense of ownership and attribute greater value to what they perceive as their own. As students progress through the application process, they form a stronger attachment to the scholarship, leading them to assign it increased value and significance.

Furthermore, priming exerts its influence on the application process by fostering a sense of readiness and preparedness for subsequent phases. As students move forward in the application stages, their perception of the scholarship improves, creating a positive feedback loop where each step enhances their interest and investment in the opportunity.

The participant as an admitted student

Priming

Priming refers to the psychological phenomenon where exposure to a stimulus or experience influences an individual's subsequent thoughts, perceptions, or behaviors, often without their conscious awareness. We were looking for signs of priming in participants' speeches. Our focus was on observing any cues that suggested the activation of specific mental associations or frameworks, which could potentially shape their attitudes, beliefs, or decision-making processes.

We anticipated that the feedback from current Stipendium Hungaricum scholarship holders to their peers, combined with the information they gathered through research, would influence how potential scholarship holders perceive the opportunity. In other words, positive feedback and referrals could lead to a positive perception of reality.

Most participants had limited knowledge about Hungary. Some asked their friends numerous questions, while others only inquired about the basics. Overall, the participants claimed that reality either met or even exceeded their expectations, especially for those who conducted their own information gathering.

> *"I'd say yes, reality matched my expectations, and they were a bit better in my opinion." (Participant 6).*

> *"After meeting some students and seeing they were happy and enjoying their experience, I had a very good feeling about it. And I was right, I found everything the way it was described to me and I personally felt a significant personal growth, just as others had described to me" (Participant 12)*

However, newcomers who joined the program in 2020 faced the significant factor of the pandemic, which altered their overall expectations. Nevertheless, they remained satisfied with what they found in Hungary and were eager to experience the life their peers had described to them, free from restrictions.

We also explored the participants' perceptions when they referred to the scholarship. We initially asked about their satisfaction with the program, as it allowed us to link satisfaction levels to the type of feedback shared. All respondents stated that they were satisfied with the opportunity and evaluated it holistically, considering aspects such as education, stipend, city, and social life.

> *"Extremely satisfied, whether it's my personal growth, my social life, my lifestyle, I am very happy with what this opportunity has offered me." (Participant 6)*

> *"I am not considering the academic part, rather the full package. The international experience in Hungary for me has been exciting." (Participant 1)*

> *"This experience has totally changed the way I perceive life, my personality has also developed, (…) I highly recommend this type of experience to anyone." (Participant 20)*

These positive opinions likely motivated the students to share their experiences and spread their feedback to a wider community. It also fostered a sense of commitment toward promoting the opportunity. Some respondents took initiatives to promote the scholarship, primarily through social media but also within their social networks.

> *"I thought it would be great for people to get support through a Facebook group. I named it 'Hungary 2017-2018,' thinking that only our generation*

would use it. As it gained significant engagement, I changed the name and removed the date, keeping it open for everyone." (Participant 4)

Loss Aversion

We closely examined the nature and frequency of the questions posed to participants regarding the perceived risks associated with studying abroad and obtaining the scholarship. Our objective was to gain insights into the level of attention and concern participants allocated to evaluating and assessing these potential risks throughout the decision-making process.

Respondents conveyed a sense of empathy towards individuals who asked them questions and found it challenging to provide answers, particularly when personal details were shared, and guidance was sought. They were frequently asked if they ever regretted their decision.

Participant 4 remarked, "Yes definitely, especially those who are choosing between two opportunities or a career and a scholarship, they have a bigger risk, so they tend to ask a lot of questions and seek reassurance."

Participant 9 expressed that no matter how much information the scholarship administration provides, individuals still feel they are venturing into the unknown: "They would not think about it that much if it was a closer country, or a more "traditional" studying destination, this made them worry too much and some of the people asking me chose to go with something less of a risk just because of how unusual the destination is"

Participant 14 mentioned feeling the doubt and fear in others' questions, sometimes about specific details they hadn't considered beforehand.

Participants generally felt more comfortable providing information but acknowledged the uncertainties inherent in decision-making. They also expressed that the decision-making process is influenced by the personalities of the individuals seeking guidance. Some only require minimal information, while others, who are more risk-averse, seek maximum reassurance.

Group identification

We looked into commonalities among individuals who sought information from scholarship holders regarding the scholarship. Specifically, we examined similarities in their profiles, such as their gender, age, background, experiences etc.

The profile of the source of reference appeared to influence the specific information sought by individuals. Older participants received age-related questions, while those with work experience were asked to compare the scholarship with job opportunities.

"They were asking about the required academic GPA, how successful they needed to be in life and school to be accepted, and the English proficiency. They were primarily interested in the academic profile rather than the social one." (Participant 1)

Female respondents received questions related to safety more often. For example, some girls with hijab approached another girl with questions about how safe it was for them to wear it.

I received some questions related to my "Hijab" by other girls wearing it. I believe it was good for them to see that I was here, and I was wearing Hijab (Participant 12)

I received a lot of questions from girls about how safe the country is. Overall, more girls asked me, maybe because I am a girl, or maybe because boys do not ask that many questions and even if they did, they wouldn't ask me. (Participant 1)

Moreover, people would ask financial questions to individuals within their social level. One of the respondents claimed to ask a "richer" person and was concerned about their answers regarding the required budget. It was only when she asked a friend who had a similar income level that she felt relieved.

Social norms

We aimed to gain insights into whether individuals seeking information from scholarship holders conformed to similar social norms. By exploring their motivations, questions, and interactions, we sought to identify the influence of shared social norms on their decision-making process.

Interestingly, almost all respondents confirmed the effect of social norms on the motivation of potential applicants. Frequently shared ideas were related to the situation in North Africa, where the lack of opportunities for many people creates aspirations for young individuals to leave the country. One participant expressed their perspective as follows: "

"I think that a lot of people want to go abroad not because it's trendy, but rather out of necessity. They may be in a very difficult position in Tunisia, or they might be seeking more opportunities". (Participant 2)

In some explanations, not only aspirations but also social pressure was explicitly mentioned, indicating that young people feel compelled to go and study abroad. One participant stated, "I think we all experience this social pressure in our country. We all believe that going abroad is a better choice and holds more potential for us" (Participant 4). Another participant highlighted the pride their mother felt, stating that studying abroad is seen as a symbol of success (Participant 18).

Endowment effect

This time, our focus was on uncovering any indications of the scholarship recipients glorifying the opportunity they had obtained. We examined both overt and subtle signs of heightened appreciation or value attached to the scholarship, assessing whether the possession of the scholarship led to an inflated perception of its benefits.

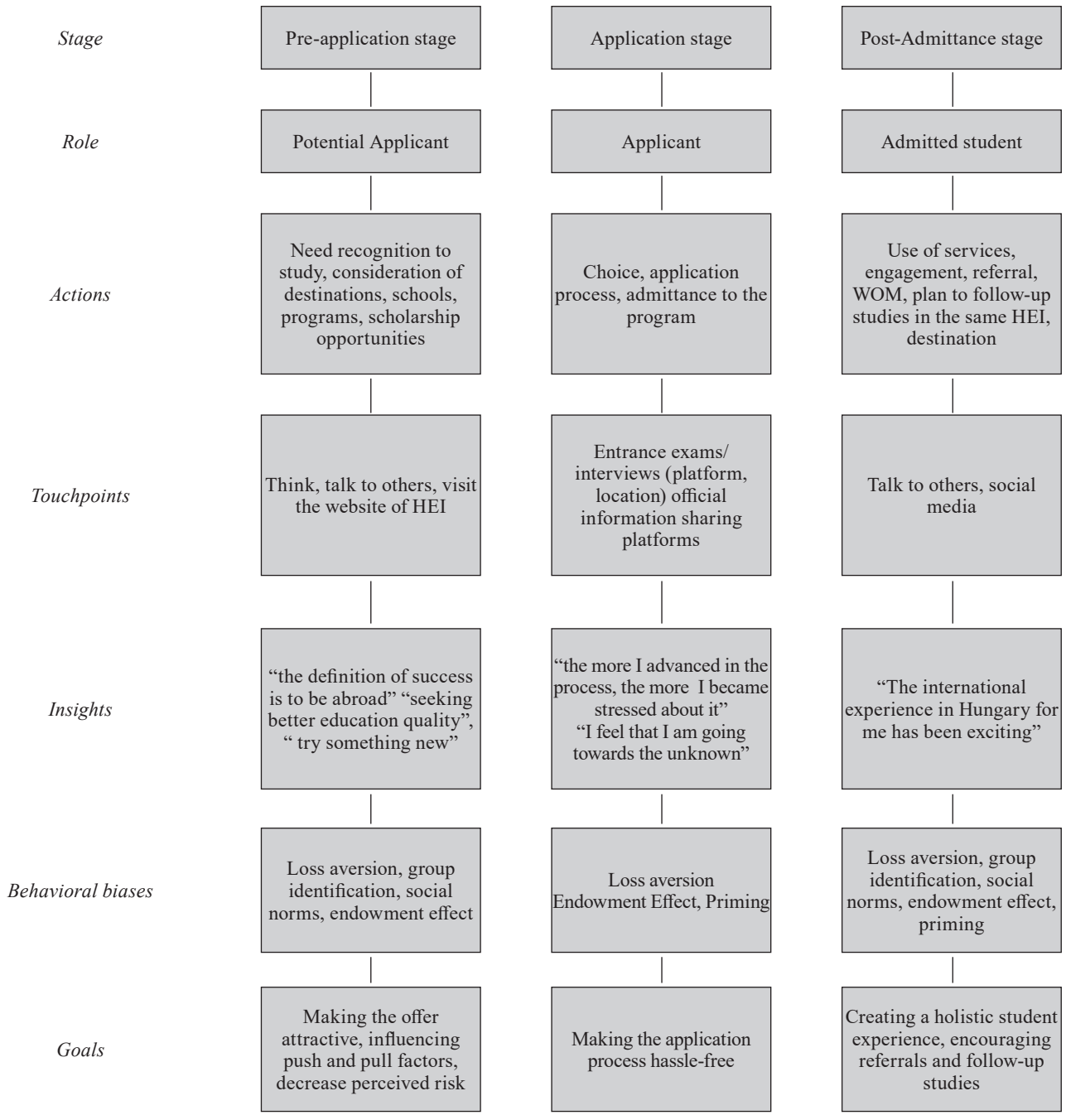
Unlike in the first part, where some respondents were unable to judge if their information source was exaggerating the pros of the opportunity, in the role of the source of reference, most of them have admitted to a slight subjectivity when sharing their inputs with other people. This subjectivity becomes even more pronounced when discussing the city of Pécs. Some of the participants have a strong personal identification with the city and even described how they tend to exaggerate the benefits of the opportunity because they feel a sense of belonging to it, which brings them pleasure. On the other hand, others consider themselves as objective sources when promoting the scholarship, emphasizing its high value and positive aspects that are already based on facts.

> *"I do not have to make it sound better, it does a very good job on its own, and I am only delivering the facts that makes it solid". (Participant 2)*

To summarize our findings in the light of the literature review, we suggest the following conceptual framework.

Figure 1

The study abroad decision journey map



Source: own compilation

Discussion

The decision-making process of mobility students is a complex subject, as depicted in Figure 1. The study abroad decision journey, which has been created based on our literature review and empirical work, consists of three main stages: the pre-application stage, the application stage, and the post-admittance stage. Each stage can be characterized by special roles, actions, touchpoints, behavioral biases, and goals.

In the pre-application stage, need recognition takes place by simply thinking about personal needs, referred to as customer-owned touchpoints by Lemon and Verhoef (2016), or triggered by pull and push factors. Higher education institutions' (HEI) owned touchpoints, such as websites and open days, are important elements in this stage, and peers may also act as social touchpoints. Our empirical study confirms that most of the students in Pécs joined the program after a friend's referral. Loss aversion and group identification seemed to be the most frequently mentioned influencing factors from the field of behavioral economics, but all the other concepts could be identified. When defining the goals for the pre-application stage, HEIs should try to make the offer attractive by emphasizing keywords such as "power," "prestige," "opportunity for the future," "reputation and rankings," and "better quality of life." Besides formal communication, student ambassadors may play an important role; in our case, Stipendium Hungaricum scholarship owners are particularly motivated to spread the information on their selected university, as suggested by our results.

In a higher education context, the second stage of the decision journey, the application process, is less visible and is more under the control of HEIs' internal and external regulations. However, understanding loss aversion and the emotional implications of the application process and responding to them can be an advantage for the recruiting institution. In our study, the details of the entrance examination were not included since the University of Pécs does not require this from applicants, but in other cases, those examinations may be highly relevant as they represent the first formal and in-person touchpoint with the university and the program representatives. The main practical objective at this stage is to make the application hassle-free, predictable, and fair.

In the post-admittance stage, students start their studies in their selected program, but they are concerned not only about the academic part of the program, but also about less tangible issues such as personal growth and social life, which have proven to be relevant. Touchpoints in this stage tend to be social or external; based on our results, for example, all the respondents have been asked about the scholarship by friends and acquaintances, with most of them frequently being asked. Institution-owned touchpoints, such as talent programs and professional events, were not mentioned at this stage, but they could also be relevant in increasing admitted students' satisfaction, which in turn could boost referrals. Overall, the student experience should be perceived holistically, with the main goal of increasing engagement, encouraging referrals, social media activity, and highlighting the opportunities for follow-up studies.

Theoretical and managerial contributions

This study expands the range of applications of behavioral economics to students' study abroad decision-making using the framework of customer journey. We believe that including concepts from behavioral economics enriches this framework and paves the way for further research in different contexts as well.

The results are relevant for behavioral economics as well as they emphasize the links of its core concepts to the field of marketing. Specifically, we found that the loss aversion factor was present and valid for all the steps of the study abroad decision journey; if students are offered an informal source of information (a friend's experience), they would most probably use it to reduce the perceived risk of their decision before and during the application process. Loss aversion proved to influence the content of communication during referrals as well. Our results have also confirmed the prevalence of group identification meaning that people tend to ask questions to people resembling them in different aspects gender, age, social status, etc.). Social norms have also played a role in determining how students are searching for and referring opportunities. As we concluded from the interviews, the culture in North African countries considers study abroad or work as a value and symbol of success. When it comes to the priming theory, results have not been conclusive since the pandemic has proved to be a major factor affecting the perception of reality in the light of expectations for newcomers. As for those who started their studies in a pre-pandemic year, we identified a positive evaluation of student experience, similar to the information they gathered during the pre-application phase through their research and the descriptions given by their referral friends. Finally, the endowment effect has proved to be slightly controversial for our respondents, as they could not notice it in the pre-application phase in their friend's comments, and judged they were being objective. However, respondents in the role of admitted student recognized their subjectivity in information sharing.

Regarding research on student mobility, our findings enriched the meanings of potential push and pull factors. Some of the explanations are valid across cultures such as the desire to gain new experiences but others have deeper cultural meanings. An interesting finding is considering study abroad as a representation of success in life in general. Social class and the need to engage with people with similar social and financial status provide a deeper interpretation of peer influence. And finally, the issue of religion was also raised in our study, an important aspect to consider in the case of some incoming students.

Our results highlighted some practical implications universities and scholarship providers should consider in their communication activities.

HEIs should focus on reducing the loss aversion and the fear of regretting to join the program offered by the HEI,

therefore, it might be beneficial to include more testimonials from current or former students and manage their communities including alumni, and to support their communication networks as way of increasing group identification. Social norms have a huge impact on the way we perceive referrals, universities and scholarship providers should be aware of such norms especially if students with special cultural background are overrepresented among applicants. Understanding the dominant social norms in a cultural could help HEIs to be more efficient in their recruitment efforts. Universities and scholarship providers should encourage satisfied students to share their experiences as it creates a priming effect in the minds of potential customers making them perceive the experience in a similar way as their referrals. Finally, HEIs should concentrate more on their existing and loyal students as they would probably showcase elements of the endowment effect giving enhanced positive feedbacks and reviews about the study opportunities.

Limitations and future research paths

Despite our efforts to complete this research following a solid methodology, there are limitations to our study. We decided to concentrate on selected concepts from behavioral economics, although we are aware that other behavioral economics theories could also be relevant to the study abroad decision-making process. Second, our sample only includes North African students, meaning that a strong cultural factor has contributed to our findings. This cultural factor is driven by the openness of North African people, their willingness to talk and share their experiences, the culture of sharing feedback, and the culture of supporting each other. It is possible that research including participants with a different cultural background would raise additional factors to be considered in our conceptual framework. An interesting extension of our qualitative study could be the design of a quantitative study, which would enable us to generalize our findings to a larger population. This study paves the way for further studies to better understand study-abroad decision-making through behavioral economics. More research could include other destinations and different nationalities, considering the Hofstede cultural dimensions as a tool for comparing the results.

References

Albien, A.J., & Mashatola, N.J. (2021). A systematic review and conceptual model of international student mobility decision-making. *Social Inclusion*, *9*(1), 288-298. https://doi.org/10.17645/si.v9i1.3769

Beine, M., Noël, R., & Ragot, L. (2013). Determinants of International Migration of Students. *Economics of Education Review,* (41), 40-54. https://doi.org/10.1016/j.econedurev.2014.03.003

Berry, J.W. (2005). Acculturation: Living successfully in two cultures. *International Journal of Intercultural Relations, 29*(6), 697–712. https://doi.org/10.1016/j.ijintrel.2005.07.013

Bertrand, M., Mullainathan, S., & Shafir, E. (2006). Behavioral economics and marketing in aid of decision making among the poor. *Journal of Public Policy & Marketing*, *25*(1), 8-23. https://doi.org/10.1509/jppm.25.1.8

Böhm, A., Follari, M., Hewett, A., Jones, S., Kemp, N., Meares, D., ... & Van Cauter, K. (2004). *Vision 2020: Forecasting international student mobility: A UK perspective*. London: British Council. https://www.britishcouncil.org/education/he-science/knowledge-centre/transnational-education/vision-2020

Chuah, S.H., & Devlin, J. (2011). Behavioural economics and financial services marketing: a review. *International Journal of Bank Marketing*, *29*(6), 456-469. https://doi.org/10.1108/02652321111165257

Corr, P., & Plagnol, A. (2018). *Behavioral economics: The basics*. Routledge. https://doi.org/10.4324/9781315391229

Dowling, K., Guhl, D., Klapper, D., Spann, M., Stich, L., & Yegoryan, N. (2020). Behavioral biases in marketing. *Journal of the Academy of Marketing Science*, *48*(3), 449–477. https://doi.org/10.1007/s11747-019-00699-x

Dowling-Hetherington, L. (2020). Transnational higher education and the factors influencing student decision-making: The experience of an Irish university. *Journal of Studies in International Education*, *24*(3), 291-313. https://doi.org/10.1177/1028315319826320

Engel J.F., Kollat D.T. & Blackwell R.D. (1968). *Consumer Behaviour*. Holt, Rinehart, & Winston.

Fang, W., & Wang, S. (2014). Chinese students' choice of transnational higher education in a globalized higher education market: A case study of W University. *Journal of Studies in International Education*, *18*(5), 475-494. https://doi.org/10.1177/1028315314523989

Foxall, G.R. (2017). Behavioral economics in consumer behavior analysis. *The Behavior Analyst*, *40*, 309-313. https://doi.org/10.1007/s40614-017-0127-4

Foxall, G.R., & Sigurdsson, V. (2013). Consumer behavior analysis: behavioral economics meets the marketplace. *The Psychological Record*, *63*(2), 231-238. https://doi.org/10.11133/j.tpr.2013.63.2.001

Fuller, R., Stocchi, L., Gruber, T. & Romaniuk, J. (2023). Advancing the understanding of the pre-purchase stage of the customer journey for service brands. *European Journal of Marketing, 57*(2), 360-386. https://doi.org/10.1108/ejm-10-2021-0792

Furnham, A., & Alibhai, N. (1985). The friendship networks of foreign students: A replication and extension of the functional model. *International Journal of Psychology*, *20*(3-4), 709-722. https://doi.org/10.1080/00207598508247565

Hamilton, R., Ferraro, R., Haws, K.L., & Mukhopadhyay, A. (2021). Traveling with companions: The social customer journey. *Journal of Marketing*, *85*(1), 68–92. https://doi.org/10.1177/0022242920908227

Hou, C., & Du, D. (2022). The changing patterns of international student mobility: A network perspective. *Journal*

of Ethnic and Migration Studies, *48*(1), 248-272. https://doi.org/10.1080/1369183x.2020.1797476

Howard, J.A., & Jagdish, S. (1969). *The theory of buyer behavior*. John Wiley & Sons. https://doi.org/10.1017/s0770451800031079

Institute of International Education. (2011). Open Doors 2011 Report on International Educational Exchange. *Open Doors Data*. 59. https://scholarship.shu.edu/opendoors-data/59

Krajnović, A., Sikirić, D., & Bosna, J. (2018). Digital marketing and behavioral economics. *CroDiM: International Journal of Marketing Science*, *1*(1), 33-46. https://doi.org/10.21511/im.14(1).2018.04

Kahneman, D. (2011). *Thinking, Fast and Slow*. Allen Lane. https://doi.org/10.1332/251569211x15665367493742

Kahneman, D., & Tversky, A. (1979). Prospect theory: an analysis of decision under risk. *Econometrica, 47*(2), 263–291. https://doi.org/10.2307/1914185

Kahneman, D., & Frederick, S. (2002). Representativeness revisited: attribute substitution in intuitive judgment. In Gilovich, T., Griffin, D., & Kahneman, D. (eds.), *Heuristics of Intuitive Judgment: Extensions and Applications* (pp. 49–81). Cambridge University Press. https://doi.org/10.1017/cbo9780511808098.004

Leiser, D., & Azar, O.H. (2008). Behavioral economics and decision making: Applying insights from psychology to understand how people make economic decisions. *Journal of Economic Psychology*, *29*(5), 613-618. https://doi.org/10.1016/j.joep.2008.08.001

Lemon, K.N., & Verhoef, P.C. (2016). Understanding customer experience throughout the customer journey. *Journal of Marketing*, *80*(6), 69–96. https://doi.org/10.1509/jm.15.0420

Lipura, S.J., & Collins, F.L. (2020). Towards an integrative understanding of contemporary educational mobilities: A critical agenda for international student mobilities research. Globalisation. *Societies and Education*, *18*(3), 343-359. https://doi.org/10.1080/14767724.2020.1711710

Mazzarol, T., & Soutar, G.N. (2002). "Push-pull" factors influencing international student destination choice. *International Journal of Educational Management, 16*(2), 82-90. https://doi.org/10.1108/09513540210418403

McMahon, M.E. (1992). Higher education in a world market: An historical look at the global context of international study. *Higher Education*, *24*(4), 465-82. https://doi.org/10.1007/bf00137243

Mucsi, A., Malota, E., & Török, A. (2020). Kulturális sokk és pozitív szájreklám – a felsőoktatásban tanuló külföldi hallgatók körében [Culture shock and positive word of mouth – Among international students in higher education]. *Vezetéstudomány – Budapest Management Review*, *51*(2), 23-31. https://doi.org/10.14267/veztud.2020.02.02

Molden, D.C. (2014). Understanding priming effects in social psychology: What is "social priming" and how does it occur? *Social Cognition*, *32*(Supplement), 1-11. https://doi.org/10.1521/soco.2014.32.supp.1

Mullainathan, S., & Thaler, R.H. (2000). *Behavioral economics*. National Bureau of Economic Research. https://doi.org/10.3386/w7948

Nyborg, K., Anderies, J.M., Dannenberg, A., Lindahl, T., Schill, C., Schlüter, M., ... & De Zeeuw, A. (2016). Social norms as solutions. *Science*, *354*(6308), 42-43. https://doi.org/10.1126/science.aaf8317

Pizzutti, C., Gonçalves, R., & Ferreira, M. (2022). Information search behavior at the post-purchase stage of the customer journey. *Journal of the Academy of Marketing Science*, *50*(5), 981-1010. https://doi.org/10.1007/s11747-022-00864-9

Prazeres, L. (2013). International and intra-national student mobility: Trends, motivations and identity. *Geography Compass*, *7*(11), 804-820. https://doi.org/10.1111/gec3.12080

Schultz, P.W., Nolan, J.M., Cialdini, R.B., Goldstein, N.J., & Griskevicius, V. (2007). The constructive, destructive, and reconstructive power of social norms. *Psychological Science*, *18*(5), 429-434. https://doi.org/10.1111/j.1467-9280.2007.01917.x

Souto-Otero, M., Huisman, J., Beerkens, M., De Wit, H., & Vujić, S. (2013). Barriers to international student mobility: Evidence from the Erasmus program. *Educational Researcher*, *42*(2), 70-77. https://doi.org/10.3102/0013189x12466696

Stankevich, A. (2017). Explaining the consumer decision-making process: critical literature review. *Journal of International Business Research and Marketing*, *2*(6), 7-14. https://doi.org/10.18775/jibrm.1849-8558.2015.26.3001

Thaler, R. (1980). Toward a positive theory of consumer choice. *Journal of Economic Behavior & Organization*, *1(*1), 39-60. https://doi.org/10.1016/0167-2681(80)90051-7

Trujillo, J.P.C., Mohammed, P.J., & Saleh, S.T. (2020). Students' motivations to study abroad: The case of international students at the university of Debrecen. *Central European Journal of Educational Research*, *2*(1), 76-81. https://doi.org/10.37441/cejer/2020/2/1/5760

Turner, J.C., Hogg, M.A., Oakes, P.J., Reicher, S.D., & Wetherell, M.S. (1987). *Rediscovering the social group: A self-categorization theory*. Basil Blackwell.

Vander Schee, B.A. (2009). Predictably irrational: the hidden forces that shape our decisions. *Journal of Consumer Marketing*, *26*(1), 57-58. https://doi.org/10.1108/07363760910927064

Verbik, L., & Lasanowski, V. (2007). International student mobility: Patterns and trends. *World Education News and Reviews*, *20*(10), 1-16. https://wenr.wes.org/2007/10/wenr-october-2007-feature

Wilkins, S., & Huisman, J. (2011). International student destination choice: The influence of home campus experience on the decision to consider branch campuses. *Journal of Marketing for Higher education*, *21*(1), 61-83. https://doi.org/10.1080/08841241.2011.573592

Xian, H. (2008). Lost in translation? Language, culture and the roles of translator in cross-cultural management research. *Qualitative Research in Organizations and Management*, *3*(3), 231-245. https://doi.org/10.1108/17465640810920304

Yakhina, Z.S., Yakovlev, S.A., Kozhevnikova, N.V., Nuretdinova, Y.V., & Solovyeva, N.A. (2016). Practical Recommendations for University Graduates' Readiness Formation to Occupational Mobility. *International Journal of Environmental and Science Education*, *11*(15), 7358-7367. https://eric.ed.gov/?id=EJ1117414

Appendix

Profile of respondents

Participant	Level	Background	Year of joining the program	Current Status
P1	Mater	Business	2019	Current Scholarship holder and Ph.D. applicant
P2	Bachelor	IT	2017	Current Scholarship holder
P3	PhD	Sports Biology	2018	Current Scholarship holder
P4	Master	HR Counseling	2017	Graduated, working with a company in Budapest, and applying for the PhD
P5	Bachelor	IT	2020	Current Scholarship holder
P6	Bachelor	IT	2020	Current Scholarship holder
P7	Bachelor	IT	2016	Current Scholarship holder
P8	Master	Civil Engineering	2017	Graduated, a job seeker in Hungary
P9	Bachelor (Hungarian language)	International Relations	2016	Current Scholarship holder master's degree Applicant
P10	PhD	Biology	2020	Current Scholarship holder
P11	Master	International Relations	2019	Current Scholarship holder PhD Applicant
P12	Master	International Relations	2018	Current PhD student
P13	Master	Structural Engineering	2017	Graduate working in Hungary
P14	PhD	Architecture	2017	Graduate working in Europe
P15	PhD	Sports Biology	2020	Current PhD student
P16	Bachelor	IT	2021	Current scholarship holder
P17	Master	International Relations	2021	Current scholarship holder
P18	PhD	Chemical engineering	2020	Current PhD student
P19	Master	International Relation	2020	Current PhD student
P20	Bachelor	IT	2017	Graduate working in Europe

Source: own compilation

SALMA CHOULLI

HUMAN RESOURCE MANAGEMENT SYSTEMS – THE SOCIAL AND ENVIRONMENTAL PERFORMANCE OF SOME OF MOROCCO'S LARGEST CORPORATIONS

HUMÁNERŐFORRÁS-MENEDZSMENT RENDSZEREK – MAROKKÓ NÉHÁNY LEGNAGYOBB VÁLLALATÁNAK TÁRSADALMI ÉS KÖRNYEZETI TELJESÍTMÉNYE

This study. which is founded on the configurational approach's principles. aims to determine how well-coordinated human resources management systems that are tailored to the company's business plan perform in terms of society and the environment. In this study. a collection of standard human resource practices serves as the framework for the human resource management system. Through „social commitment" and the „existence of an environmental strategy." social and environmental performance is assessed. To find the simultaneous relationships between HRM systems. business strategies. and the two measures of performance. we carried out a confirmatory quantitative survey on a sample of 107 major Moroccan enterprises. The primary findings demonstrated that the internal consistency of HRM systems and their external consistency with corporate strategy can serve as significant levers for enhancing social and environmental performance.

Keywords: **human resources management systems. configurational approach. Moroccan enterprises. complementarity. social/environmental performance**

Jelen tanulmány. amely a konfigurációs megközelítés elvein alapul. azt kívánja meghatározni. hogy a vállalat üzleti tervéhez igazodó. jól koordinált humánerőforrás-menedzsment rendszerek hogyan teljesítenek a társadalom és a környezet szempontjából. Ebben a tanulmányban standard humánerőforrás-gyakorlatok gyűjteménye szolgál az emberierőforrás-menedzsment rendszer kereteként. A "társadalmi elkötelezettség" és a "környezeti stratégia megléte" révén értékelik a társadalmi és környezeti teljesítményt. Az EEM-rendszerek. az üzleti stratégiák és a teljesítmény két mérőszáma közötti egyidejű összefüggések felderítése érdekében megerősítő kvantitatív felmérést végzett a szerző 107 nagy marokkói vállalatból álló mintán. Az elsődleges megállapítások azt mutatták. hogy az EEM-rendszerek belső konzisztenciája és külső konzisztenciája a vállalati stratégiával jelentős eszközként szolgálhat a társadalmi és környezeti teljesítmény fokozásához.

Kulcsszavak: **emberierőforrás-menedzsment rendszer. konfigurációs megközelítés. marokkói vállalkozások. kiegészítő jelleg. társadalmi/környezetvédelmi teljesítmény**

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Throughout the years. several theoretical and empirical studies have been conducted on the relationship between Human Resource Management (HRM) and organizational performance. This is a critical problem. particularly in the realm of human resource management. The purpose of this study is to investigate the impact of human resource management methods on the social and environmental performance of Moroccan businesses. Social/environmental performance is more than just meeting legal duties; it also includes investing in human capital.

ensuring environmental sustainability. and cultivating constructive connections with stakeholders.

Our research will answer these main questions: How does the level of resemblance between the HRM system in a company and the theoretical HRM system correlate with social/environmental performance? Does a higher level of similarity between the HRM system in a company and the theoretical HRM system. combined with a stronger alignment of the latter with a corresponding business strategy. lead to an improvement in the environmental strategy?

This study is significant because it investigates the relationship between HRM and social/environmental performance. Organizations can obtain significant insights into supporting sustainable practices and stakeholder engagement by investigating how HRM practices contribute to social and environmental consequences beyond legal requirements. The insights can be used by firms in Morocco and internationally to link their human resource strategies with social and environmental goals. resulting in greater overall performance and long-term sustainability.

Prior research has highlighted the relationship between HRM and organizational performance. Notably. Commenne (2006) emphasized the significance of a company's commitment to social and environmental aspects. extending beyond legal requirements. Additionally. Doty et al. (1993) introduced the configurational approach to organizational effectiveness. exploring the fit between HR practices and strategic orientations. This study draws inspiration from these works and builds upon them by employing a quantitative confirmatory approach. The research utilizes data obtained from a questionnaire administered to a panel of 107 large enterprises in Morocco. The analysis involves the use of SPSS for classification based on HR practices and strategic orientations. and STATA for running multiple regressions while considering control variables.

Literature review

Several empirical perspectives are mobilized in an attempt to validate and explain the relationship between HRM and business performance. These perspectives are classified according to their unidimensional or multidimensional character. However. three main approaches to the multidimensional perspective often occur and are used in several studies. namely the universalist approach. the contingent approach. and the configurational one. Indeed. these are the three dominant empirical approaches to the „HRM performance" relationship.

Nevertheless. the „universalist" approach stipulates that certain HR practices called „good practices" have a significantly positive effect on the performance of the company regardless of the context in which they are introduced. As for the "contingent" approach. it offers a nuance and suggests that HR practices. to be effective. must align with other contingency factors of the organization. in particular strategy.

It is the „configurational" or „systemic" approach that states that HR practices have a greater effect on business performance when they are considered in a coherent system rather than when they are considered individually (Miller. 1987; Meyer. 1993). In other words. it is „patterns" or profiles. rather than individual independent practices. that are at the origin of maximum effectiveness (Becker & Gerhart. 1996; Delery & Doty. 1996). Also. it puts as a second condition the coherence of the system of HR practices with the business strategy of the company.

Indeed. considering that HR practices taken in isolation have a limited effect on performance. the configurational approach calls into question the universalist approach and finds that the contingent perspective is insufficient. As a result. it incorporates the principle of horizontal adjustment into the latter.

Thus. HR practices must be complementary and considered in a coherent system to positively and effectively impact the performance of the company. They must also be in sync with the major organizational contingencies. (Fericelli & Sire. 1996; Carrière & Barrette. 2005; Ndao. 2012). This is why this approach is more complex and comprehensive. in our opinion than the other two approaches.

Among the empirical studies aimed at confirming this approach. are the following: Arthur (1992). Delery & Doty (1996b). Barrette & Ouellette (2000). Jalette & Bergeron (2002). Allani-Soltan B. (2004). Aït Razouk & Bayad (2007a). Navarrete et al. (2020). Zaibunnisa et al. (2021) (see Table 1).

Some studies show the superiority of the work system based on the grouping of innovative practices compared to that based on more traditional or control practices (MacDuffie. 1995).

Although all the theoretical developments seem to recognize the interest in grouping HRM practices into coherent work systems. the number of empirical studies having tested and measured the effect of the synergies generated by these groupings remains low. Moreover. the empirical studies carried out up to now reveal numerous contradictions that remove certain reliability from the results obtained. These contradictions are due in some cases to methodological weaknesses. In any case. these studies only allow half-tone validation of the configurational approach as a whole.

Contrary to the universalist and contingent approaches which are based on solid. recognized. and tested theoretical bases. the configurational approach seems to sit on less spectacular theoretical bases. This latter approach is. however. the most complex and complete theoretical model.

Beyond the theoretical bases. some empirical studies have tried to assess the effect of grouping HRM practices on the performance of organizations (Arthur. 1992; Delery & Doty. 1996).

The configurational approach unquestionably presents the most comprehensive and complex modeling of the relationship between HR practices and organizational performance. It is therefore a very interesting approach that we cannot do without.

Empirical studies provide interesting information to identify a number of the grouping of HRM practices into coherent work systems that make it possible to achieve

Table 1

Some empirical studies validating the configurational approach

Author(s) (year)	Publication title	Sample	Main results
Arthur (1992)	"The Link Between Business Strategy and Industrial Relations Systems in American Steel Minimills"	30 American small steel mills	The results of this study confirm that the more the company has internal consistency in its system of HR practices and external consistency of the latter with the business strategy it follows, the more it can increase its performance. Selected HR practices: · Commitment; · Valuing employees. Performance indicators: · Productivity; · Output quality.
Delery & Doty (1996)	"Modes of Theorizing in Strategic Human Resource Management: Tests of Universalistic, Contingency, and Configurational Performance Predictions"	192 US bank branches	The results of this study confirm that the greater the similarity between the system of HR practices implemented by the company and that noted from the literature (ideal work system), the better the financial performance of the firm.
Barette & Ouellette (2000)	„Performance management: impact on organizational performance of the integration of the strategy and the coherence of HRM systems"	177 Canadian companies likely to have implemented a performance management system	The results of this study confirm that the more we integrate the elements of strategy (vision, values , and strategic orientation) in the management of the company, the more we increase its efficiency by increasing its competitiveness, its competitive positioning, and its sustainability. These results also confirm that the increase in the coherence of HR systems with that of performance management is linked to an increase in the competitive positioning of the firm.
Jalette & Bergeron (2002)	"The impact of industrial relations on organizational performance"	241 Desjardins credit unions in Quebec	The results of this study confirm that when the influence of other determinants is held constant, IR practices and the IR climate have a significant impact on organizational performance. In other words, a bad IR climate has a generally negative impact on performance. Organizational performance indicators: · Productivity; · Labor costs.
Allani-Soltan Bayad & Arcan (2004)	"Study of the effectiveness of HRM in French companies: the configurational approach"	1983 French establishments representing several sectors	The results of this study confirm that the more HR practices are combined and consistent with each other, and are also consistent with a cost minimization strategy, the better the economic efficiency of French establishments will be. They also confirm that the social climate index is maximized if HR practices are consistent internally and with a business strategy of differentiation and innovation.
Ait Razouk & Bayad (2007)	"Human Resource Management: A Longitudinal Analysis"	962 French establishments	The results of this study confirm that the more an establishment minimizes the gap between the ideal type of HR practices and its HRM system, and the more this distance indicates a similarity between the theoretical strategy and the strategy followed by this establishment, the more it increases its profitability.
Navarrete et al. (2020)	"Using a configurational approach to understand information and technologies in human resources management"	40 American Tech companies	The results show that the study contributes to human resources management research by investigating the impact of firm performance, specifically profit growth, on company ownership, CEO educational level, human resources-specific optimization tools, and device replacement methods.
Zaibunnisa et al. (2021)	"The Relationship between Human Resource Management and Corporate Social Responsibility: A Critical Review"	75 papers based on the study objectives	The findings suggest a proposition for future research to indicate a dynamic, interdependent, and collaborative link between CSR and HRM. Changes in HR practices to incorporate CSR practices will have an impact on company performance.

Source: constructed by the author

performance levels higher than the sum of the performance levels achieved by the implementation of the various constituent practices of these systems (Arcand. 2000).

Human resource practitioners and managers must have a thorough understanding of the organization's strategy and goals. This includes determining the organization's key strengths. market positioning. and long-term

ambitions. They can coordinate HR practices to directly contribute to the attainment of these objectives if they understand the strategic direction.

Analyze HR Practice Configurations: HR practitioners and managers can use the configurational method to analyze the various HR practice configurations that are likely to support the organization's strategy. This entails considering the interdependence and synergy of various HR practices. as well as their overall impact on organizational performance. Configurations must be carefully developed to produce an integrated system that reinforces the desired strategic results (Boxall & Macky. 2009).

These elements can have an impact on the success of HR practice settings. HR practitioners and managers should tailor the configurations to the specific corporate context to ensure that they resonate with employees and capitalize on the organization's strengths. Implementation and communication are critical for the success of the configurational approach. HR practitioners and managers must properly convey the new HR practices to employees. emphasizing the reasoning for the changes as well as the anticipated benefits. They should provide employees with training and assistance to ensure they understand and embrace the new practices (Paauwe & Boselie. 2003).

The configurational approach is a continuous process. Human resource professionals and management should promote a culture of constant learning and adaptability. They should keep up with current market trends. best practices. and emerging research to optimize HR practice designs over time. This iterative process enables the organization to adapt to changing business strategies and enhance the contribution of HR practices to performance (Boxall & Macky. 2009).

HR practitioners and managers who embrace the configurational approach can create and implement HR practices that are closely linked with the organization's strategy and improve overall performance. By using the power of HR practice configurations to accomplish desired objectives. this strategy enables HR to be a strategic partner in achieving company success.

Theoretical framework

Scholars such as Mark Huselid. Brian Becker. and David Ulrich have made substantial contributions to HRM research using the configurational approach. They contend that the effectiveness of human resource management methods is dependent on their alignment with one another and with the broader corporate plan.

Our study's two primary hypotheses. (H1) and (H2). are based on the association between the resemblance of a company's HRM system and the theoretical HRM system. and the ensuing impact on social/environmental performance. These ideas emerged from a thorough review of the literature on HRM practices and organizational performance. with a special emphasis on the configurational approach.

Empirical research has shed light on the relationship between HRM practices and performance outcomes. According to this research. integrating HRM practices into coherent work systems is a critical factor in obtaining performance levels that exceed the sum of individual practices. This implies that when HR practices are linked and integrated. they can operate together to improve corporate performance.

Our hypotheses (H1 and H2). based on this literature study. propose that the greater the similarity between the HRM system found in a company and the theoretical HRM system. the better the social/environmental performance. This suggests that firms whose HRM systems are closely aligned with the theoretical model are more likely to achieve greater levels of social/environmental performance. Furthermore. H2 contends that the greater the link between the HRM system and the appropriate company strategy. the better the social/environmental performance. emphasizing the necessity of strategic alignment in obtaining positive results.

Overall. the configurational approach's emphasis on the coherent work system and the empirical evidence supporting the benefits of aligning HRM practices show a correlation between these hypotheses and the literature review. Our research aims to add to this understanding by providing useful insights into the interaction between HRM systems. strategic alignment. and social/environmental performance.

Our empirical research is based on a sample of 107 significant enterprises. including national and global subsidiaries. that represent the main sectors of activity in Morocco. The detailed structure of our sample (see Table 2) will be presented in the following sections to verify its distribution and gain information on variables that are likely to influence various elements measured in the context of our investigation.

Table 2

Structure of our survey sample

Activity	Number of companies	Number of employees
Organic food/Agriculture/ Fishing	14	1251
Banks/Insurance/Other financial activities	9	1382
Construction/Property/ Development	13	1445
Distribution/Trading	7	1209
Energy/Water	6	1088
Manufacturing	19	1445
IT/Services/Consulting	32	1442
Transport/Logistics	7	1374
Total	107	Average:1329

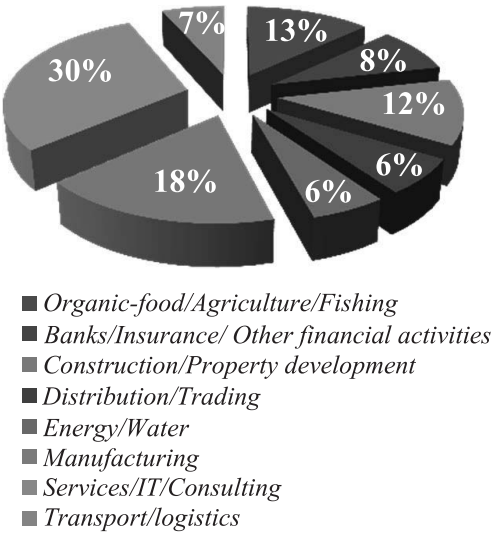
Source: constructed by the author

The average workforce of the companies in our study is 1329 employees. as shown in the table above. They also operate in the key sectors of activities that make up Morocco's core economy. giving us a well-balanced panel with 30% service companies. 18% industrial companies.

and 13% agricultural. fishery. or agri-food companies (see Figure 1).

Figure 1

Structure of the sample by sector of activity

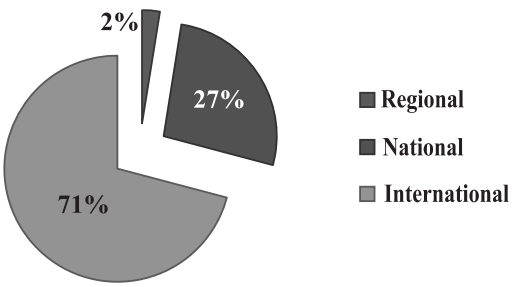


Source: constructed by the author

To ensure that we have a sample of companies that possess a strong HR system (administrative. strategic. or hybrid). our sample is split between national enterprises and global company subsidiaries. This type of organization provides fertile ground for this research topic. In addition. the Casablanca Stock Exchange lists 14 of the companies in our sample. We further state that a high percentage of the enterprises that responded sell their goods and/or services overseas (see Figure 2).

Figure 2

Structure of the sample according to the size of the market



Source: constructed by the author

Table 3

Measurement of the performance of indicators and social/environmental items

Vi	Indicators	Ii	Items/ratios	Credibility (alpha of cronbach)	Source
ESEP 1	Social Engagement	Eng_1	Social commitment	0.852	Q11
		Eng_2	Contributing to the human and economic development of the business environment.		
		Eng_3	Promoting and organizing social actions (Example: visiting and/or financing of orphanages. supporting costs of medical operations. etc.)		
		Eng_4	Promoting culture and art.		
		Eng_5	Organizing sports initiatives.		
		Eng_6	Fighting against corruption in all its forms. including extortion and bribes.		
		Eng_7	Choosing suppliers according to their social commitment		
		Eng_8	Contributing to any initiative or action of a national or local scope dedicated to preventing or mitigating the effects of natural disasters. and ecological or social imbalances.		
PSEP 2	Presence of an environmental strategy	Stra_1	Presence of an environmental strategy	0.941	Q12
		Stra_2	Definition of a framework of action dedicated to the protection of the natural environment. providing in particular for the improvement of environmental performance.		
		Stra_3	Reduction of water consumption.		
		Stra_4	Reducing energy use.		
		Stra_5	Usage of renewable energies and/or environmentally friendly technologies.		
		Stra_6	Definition of action plans allowing prevention mitigation of accidental damage to environment. safety. or health.		

Source: created by the author

Method of analysis

Operational variables

Dependent variable

The dependent variable of our study is represented by social and environmental performance. To measure it. we have chosen two indicators. namely: "social commitment" and the "presence of an environmental strategy". We specify that we have determined them. on the one hand. from our readings and documents relating to the assessment of corporate social responsibility and. on the other hand. following our discussions with specialists in human resource departments. asking questions related to CSR 'corporate social responsibility' (exploratory survey). In the same way. we created a measurement scale for each of these indicators. by meticulously drafting their items and then testing them during our preliminary survey.

To do this. we discussed with the respondents of the pre-survey to ensure their relevance and we performed a reliability analysis by calculating Cronbach's alpha.

In this sense. to measure the social commitment of the responding companies. we have retained 8 items that present a largely satisfactory internal consistency coefficient of the order of 0.852. Similarly. to measure the presence of the overall strategy within the companies in our survey. we kept 6 items which together constitute a measurement scale with a very satisfactory internal consistency of 0.941. It should be noted that we did not have to eliminate any item to improve the reliability of the measurement scales for this dimension. In the following table. we summarize all of the items that we have just mentioned. specifying the codifications. which we attribute to them (see Table 3).

Independent variable

Business strategies and HRM systems are the independent factors in our research. As previously stated. we do not investigate the impact of a single HR practice on social and environmental performance. but rather the dynamic effects that exist within the systems. which go beyond the simple additive effects implied by the interaction. using the deviation from an ideal-type method (Doty & Glick. 1994).

Before detailing how we created our ideal types. we'll go over the things related to the company's strategy and the measurement of the 10 HR practices we chose for our study in the following paragraphs.

"Business strategies" variables

The section of our questionnaire titled „Strategic positioning of your company" has been dedicated to the investigation of the strategic orientation of the businesses in our survey. To do so. we asked employees to rate their companies' concerns about each of the ten main strategic dimensions (technological innovation. product/service offer. product/service innovation. quality. price. marketing. resources. strategic process. risk. and proactivity in management style) on an Osgood-type 7-point scale (Segev.1989).

The ten main strategic dimensions can have a significant impact on the contribution of Human Resource Management (HRM) to a company's social and environmental performance:

1. *Technological Innovation:* HRM may help organizations improve their social and environmental performance by encouraging the use of environmentally friendly technology and practices. This can include educating staff on the use of sustainable technologies. fostering green technology innovation. and promoting the incorporation of sustainability principles into product development processes.
2. *Product/Service Offer:* HRM can help companies match their product and service offerings with social and environmental goals. This can include creating sustainable products or services. promoting eco-friendly practices throughout the value chain. and engaging in responsible sourcing and production.
3. *Product/Service Innovation:* HRM can allow employers to match their product and service offerings with social and environmental goals. This can include creating sustainable products or services. promoting eco-friendly practices throughout the value chain. and engaging in responsible sourcing and production.
4. *Quality:* By emphasizing quality standards that include sustainability requirements. HRM can contribute to social and environmental performance. Integrating sustainability into quality control procedures. maintaining compliance with environmental legislation and standards. and encouraging a culture of continuous improvement in social and environmental performance are all examples of how this can be accomplished.
5. *Price:* HRM can assist in determining a pricing strategy that considers social and environmental issues. This can include doing cost-benefit evaluations that include the social and environmental consequences of pricing decisions. experimenting with creative pricing structures that incentivize sustainable behavior. and conveying to customers the value of sustainable products or services.
6. *Marketing:* Sustainable marketing methods can help HRM contribute to social and environmental performance. Incorporating sustainability messages into marketing efforts. participating in cause-related marketing activities. and cultivating relationships with customers who value social and environmental responsibility are all examples of how this can be accomplished.
7. *Resources:* Human resource management can support social and environmental performance by managing human and material resources. Developing policies and procedures that encourage resource efficiency. implementing recycling and waste reduction initiatives. and training personnel on sustainable resource management approaches are all examples of what this entails.

8. *Strategic Process:* HRM can include social and environmental concerns in strategic decision-making. Involving HR professionals in sustainability-related discussions and initiatives. aligning HR strategies with the company's overall sustainability goals. and ensuring that social and environmental performance indicators are included in strategic planning and performance evaluation processes are all examples of how this can be accomplished.
9. *Risk:* HRM can include social and environmental concerns in strategic decision-making. Involving HR professionals in sustainability-related discussions and initiatives. aligning HR strategies with the company's overall sustainability goals. and ensuring that social and environmental performance indicators are included in strategic planning and performance evaluation processes are all examples of how this can be accomplished.
10. *Proactivity in Management Style:* Human resource management can foster a management style that stresses proactive approaches to social and environmental challenges. Encourage employee participation in sustainability activities. promote a culture of sustainability awareness and responsibility. and provide training and development opportunities to improve employees' knowledge and abilities in sustainable practices.

By considering and integrating these strategic dimensions into HRM practices. organizations can enhance their social and environmental performance. aligning their business goals with sustainability objectives.

It should be emphasized that we adapted this way of assessing a company's business strategy from the literature. which has been employed in various HRM research. Indeed. we chose to adapt (Segev's. 1989) questionnaire. and more specifically. we employed an adaptation of its French form translated and used by (Arcand. 2000).

"HRM systems" variables

We looked into all of the HRM aspects we needed for our research in the portion of our questionnaire titled „Human Resources practices of your organization." These elements are shown by the indicators of the seven HR dimensions that make up our HRM systems. which we detail in Table 4.

Similarly. we used a typological analysis to identify these firms based on the HR practices that represent our HR dimensions. As a result of the typological analysis. three types of companies were identified. each of which was categorized based on their attempts to embrace the HR practices that were seen in our study. We then built a crosstab with varied responses that contained the classes of the „HRM cluster" to distinguish these groups.

The results of this analysis indicated the presence of 3 classes of HRM:

– Class 1 represents high percentages for all administrative practices while most of the percentages for strategic practices are low. This finding allows us to say that companies in this class use an administrative HRM system.
– Class 2 represents high percentages for both strategic and administrative practices. Thus. we can conclude that companies in this class use a hybrid HRM system.
– Class 3 represents high percentages for all strategic practices and low percentages for administrative ones. The companies in this class follow a strategic HRM system.

As a result. the companies there use a strategic HRM system. Thus. our results are consistent with our methodological choice to mobilize three theoretical HRM systems. namely:

– Strategic HRM: which aims to invest in the development of human capital and includes mobilizing activities or engagement practices.
– Administrative HRM: which brings together traditional HR activities and aims to control employees that are considered as a cost to be minimized.
– Hybrid HRM: which is a mix between the two previous systems.

In the same way. the typological analysis applied to the business strategy adopted by the companies in our survey gives us three classes of companies. To differentiate these classes. we compare the means between the classes of the "Strategy cluster". formed following the application of the Ward method. and the strategic dimensions.

Given the ordinal structure of our variables. the choice of the comparison criterion is founded on the use of the median. To compare the classes based on medians instead of means in the given text. we would focus on the medians of the percentages for each class's practices. Here's a comparison of the classes based on their medians:

Class 1:
– High percentages for all administrative practices.
– Low percentages for most strategic practices.
– Companies in this class use an administrative HRM system.
– Corresponds well to a cost-minimization strategy.

Class 2:
– High percentages for both strategic and administrative practices.
– Companies in this class use a hybrid HRM system.
– Focus on price strategy. innovation (technological and product/service). and quality strategies.
– Represents a strategy profile focus.

Class 3:
– High percentages for all strategic practices.
– Low percentages for administrative practices.
– Companies in this class follow a strategic HRM system.
– Emphasize innovation and quality strategies.
– Consistent with a differentiation strategy.

By comparing the medians. we can infer the following strategic profiles for each class:

Class 1 corresponds to Porter's cost strategy. Class 2 combines elements of differentiation and cost strategies. and Class 3 aligns with Porter's differentiation strategy. By considering Porter's typology. we can further under-

Table 4

Dimensions and items for measuring human resource practices

HR dimensions	Vi	Indicators	Items	Reliability (alpha of cronbach)	Reliability (after deletion of items)	Source
Work organization	WO 1	Autonomy	Autonomy			Q 28
	WO 2	Description of tasks	Description of tasks			Q 29
	WO 3	Control	Control			Q30
Anticipation	An 1	GPEC	Professional job and skill management			Q31
	An 2	Recruitment	Formalized recruitment and integration process	0.712	-	Q32
			Periodic frequency of recruitment planning			Q33
	An 3	Social data management	Dashboards			Q34
Adaptation	Ad1	Evaluation of performances	Performance appraisal system	0.782	-	Q35
			Links of assessment results to training			Q36
			Links of assessment results to the promotion			Q37
			Links of evaluation results with internal mobility			Q38
	Ad 2	Training budget	Training budget			Q39
	Ad 3	General training actions	General training actions			Q40
	Ad 4	Specific training actions	Specific training actions			Q41
	Ad 5	Internal mobility	Internal mobility			Q42
Management skills	MS1	Employability level	Employability level			Q43
	MS2	Management of key skills	Management of key skills			Q44
	MS 3	Transfer of skills	Transfer of skills			Q45
Wages	W1	salary	Presence of a remuneration policy	0.389	0.816	Q46
			The presence of a salary grid			Q47
			Periodic salary review		Item deleted	Q48
			Salary negotiation		Item deleted	Q49
	W2	Collective increases	Collective increases			Q 50
	W3	Individual increases	Individual increases			Q51
	W4	Incentives	Individual performance bonuses			Q52
Steering of human resources	SHR1	HRIS	Presence of an HRIS			Q53
	SHR2	Internal communication	Information Sharing	0.738	-	Q54
			Collective discussion			Q55
	SHR3	Relationship Management professional	Social dialogue	0.718	-	Q56
			Social dialogue and decision-making			Q57
			Staff representative bodies			Q58
			Hygiene. health and safety at work			Q59
Participation in deployment of CSR	P1	Participation of the HR function in the implementation of a CSR policy	Resource mobilization	0.887	-	Q60
			Raising awareness of CSR issues			Q61
			Communication around CSR issues			Q62
	P1	Diversity Management	Combating discrimination and promoting equal opportunities in all HR processes			Q63

Source: constructed by the author

stand the strategic orientations of each class of companies concerning their HRM practices (Porter. 1985).

– Class 1: Companies in this class prioritize administrative HRM practices and exhibit a cost-minimization strategy. They focus on controlling costs and operating efficiently. aligning with Porter's cost strategy. The emphasis on lowering costs suggests that these companies aim to offer competitive prices to attract customers.
– Class 2: This class represents companies that adopt a hybrid HRM system. combining administrative and strategic practices. They prioritize both cost-related activities and strategic aspects such as innovation and quality strategies. This aligns with Porter's differentiation strategy. where companies aim to differentiate their products or services through innovation and quality while still considering cost competitiveness.
– Class 3: Companies in this class follow a strategic HRM system. focusing on strategic practices such as innovation and quality strategies. This class aligns with Porter's differentiation strategy as these companies prioritize standing out in the market through unique offerings and superior quality. targeting customers who value differentiation. Their emphasis on innovation and quality reflects their commitment to creating distinctive products or services.

Control variables

We dedicated part of our questionnaire „Information about your business" to the collection of data used as control variables. These will allow us to control the effect of the characteristics of the organization and the environment to ensure the statistical accuracy of our analytical procedures. Thus. for our study. we have chosen to introduce the following two variables as control variables: sector of activity and market elasticity (Sedo. 2015; Aït Razouk & Bayad. 2007b. 2010. 2011; Carrière & Barrette. 2005; Barraud-Didier. 2003).

To ensure the validity and dependability of our findings. we divided our analysis into two rounds and applied certain procedures.

We employed a measuring method in the first round of research to examine the deviation from the ideal type in connection to our independent variables. which in this case are HRM systems (Human Resource Management systems) and strategic profiles. We obtained two indices that measure the level of internal and external complementarity within the companies in our panel by assessing this deviation. This step implies that we are evaluating how well the HRM systems and strategic profiles match the ideal kind or desired features.

Several strategies were used to avoid confounding effects:

- Randomization: The study assigns participants to different groups (for example. different HRM systems). which helps disperse potential confounding factors evenly across the groups. This reduces the effect of confounding variables on the study's results.
- Statistical Analysis: To adjust for the impact of confounding variables. we applied statistical approaches. We can separate the individual effects of HRM systems and strategic profiles by statistically adjusting for the influence of control factors in the analysis.
- Sample Selection: We have taken pains to guarantee that the sample includes a varied variety of businesses from various industries and market situations. This improves the study's generalizability and decreases the danger of skewed results due to a limited sample.

The use of indices to assess internal and external complementarity implies that we are aiming to quantify the link and alignment between various aspects within the companies under consideration. This method gives a systematic manner to assess how well the variables under consideration are aligned or complementary to one another.

Several criteria must be considered while determining the validity and reliability of our research. The amount to which our study measures what it wants to assess is referred to as validity. while the consistency and stability of the measurements or findings are referred to as reliability. We do not give extensive information in this statement on the precise measurements we employed or the validity and reliability assessments we performed. As a result. we must ensure that the measures and analysis methodologies we use are acceptable and have been verified in past studies.

We examined the following steps to improve the validity and reliability of our research:

- Ensuring construct validity: For our variables of interest. we have built measuring scales or devised valid and reliable measures (HRM systems. strategic profiles. social and environmental performance). To justify the selection and operationalization of these variables. we did a thorough literature review.
- Evaluating internal consistency and reliability: To assess the internal consistency of the measures employed in our study. we performed reliability analyses (e.g.. Cronbach's alpha). This would ensure that the variables' items or indices are dependable and offer consistent results.
- Sampling and generalizability: Our sample and sampling techniques have been well specified. We justified the sample's representativeness and evaluated any biases or restrictions that could affect the generalizability of our findings.
- Confounding variables were adjusted to establish a causal relationship between the detected complementarities and social/environmental performance. This has increased the internal consistency of our findings.
- Addressing any constraints: We have identified any limitations in our study. such as sample size. potential biases. or measurement restrictions. We can improve the transparency and trustworthiness of our research by addressing these limitations.

Results

As previously stated. our goal is to draw attention to the connections between HRM systems and social/environmental performance. In this regard. the configurational method is the most comprehensive and complicated theoretical model available in HRM strategic literature. providing us with this opportunity. The first hypothesis. which was discarded from our theoretical framework. seeks to prove the logic behind internal complementarity HR practices (H1). If the HRM systems we developed from the literature are truly cohesive collections of activities capable of improving organizational performance. then:

(H 1) The greater the similarity between the HRM system found in the company and the theoretical HRM system. the better the social/environmental performance.

(H 1.1) The greater the similarity between the HRM system found in the company and the theoretical HRM system. the better the social commitment.

(H 1.2) The greater the similarity between the HRM system found in the company and the theoretical HRM system. the better the environmental strategy will be. As for the second hypothesis. it completes the previous one by considering. this time. the logic associated with external complementarity (H2). If our theoretical groupings are plausible. then:

(H 2) The greater the similarity between the HRM system found in the company and the theoretical HRM system. and the more the latter will be linked to a corresponding business strategy. the better the social/environmental performance will be.

(H 2.1) The greater the similarity between the HRM system found in the company and the theoretical HRM system. and the more the latter will be linked to a corresponding business strategy. the better the social commitment.

(H 2.2) The greater the similarity between the HRM system found in the company and the theoretical HRM system. and the more the latter will be linked to a corresponding business strategy. the better the environmental strategy will be. Because we include control variables in our procedures to avoid bias in the estimate of the parameter of interest. these sub-hypotheses will be examined using multiple regressions.

Association between indicators of social/ environmental and internal complementarity

To begin. our data provides strong support for our first hypothesis. showing the existence of internal complementarity and its relationship with indices of social and environmental success. In the following investigation. we validated the sub-hypotheses (H1.1. H1.2). The estimation findings revealed that the internal complementarity variable (Fit IT) had a statistically significant positive effect on social commitment (t=4.44. p=0.000). A 1% increase in internal complementarity. for example. resulted in a significant 63 percent rise in social commitment. Furthermore. when compared to the control sector of activity variable. employment in the „Services/IT/consulting" or „Transport/logistics" sectors harmed social commitment. However. the market size variable did not affect social commitment. The model's explanatory power was defined on Table 5.

Table 5

Summary of results verifying hypothesis 1

	Social/environmental performance			
	Social Commitment		Environmental Strategy	
Internal complementarity	Coef.	t	Coef.	t
	0.635	4.44***	0.454	3.17***

**p<0.1; **p<0.05; ***p<0.01*

Source: constructed by the author

These findings. which reveal links between internal complementarity of human resource practices and multiple indices of social and environmental performance. provide significant validity for our two sub-hypotheses (H 1.1 and H 1.2) and. as a result. validate our fundamental study hypothesis. (H1).

Association between indicators of social/ environmental and external complementarity

Several measures were used to improve the reliability of our findings while keeping the current sample size. First. we used robust statistical approaches that are less vulnerable to outliers or assumptions breaches. These procedures assure the stability of the predicted coefficients and improve the trustworthiness of the results.

The estimated results show that the external complementarity variable (Fit CIT) has a significant and favorable effect on social commitment (t=4.42; p=0.000). A 1% increase in internal complementarity equates to a 29% rise in social commitment. Furthermore. we discovered that working in the „Services/IT/consulting" or „Transport/logistics" sectors. as opposed to the sector of the activity control variable. harms social commitment. However. the market size variable does not show a meaningful correlation. Furthermore. we discovered that working in the „Services/IT/consulting" or „Transport/logistics" sectors harms social commitment. as opposed to the sector of the activity control variable. However. the market size variable has no discernible effect on social commitment. Notably. the model's overall explanatory power remains around 28% (R-squared=0.278).

Furthermore. the estimation findings show that the external complementarity variable has a substantial and positive effect on the environmental strategy (t=2.89; p=0.005). A 1% rise in the level of internal complementarity equates to a 19% advancement in the environmental strategy. Working in the „Banking/insurance/...". „Services/IT/consulting." or „Transport/logistics" sectors. as opposed to the sector of the activity control variable. harms the environmental strategy. similar to social commitment. Furthermore. the market size variable has no substantial impact on the environmental approach. The

overall significance of the model's independent variables stays at 27% (R-squared=0.266).

Table 6

Summary of results relating to the verification of the hypothesis

	Social/environmental performance			
	Social Commitment		Environmental Strategy	
External complementarity	Coef.	t	Coef.	t
	0.295	4.42***	0.194	2.89***

**p<0.1; **p<0.05; ***p<0.01*

Source: constructed by the author

These findings. support our central study hypothesis (H 2) by verifying our two sub-hypotheses (H 2.1 and H 2.2) (see Table 6). We ensure the dependability of our findings by employing strong statistical approaches that account for potential outliers or assumption violations. It is critical to recognize that. while these measurements increase the trustworthiness of our findings. no study is without limits or potential sources of errors.

Discussion

Our sample can be considered reasonably representative in certain aspects:

- Geographical Representation: Since all the companies in the sample are based in Morocco. they represent the country's corporate environment and human resource practices. This is especially important if the purpose is to explicitly investigate HR systems in Moroccan enterprises.
- Size and Sector Representation: The sample size is 107 firms. which is a reasonably substantial quantity for the study. However. the representativeness of the larger population may vary based on its size and sector distribution. The possibility of capturing the overall characteristics of the population increases when the sample contains a varied variety of company sizes and sectors.
- Strong HR System: The inclusion criterion of having a solid HR system shows that the sample is skewed toward organizations that prioritize and invest in their human resources procedures. This criterion may remove firms with less established HR systems. perhaps resulting in an overrepresentation of firms with superior HR practices.
- National Enterprises and Global Subsidiaries: The distinction between national firms and global corporation subsidiaries provides another layer of representation. It recognizes the existence of both local and multinational enterprises in Morocco. providing insights into various organizational structures. strategies. and HR practices.
- Listing in the Casablanca Stock Exchange: The presence of several companies registered on the Casablanca Stock Exchange diversifies the sample even further. These publicly traded organizations may be subject to additional reporting and financial transparency obligations. which may have an impact on their HR policies. However. because just a subset of companies is included. the sample may not represent the complete spectrum of companies listed on the stock exchange.

Overall. the sample may not be fully representative of all companies in Morocco. To generalize the findings to the entire population. it is crucial to consider potential biases and limitations introduced by the sample selection.

Our study enabled us to validate our configurational research assumptions by detailing the impact of internal and external consistency on the carefully chosen social and environmental performance metrics. We can conclude that the association between internal complementarity and measures of social commitment and environmental strategy was validated. as was the relationship between internal and external complementarity and the same indicators.

As a result. we have noticed that the more a Moroccan company cares about creating a system constituted of consistent HR practices. the better its social/environmental performance will be. Furthermore. the more concerned a Moroccan company is with external uniformity inside this framework. the better.

With that being stated. caution should be exercised when generalizing the findings or making broader conclusions about HR practices in Morocco or other contexts based solely on this specific sample. It is important to consider several limitations that the study may have:

- Limited generalizability: The sample is limited to 107 Moroccan businesses. As a result. any conclusions obtained from this sample may not be indicative of Morocco's or other countries' overall commercial scene. The conclusions may not apply to industries or organizations that do not match the same requirements.
- Sampling bias: Bias may be introduced during the sample selection procedure. For example. if the enterprises were chosen primarily on convenience or accessibility. the overall population of Moroccan companies may not be correctly represented. Companies with poor human resource management systems or those not listed on the Casablanca Stock Exchange are omitted from the sample. potentially skewing the results.
- Limited scope of HR systems: The statement focuses on HR systems and how they are classified as administrative. strategic. or hybrid. This. however. may ignore other essential dimensions or components of HR practices that may have an impact on organizational performance. This restricted focus may not fully capture factors like as talent acquisition. training and development. remuneration and benefits. and employee engagement.
- Potential reporting bias: The data on the strength of human resource systems is based on self-reporting or subjective assessment. which may add biases or mis-

takes. Companies' perceptions of what constitutes a strong HR system may differ. and their self-assessment may differ from objective assessments of effectiveness.

- Dynamic nature of HR systems: Human resource systems are always evolving and adapting. The statement does not specify a timeframe or the stability of the HR systems in the sample. The data obtained may represent a snapshot in time and may not reflect any changes or developments that occurred before or after the study.
- External factors: The statement does not consider external factors that may have an impact on HR systems and overall organizational effectiveness. Economic conditions. industry-specific issues. the regulatory environment. and cultural factors can all have a substantial impact on HR practices and outcomes.

Conclusion

Our article's major goal was to address the most common concerns about human resource management's capacity to improve a company's social/environmental performance. In this regard. we have attempted to investigate the relationship between HR practices. defined as a cohesive whole internally and externally with business strategy. and company social/environmental performance in the Moroccan setting throughout this work. particularly during the empirical phase.

Our research found compelling evidence to show the favorable relationship between the internal complementarity of HR practices and metrics of social commitment and environmental strategy. We also discovered a similar favorable association between internal and external HR practice alignment and the aforementioned performance indicators. These findings support the critical importance of human resource management in improving the social and environmental performance of Moroccan firms.

Our investigation resulted in a significant theoretical contribution by completing a literature evaluation. which clarified essential words such as social/environmental performance and human resource management. Furthermore. the configurational approach to human resources was used as the theoretical framework for our empirical inquiry. We were able to delve into the intricate relationship between HR practices and firm performance by using this approach—a mystery that has piqued the interest of management scientists.

We used a careful process to ensure the rigor and validity of our findings. Instead of using traditional business categorization or clustering. we used the ideal-type method to measure each company's divergence from its ideal type. This method allowed for a more detailed assessment and a better understanding of the relationship between HR practices and social/environmental performance. Furthermore. to examine our empirical data. we used multiple regression analysis. a widely used statistical approach in the field of management science.

Our study's practical implications are extremely important for HR managers and organizational leaders. Our findings enable HR managers to advocate for the inclusion of HR policies in strategic planning by demonstrating the potential of HR practices to improve a company's social/environmental performance. We underline the significance of building a holistic HRM system that is connected with the company's business goal. which outperforms the limited impact of isolated HR practices. Organizations can effectively improve their social and environmental performance by implementing this strategic strategy. promoting long-term competitive advantage. Furthermore. our research emphasizes the need for HR managers to consider the interests of diverse stakeholders. enabling a more inclusive and sustainable approach to organizational management.

In conclusion. our research adds to our understanding of the relationship between HR practices and social/environmental performance in Morocco. We bridge the gap between academic knowledge and practical application by using strong empirical evidence and theoretical insights. HR managers can use our findings to advocate for the inclusion of human resource practices in strategic planning. thereby advancing the interests of many stakeholders and encouraging enhanced social and environmental performance in Moroccan enterprises.

References

Aït Razouk. A.. & Bayad. M. (2011). GRH mobilisatrice et performance des PME. *Revue de Gestion des Ressources Humaines.* (82). p. 3-18. https://doi.org/10.3917/grhu.082.0003

Aït Razouk. A. (2007). *Gestion strategique des ressources humaines recherche theorique et empirique sur la durabilite de la relation entre strategie RH et performance* [Strategic management of human resources theoretical and empirical research on the sustainability of the relationship between HR strategy and performance] (Doctoral Thesis in Management Sciences). Nancy 2 University. https://theses.fr/2007NAN22002

Aït Razouk. A. & M. Bayad (2007). Gestion stratégique des ressources humaines: Une analyse longitudinale [Strategic Human Resource Management: A Longitudinal Analysis]. *Revue Internationale sur le Travail et la Société*. *5*(2). 1-39. https://www.studocu.com/row/document/ecole-nationale-de-commerce-et-de-gestion-de-tanger/droit-du-travail/gestion-strategique-des-ressources-humaines-pdf-drive/49947854

Allani-Soltan. N.. Bayad. M.. & Arcand. M. (2004). Study of the effectiveness of HRM in French companies: the configurational approach. In *Actes du 15th Annual meeting of the AGRH* (pp. 1-30). Montreal.

Arcand. M. (2000). *The effect of Human Resources Management practices on the efficiency of Desjardins credit unions in Quebec* (Thesis for the doctorate in management sciences). University of Metz.

Arcand. M. & Baldegger. R. (2005). L'influence des systèmes de gestion des ressources humaines sur la performance organisationnelle des PME du secteur financier canadien: une analyse empirique et théorique de l'approche des regroupements stratégiques [The Influence of Human Resource Management Systems on the Organizational Performance of SMEs in the Canadian Financial Sector: An Empirical and Theoretical Analysis of the Strategic Cluster Approach]. *Revue Économique et Sociale*. 63. 81-92. https://www.revue-res.ch/product-reader/product/vol-63-n1-mars-2005.html?page=4

Arthur. J. (1992). The link between business strategy and industrial relations systems in American steel minimills. *Industrial and Labor Relations Review. 45*(3). 488-506. https://doi.org/10.2307/2524274

Barraud-Didier. V.. Guerrero. S.. & Igalens. J. (2003). L'effet des pratiques de GRH sur les performances des entreprises: Le cas des pratiques de mobilization [The effect of HRM practices on business performance: the case of mobilization practices]. *Revue de Gestion des Ressources Humaines*. 47. 2-13. https://shs.hal.science/halshs-00005767

Barrette. J. (2005). Architecture de ressources humaines: Perspectives théoriques et pistes de recherche [Architecture of human resources: Theoretical perspectives and avenues of research]. *Relations Industrielles. 60*(2). 213-243. https://doi.org/10.7202/011720ar

Barrette. J. & Simeus. M. (1997). Pratiques de GRH et performance organisationnelle dans les entreprises de haute technologie [Human Resource Management Practices and Organizational Performance in High Technology Firms]. *Actes de l'Asac. 18*(9). 23-33. http://dx.doi.org/10.20381/ruor-1097

Barrette. J. & Ouellette. R. (2000). Performance management: impact on organizational performance of the integration of strategy and the coherence of HRM systems. *Industrial Relations. 55*(2). 207-226. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1673465

Becker. B.. & Gerhart. B. (1996). The impact of human resource management on organizational performance: progress and prospects. *Academy of Management Journal. 39*(4). 779-801. https://doi.org/10.2307/256712

Bélanger. L.. Petit. A. & Bergeron. J.L. (1983). *Human Resources Management: A Global and Integrated Approach*. Gaëtan Morin Publisher.

Boxall. P.. & Macky. K. (2009). Research and theory on high-performance work systems: progressing the high-involvement stream. *Human Resource Management Journal. 19*(1). 3–23. https://doi.org/10.1111/j.1748-8583.2008.00082.x

Carrière. J.. & Barrette. J. (2005). Gestion des ressources humaines et performance de la firme à capital intellectuel élevé: une application des perspectives de contingence et de configuration [Human resources management and performance of the firm with high intellectual capital: an application of the perspectives of contingency and configuration]. *Canadian Journal of Administrative Sciences. 22*(4). 302-315. https://doi.org/10.1111/j.1936-4490.2005.tb00376.x

Commenne. V. (2006). *Social and environmental responsibility: the commitment of economic actors: Instructions for more ethics and sustainable development*. ECLM.

Crutzen. N.. & Caillie. D.V. (2010). Le pilotage et la mesure de la performance globale de l'entreprise: Quelques pistes d'adaptation des outils existants [Management and measurement of the overall performance of the company: Some ways of adapting existing tools]. *Humanisme et Entreprise*. 297. 13-32. https://doi.org/10.3917/hume.297.0013

Delchet. K. (2004). *Qu'est-ce que le développement durable?* Paris. AFNOR. https://doi.org/10.4000/developpementdurable.3337

Delery. J.E.. & Doty. D.H. (1996). Modes of theorizing in strategic human resource management: Tests of universalistic. contingency. and configurational performance predictions. *Academy of Management Journal. 39*(4). 802-835. https://doi.org/10.2307/256713

Donaldson. T. (1982). *Corporations and Morality*. Prentice Hall.

Doty. D.H.. & Glick. W. (1994). Typologies as a unique form of theory building: Toward improved understanding and modeling. *Academy of Management Review. 19*(2). 230-251. https://doi.org/10.2307/258704

Doty. D.H.. Glick. W.H.. & Huber. G.P. (1993). Fit. equifinality. and organizational effectiveness: a test of two configurational theories. The Academy of Management Journal. 36(6). 1196-1250. https://doi.org/10.2307/256810

Dunlop. J.T. (1958). *Industrial Relations System*. Harvard Business School Press.

European Commission. (2001). *Promoting a European Framework for Corporate Social Responsibility – Green Paper*. Office for Official Publications of the European Communities. Luxembourg. https://eur-lex.europa.eu/EN/legal-content/summary/green-paper-on-corporate-social-responsibility.html

Evan. W.M.. & Freeman. R. (1988). A Stakeholder Theory of the Modern Corporation: Kantian Capitalism: In Beauchamp. T.L.. & Bowie. N.S. (Eds.). *Ethical Theory and Business* (pp. 97-106). Prentice Hall.

Fabi. B.. Raymond. L.. & Lacoursière. R. (2007). La GRH. levier du développement stratégique des PME [HRM. a lever for the strategic development of SMEs]. *Revue de Gestion des Ressources Humaines.* 65. 41-56.

Fericelli. J.. & Sire. B. (1996). *Performance and Human Resources*. Economica.

Huselid. M.A. (1995). The Impact of Human Resource Management Practices on Turnover. Productivity. and Corporate Financial Performance. *The Academy of Management Journal. 38*(3). 635-672. http://dx.doi.org/10.5465/256741

Ichniowski. C.. Shaw. K.. & Prennushi. G. (1997). The Effects of Human Resource Management Practices on

Productivity: A Study of Steel Finishing Lines. *The American Economic Review. 87*(3). 291-313. https://www.jstor.org/stable/2951347

Jalette. P.. & Bergeron. J.G. (2002). The impact of industrial relations on organizational performance. *Relations Industrielles. 57*(3). 542-561. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1668720

Langevin. J.L.. Tremblay. R.. & Bélanger. L. (1979). *Participative management by objectives*. Presses de l'Université Laval. Québec.

Macduffie. J.P. (1995). Human Resource Bundles and Manufacturing Performance. *Industrial & Labor Relations Review. 48*(2). 197-222. https://doi.org/10.2307/2524483

Meunier. M.. & Luciani. D. (2011). Un engagement. des concepts et des méthodes pour une économie au service de l'Homme. La performance globale. pour des entreprises durables [A commitment. concepts. and methods for an economy at the service of Man. Global performance. for sustainable companies]. Annales des Mines – Réalités Industriels. (2). 54-58. https://www.cairn.info/revue-realites-industrielles1-2011-2-page-54.htm

Meyer. A.D.. Tsui. A.S. & Hinings. C.R. (1993). Configurational approaches to organizational analysis. *Academy of Management Journal. 36*(6). 1175-1195. https://doi.org/10.2307/256809

Miller. D. (1987). The Genesis of Configuration. Academy of Management Review. 12(4). 686-701. https://doi.org/10.2307/258073

Navarrete. R.. Carrubi. B.. Rodríguez. G.. Javier. S.. & Guerrero. H. (2020). Using a configurational approach to understand information and technologies in human resources management. In *2020 International Conference on Technology and Entrepreneurship – Virtual (ICTE-V)* (pp. 1-7). San Jose. CA. USA. 2020. https://doi.org/10.1109/ICTE-V50708.2020.9113782

Ndao. A. (2012). *Effets des pratiques de GRH sur la performance économique et financière des entreprises sénégalaises: par quels mécanismes?* [Effects of HRM practices on the economic and financial performance of Senegalese companies: by what mechanisms]. AGRH. Nancy.

Paauwe. J.. & Boselie. P. (2003). Challenging "strategic HRM" and the relevance of the institutional setting. *Human Resource Management Journal. 13*(3). 56-70. https://doi.org/10.1111/j.1748-8583.2003.tb00098.x

Porter. M. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*. Free Press.

Sedo. K. (2015). *Les pratiques de gestion des ressources humaines et les performances des PME au Togo : approche configurationnelle ideal-type* [Human resource management practices and SME performance in Togo: ideal-type configurational approach]. Revue Africaine de Gestion. (Numéro Spécial juin). 1-25.

Segev. E. (1989). A Systematic Comparative Analysis and Synthesis of Two Business-Levels Strategic Typologies. *Strategic Management Journal. 10*(5). 487-505. https://doi.org/10.1002/smj.4250100507

Sharma. S. (2001). Different strokes: Regulatory styles and environmental strategy in the North-American oil and gas industry. *Business Strategy and the Environment. 10*(6). 344-364. https://doi.org/10.1002/bse.303

Sobczak. A.. & Minvielle. N. (2011). *Global Responsibility: Managing Sustainable Development and Corporate Social Responsibility*. Vuibert.

ST-Onge S.. Audet. M.. Haines. V.. & Petit. A. (2004). *Meeting the Challenges of Human Resource Management* (2nd edition). Gaëtan Morin Publisher.

Zaibunnisa. S.. Manzoor. M.. Shahzad. N.. Musarrat. S.. & Sidra. N. (2021). The Relationship between Human Resource Management and Corporate Social Responsibility: A Critical Review. *Journal of Southwest Jiaotong University*. 56. 176-197. https://doi.org/10.35741/issn.0258-2724.56.2.15

Zeghal. D.. & Dammak. S. (2007). *La Divulgation De L'information Environnementale Dans Les Rapports Annuels: Une Etude Comparative Des Multinationales Americaines Et Europeennes* [The Disclosure of Environmental Information in Annual Reports: A Comparative Study of American and European Multinationals]. Comptabilite Et Environnement. (May). https://shs.hal.science/halshs-00534777

NORBERT GRISZBACHER

BACK TO THE NATURE AND TRAVELLING OFF THE BEATEN PATH? – THE EXPLICIT AND IMPLICIT EXAMINATION OF 'NEW' DESTINATION CHOICES AND TRAVEL DECISIONS IN THE SHADOW OF THE COVID-19 PANDEMIC

HÍV A TERMÉSZET, AVAGY MENEKÜLÉS A CIVILIZÁCIÓBÓL? – 'ÚJ' DESZTINÁCIÓK ÉS UTAZÁSI DÖNTÉSEK EXPLICIT ÉS IMPLICIT VIZSGÁLATA A COVID-19 PANDÉMIA ÁRNYÉKÁBAN

Despite occasional shocks, tourism, as one of the world's largest industries, has undergone rapid evolution in the last decades. Nonetheless, the industry has been shocked by the recent COVID-19 outbreak, and it is still unclear how the tourist psyche has changed and what the aftermath will be. This study presents an innovative explicit-implicit approach to examine how the pandemic-induced (re)connection with nature influences travel and destination choices. Based on the findings, respondents explicitly and implicitly reported a favourable perception of natural destinations amid the pandemic. Consequently, the author can observe an increase in the popularity of natural sites, along with a corresponding surge in the frequency of nature visits, particularly among women and individuals with less committed or no relationships. Key values were identified as the driving forces behind this trend, including serenity, uniqueness, safety, closeness, and discovery, which can be considered crucial factors in shaping the future of sustainable tourism.

Keywords: **COVID-19, tourism, travel, destination choices, neuromarketing, implicit association test (IAT)**

A turizmus, mint a világ egyik legnagyobb iparága, az elmúlt évtizedekben az átmeneti sokkok ellenére jelentős fejlődésen ment keresztül, azonban az eddig példátlan COVID-19 krízis a turisztikai szektor szereplőit is soha nem látott kihívások elé állította. Bár mára a vírust látszólag sikerült maga mögött hagynia a világnak, hosszú távú (pszichés) következményei többnyire a mai napig tisztázatlanok. Jelen tanulmány egy innovatív explicit-implicit megközelítést alkalmazva vizsgálja a pandémia óta reneszánszát élő természetjárás jelenségét az utazási és desztinációválasztási döntéseink függvényében. A kapott explicit és implicit eredmények is rámutatnak, hogy a járványhelyzet hozzájárult egy általános preferencia kialakulásához a félreesőbb, természetes úti célok iránt. Ezzel összefüggésben a kutatás során egyszerre volt megfigyelhető a természetes attrakciók népszerűségének és a természetlátogatás gyakoriságának növekedése, különösen a nők és a kevésbé elkötelezettek vagy kapcsolat nélküliek körében. A megfigyelt trendek mozgatórugóiként a következő motívumok voltak azonosíthatóak: nyugalom, egyediség, biztonság, elérhetőség és felfedezés, amelyek az eredmények alapján kulcsszerepet játszhatnak a jövő fenntartható turizmusának alakulásában.

Kulcsszavak: **COVID-19, turizmus, utazás, desztinációválasztás, neuromarketing, implicit asszociációs teszt (IAT)**

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"In times of crisis, the natural world is a source of both joy and solace. The natural world produces the comfort that can come from nothing else."
Sir David Attenborough

Tourism as we think of it today has not always existed, but humans have always been on the move. Even though we can say that travel is in our genes from the early nomadic hunter-gatherer times, travelling habits and motivations are constantly changing and reshaping throughout history based on the characteristics of each historic era (Zuelow, 2015). These decades we are witnessing a nearly continuous growth of the travel and tourism industry, which is heavily linked to the advancements in the transportation and ICT sectors among others, making our world feel like a 'global village' by bringing even the furthest destinations within reach, where our leisure and business opportunities are not limited by time and space anymore (Maditinos & Vassiliadis, 2008). Nowadays, tourism as a system is characterized by strong interconnectedness and complexity (Del Chiappa et al., 2021), by operating in symbiotic relationships with many industries and regions, their fate becomes intertwined with each other.

Recently, an unprecedented event has shocked the entire world called the coronavirus (COVID-19) disease, caused by the severe acute respiratory syndrome coronavirus 2 virus (SARS-CoV-2) according to the World Health Organisation's report (WHO, 2023). The virus was first discovered in December 2019, in Wuhan, China, and from the epicentre it spread across the world within months due to the features of globalization and modern mass tourism (Galvani et al., 2020; Raffay, 2020; Sigala, 2020; Uğur & Akbıyık, 2020; Felkai, 2021), which led the WHO to announce a Public Health Emergency of International Concern on 30 January 2020, and to declare the outbreak as a pandemic on 11 March 2020. Despite several studies have underlined that in the 21th century a small number of countries already have experienced disease outbreaks like SARS, MERS, Ebola, H1N1 or Zika (Folinas & Metaxas, 2020; Gössling et al., 2020; Uğur & Akbıyık, 2020; Zenker & Kock, 2020; Liu et al., 2021; Matiza & Kruger, 2021; Škare et al., 2021), COVID-19 has rapidly infected more than 200 countries (WHO, 2023), creating a global unparalleled crisis.

The pandemic has caused profound and long-term structural and transformational changes in governments, the global economy, the health systems, and social life (Folinas & Metaxas, 2020; Gössling et al., 2020; Sigala, 2020; Altuntas & Gok, 2021; Fotiadis et al., 2021). The virus and the protective measures introduced to stop the rampaging pandemic had a powerful and varied impact on the tourism and hospitality industries, and at the end the entire system shut down for long months (Gössling et al., 2020; Zenker & Kock 2020). Resultingly, based upon the early calculations of Škare et al. (2021), the global damages in the tourism sector will exceed the losses of all previous epidemic estimates. A series of recent research has indicated that since during the COVID-19 intensive times international travel was rendered almost impossible by the pandemic, the tourism stakeholders has turned their attention to domestic and nearby markets to ensure the industry's survival and ultimately a gradual recovery (Altuntas & Gok, 2021; Liu et al., 2021; Volgger et al., 2021; Zhang et al., 2021; Michalkó et al., 2022; Matiza, 2022; OECD, 2022). Under these circumstances, a new trend has started emerging as cross-border, mass tourism was almost completely impossible: a domestic, mostly local form of tourism with minimized travel and physical contact has appeared, involving off the beaten path and natural destinations (Bae & Chang, 2020; Raffay, 2020; UNWTO, 2021; Wen et al., 2021).

Even though with vaccination the virus situation greatly improved worldwide (UNWTO, 2021), it is not known to this day when we can completely leave its effects behind us. As we can see, several researchers are now involved in Covid-19 research gap-spotting and/or already finishing off various case studies, yet the future of the industry is surrounded by many questions. This study presents a new approach for examining travel – destination choices by comparing consumer attitudes given towards off the beaten path, natural and popular, city-based destinations using a combination of explicit and implicit methods. In addition, to gain a more comprehensive understanding of the underlying phenomena, a cross-border approach was adopted, and the research was conducted in Romania and Hungary parallel, thereby adding another dimension to the investigation for comparative purposes. As such, this paper responds to the call for COVID-19 tourism research that delves deeper into the "*underlying relationships*", rather than providing "*obvious and purely descriptive*" information (Zenker & Kock, 2020, p. 1).

Tourism and the COVID-19 nightmare

Tourism by nature revolves around travelling and gaining valuable experiences through the interaction of people and places, usually in a safe and secure environment (Galvani et al., 2020; Raffay, 2020; Zhang et al., 2021). Therefore, the industry is particularly sensitive when one of these welfare elements is at risk. Although past crises have brought out the challenges and distinctive vulnerability of the modern tourism industry (Galvani et al., 2020), due to their smaller scale, they were frequently not fully addressed or resolved.

A virus turning upside down our world

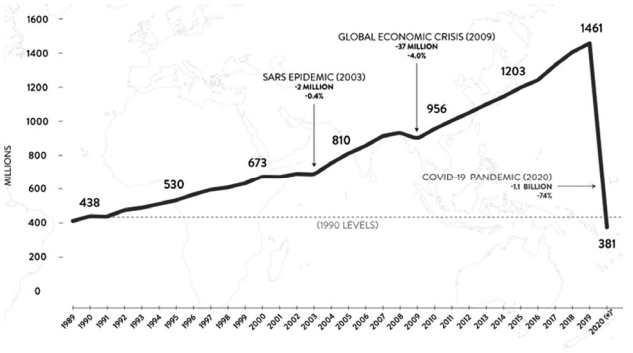
Unquestionably the recent COVID-19 crisis has taken an unprecedented scale, it has affected over 90% of the world's population (Gössling et al., 2020), amongst others, on account of "*planetary time-space compression*" (Galvani, et al., 2020, p. 1). The already fragile-proven tourism and hospitality industry were fundamentally shaken by the virus and its wide-ranging effects on mobility and social interaction. As a serious health crisis, the impact of COVID-19 on tourism varies across space and time, and in addition to its toll on human health, it has a devastating and far-reaching economic impact on a global scale ("*butterfly effect*" – Del Chiappa et al., 2021).

As illustrated by Figure 1, the virus and the COVID-related travel restrictions had crippled the international tourism and hospitality industry with a serious decline of international tourist arrivals by 74% in 2020. In addition to regulating international travel, as part of the efforts to

control the virus, further country-specific measures have been introduced worldwide, following the guidelines of the World Health Organization and the UN World Tourism Organization. The list included rules on hygiene, social distancing, and mask-wearing, as well as restrictions on leaving home, limiting, or banning mass gatherings, and restricting certain 'non-essential' activities in the service sector. Under these circumstances, the projected 3-4% global tourism growth for 2020 has experienced a significant shift, resulting in a 20-30% pandemic-induced decline instead, making it the biggest downturn in history (Sigala, 2020; Fotiadis et al., 2021).

Figure 1

The impact of COVID-19 on international tourist arrivals (millions)



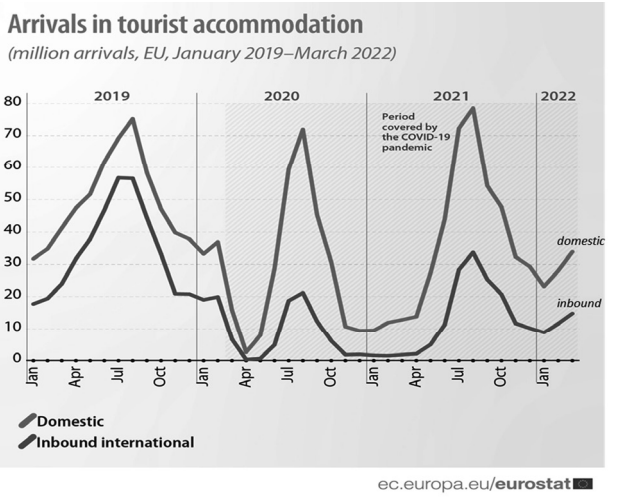
Source: UNWTO (2021)

With a drop of 87%, the decline in the tourism industry has remained severe at the beginning of 2021, raising further questions about how this situation will shape the future, which remains life-and-death for many (industries) but uncertain (UNWTO, 2021). During the years, the general uncertainty, stress, and fear generated by the suddenly changing infection rates combined with the successive restrictions and relaxations caused further uncertainty, increased levels of anxiety and hectic conditions (Golets et al., 2020), affecting both the demand and the supply side (Uğur & Akbıyık, 2020; Keller et al., 2022). Even if there are some exceptions to the general trend of risk aversion in tourism (see, for example, Neuburger & Egger's (2020) *"Relaxed"* or Matiza & Kruger's (2021) *"Dogmatic"* group), originally, tourists tend to be risk averse. A threat in one destination raises the perceived risks (and cost) of the travel experience, leading to a shift towards a destination deemed safer (Sönmez, 1998). Given that international travel was at a high-risk category this period, many viewed domestic travel as a risk-free substitute (see Figure 2).

According to Matiza & Kruger (2021), perceived risk is closely tied to the arousal of fear, anxiety, and other negative psychosocial impacts. Thus, in addition to the physical (health) risks, the characteristics and high transmissibility of the COVID-19 virus may also trigger further psychological and social risk related concerns. This also implies that despite the WHO declaring the end of the global health emergency on May 5th, 2023, the cognitive and affective impacts of the virus could still be long-lasting and severe.

Figure 2

The impact of COVID-19 on inbound and outbound arrivals at tourist accommodation establishments (EU-27)



Source: Eurostat (n.d.)

Back to 'normal' or heading towards a whole new world?

Even though we are writing 2023 now, and as displayed in Figure 2, our travel patterns have mostly returned to pre-pandemic levels as the world appears to be finally emerging from the nightmare of the pandemic (Eurostat, n.d.), we still bear the consequences of the pandemic on both social and individual levels. The World Tourism Organization's forecast appears to strengthen this assumption, with 63% of experts predicting that the tourism sector will not achieve a full recovery until 2024 (UNWTO, 2021), so it might be still premature to make any definitive conclusions about the total (economic) impact of the pandemic or a complete COVID-19 rebound.

As claimed by Michalkó et al. (2022), people currently have three contrasting 'baselines' in their mind, acting as a starting point for every decision: (1) pre-COVID norms, (2) co-COVID norms, and (3) post-COVID norms, we tend to react to present situations with an answer formulated upon a combination of these three value sets. While most of us are longing for the past, pre-covid times and norms, consciously or unconsciously, for people who lost more during the COVID-19 years the co-COVID norms will inevitably determine the upcoming years, affecting both physical and psychological risk perceptions. This experience has the potential to act as both a deterrent and a driving force for traveling (Dogramadjieva & Terziyska, 2022), but in the long run, it is likely to result in more careful and sensible choices (Golets et al., 2020; Neuburger & Egger, 2020; Matiza & Kruger, 2021).

At present, it appears evident that even COVID-19 and all virus-related restrictions combined could not completely eradicate the urge to travel as people have an

almost instinctive, deep-rooted need to occasionally leave their ordinary living and working environment (Raffay, 2020; Dogramadjieva & Terziyska, 2022). Nevertheless, as Felkai (2021, p. 44) emphasized, "*Travel will not be the same as before the pandemic*", the old processes accelerated by the pandemic and the newly emerging trends have already become part of our consciousness and daily lives. The question is what we will do with these possibilities when the tourism industry rises from its ashes, but one thing is quite certain: *"The Covid-19 pandemic has put an end to the tourism we knew before*" (Keller et al., 2022, p. 28). The UNWTO's report (2021) spotlighted that there are six major trends that have emerged in the shadow of the pandemic, but to this day it remains uncertain whether they are temporary or permanent metamorphoses:

- closer: tourists prefer 'staycations' or destinations close to home,
- new concerns: the importance of health & safety measures and cancellation policies rising,
- get away: growing demand for road trips, nature, and rural tourism due to travel limitations and the quest for open-air experiences,
- last minute: the volatility of pandemic-related events and travel restrictions have led to an increase in last-minute decisions and bookings,
- young travellers more resilient: younger age groups have reported a stronger rebound in travel compared to other segments,
- more responsible: a growing trend among travellers to prioritize creating a positive impact on local communities and seeking authentic experiences.

Correspondingly, there is a growing body of literature in different fields (e.g., ecosystem services, public health, marketing, and tourism) implying that recently people have renewed their attention in visiting blue-green spaces (e.g., urban parks, woodlands, rivers, mountains, and the coast), with (re)discovering their outstanding and irreplaceable functions in terms of health and well-being. Due to the COVID-19 pandemic and quarantine measures that have led to the closure of many facilities and people confined within four walls, the way people engage with their environment has unavoidably changed (ONS, 2021; Pouso et al., 2021). This led to a surge in demand for any available escape options from 'solitary home confinement' mentally and physically, hence the appeal of available green-blue (open) spaces has been amplified. The possibly underlying phenomenon is that while 'home' is normally acknowledged as a restorative environment, due to the COVID-19 crisis and the closure of schools, as well as the rise of tele-work, the restorative potential of home might have been compromised (Pouso et al., 2021). Recent discoveries demonstrate that contact with nature can yield numerous intangible advantages and serve as a shield against the adverse effects of lockdown restrictions. Aside from the physical benefits of engaging in outdoor activities during lockdown, studies have shown that spending time in nature (blue-green spaces), can lower the chances of experiencing depression and anxiety symptoms amid the COVID-19 pandemic (Day, 2020; Derks et al., 2020; Ugolini et al., 2020; Korpilo et al., 2021; Lu et al., 2021; Venter et al., 2021; De Meo et al., 2023). This mostly explains why we are experiencing a boom in nature visits – people spending more time in nature and visiting nature more often – as "*COVID-19 forcing people out*" (Derks et al., 2020, p. 2) and people are "*escaping to nature*", since it is an innate human instinct to seek refuge in nature when faced with hostile conditions (Lu et al., 2021).

In this context, urban and peri-urban green and blue spaces served as both a sanctuary and a means of resilience, offering a space for physical activity, socializing in alternative ways, and promoting overall well-being. The professionals have also noticed a new set of visitors to natural areas worldwide, consisting mainly of young people and families with children who are willing to travel even longer distances in search of 'COVID-safe' green-blue spaces (Derks et al., 2020; Ugolini et al., 2020; Korpilo et al., 2021). As De Meo et al. (2023) noted, the pandemic had the greatest psychological impact on young people, losing all forms of socialising opportunities which are critical at an early age. Under this stress, they started to seek for relief and a sense of connection with the outside world, and finally turned to nature, which can be seen as a substitution behaviour as other pastimes were limited (Day, 2020; Derks et al., 2020).

It is worth mentioning that finding ourselves in nature is not an entirely new phenomenon, the topic has received increasing attention even in the years preceding COVID-19, thanks to the overgrowth of mass tourism (Csapó & Végi, 2021; Michalkó et al., 2022; OECD, 2022), which encouraged the emergence of alternative forms of tourism (Altuntas & Gok, 2021; Liu et al., 2021; Volgger et al., 2021; Zhang et al., 2021; Matiza, 2022). As Michalkó et al. (2022) highlighted, alternative tourism practices had already been developing in parallel with mass tourism even before COVID-19, where the centre of attention shifted from the masses to individuals, and services tailored to their needs, with a special focus on uniqueness, personalized experiences, and a deeper connection with the environment. In resonance with the UNWTO report (2021), these old-new phenomena include, for example, trips with a special focus on health and wellbeing encompassing wellness and medical-health tourism, as well as a desire to reconnect with nature through active tourism activities (e.g., cycling, hiking, and nature walks), while also promoting ecotourism (Bae & Chang, 2020; Raffay, 2020; Seraphin & Dosquet, 2020; Benkhard, 2021; Csapó & Végi, 2021; ONS, 2021).

It is to be noted that due to the dynamic nature of shocks like COVID-19, pandemic-induced behaviour changes are unlikely to remain constant as the crisis situation evolves (Neuburger & Egger, 2020; Dogramadjieva & Terziyska, 2022; Talwar et al., 2022): the negative influence of perceived risk on travel intentions can escalate rapidly, but it may also be a temporary phenomenon that dissipates quickly once lockdown restrictions are lifted. Additionally, as Venter et al. (2021) emphasized, there is limited knowledge about customer perceptions, attitudes,

and intentions in response to the pandemic. Besides, most of the existing ones are derived from cross-sectional studies, considering the 'new reality' as coexisting with the pandemic, rather than as an evolving or post-pandemic phenomenon (Dogramadjieva & Terziyska, 2022). Consequently, it remains unclear whether these patterns are short-term responses or are likely to continue due to shifts in personal risk perception, social norms, and acclimation to new environments. To address the above outlined gaps, this paper is built around the following research questions:

RQ1.: Has COVID-19 permanently rewritten the tourists' connection with nature?

RQ2.: What are the primary forces that drive people to travel differently than before?

RQ3.: Can any segments be identified that are less/more impacted by this phenomenon?

Research design and methodology

Implicit measurements

The use of neuromarketing in tourism research is a recent phenomenon, it can be seen as a response to the ever-growing complexity of the modern consumer world and unprecedented challenges like COVID-19. As per Royo-Vela & Varga (2022), the methods and approaches employed in academic and market research are perpetually developing, and neuromarketing is a prime example of this evolution. The integration of neuroscientific techniques such as fMRI, EEG, and eye-tracking has empowered researchers to address previously unattainable inquiries, thereby unlocking fresh perspectives and methodologies in marketing and tourism. The incorporation of neuroscience into the realm of social sciences has expanded horizons and introduced novel perspectives and methodologies (Moral-Moral, 2021; Boz & Koç, 2022; Bülbül, 2022; Gaafar & Al-Romeedy, 2022; Royo-Vela & Varga, 2022).

The Implicit Association Test (IAT – Greenwald et al., 1998) is perhaps the most popular implicit research instrument that can indirectly probe psychological constructs through automatic associations between evaluative dimensions and attitude objects (Greenwald et al., 1998; 2003). IAT has been widely adopted in many fields, as beyond the frequently emphasized benefits like good consistency, predictive power, and flexibility (Gregg et al., 2013; Bar-Anan & Nosek, 2014), it is deemed to be free of response bias, as respondents are unaware that they are reporting their attitudes towards the targets during the pairing task (Maison et al., 2004).

While there has been a growing trend in tourism literature to use visual stimuli as a basis for experimentation

Table 1

The Nature vs City IAT in Qualtrics

Block sequence (trials)	Task description	Task instructions («left 'E' – right 'I'»)	Sample stimuli
1 (20)	Initial target-concept discrimination	«Nature / City»	*Plitvice Lakes National Park – Pula Arena (Croatia)* *Lake Balaton – Zalakaros Thermal Spa (Hungary)* *Dobšinská Ice Cave – winter Košice (Slovakia)* *Vršac vineyard – Belgrade (Serbia)* *Piatra Secuiului – Oradea (Romania)* *...* *(pictures appearing 1 by 1 in the middle)*
2 (20)	Associated attribute discrimination	«Pleasant / Unpleasant»	*Charming – Grotesque* *Memorable – Forgettable* *Special – Commonplace* *Healthy – Sick* *Safe – Dangerous* *Peaceful – Stressful* *Beautiful – Ugly* *Joyful – Melancholic* *Exciting – Monotonous* *Sustainable – Futureless* *(words appearing 1 by 1 in the middle)*
3 (20)	Initial combined task	«Nature+Pleasant / City+Unpleasant»	*either images (Nature/City) or words (Pleasant/Unpleasant) appearing in the middle randomly*
4 (40)	Repeated combined task	«Nature+Pleasant / City+Unpleasant»	*same as Block3*
5 (40)	Reversed target-concept discrimination	«City / Nature»	*same as Block1, but reversed concept*
6 (20)	Reversed combined task	«City+Pleasant / Nature+Unpleasant»	*either images (Nature/City) or words (Pleasant/Unpleasant) appearing in the middle randomly (reversed concept)*
7 (40)	Repeated reversed combined task	«City+Pleasant / Nature+Unpleasant»	*same as Block6*

Source: own elaboration (Qualtrics)

(e.g., Bastiaansen et al., 2016; Joyner et al., 2018), to the author's knowledge, no study has applied IAT to forecast consumer behaviour and decision-making in this field. Using Qualtrics.com as a platform, the participants were administered a survey-based Implicit Association Test that involved comparing stimuli sets representing human-made attractions with high population density ('City') with more secluded and peaceful alternatives ('Nature') along the dimensions of pleasantness and unpleasantness (Table 1).

Table 1 gives an overview of the IAT process: each stage started with a practice block (Block1-2-5) to allow respondents to learn the principles (to rapidly (and correctly) categorize the stimuli that is repeatedly appearing in the middle based on the assigned tasks, using the E key for the left-side category or the I key for the right-side category) before taking the actual quiz (Block3-4-6-7). The response times were measured of the participants in the highlighted blocks, from which their preferences could be determined by using the so-called D-score algorithm proposed by Greenwald et al. (2003). It is based on the theory that if the image of nature and the pleasant category are strongly connected, the respondents should respond faster if they must give the same answer on these two terms, which position was randomly assigned (then reversed) at each case by Qualtrics to counterbalance any distortion effects may arising from a left/right position (Carpenter et al., 2019; Fuduric et al., 2022; Griszbacher et al., 2022a; 2022b).

Explicit measures

As the usage of implicit measurements is more of an addition to, rather than a replacement for conventional market research techniques (Royo-Vela & Varga, 2022), enhancing the understanding obtained through the simultaneous collection of data, the nature/pleasant IAT was expanded by incorporating an explicit survey designed as follows:

- self-reported behaviour reporting: travel and destination preferences in general,
- affect part: evaluation of the importance of the target categories before COVID-19 and since COVID-19 ('Nature' vs. 'City' using bipolar and Likert-scales),
- demographic variable questions.

Table 2

Sample descriptive

VARIABLE	CATEGORY	HUNGARY (n=374)		ROMANIA (n=61)		TOTAL		
		n	%	n	%	n	%	Travel impact (1-5)
Gender	*Male*	113	30%	18	30%	131	30%	4.00
	Female	261	70%	43	70%	304	70%	4.29
Age	*under 23*	131	35%	23	38%	154	36%	4.34
	23-28	177	47%	29	48%	206	47%	4.19
	above 28	66	18%	9	15%	75	16%	3.96
Place of living	*Village*	35	9%	9	15%	44	12%	3.95
	Smaller city	82	22%	23	38%	105	30%	4.17
	Bigger City	86	23%	27	44%	113	34%	4.28
	Capital	171	46%	2	3%	173	25%	4.24
Education	*High school*	93	25%	13	21%	106	23%	4.19
	Vo-tech / Gymnasium	71	19%	2	3%	73	11%	4.23
	Bachelor (uni)	149	40%	31	51%	180	45%	4.28
	Master's (uni)	58	16%	14	23%	72	19%	4.03
	Doctoral (uni)	3	1%	1	2%	4	1%	4.00
Marital status	*Single*	142	38%	29	48%	171	43%	4.26
	Relationship	192	51%	25	41%	217	46%	4.19
	Married	37	10%	5	8%	42	9%	4.02
	Divorced	2	1%	2	3%	4	2%	4.50
	Widowed	1	0.3%	-	-	1	0.3%	5.00
Employment	*Student*	175	47%	26	43%	201	45%	4.20
	Employed	136	36%	22	36%	158	36%	4.06
	Part-time employed	41	11%	8	13%	49	12%	4.55
	Self-employed	18	5%	2	3%	20	4%	4.35
	Retired	1	0.3%	-	-	1	0.3%	4.00
	Unemployed	3	1%	3	5%	6	3%	4.83

Source: own elaboration (SPSS)

To comply with COVID-19 restrictions and satisfy the requirements of the exploratory research, the data collection was conducted online during the period from May 2021 to May 2022. Initially, the test was made available to multiple online communities that shared a common interest in travel. Afterwards, the participants further disseminated it to individuals who had similar interests, following a technique referred to as snowball sampling. By utilizing this method, it was easier to locate and connect with individuals who had an interest in travelling amid the pandemic with limited research resources (Biernacki & Waldorf, 1981; Heckathorn, 1997; Baltar & Brunet, 2012).

Analysis and results

Descriptive analysis was performed to examine the sample profile of the survey. The final sample (n=435) included 374 (85.98%) Hungarian and 61 (14.02%) Romanian hodophiles (travel-lovers). Table 2 provides the detailed demographic description of the sample:

The sample composition was presumably influenced by the requirements of the IAT (Qualtrics) and the online data collection method, having a predominantly young, female population with a university degree. It is worth noting that this finding is aligned with recent observations made in Hungary across different domains using IAT (Fuduric et al., 2022; Griszbacher et al., 2022a; 2022b). Nonetheless, the effort can be considered as successful to reach a group of young travellers (Travel impact AVG_X=4.24, measured on a 1-5 Likert scale), whose daily habits (i.e., travelling) were heavily influenced by the pandemic.

Next, travel characteristics was measured by ranking tasks, Likert scales and bipolar scales. The motives (values) under consideration were derived from the literature, taking the most trustworthy official report on Covid-19/ Tourism as a guideline (UNWTO, 2021).

During the analysis, it became apparent that people across borders shared a consensus on the priority of certain factors while engaging in travel activities (Table 3): the top four values were the emotions and experiences associated with the travel (1), safety (2), the overall atmosphere (3), and prices (4). Additionally, there was a unanimous agreement on the least principal factor, with the degree of urbanization being ranked last (16) in most cases.

With the intention to discover how people perceived these factors and which category ('City' or 'Nature') they associated them with, they were also asked to evaluate these items (where it made sense) on a Nature/City scale (-2 for nature-like, 0 for neutral, +2 for city-like):

As Figure 3 suggests, people associated most of the key dimensions with Nature. The case of 'Safety' proved to be an intriguing one, as participants linked it to urban areas, and this was the sole prominent contrast observed among the countries (HUNx=-0.01 and ROx=0.48). The reason for this phenomenon could be cultural, but also attributed to the severity of the pandemic, which made it difficult for people to decide in this category, meanwhile individuals typically associate their home (i.e., city) with a sense of security (Pouso et al., 2021). A similar explanation may also apply to the next section, where it is observed that while most statements ended up within the green 'natural' zone, individuals still tend to exhibit a slight preference

Table 3

Main travel motivators

Rank	VALUES	TOTAL (n=435)		HUNGARY (n=374)		ROMANIA (n=61)	
	The importance of ___ (ranking items 1-16) *	**Avg rank**	**Std. Dev**	**Avg rank**	**Std. Dev**	**Avg rank**	**Std. Dev**
1	*Positive feelings-experiences*	3.78	3.328	3.96	3.398	2.72	2.647
2	*Safety*	4.23	3.074	4.22	3.041	4.31	3.299
3	*Atmosphere*	4.91	3.132	5.00	3.176	4.33	2.797
4	*Price*	5.75	3.569	5.70	3.626	6.10	3.208
5	*Local infrastructure*	7.23	3.129	7.11	3.107	7.97	3.194
6	*Escapism/Relaxation*	7.33	3.734	7.46	3.706	6.51	3.828
7	*Discover new things*	7.51	3.843	7.61	3.813	6.85	3.991
8	*Location (close/far)*	8.78	4.173	8.58	4.198	9.98	3.836
9	*Culture and history*	8.99	4.689	8.88	4.789	9.66	3.991
10	*Health-Fit factors*	10.03	4.065	10.03	4.077	9.98	4.023
11	*Social interactions*	10.42	3.465	10.60	3.393	9.31	3.722
12	*Unique events*	10.53	3.535	10.66	3.509	9.75	3.622
13	*Climate*	10.59	4.786	10.30	4.834	12.34	4.098
14	*Available information*	10.68	4.205	10.60	4.227	11.20	4.061
15	*Fame/Reputation*	12.17	3.265	12.23	3.311	11.82	2.969
16	*Degree of urbanization*	13.08	2.895	13.06	2.944	13.16	2.590

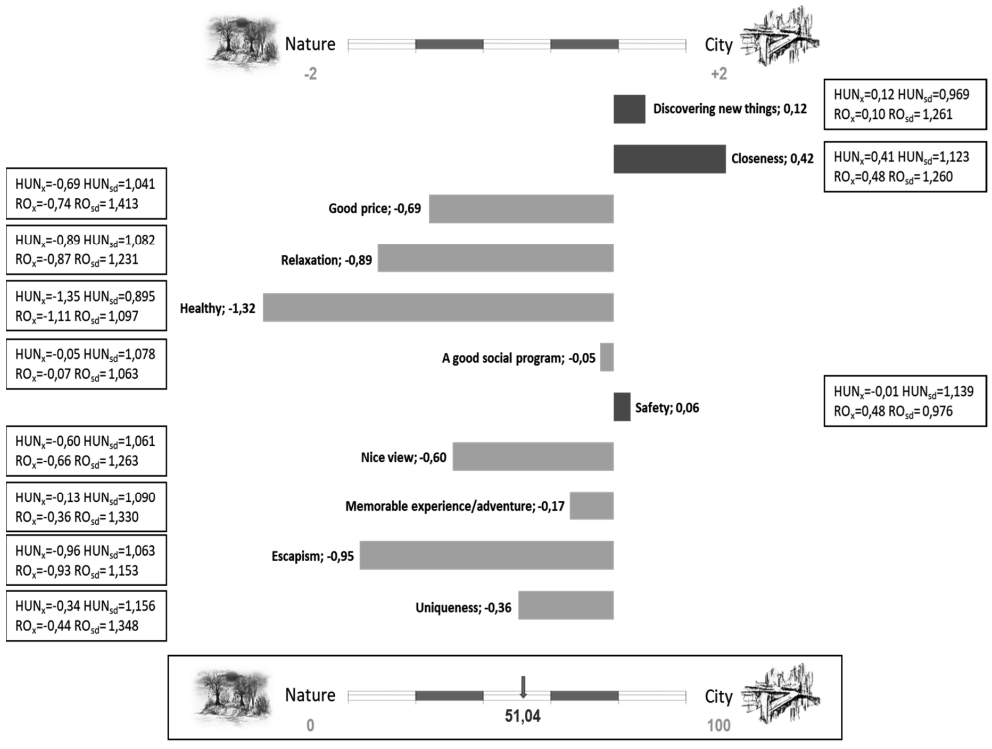
**The displayed item order (1-16) was randomized each case to avoid any distorting effects*

Source: own elaboration (SPSS)

for destinations located in urban areas (HUN_x= 51.09, RO_x= 50.75, overall score=51.04, measured on a 0-100 Nature/City scale).

Figure 3

Nature versus City associations (HUN-RO)



Source: own elaboration (SPSS)

At the final stage, the respondents were asked to rate their level of agreement with 14 statements using five-point Likert-scales that revolved around destination values and travel motives. As per Pearson & Mundform (2010), the 435 respondents formed a satisfactory sample size for conducting Principal components analysis (PCA). Following the data adequacy verification, PCA with varimax rotation method was employed to discover latent variables that affect travel and destination preferences in the context of the pandemic (Table 4). Ultimately, all the prerequisites were deemed to satisfy the criteria levels (min. 50% of Total Variance Explained, 0.60 for KMO, 0.70 for α – Hair et al., 2014; Tabachnick & Fidell, 2019), verifying the results.

As Table 4 shows, the 14 items were categorized into 5 factors (using the Eigenvalue > 1 rule), where the communality values surpassed 0.25, and the factor weights were also above the recommended 0.4.

As part of an attempt to create a socio-demographic profile of the travellers, ANOVA analysis was conducted. Once the necessary conditions for the test have been met, group memberships of age (Buzz F=5.990 p=0.003, Comfort & Luxury F=3.000 p=0.051, Quality

Table 4

Results of principal components analysis with varimax rotation*

FACTORS	ITEMS	LOADINGS
BUZZ	Nightlife and entertainment are important factors	0.784
	I am looking for spiritful. buzzing (sometimes crowded) places	0.759
	I travel to visit those „trendy" places that others visited or want to visit	0.696
ESCAPISM	I prefer far away exotic destinations more than closer ones	0.767
	Different climates offer new opportunities	0.639
	On my places-to-be-visited list there are more peaceful nature-inspired places than human-made	0.597
	Sometimes I need to make a trip to escape from the world	0.455
INTELLECTUAL GROWTH	Discovering new things is one of the main motives of travelling	0.813
	I am interested in cultural. historic places where I can grow intellectually	0.801
COMFORT & LUXURY	Travelling is some kind of luxury – living through a magical adventure (that many cannot afford)	0.778
	Travelling – holidays are categories where I usually pay more for the comfort to be guaranteed	0.540
	Mostly I choose to spend the holidays more actively	-0.408
QUALITY EXPERIENCES	Spending quality time with friends/family is an important part of travelling	0.696
	Re-living and re-visiting „old" experiences – places are main engines of travelling	0.593

**total variance explained=54.996%. KMO=0.734*

Source: own elaboration (SPSS)

experiences F=3.803 p=0.023), employment (Buzz F=3.132 p=0.045), marital status (Buzz F=6.283 p=0.002), and place of living (Intellectual growth F=8.228 p=0.000) proved to be a predictor of the factor powers (see Table 5).

Table 5

Travel values (factors) per socio-demographic profiles

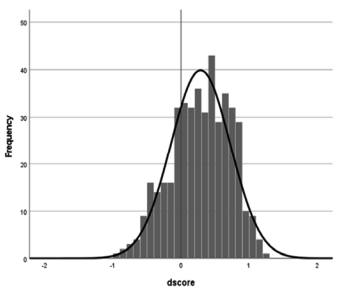
FACTOR	GROUP	N	AVG (X)	GR.	N	AVG (X)	GR.	N	AVG (X)
BUZZ	*student*	201	0.14	*single*	171	0.13	*<23*	154	0.16
	partly-employed	49	0.01	*relationship*	217	0.00	*23-28*	206	-0.01
	employed	158	-0.13	*married*	42	-0.47	*28<*	75	-0.32
INTELLECTUAL GROWTH	*village*	44	-0.62						
	small city	105	-0.07						
	bigger city	113	0.01						
	capital	173	0.19						
COMFORT & LUXUS	*<23*	154	0.11						
	23-28	206	0.00						
	28<	75	-0.23						
QUALITY EXPERIENCES	*<23*	154	0.12						
	23-28	206	0.00						
	28<	75	-0.26						

Source: own elaboration (SPSS)

A notable observation was that as employment status, relationship seriousness, and age categories levelled up, the strength of the 'Buzz' factor diminished. There also appears to be a relationship between the size of one's place of residence and the emphasis placed on 'Intellectual growth', with larger settlements indicating greater prestige. It was also interesting to see that the weight of 'Comfort & Luxury', and 'Quality experiences' factors exhibit a declining trend with advancing age.

Figure 4

Histogram of the D-scores from IAT (HUN-RO)



N	437
D-score mean	**0,28669**
D-score SD	0,43706
t-test	13,71241
Error rate	0,0769
Timeout rate	0,00076
p-value	0,00001
95% CI	0,2456 0,32778
Reliability*	0,87071

(: Estimated internal consistency based on split-half with Spearman-Brown correction)*

Source: own elaboration (iatgen.org/SPSS)

During the implicit part the IAT exhibited a low drop-out rate, with only 17 out of 454 participants excluded ($M_{timeout\ rate}$<0.00076 $M_{error\ rate}$=0.0769). The D-score obtained from the IAT is derived from the participants' response times and reflects their overall speed in answering the IAT questions. In our case, this means whether 'Nature' or 'City' images were easier (quicker) to associate with the positive attributes (e.g., target category (Nature) + positive images = positive D-score, as demonstrated by Figure 4).

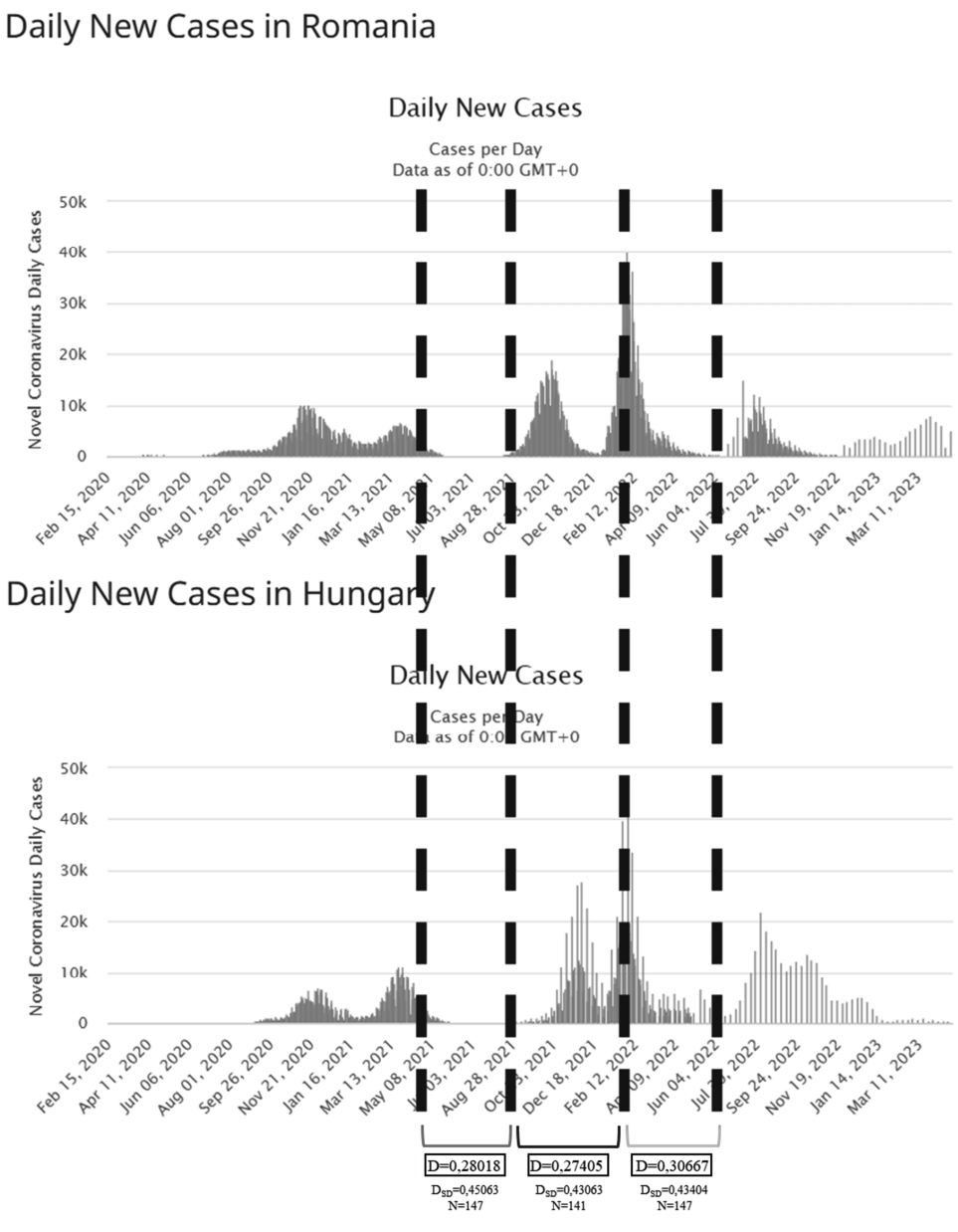
The histogram above displays the D-scores of the respondents, where positive scores are indicating associations with pleasantness and negative scores with unpleasantness. The implicit findings reveal a positive overall D-score (0.28669), interpreted as leaning towards nature and pleasant dimensions, in other words, the natural stimuli were more easily linked with the pleasant dimension. This nature-positive trend was visible both in the case of Hungary (D-score=0.29844 D_{SD}=0.43814) and Romania (D-score=0.21788 D_{SD}=0.43314).

Given the similar COVID-19 characteristics of the two countries, an effort was made to compare the D-scores across different stages of the pandemic. Although the average D-score result was strongly positive during the most severe Covid period (D-score=0.27405 D_{SD}= 0.43063 n=141 reported between 01/09/2021 and 28/02/2022 – highlighted with dark colour at the bottom of Figure 5), there appears to be no relationship between the intensity of Covid-19 and the D-scores.

Further analysis identified key values that formed the basis of the nature-city comparison, and thus resonate with the D-scores. These values included Uniqueness (Pearson's R=-0.119 p=0.013), Safety (Pearson's R=-0.192 p=0.000), Closeness (Pearson's R=-0.097 p=0.043) and Discovering new things (Pearson's R=-0.107 p=0.025), meaning that individuals who received more natural (negative) scores at these dimensions (Figure 3) are likely achieved higher (more positive) D-scores. In addition, a link between the D-groups and the 'Buzz' factor (Pearson's R=-0.100 p=0.038) was established, evincing that individuals who pursue natural experiences are less likely to have a strong preference for a buzzing atmosphere.

Figure 5

The comparison of the D-scores and COVID-19 daily cases



Source: worldometers.info (2023) extended by the author's own results

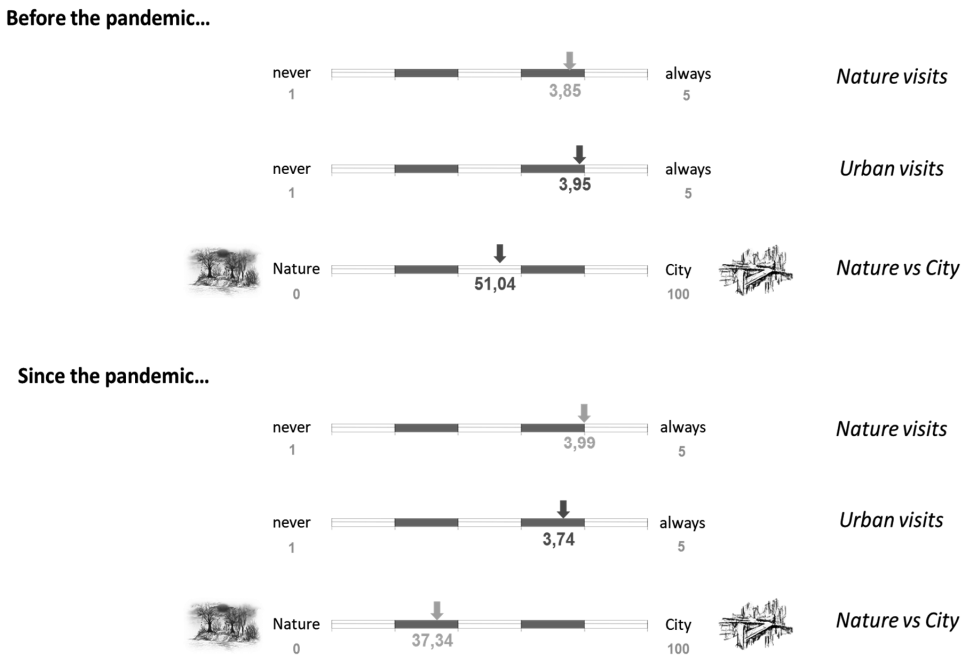
The implicit findings are consistent with the explicit ones, as respondents appear to prioritize spending more time in nature. As visible in Figure 6, this is supported by the results from both countries, indicating a favouritism towards nature in case of nature/city visit frequency (Nature: pre-covid HUN_x=3.85 RO_x=3.87 vs. since-covid HUN_x=3.98 RO_x=4.00, City: pre-covid HUN_x= 3.98 RO_x= 3.92 vs. since-covid HUN_x= 3.75 RO_x= 3.67) and destination choices (Nature/City pre-covid HUN_x=51.09, RO_x=50.75 vs. since-covid HUN_x=37.62 RO_x=35.59).

The nature/pleasant D-scores correlate with the following explicit statements of destination choices before and after the outbreak of the pandemic, finding a weak positive correlation with remote – nature ones and inverse with mass – urban ones:

- Pre-pandemic natural visit frequency (Pearson's R=0.196 p=0.000),
- Pre-pandemic urban visit frequency (Pearson's R=-0.103 p=0.032),
- I prefer City in general (vs Nature) (Pearson's R=-0.249 p=0.000),
- Usually, I am looking for hidden gems (vs popular places) (Pearson's R=0.118 p=0.014),
- Since the pandemic I am looking for hidden gems (vs popular places) (Pearson's R=0.102 p=0.034),
- Since the pandemic I prefer City (vs Nature) (Pearson's R=-0.160 p=0.001),
- Since the pandemic natural visit frequency (Pearson's R=0.226 p=0.000),
- Since the pandemic urban visit frequency (Pearson's R=-0.132 p=0.006).

Figure 6

Changes in nature visits since the pandemic (HUN-RO)



Source: own elaboration (SPSS)

In the search for the characteristics of the Nature enthusiasts, the D-scores were sorted into the following groupings: (1) 'city lovers' -2≤D-score<-1 (zero cases – Figure 4); (2) 'rather city' -1≤D-score<0; (3) 'rather nature' 0<D-score≤+1; (4) 'nature lovers' +1<D-score≤+2. Cross-tabulation analysis was conducted to figure out whether any demographic variable is significantly related to the D-score classification. As a result, gender (Pearson Chi^2=5.060 Cramer's V=0.108 p=0.080) and marital status (Pearson Chi^2=38.900 Cramer's V=0.211 p=0.000) were discovered as being significantly related to the D-score profile, with females and individuals in less committed or no relationships finding themselves in higher (more positive) D-score classes.

Conclusions, limitations, and future research

This paper addresses the void in tourism research pertaining to the aftereffects of the COVID-era, as the intricate and fragile nature of the tourism industry, which comprise the interplay of economic, political, social, cultural, and ecological dimensions, foregrounds the importance of research in this field. Furthermore, this reinforces the literature review's notion that tourism research must conform to the latest trends in behavioural sciences to acquire modern perspectives on consumer behaviour (Moral-Moral, 2021; Boz & Koç, 2022; Bülbül, 2022; Gaafar & Al-Romeedy, 2022). Following this logic, this study contributes to the extant literature by (1) introducing IAT to the field of tourism research and (2) adding a new depth to the previous COVID-knowledge by explicitly and implicitly evaluating the dynamic nature of COVID-19. Additionally, for managers, the study offers guidance for developing sustainable nature-driven marketing strategies by highlighting the demand for peaceful, enjoyable, and individualistic novel experiences in response to the over-growing mass tourism and the pandemic-shock.

The explicit analysis found evidence that when it comes to comparing distinct destinations, 'Nature' (more remote natural area) is associated with most of the key dimensions (affordable, relaxing, healthy, socialising, great view, memorable experience, escapism, and uniqueness), while 'City' (densely populated urban space) only scored higher in a few categories (discovery, closeness, plus safety in Romania). As the most significant result, the research findings reveal that individuals in both countries tend to evaluate 'Nature' more pleasant than 'City', not just explicitly but also implicitly. The newfound learning suggests that COVID-19 is having a lasting impact on our connection with nature as even when the virus situation was improving in 2022, individuals still experienced a heightened connection to the pleasant and natural dimensions (RQ1). Following earlier works, this result proves that the pandemic has accelerated the rise of alternative forms of tourism with nature in the centre (Altuntas & Gok, 2021; Liu et al., 2021; Volgger et al., 2021; Zhang et al., 2021; Matiza, 2022; Michalkó et al., 2022). In search of the factors driving the observed trend, the correlation of explicit and implicit measures signalled a positive connection between more remote, natural sites and a pleasant (travel) experience in terms of serenity (anti-buzz), uniqueness, safety, closeness, and discovery (RQ2).

With the aim of better understanding the impacted parties by this phenomenon (RQ3), two relationships were discovered between D-classes and sociological charac-

teristics: (1) women and (2) individuals in non-serious or no relationships reported feeling a stronger affinity for nature. According to the literature, during the pandemic women often associate spending time in nature with healthy – family activities and a sense of safety – security, whereas those seeking social connectedness could have viewed blue-green spaces during this time as their sole opportunity for socialization (Day, 2020; Derks et al., 2020; Korpilo et al., 2021; Venter et al., 2021; De Meo et al., 2023). The fact that there was no other observable relationship between the respondents' demographic variables and the D-score-based Nature visitor classes corroborates the conclusions of Dogramadjieva & Terziyska (2022) that there is no agreement among studies on the attributes of tourists who demonstrate resilience to the COVID-19 crisis.

While there was no apparent link between the implicit scores and the severity of the pandemic, both Hungarians and Romanians have explicitly expressed a shift in their destination preferences towards natural, blue-green spaces since the onset of the pandemic, which has also a relatively weak but positive correlation with the D-scores. This natural tendency is in line with previous findings in this area (Derks et al., 2020; Ugolini et al., 2020; Korpilo et al., 2021; De Meo et al., 2023 among others). Evidently, all parties involved in the tourism industry, including business owners, academics, and policymakers, should recognize the potential for positive change that this situation presents and begin prioritizing sustainable tourism practices with a particular emphasis on utilizing blue-green spaces. The increasing popularity of natural sites makes it necessary to reassess the requirements for infrastructure and visitor management tools, considering demographic profiles, consumption patterns, destination accessibility, mobility, and transportation among others, while also being mindful of the importance of preserving natural resources and supporting local communities.

The study showcased the applicability of IAT as a non-invasive unconscious technique in addressing present-day tourism challenges, such as COVID-19 and leaning towards nature-based experiences (RQ1-2-3). Consistent with prior IAT research, the findings suggest that despite a weak correlation observed in this instance, implicit and explicit measures are closely aligned and congruent (i.e., indicating a natural preference HUN-RO), making this revolutionary combination more effective (reliable) to measure consumer attitudes and preferences (Fuduric et al., 2022; Griszbacher et al., 2022a; 2022b). Consequently, these findings can provide a firm foundation for future discussions; however, it is essential to recognize the limitations of the current study. The IAT only enabled us to compare associations between 'Nature' and 'City' on a scale of pleasantness to unpleasantness, thus the results offer only a limited understanding of the connection between nature and travel intentions in the shadow of the pandemic. Yet, the biggest unanswered question pertains to the aftermath of the pandemic: will our COVID-19 memories eventually fade, and we revert to a "*pre-COVID normal*" (Michalkó et al., 2022), or will the impact be profound enough to necessitate a "*past-COVID (new) normal*" that we must learn to live with? Until more comprehensive longitudinal studies are conducted that considers the dynamic nature of shocks like the pandemic (Dogramadjieva & Terziyska, 2022), the question of what the future holds will remain unanswered. Future research could utilize a larger sample size and include participants from more countries (with non-identical COVID-19 characteristics) to validate the measures and address the limitations of the online data collection method of the study. Although this study does not provide a definitive answer to the future question(s), it made some major contributions to the literature and tourism practice, stimulated further research in this field by raising valuable questions, while also offering a new tool for measuring consumer (i.e., tourist) attitudes.

"There is a pleasure in the pathless woods,
There is a rapture on the lonely shore,
There is society where none intrudes,
By the deep Sea, and music in its roar:
I love not Man the less, but Nature more"
George Gordon Byron

References:

Altuntas, F., & Gok, M. S. (2021). The effect of COVID-19 pandemic on domestic tourism: A DEMATEL method analysis on quarantine decisions. *International Journal of Hospitality Management*, 92, 102719. https://doi.org/10.1016/j.ijhm.2020.102719

Bae, S., & Chang, P.J. (2020). The effect of coronavirus disease-19 (COVID-19) risk perception on behavioural intention towards 'untact' tourism in South Korea during the first wave of the pandemic (March 2020). *Current Issues in Tourism*, *24*(5), 1-19. https://doi.org/10.1080/13683500.2020.1798895

Baltar, F., & Brunet, I. (2012). Social research 2.0: virtual snowball sampling method using Facebook. *Internet Research*, *22*(1), 55-74. https://doi:10.1108/10662241211199960

Bar-Anan, Y., & Nosek, B.A. (2014). A comparative investigation of seven indirect attitude measures. *Behavior Research Methods*, *46*(3), 668-688. https://doi.org/10.3758/s13428-013-0410-6

Bastiaansen, M., Straatman, S., Driessen, E., Mitas, O., Stekelenburg, J., & Wang, L. (2016). My destination in your brain: A novel neuromarketing approach for evaluating the effectiveness of destination marketing. *Journal of Destination Marketing & Management*, 7, 76-88. https://doi.org/10.1016/j.jdmm.2016.09.003

Benkhard, B. (2021). Túrázók a Pilis és a Visegrádi-hegység területén: a megközelítés problémája. *Turizmus Bulletin*, *21*(3), 5-13. https://doi.org/10.14267/TURBULL.2021v21n3.1

Biernacki, P., & Waldorf, D. (1981). Snowball Sampling: Problems and Techniques of Chain Referral Sampling. *Sociological Methods & Research*, *10*(2), 141-163. https://doi.org/10.1177/004912418101000205

Boz, H., & Koç, E. (2022). Using Neuromarketing Tools in Hospitality and Tourism Research. In F. Okumus, S.M. Rasoolimanesh, & S. Jahani (Eds.), *Advanced Research Methods in Hospitality and Tourism* (pp. 87-109). Emerald Publishing Limited, Bingley.

Bülbül, S. (2022). Possibilities of using neuromarketing tools in the hospitality industry. In L. Altinay, O.M. Karatepe, & M.Tuna (Eds.), *Advances in managing tourism across continents* (Vol. 2, pp. 1-9). USF M3 Publishing.

Carpenter, T.P., Pogacar, R., Pullig, C., Kouril, M., Aguilar, S., LaBouff, J., Isenberg, N., & Chakroff, A. (2019). Survey-software implicit association tests: A methodological and empirical analysis. *Behavior Research Methods*, *51*(5), 2194-2208. https://doi.org/10.31234/osf.io/hgy3z_

Csapó, J. & Végi, Sz. (Eds.) (2021). *A globális, lokális és a glokális turizmus jelenlegi szerepe és jövője elméleti és gyakorlati megközelítésben*. PTE KTK Marketing és Turizmus Intézet, Pécs.

Day, B.H. (2020). The Value of Greenspace Under Pandemic Lockdown. *Environmental and Resource Economics,* 76, 1161-1185. https://doi.org/10.1007/s10640-020-00489-y_

Del Chiappa, G., Bregoli, I., & Fotiadis, A. (2021). The impact of COVID-19 on the Italian accommodation sector and related response actions: A supply-perspective using a mixed method approach. *Journal of Tourism, Heritage & Services Marketing*, *7*(1), 13-22. http://dx.doi.org/10.5281/zenodo.4516187

De Meo, I., Alfano, A., Cantiani, M.G., & Paletto, A. (2023). The Impact of the COVID-19 Pandemic on Citizens' Attitudes and Behaviors in the Use of Peri-Urban Forests: An Experience from Italy. *Sustainability*, *15*(4), 2852. https://doi.org/10.3390/su15042852_

Derks, J., Giessen, L., & Winkel, G. (2020). COVID-19-induced visitor boom reveals the importance of forests as critical infrastructure. *Forest Policy and Economics, 118*, 102253-102253. https://doi.org/10.1016/j.forpol.2020.102253_

Dogramadjieva, E., & Terziyska, I. (2022). One year later: shifts and endurances in travel intentions of Bulgarian residents in the time of pandemic. *European Journal of Tourism Research*, 32, 3220. https://doi.org/10.54055/ejtr.v32i.2704

Eurostat (n.d.). *Arrivals at tourist accommodation establishments – monthly data.* https://ec.europa.eu/eurostat/databrowser/view/TOUR_OCC_ARM__custom_2999991/settings_1/line?lang=en&bookmarkId=33082523-325c-4ff3-aeac-1b4ae2369dab

Felkai, P. (2021). Hogyan utazzunk a COVID járvány után? *Turizmus Bulletin*, *21*(1), 44-48. https://doi.org/10.14267/TURBULL.2021v21n1.5

Folinas, S., & Metaxas, T. (2020). Tourism. The great patient of coronavirus COVID-2019. *International Journal of Advanced Research*, *4*(8), 365-375. https://doi.org/10.21474/IJAR01/10788

Fotiadis, A., Polyzos, S., & Huan, T.C. (2021). The good, the bad and the ugly on COVID-19 tourism recovery. *Annals of Tourism Research*, *8*(7), 103117. https://doi.org/10.1016/j.annals.2020.103117

Fuduric, M., Varga, Á., Horvat, S., & Skare, V. (2022). The ways we perceive: A comparative analysis of manufacturer brands and private labels using implicit and explicit measures. *Journal of Business Research*, 142, 221-241. https://doi.org/10.1016/j.jbusres.2021.12.033

Gaafar, H.A., & Al-Romeedy, B. (2022). Neuromarketing as a Novel Method to Tourism Destination Marketing: Evidence from Egypt. *Journal of Association of Arab Universities for Tourism and Hospitality*, *22*(1). 48-74. https://doi.org/10.21608/JAAUTH.2021.109864.1275

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. https://doi.org/10.1080/14616688.2020.1760924

Golets, A., Farias, J., Pilati, R., & Costa, H. (2020). COVID-19 Pandemic and Tourism: The Impact of Health Risk Perception and Intolerance of Uncertainty on Travel Intentions. *Current Psychology*, 42, 2500-2513. https://doi.org/10.20944/preprints202010.0432.v1

Gössling, S., Scott, D., & Hall, C.M. (2020). Pandemics, tourism and global change: A rapid assessment of COVID-19. *Journal of Sustainable Tourism*, *29*(1), 1-20. https://doi.org/10.1080/09669582.2020.1758708

Greenwald, A.G., McGhee, D., & Schwartz, J.L.K. (1998). Measuring individual differences in implicit cognition: the implicit association test. *Journal of Personality and Social Psychology*, *74*(6), 1464-1480. https://doi.org/10.1037/0022-3514.74.6.1464_

Greenwald, A.G., Nosek, B.A., & Banaji, M.R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology*, *85*(2), 197-216. https://doi.org/10.1037/0022-3514.85.2.197_

Gregg, A.P., Klymowsky, J., Owens, D., & Perryman, A. (2013). Let their fingers do the talking? Using the Implicit Association Test in Market Research. *International Journal of Market Research*, *55*(4), 487-503. https://doi.org/10.2501/ijmr-2013-013

Griszbacher, N., Kemény, I., & Varga, Á. (2022a). The Echoes of Our Favourite Childhood Figures: Examining the Role of Disney in Lifelong Character Development Through Its Generational Fairy Tales. *GiLE Journal of Skills Development*, *2*(2), 51-72. https://doi.org/10.52398/gjsd.2022.v2.i2.pp51-72

Griszbacher, N., Varga, Á., & Kemény, I. (2022b). Sport, megaevents, volunteers and the once-in-a-lifetime experience. *Budapest Management Review*, 53(1), 15-28. https://doi.org/10.14267/VEZTUD.2022.01.02_

Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2014). *Multivariate Data Analysis* (17th Edition). Edinburg: Pearson.

Heckathorn, D.D. (1997). Respondent-driven sampling: A new approach to the study of hidden populations. *Social Problems*, *44*(2), 174-199. https://doi.org/10.2307/3096941

Joyner, L., Kline, C., Oliver, J., & Kariko, D. (2018). Exploring emotional response to images used in agritourism destination marketing. *Journal of Destination Marketing & Management*, 9, 44-55. https://doi.org/10.1016/j.jdmm.2017.10.004

Keller, K., Kaszás, N., & Kovács, L. (2022). Turisztikai szolgáltatók válságra való felkészültsége a COVID-19 tekintetében. *Turizmus Bulletin*, *22*(4), 26-35. https://doi.org/10.14267/TURBULL.2022v22n4.3

Korpilo, S., Kajosaari, A., Rinne, T., Hasanzadeh, K., Raymond, C.M., & Kyttä, M. (2021). Coping With Crisis: Green Space Use in Helsinki Before and During the COVID-19 Pandemic. *Frontiers in Sustainable Cities*, 3, https://doi.org/10.3389/frsc.2021.713977

Liu, A., Vici, L., Ramos, V., Giannoni, S., & Blake, A. (2021). Visitor arrivals forecasts amid COVID-19: A perspective from the Europe team. *Annals of Tourism Research*, 88, 103182. https://doi.org/10.1016/j.annals.2021.103182

Lu, Y., Zhao, J., Wu, X., & Lo, S.M. (2021). Escaping to nature during a pandemic: A natural experiment in Asian cities during the COVID-19 pandemic with big social media data. *The Science of the Total Environment*, 777, 146092. https://doi.org/10.1016/j.scitotenv.2021.146092

Maditinos, Z., & Vassiliadis, C. (2008). Crisis and Disasters in Tourism Industry: Happen locally – Affect globally. In *MIBES Conference E-Book* (pp. 67-76). https://www.semanticscholar.org/paper/Crises-and-Disasters-in-Tourism-Industry%3A-Happen-Maditinos-Vassiliadis/62985def

Maison, D., Greenwald, A.G., & Bruin, R.H. (2004). Predictive Validity of the Implicit Association Test in Studies of Brands, Consumer Attitudes, and Behavior. *Journal of Consumer Psychology, 14*(4), 405-415. https://doi.org/10.1207/s15327663jcp1404_9

Matiza, T. (2022). Post-COVID-19 crisis travel behaviour: towards mitigating the effects of perceived risk. *Journal of Tourism Futures*, *8*(1), 99-108. https://doi.org/10.1108/JTF-04-2020-0063

Matiza, T., & Kruger, M. (2021). Ceding to their fears: a taxonomic analysis of the heterogeneity in COVID-19 associated perceived risk and intended travel behaviour. *Tourism Recreation Research*, *46*(2), 158-174. https://doi.org/10.1080/02508281.2021.1889793

Michalkó, G., Németh, J., & Birkner, Z. (2022). *Turizmusbiztonság, járvány, geopolitika.* Bay Zoltán Alkalmazott Kutatási Közhasznú Nonprofit Kft.

Moral-Moral, M. (2021). The application of neuromarketing to the field of tourism: a bibliographic review. *Vivat Academia*, 154, 429-442. https://doi.org/10.15178/va.2021.154.e1359

Neuburger, L., & Egger, R. (2020). Travel risk perception and travel behaviour during the COVID-19 pandemic 2020: a case study of the DACH region. *Current Issues in Tourism, 24*(7), 1003-1016. https://doi.org/10.1080/13683500.2020.1803807

OECD. (2022). *OECD Tourism Trends and Policies 2022.* Organisation for Economic Co-operation and Development. https://www.oecd.org/cfe/oecd-tourism-trends-and-policies-20767773.htm

ONS. (2021). *How has lockdown changed our relationship with nature?* Office for National Statistics. https://www.ons.gov.uk/economy/environmentalaccounts/articles/howhaslockdownchangedourrelationshipwithnature/2021-04-26

Pearson, R.H., & Mundform, D.J. (2010). Recommended sample size for conducting exploratory factor analysis on dichotomous data. *Journal of Modern Applied Statistical Methods*, *9*(2), 359-368. https://doi.org/10.22237/jmasm/1288584240

Pouso, S., Borja, Á., Fleming, L.E., Gómez-Baggethun, E., White, M.P., & Uyarra, M.C. (2021). Contact with blue-green spaces during the COVID-19 pandemic lockdown beneficial for mental health. *The Science of the Total Environment*, 756, 143984. https://doi.org/10.1016/j.scitotenv.2020.143984

Raffay, Z. (2020). A COVID-19 járvány hatása a turisták fogyasztói magatartásának változására. In I. Ercsey (Ed.), *Marketing a digitalizáció korában: Az Egyesület a Marketing Oktatásért és Kutatásért XXVI. Országos konferenciájának előadásai* (pp. 347-356). Széchenyi István Egyetem, Győr.

Royo-Vela, M., & Varga, Á. (2022). Unveiling Neuromarketing and Its Research Methodology. *Encyclopedia*, 2, 729-751. https://doi.org/10.3390/encyclopedia2020051

Seraphin, H., & Dosquet, F. (2020). Mountain tourism and second home tourism as post COVID-19 lockdown placebo?. *Worldwide Hospitality and Tourism Themes*, *12*(4), 485-500. https://doi.org/10.1108/WHATT-05-2020-0027

Sigala, M. (2020). Tourism and COVID-19: Impacts and implications for advancing and resetting industry and research. *Journal of Business Research*, 117, 312-321. https://doi.org/10.1016/j.jbusres.2020.06.015

Škare, M., Soriano, D.R., & Porada-Rocho, M. (2021). Impact of COVID-19 on the travel and tourism industry. *Technological Forecasting and Social Change*, 163, 120469. https://doi.org/10.1016/j.techfore.2020.120469

Sönmez, S.F. (1998). Tourism, terrorism, and political instability. *Annals of Tourism Research*, *25*(2), 416-456. https://doi.org/10.1016/S0160-7383(97)00093-5

Tabachnick, B.G., & Fidell, L.S. (2019). *Using multivariate statistics* (7th edition). Pearson Education.

Talwar, S., Srivastava, S., Sakashita, M., Islam, N., & Dhir, A. (2022). Personality and travel intentions during and after the COVID-19 pandemic: An artificial neural network (ANN) approach. *Journal of Business Research*, 142, 400-411. https://doi.org/10.1016%2Fj.jbusres.2021.12.002

Ugolini, F., Massetti, L., Calaza-Martínez, P., Cariñanos, P., Dobbs, C., Ostoic, S.K., Marin, A.M., Pearlmutter, D., Saaroni, H., Šaulienė, I., Simoneti, M., Verlič, A., Vuletić, D., & Sanesi, G. (2020). Effects of the COVID-19 pandemic on the use and perceptions of urban green space: An international exploratory study. *Urban Forestry & Urban Greening*, *56*, 126888. https://doi.org/10.1016/j.ufug.2020.126888

Uğur, N.G., & Akbıyık, A. (2020). Impacts of COVID-19 on global tourism industry: A cross-regional comparison. *Tourism Management Perspectives*, 36, 100744. https://doi.org/10.1016/j.tmp.2020.100744

UNWTO. (2021). *COVID-19 and Tourism 2020: A year in review.* United Nations World Tourism Organization. https://www.unwto.org/covid-19-and-tourism-2020

Venter, Z.S., Barton, D.N., Gundersen, V., Figari, H., & Nowell, M.S. (2021). Back to nature: Norwegians sustain increased recreational use of urban green space months after the COVID-19 outbreak. *Landscape and Urban Planning*, 214, 104175. https://doi.org/10.1016/j.landurbplan.2021.104175

Volgger, M., Taplin, R., & Aebli, A. (2021). Recovery of domestic tourism during the COVID-19 pandemic: An experimental comparison of interventions. *Journal of Hospitality and Tourism Management*, 48, 428-440. https://doi.org/10.1016/j.jhtm.2021.07.015

Wen, J., Kozak, M., Yang, S., & Liu, F. (2021). COVID-19: potential effects on Chinese citizens' lifestyle and travel. *Tourism Review*, *76*(1), 74-87. https://doi.org/10.1108/TR-03-2020-0110

WHO. (2023). *Coronavirus disease (COVID-19) pandemic*. World Health Organization. https://www.who.int/europe/emergencies/situations/covid-19

worldometers.info (2023). *COVID-19 Coronavirus Pandemic*. https://www.worldometers.info/coronavirus/#countries

Zenker, S., & Kock, F. (2020). The coronavirus pandemic – A critical discussion of a tourism research agenda. *Tourism Management*, 81, 104164. https://doi.org/10.1016/j.tourman.2020.104164

Zhang, C.X., Wang, L., & Rickly, J.M. (2021). Non-interaction and identity change in Covid-19 tourism. *Annals of Tourism Research*, 89, 103211. https://doi.org/10.1016/j.annals.2021.103211

Zuelow, E.G.E. (2015). *A History of Modern Tourism*. London: Bloomsbury Publishing.

FELHÍVÁS PUBLIKÁCIÓS NÍVÓDÍJRA

MAGYAR TUDOMÁNYOS AKADÉMIA
IX. Gazdaság- és Jogtudományok Osztálya
Gazdálkodástudományi Bizottság

Az MTA IX. Osztály Gazdálkodástudományi Bizottság Ipar- és Vállalatgazdaságtan Albizottsága, Marketingtudományi Albizottsága és Vezetés- és Szervezéstudományi Albizottsága ismét Publikációs Nívódíjat hirdet. A díjakra 2023-ban megjelent nyomtatott és/vagy online publikációkkal lehet pályázni, illetve javaslatot tenni a következő három kategóriában, megjelölve, hogy mely albizottság nívódíjára javasolják az adott publikációt:

– Szakkönyv / tanulmány szakkönyvben,
– Magyar nyelvű folyóiratcikk,
– Idegen nyelvű folyóiratcikk.

Kérjük a Gazdálkodástudományi Bizottsághoz kapcsolódó köztesületi tagokat, hogy legkésőbb ***2024. május 31-ig*** tegyenek javaslatot azon 2023-ban megjelent publikációkra, melyek megítélésük szerint sikerrel pályázhatnak a Nívódíjakra! Saját publikációk és más szerzők publikációi is javasolhatók.

A javaslatoknál kérjük vegyék figyelembe, hogy kizárólag olyan, az MTMT-ben rögzített szakcikk, illetve szakkönyv díjazható, melynek legalább egy szerzője az MTA IX. Osztály Gazdálkodástudományi Bizottság köztestületi tagja. Ajánlásukat a javasolt – saját vagy más szerzők által jegyzett – publikációk pontos hivatkozási adatainak megadásával és rövid szakmai indoklással a következő formanyomtatvány kitöltésével tehetik meg: https://forms.office.com/e/TYVuB4ZBze.

A beérkezett pályaműveket az adott Albizottság munkáját támogató Nívódíj Munkabizottság tagjai értékelik. A Munkabizottság döntése során figyelembe veszi a javasolt pályaművek szakmai, tudományos színvonalát, a tárgyalt témakör relevanciáját, a tudományág fejlődésére gyakorolt hatását. A folyóiratok értékelésénél az MTA IX. Osztályának folyóiratlistája (https://mta.hu/doktori-tanacs/a-ix-osztaly-doktori-kovetelmenyrendszere-105380) és a Scimago nemzetközi folyóiratlistája (https://www.scimagojr.com/) irányadó. Amennyiben valamely publikációt a Gazdálkodástudományi Bizottság több albizottságának nívódíjára is javasolnak, a munkabizottságok a szerzők javaslatát veszik figyelembe, ennek hiányában egyeztetnek a besorolásáról, hogy mely albizottság nívódíjáért indulhat.

A Nívódíjak átadására várhatóan a Gazdálkodástudományi Bizottság Tudomány Ünnepe alkalmából szervezett konferenciáján vagy kapcsoló bizottsági ülésen kerül sor. Az eredményeket az Albizottságok a Vezetéstudomány folyóiratban is közzéteszik.

Budapest, 2024. április 23.

Melléklet: Az egyes Albizottságok Publikációs Nívódíj Munkabizottságának tagjai

Veres Zoltán, egyetemi tanár, Pannon Egyetem – az MTA IX. Osztály Gazdálkodástudományi Bizottság Publikációs Nívódíj Munkabizottság elnöke

Az MTA IX. Osztály Gazdálkodástudományi Bizottság **Ipar- és Vállalatgazdaságtan Albizottság** Publikációs Nívódíj Munkabizottság tagjai:

Gelei Andrea, egyetemi tanár, Budapesti Corvinus Egyetem – az MTA IX. Osztály Gazdálkodástudományi Bizottság az Ipar- és Vállalatgazdaságtan Albizottság elnöke,

Wimmer Ágnes, egyetemi tanár, Budapesti Corvinus Egyetem – az MTA IX. Osztály Gazdálkodástudományi Bizottság Ipar- és Vállalatgazdaságtan Albizottság Publikációs Nívódíj Munkabizottságának elnöke.

Felkért tagok:
Bélyácz Iván, professor emeritus, Pécsi Tudományegyetem;
Dobos Imre, egyetemi tanár, Budapesti Műszaki és Gazdaságtudományi Egyetem;
Görög Mihály, egyetemi tanár, Pannon Egyetem;
Szerb László, egyetemi tanár, Pécsi Tudományegyetem;
Jámbor Zsófia, egyetemi adjunktus, Budapesti Corvinus Egyetem, a bizottság titkára.

Társ-albizottságok területének képviselői:
Kenesei Zsófia, egyetemi tanár, Budapesti Corvinus Egyetem (a Marketingtudományi Albizottság képviseletében),
Kovács Zoltán, egyetemi tanár, Pannon Egyetem (a Vezetés- és Szervezéstudományi Albizottság képviseletében).

Az MTA IX. Osztály Gazdálkodástudományi Bizottság **Marketingtudományi Albizottság** Publikációs Nívódíj Munkabizottság tagjai*:*

Mitev Ariel, egyetemi tanár, Budapesti Corvinus Egyetem – az MTA IX. Osztály Gazdálkodástudományi Bizottság Marketingtudományi Albizottság elnöke,

Keszey Tamara, egyetemi tanár, Budapesti Corvinus Egyetem – az MTA IX. Osztály Gazdálkodástudományi Bizottság Marketingtudományi Albizottsága Publikációs Nívódíj Munkabizottságának elnöke.

Felkért tagok:
Balaton Károly, professor emeritus, Miskolci Egyetem;
Berács József, professor emeritus, Budapesti Corvinus Egyetem;
Dinya László, professor emeritus, Magyar Agrár- és Élettudományi Egyetem;
Hetesi Erzsébet, egyetemi tanár, Szegedi Tudományegyetem;
Hlédik Erika, egyetemi docens, Eötvös Loránd Tudományegyetem;
Piskóti István, egyetemi tanár, Miskolci Egyetem;
Rekettye Gábor, professor emeritus, Pécsi Tudományegyetem;
Szalkai Zsuzsanna, egyetemi docens, Budapesti Műszaki és Gazdaságtudományi Egyetem;
Szűcs Krisztián, egyetemi docens, Pécsi Tudományegyetem;
Törőcsik Mária, egyetemi tanár, Pécsi Tudományegyetem;
Veres Zoltán, egyetemi tanár, Pannon Egyetem;
Kisfürjesi Nóra, tanársegéd, Budapesti Gazdasági Egyetem, a bizottság titkára.

Az MTA IX. Osztály Gazdálkodástudományi Bizottság **Vezetés- és Szervezéstudományi Albizottság** Publikációs Nívódíj Munkabizottság tagjai*:*

Heidrich Balázs, egyetemi tanár – az MTA IX. Osztály Gazdálkodástudományi Bizottság Vezetés- és Szervezéstudományi Albizottsága Publikációs Nívódíj Munkabizottságának elnöke.

Felkért tagok:
Bakacsi Gyula, egyetemi tanár, Budapesti Gazdasági Egyetem;
Balaton Károly, professor emeritus, Miskolci Egyetem;
Bencsik Andrea, egyetemi tanár, Pannon Egyetem;
Dobák Miklós, egyetemi tanár, Budapesti Corvinus Egyetem;
Sasvári Péter, egyetemi docens, Nemzeti Közszolgálati Egyetem;
Kisfürjesi Nóra, tanársegéd, Budapesti Gazdasági Egyetem, a bizottság titkára.

Társ-albizottságok területének képviselői:
Wimmer Ágnes, egyetemi tanár, Budapesti Corvinus Egyetem
Agárdi Irma, egyetemi docens, Budapesti Corvinus Egyetem.