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Contents

Comparison of attendance-based education and online education based on student opinions

LÁSZLÓ BERÉNYI[1] – NIKOLETT DEUTSCH[2]

Online and blended education has long been the focus of attention in renewing the education system. Due to the Covid-19 pandemic, online education has become unavoidable. The experience of the previous semesters allows the evaluation of online education and rethinking the future strategies that combine the benefits of attendance-based and online education. The research aims to contribute to the evaluation of online education among business higher education students in Hungary by understanding student satisfaction.

The investigations compare attendance-based education and online education. The main areas are time spent in learning, time management impacts, understanding the curriculum, contact with other students and teachers. A self-managed voluntary online survey was developed to compare attendance-based education and online education. A non-representative sample of 345 Hungarian business students from various universities was available for the analysis.

Survey results show that online education cannot replace traditional attendance-based learning. Students feel that exams are lighter, and aligning the lessons with the schedule is more simple online, but the impact on the knowledge level lags behind compared to attendance-based education. Remarkably, classroom attendance is preferred according to lesson enjoyment and contact with others. Results by study level confirm that online education is preferred more by master's students than by undergraduate students. Cluster analysis highlighted a group of students who prefer online education in most aspects. These students feel that they and the system are most prepared for online education.

Keywords: online education, attendance-based education, business education, COVID-19.

JEL codes: A29, I23.

Introduction

The COVID-19 pandemic has undoubtedly changed the teaching and learning procedures. The force of online methods became evident, but the alleviation of the crisis led to a rearrangement. Both attendance-based and online education have

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benefits and limitations. A blended form of education could meet the expectations of all affected groups, but several questions are raised. Beyond the regulation, the readiness of the teachers and students is critical. Considering the challenges of changing to online learning as technological acceptance problems, we are at the beginning of the learning process.

Applying the concept of quality management (Szintay 2005), the goal is to improve customer satisfaction through improved services and beyond those upgraded processes. Of course, ensuring the necessary resources is inevitable. In the case of higher education, it seems difficult to use the term 'customer' as in the case of a product. The customers of higher education services cannot be limited to students. Companies, local and national communities, or the government are all customers. In fact, teachers and other staff members are also customers of the system. Changing to online education affects all these groups, although their interests may be in conflict.

A comprehensive analysis and evaluation go beyond the limits of one study due to the complexity of influencing factors. The emphasis on students' opinions is highly important for designating future tasks and challenges. Moreover, the conclusions have a broader field of application since the world of work also goes online, so the success of online education is preparing the future workforce.

Forms of education

Although online education has suddenly become commonplace due to the COVID-19 pandemic, it needs to be emphasised that some efforts were made much earlier. The pandemic has just created a situation that has pushed us towards online learning. Failures and shortcomings are partly due to the long debate on the appropriate forms and to the increasingly accelerating technical development of recent decades. There was no opportunity for a mass trial of education methods, which may be the reason for the variety of blended education methods and approaches. Nevertheless, the current experience is not yet sufficient to estimate long-term effects. The current focus is on the efficiency of attendance-based and online education.

Gupta and Baveja (2014) demarcate a narrower and broader meaning of education. The narrower approach says that instruction imparted in schools and higher education institutions is education. The aims of education in this sense are measured in terms of degrees or certification, or promotion. The broader meaning is a lifelong process, with all the experiences, knowledge, and wisdom that an individual acquires at different stages of his or her life through different forms and channels.

The forms of education can be grouped in many ways. The modes of education by Gupta and Bajeva (2014) include:

• Informal education: learning through conscious or unconscious observation, experience, or imitation at home from parents, family members, or the broader community.

• Formal education: typically provided by an institution in a structured way in terms of learning objectives, learning time, or learning support.

• Non-formal education: a mix of formal education and informal education; otherwise, informally in a formal environment. It includes forms of education that do not correspond precisely to the definition of formal education.

Formal education can be face-to-face (class attendance) when there is direct contact between the teacher and the student, or distance education when direct contact cannot be assured. The tools of distance education depend on the available technology. Letters and textbooks sent by post, corresponding forms, later CD/DVD materials, interactive materials were replaced by web-based information sharing. The ICT has become an integral part of the day-to-day learning experience. Condie and Munro (2007) noted that the evidence of this was insufficient in 2007 among pupils; nowadays, this is no longer an issue at any level of education.

There is a conceptual diversity in the interpretation of the forms of education. E-learning, online education, and other terms can be considered synonymous or sharply different approaches. It is not the purpose of this article to give an overview and judgment on the content of the terminology. Blended education is a popular form that covers recent trends. Blended learning can be described as structured learning opportunities that use more than one learning or training method, inside or outside the classroom; a combination of face-to-face instruction with computer-mediated instruction (Banditvilai 2016). Szűcs and Zarka (2008) also emphasise blended education. Considering traditional and online elements, the categorisation offers a comprehensive and practical guide (Table 1).

Table 1. Categories of education with online elements

Proportion of online content	Form of education	Description
0%	Traditional	No online technology is used. Written or oral share of knowledge.
1-29%	Web-supported	Web technology complements traditional education. A course management system or web-based learning material is included.
30-79%	Blended education	Mixed online and classroom education, learning materials are provided mainly online. Web-based interactive communication (forums) is possible.
80+%	Online education	The majority of the content is available for students online. Classroom meeting is missing or minimal.

Source: Szűcs–Zarga 2008. 55

Attendance-based and online education

Online education is actually in a particular position since the new technologies (e.g., fast internet access, web cameras, online classrooms) allow for good-quality face-to-face contact between the teachers and the students, but experience shows that it is not the same as classroom attendance. Liguori and Winkler (2020) do not believe that educational systems should replace traditional methods with online education, but distance learning should be progressed as soon as possible. Teymori and Fardin (2020) conclude that online education was considered only an alternative or educational aid before the COVID-19 outbreak. Now, serious efforts are being made to apply this kind of education in all parts of the world.

Local evidence about the benefits and threats of online education published in online blogs and scientific papers is consistent. Common factors are better time management opportunities, lack of knowledge in ICT use by both teachers and students, or availability of reliable ICT background. Lack of confidence in electronic learning must also be considered (Ametova–Mustafoeva 2020). Disadvantages usually appear in the literature as limitations. Fazekas et al. (2013) specify the main factors as disadvantages:

- Education is more impersonal than in the case of classroom attendance.
- However, it has a significant role, especially in adult education; it is difficult for students to interact.
- Social connection and informal communication are limited between the participants.

• The initial investment cost and the cost of developing the content are high.

• There may be high resistance from some leaders, groups, or individuals that needs to be addressed.

• It is required to foster a culture of self-directed learning.

Considering the pandemic-forced distance education, Ametova and Mustafoeva (2020) highlight the main benefits in terms of time and the possibility of listening to lectures free from constraints. Mupinga (2005) found this flexibility of time and space as a benefit among high school students. Based on its benefits and limitations, blended education may be a worthwhile method. Paudel (2021) is committed to blended learning and points out the necessity that the universities should adopt appropriate strategies considering the balance between online education and the face-to-face mode of teaching and learning. Based on research in Nepal, the author found that online education is not preferred to the traditional way. Büchele (2021) stands up for traditional classroom education due to its impact on better performance, highlighting that even ppt slides are harmful to full attention.

Lothridge et al. (2013) point out an important aspect of education. Online solutions are undoubtedly cheaper, especially in the case of video and web-based, automated learning materials. Considering the limitations of online education, blended learning solutions with a proper strategy may be both efficient and effective. Cost-effectiveness is important for students and institutions as well, but the sustainability of the education system becomes questionable if its usefulness is decreased. Hew and Cheung (2014) summarised the main benefits of blended education in four points:

• Ability to meet the educational needs of the students,

• Improving student-to-student communication (Fazekas et al. 2013 emphasize that it requires personal attendance),

• Reducing the average overall per-student cost,

• Improving student learning outcomes as well as lowering attrition rates.

It must be repeated that online learning and blended education have a long history and a broader methodological base than the one that has been developed in the past two years. Their benefits should not be underestimated. At the same time, the pandemic-driven educational solutions often could not follow any methodologies and approaches precisely. All of these just increase confusion in the field, which makes it even more important for education experts to focus on post-pandemic issues.

We approach the topic as management instructors of higher education institutions. Exploring the benefits and barriers of online education compared to classroom attendance can contribute to developing the curricula and methods in the near future. Our study focuses on the students; the study investigates their comparative judgment on the form of education based on the factors that have appeared in the literature.

Methods and sample

An online survey was designed to explore the opinions of higher education students. The target audience of this research is the business students of Hungarian higher education institutions. The survey includes nine questions about the aspects of learning and taking the exam based on the literature review:

- Time spent learning,
- Understanding the curriculum,
- Alignment with the daily schedule,
- Lesson enjoyment,
- Contact with the instructor,
- Contact with other students,
- Answering your questions and problems,
- Exam success (result),
- Exam ethics,
- Contribution to your future success.

The students were asked to mark their judgment on a 5-point scale:

- Attendance-based education is much better,
- Attendance-based education is better,
- Alike,
- Online education is better,
- Online education is much better.

The survey also includes five questions about the preparedness for online education of the university, the teachers, the respondents, and fellow students. The evaluation uses a 5-point scale from ‘not at all’ to ‘excellent’. Gender (female or male), level of study (undergraduate or master), and work experience (no, only internship, yes) were used as grouping factors.

The sample consists of 345 responses from various universities. The representativeness of the sample is not ensured; the research can be considered a pilot study. The data collection period was between September 2020 and April 2021.

A reliability analysis of the survey was conducted; Cronbach's Alpha value is 0.843 for the 14 evaluation questions. The item-total statistics are presented in Table 2.

Table 2. Reliability test of the survey

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item - Total Correlation	Cronbach's Alpha if Item Deleted
How prepared do you consider your university is for online education?	38.51	67.570	0.285	0.844
How prepared do you consider your teachers are for online education?	38.50	68.582	0.218	0.847
How prepared do you consider yourself for online education?	38.23	63.042	0.565	0.828
How prepared do you consider your fellow students are for online education?	38.34	65.936	0.434	0.836
Time spent learning	39.34	61.143	0.542	0.829
Understanding the curriculum	40.00	61.259	0.614	0.824
Alignment with the daily schedule	38.49	60.286	0.544	0.829
Lesson enjoyment	39.69	61.591	0.561	0.827
Contact with the instructor	39.97	63.168	0.510	0.831
Contact with other students	40.25	65.967	0.357	0.840
Answering your questions and problems	39.79	62.034	0.612	0.825
Exam success (result)	38.83	63.656	0.428	0.837
Exam ethics	39.67	64.577	0.436	0.836
Contribution to your future success	39.66	61.456	0.612	0.824

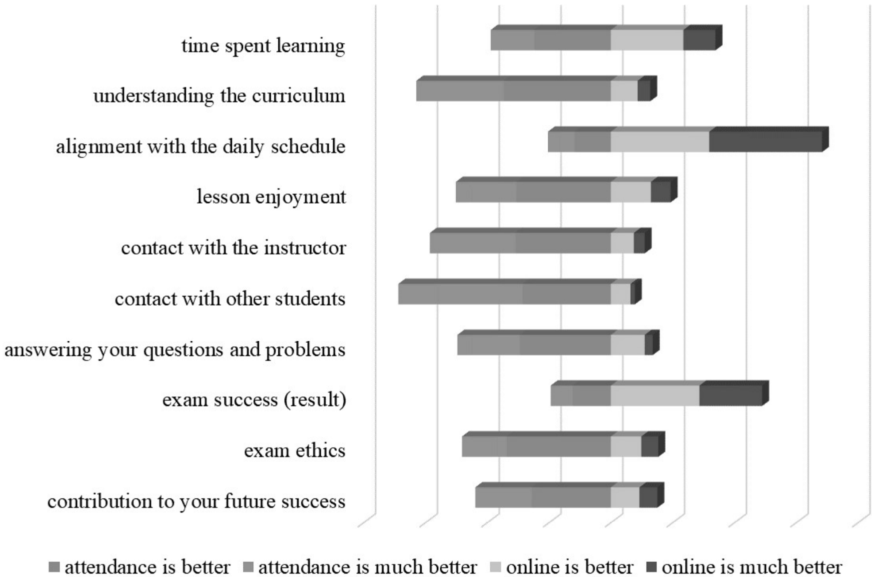
Source: Own research

The measurement level of the question allows for frequency analysis, cross-tabulation, and non-parametric variance analysis. For exploring the characteristic patterns of students' opinions, cluster analysis was performed. Hierarchical clustering was applied with the Ward method (squared Euclidean distance) to minimise the scattering of the clusters. The cluster analysis is based on the nine questions used for comparing attendance-based and online education. Since the responses show significant and sometimes high correlation values, a factor analysis of the data was conducted. The procedure follows the guide developed by Pallant (2020). Statistical tests are calculated under a 5% confidence level.

Results and discussion

Comparison of attendance-based and online education

Survey results (Figure 1) suggest that students prefer attendance-based education according to the core elements of learning, including understanding the curriculum, contribution to future success, and lesson enjoyment. Attendance-based education is also preferred for keeping in contact with the teachers and other students. The respondents found the main benefit of online education in the time management opportunities. Exams are considered ethically questionable in the case of online education, and there is a high level of agreement about the better results achievable with an online exam. It is to note that the proportion of 'alike' responses is remarkable (Table 3). The highest values concern the contribution to the future success, receiving answers to students' questions, and exam ethics.



Source: Own research

Figure 1. Evaluation of attendance-based and online education (preferred by % of the students)

Table 3 summarises the distribution of responses by grouping the 'better' and 'much better' responses.

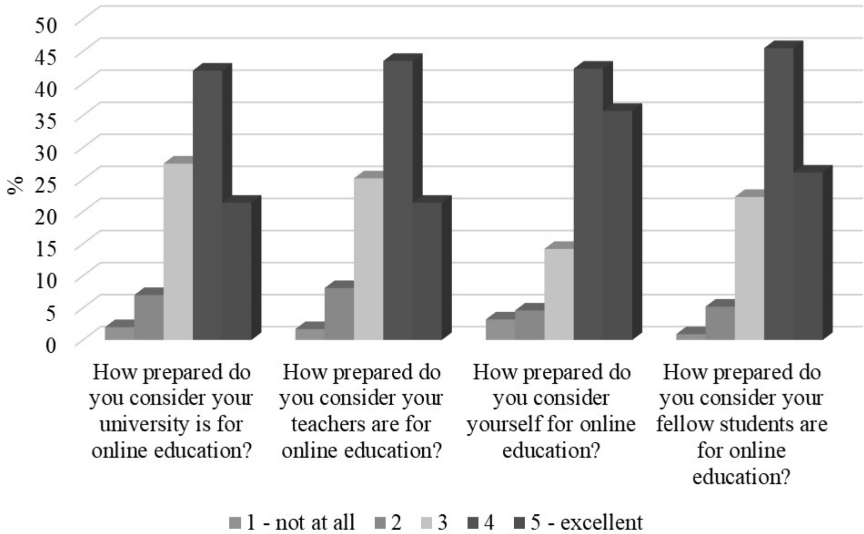
Table 3. Preferences of the students (total sample, data in %)

	Attendance is better or much better	Alike	Online is much better
Core elements of education			
Understanding the curriculum	62.9	24.3	12.8
Contribution to your future success	43.8	41.2	15.1
Lesson enjoyment	50.1	30.4	19.4
Contact			
Contact with the instructor	58.5	30.4	11
Contact with other students	68.7	23.5	7.8
Answering your questions and problems	49.6	36.8	13.6
Time management			
Alignment with the daily schedule	20.3	11.3	68.4
Time spent learning	38.8	27.2	33.9
Exam			
Exam success (result)	19.4	31.6	49
Exam ethics	48.1	36.5	15.4

Source: Own research

Considering online education as a future pillar of the higher education systems, survey results suggest several development opportunities. The benefits of time management seem obvious, but other results give emphasis to the lack of effective utilisation. The main reason for preferring attendance-based education in the core aspects of education may be the readiness of the institutions and the teacher. We should not forget that, due to the COVID-19 pandemic, urgent solutions were pushed through without a proper preparation of technical and technological conditions. Moreover, this was an elementary change for students, as well.

The preparedness of the affected groups was assessed by the students, as presented in Figure 2. The results do not reflect our assumption. Good and excellent ratings are in the majority; students show a positive approach to the problem. Uncertain (3) responses on the 5-point scale have the highest ratio when it comes to the preparedness of the university and the teachers, while a remarkably lower value concerns the respondents' own preparedness.



Source: Own research

Figure 2. Evaluation of preparedness for online education

Although the distribution of students' assessment denotes most students' preferences for attendance-based or online education, both the high rate of uncertain (alike) responses and the balanced results for some questions indicate that the sample could be divided into significant sub-samples. The non-parametric Kruskal-Wallis H-test was applied for variance analysis by gender, study level, and work experience (Table 4).

Gender is proved to be a significant grouping factor in the case of four questions. Based on the mean values of the evaluations, female respondents (3.78) find their university more prepared for online education than males (3.68). Male respondents prefer attendance-based education when it comes to understanding the curriculum. They prefer online solutions more than females for aligning the daily schedule. Exam results are found more favorable by both females and males; however, the latter group is much more in agreement with this. Work experience is proved to be a significant grouping factor according to the preparedness of the university. Students with an intern position (3.45) have a less favorable opinion than those employed (3.86) or those without work experience (3.76). The study level shows significant differences in most questions of the survey.

Table 4. Non-parametric analysis of Variance (Kruskal-Wallis H) by grouping factors

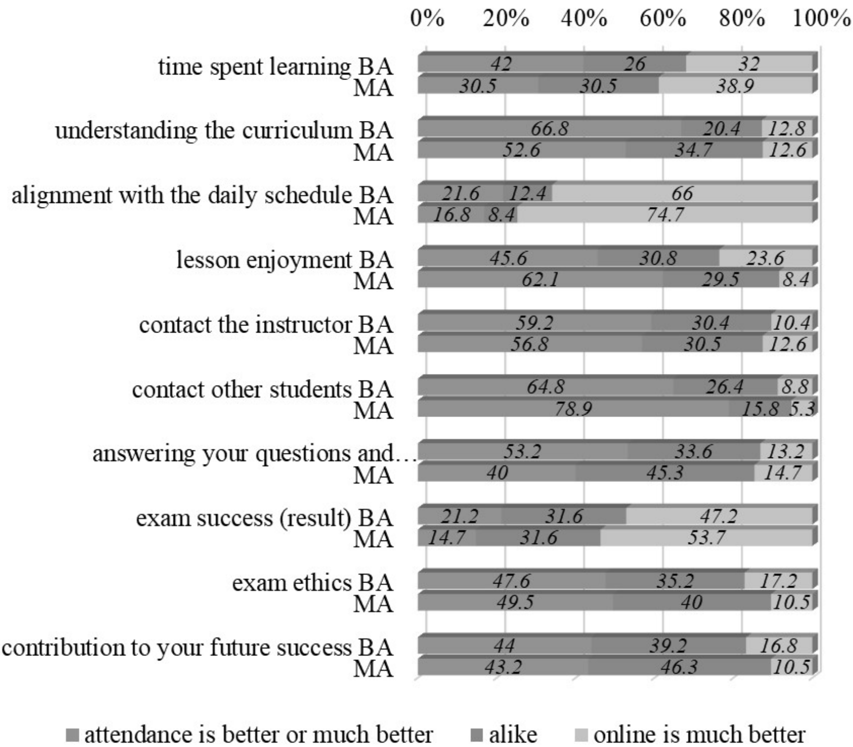
	Gender			Study level			Work experience		
	K-W H	d_f	Sig.	K-W H	d_f	Sig.	K-W H	d_f	Sig.
How prepared do you consider your university is for online education?	0.664	1	0.415	1.755	1	0.185	12.443	2	0.002
How prepared do you consider your teachers are for online education?	6.44	1	0.011	10.553	1	0.001	4.949	2	0.084
How prepared do you consider yourself for online education?	2.617	1	0.106	4.083	1	0.043	3.701	2	0.157
How prepared do you consider your fellow students are for online education?	0.29	1	0.59	4.208	1	0.04	2.56	2	0.278
Time spent learning	2.561	1	0.11	2.868	1	0.09	0.233	2	0.89
Understanding the curriculum	4.498	1	0.034	8.135	1	0.004	2.17	2	0.338
Alignment with the daily schedule	5.317	1	0.021	7.331	1	0.007	3.798	2	0.15
Lesson enjoyment	0.311	1	0.577	9.233	1	0.002	3.738	2	0.154
Contact with the instructor	1.075	1	0.3	0.057	1	0.811	0.231	2	0.891
Contact with other students	0.597	1	0.44	6.737	1	0.009	0.721	2	0.697
Answering your questions and problems	3.196	1	0.074	4.928	1	0.026	1.455	2	0.483
Exam success (result)	9.787	1	0.002	0.635	1	0.425	1.481	2	0.477
Exam ethics	0.454	1	0.501	0.947	1	0.330	3.198	2	0.202
Contribution to future success	0.712	1	0.399	0.098	1	0.754	1.322	2	0.516

Source: Own research

Results by study level

Different study levels may require various methods of education. Practice shows that undergaduate studies should give the basic knowledge in the field. Students usually come to university without professional knowledge. Learning the terminology, the procedures, and the basic methodology has a long-term impact on their competencies. We assume that undergaduate studies substantially require attendance-based education to control competency development. The training components of undergaduate programmes are more difficult to implement online.

Moreover, higher education institutions usually have experience primarily in attendance-based education. In contracts, master-level students must have the basic knowledge in their professional field; further training and knowledge deepening are available through a more significant presence of online items. Comparing the study levels based on the situational leadership model (Hersey–Blanchard 1977), undergraduate students require a more directive and less supportive behaviour from teachers, while master's students can be managed by participative (high supportive behaviour) or delegating (low supportive behaviour) styles of education. Survey results (Figure 3) only partially support these assumptions.

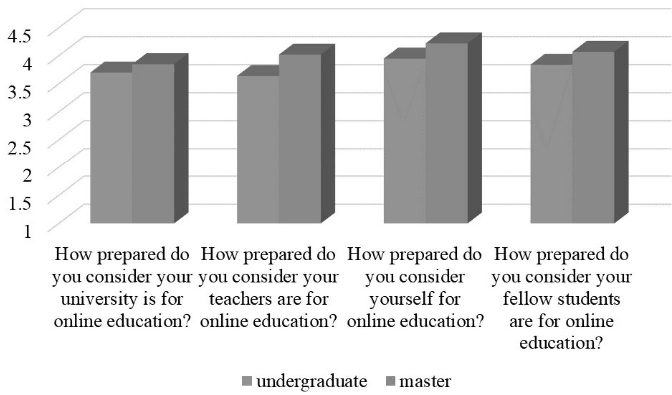


Source: Own research

Figure 3. Evaluation of attendance-based and online education by study level (%)

Online education is considered a better option for time management issues and exam results. As far as understanding the curriculum is concerned, the share of 'alike' answers is remarkably higher among master's students than among undergraduate students. Furthermore, the contribution to future success is judged better by a higher proportion of undergraduate students. It is to note that only 16.8% of undergraduate students and 10.5% of master's students believe that online education has a better contribution to their success than attendance-based education, while 44% and 43.2%, respectively, prefer attendance-based learning. As regards lesson enjoyment and contact with other students, master's students prefer non-online personal contacts more than undergraduate students.

Preparedness is rated higher by master's students in each aspect based on the mean value of the ratings (Figure 4).

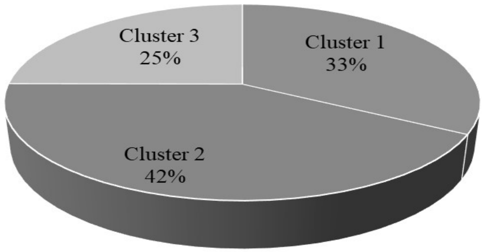


Source: Own research

Figure 4. Evaluation of preparedness for online education by study level (mean values)

Clusters of opinions

However, the grouping factor of the analysis did not show significant differences; the distribution of the responses suggests characteristic opinion patterns. Based on the comparative assessment of attendance-based and online education, the cluster analysis allowed us to form three clusters. Figure 5 shows the size of the clusters.



Source: Own research

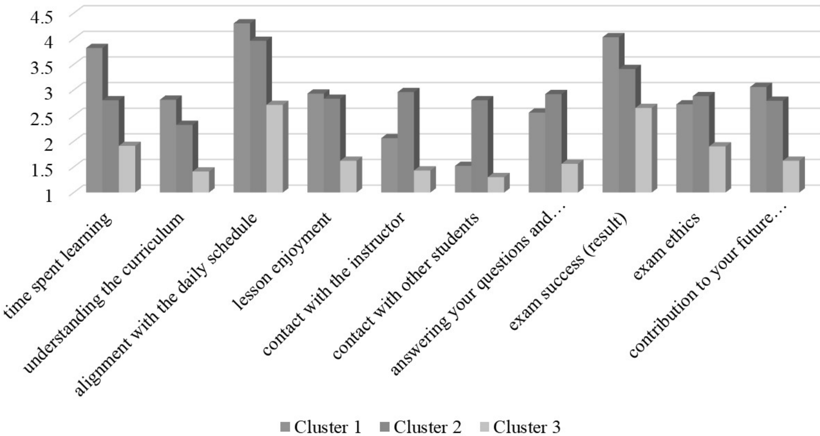
Figure 5. Cluster sizes (%)

According to the mean values of the responses, the lower values in Figure 6 show that attendance-based education is preferred, and higher values suggest the preference for online education. The most populous cluster (Cluster 2) represents medium values in most questions. Alignment with their daily schedule and exam success are prominent. In these cases, the preference for online learning is dominant. The reason for this can be both the high proportion of the 'alike' responses and the mixing of opinions (see Figure 7). 'Alike' responses are usually in the majority, except for the questions about understanding the curriculum and daily schedule adjustment.

Cluster 1 represents the students who prefer online education. It is to note that understanding the core of the curriculum and keeping in contact with others show different results.

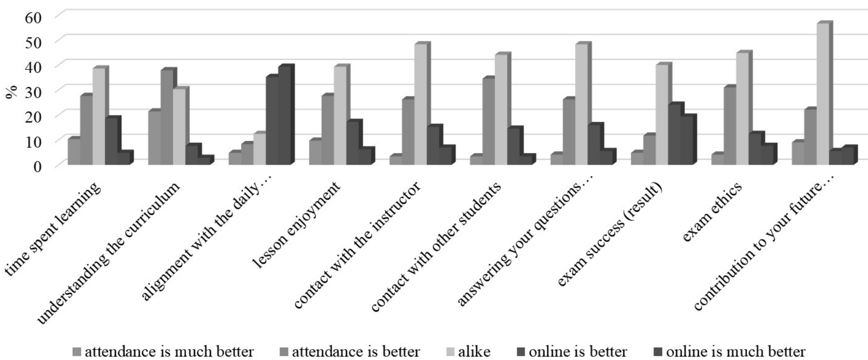
Students in Cluster 3 can be considered traditional students, and they obviously prefer attendance-based education. In parallel, the students acknowledge the benefits of online education in alignment with the daily schedule and the exam results.

The assessment of preparedness is checked in the clusters. The analysis of the variance test (Table 5) shows significant differences in respondents' and other students' results. The mean values are presented in Figure 8. Students who prefer online education (Cluster 1) show the highest values and those who prefer attendance-based solutions (Cluster 3), the lowest.



Source: Own research

Figure 6. Evaluation of attendance-based and online education by cluster (mean values)



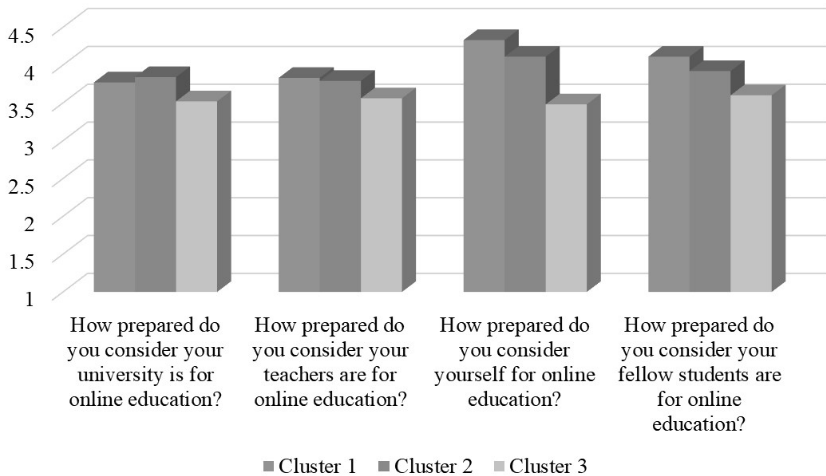
Source: Own research

Figure 7. Evaluation of attendance-based and online education in Cluster 2 (%)

Table 5. Non-parametric analysis of variance (Kruskal-Wallis H) by cluster membership

	Kruskal-Wallis H	d_f	Asymp. Sig.
How prepared do you consider your university is for online education?	5.727	2	.057
How prepared do you consider your teachers are for online education?	5.260	2	.072
How prepared do you consider yourself for online education?	38.017	2	.000
How prepared do you consider your fellow students are for online education?	18.068	2	.000

Source: Own research



Source: Own research

Figure 8. Evaluation of preparedness for online education by cluster (mean values)

Conclusions

Online education has become inescapable. The COVID-19 pandemic has created a social necessity and a regulatory environment for it. However, online education was not born with this pandemic, just boosted up. After completing several semesters with full or partial online education, we should already have enough experience with online education; we are beyond the initial shock.

It could be expected that the pandemic will bring a breakthrough in the paradigm of the form of education. Although many benefits of online education and online solutions beyond education are promising in the long term in society, the study results advise caution. It has to be noted that legal support for online higher education was missing before the pandemic; it was expressly forbidden for undergraduate and master's programmes. Blended elements were limited in these programmes. Compared to this approach, the quickly introduced and forced online higher education has many shortcomings.

As a result, people are not prepared for the paradigm shift. It is clear that online conferences and thesis defenses are environmentally friendly since they do not require any travelling, more research and publications can be produced, there are greater opportunities for cheating during an exam, the stress of personal meetings can be reduced. At the same time, personal contacts and feedback are pushed into the background, and social relations are degraded. Sitting for too long in front of the computer leads to significant health problems (Berényi et al. 2021).

The results confirm that online education helps with time management issues and exam success, but the core elements of education and keeping in contact with others require traditional forms based on respondents' opinions.

Although the long-term impacts of the change cannot be explored based on the available knowledge, efforts should be made to design future strategies in the field. Cluster analysis results do not show significant relations between cluster membership and grouping factors such as gender, study level, or work experience, but cluster sizes are remarkable. It is encouraging that the proportion of students who prefer online education is 33%. On the other hand, 25% clearly prefer attendance-based education, and the majority of the respondents (42%) belong to the group without a definite value judgment. A relevant future task is to explore whether 'alike' responses reflect students' high level of flexibility or disinterest in the subject.

Another question is the sustainability of the newly introduced online solutions. Since online education during the pandemic was forced by the situation, the service quality expectations will suddenly and sharply increase after the termination of the constraints. The main challenge for the education system is to evaluate the benefits and limitations so as to find the appropriate weight, form, and target areas of online education.

Despite the large sample and the careful survey design, some limitations of the study must be mentioned. Since the representativeness of the sample is not ensured, the general interpretation of the results is not feasible. Data collection is limited to Hungarian higher education institutions and business students; the regulatory systems of other countries and the culture of various faculties are not considered. Along with the limitations, the analysis and the results may serve as a starting point for further studies.

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Closer to the heart: An analysis of the goals of Hungarian family-owned wineries[1]

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The aim of our research was to analyse the goals of Hungarian family business wineries. The perspectives of different generations were examined as well as their similarities and differences. In addition to learning about the business and family-related goals of the different generations, individual factors were identified that may influence the outcome of the goals. The family business goal dimensionality model of Basco (2017) served as a basis of our research. After analysing Basco's four dimensions, the goals were also examined according to our own model to gain a deeper insight into the antecedents and driving forces of firm-wide goals. Our research supports the evolutionary features which have already been described in the literature and which Hungarian family businesses must face. An important conclusion of our study is that issues relating to innovation, awareness, growth, and development almost exclusively concern products, services, and the more sustainable use of natural resources. Development goals relating to management or governance were not found.

Keywords: family business, economic and non-economic goals, wine sector.

JEL codes: L21, L25, L26.

Introduction

One way to understand constantly changing family businesses is to uncover and evaluate the goals and motivations behind their decisions. With respect to

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family business goals, family businesses differ from non-family businesses in that family goals appear alongside economic goals (Chua et al. 1999; Kotlar–De Massis 2013; Kotlar et al. 2014). A family is a relationship-based group in which members are related to each other by kinship and shared norms (Stewart 2003). Accordingly, a change in any of their relationships can affect the whole organisation (Cox−Paley 1997).

Examining and understanding the goals of family firms is particularly important because goals determine family firms' willingness to act (Williams et al. 2018). Goals also influence strategic decisions and the behaviour of family firms (De Massis et al. 2016). It is with respect to goals that family firms differ from non-family businesses (Chrisman et al. 2012).

Basco (2017) has developed his own model to evaluate the goals of family businesses. According to him, goals follow two different logics: the family logic and the business logic. In his research, he sought to answer how the two logics interact. He treats family business goals as a multidimensional concept shaped by economic and social considerations. Four aspects (goals) are combined: the economic with the non-economic and the family with the business, thus his model distinguishes whose goals belong to whom. He developed his research model to examine the interrelationships among these four interrelated factors.

Our research is based on the Basco baseline model. The aim of our paper is to analyse the goals of family businesses in the Hungarian wine sector and to understand what (corporate, family and individual) factors influence the different goals of family businesses.

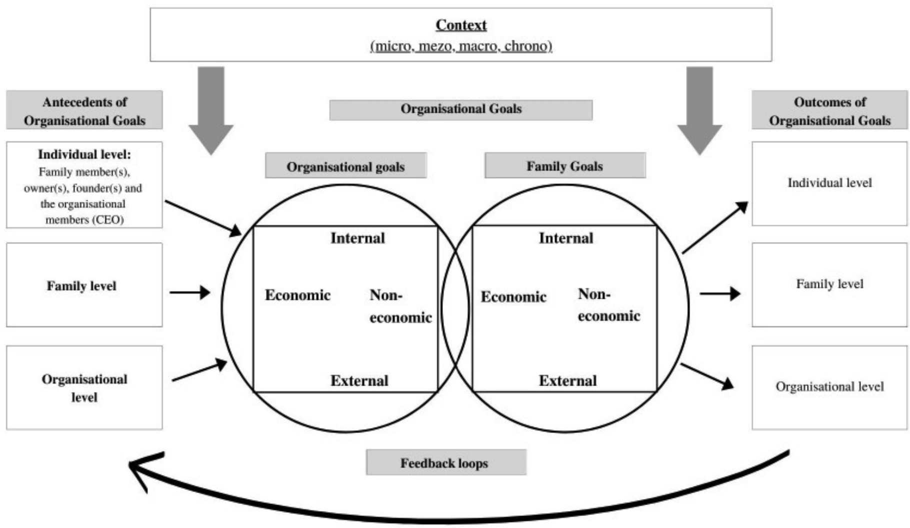
Wine businesses are heterogeneous in size, age, and management, which makes the wine sector suitable for observing and analysing the economic, environmental, social, and family aspects of businesses as described in the literature.

In the first part of our paper, we present the theoretical background of the model on which our research is based: the Basco model. Then we proceed to describing the situation of the Hungarian wine industry and the methodology of our research, which is followed by our research analysis, and finally the obtained results are presented, evaluated and discussed.

The goals of family businesses and the Basco model

Businesses have various goals running in parallel. The goals of family businesses differ significantly from those of non-family businesses because of family involvement. In family businesses, in addition to meeting economic goals, family goals are also likely to be met (Basco 2017). The multiplicity of goals is a consequence of the overlap among family, ownership, and entrepreneurship (Kotlar et al. 2013). Because of its dominance, the family can influence decisions and enforce family goals (Habbershon–Williams 1999). The consequence of the individual values and experiences of families is that each family business has its own specific set of goals (Zellweger et al. 2013).

The family business goal system is a system that develops and operates on several levels (Figure 1). The starting points, also known as the antecedents of goals, are the following levels: individual, group, organisational and institutional. In the case of family businesses, individual goals refer not only to the goals of the members of the organisation, but also to the goals of each member of the family dimension (from the Three Circle Model, Tagiuri–Davis 1992). The goals of the enterprise appear alongside common family goals as far as ownership is concerned. It can be observed in the model that the goals of individuals including different family members, are quite complex in family businesses in a way that they interact to influence various outcomes (Heidrich et al. 2021).



Source: Heidrich–Vajdovich 2021. 24

Figure 1. Organisational goals of family businesses

The framework gives a deeper and comprehensive understanding of the factors that may influence a firm's behaviour, decisions, and performance. It also highlights the dynamism and multidimensionality of organisational goals.

Basco's (2017) study is based on institutional logic (Friedland–Alford 1992), according to which individuals are embedded in an organisation, which has its own cognitive, structural, and emotional ordering principles known to the individual. When collective identities are institutionalised within a group, a specific institutional logic is generated. Accordingly, the embeddedness of individuals in the family business can act as a determining force. A specific triple logic – business, community, and family – is created, which influences individuals. These three dimensions guide the actions of individuals in family businesses.

According to this interpretation, the blurred boundaries between family, business and the external environment create the goals that emerge at an enterprise level. Therefore, the goals of family firms do not combine only the traditional distinction between economic and non-economic considerations in relation to the stakeholders. As the dominant coalition, the family as owner invests not only economic resources but also social and emotional resources. Thus, we can also distinguish between goals based on family or business logic (Table 1).

Table 1. Dimensionality of family business goals

	Business-oriented	**Family-oriented**
Economic-oriented	**Business-oriented economic goal:** Financial Economic	**Family-oriented economic goal** Family security Family income and family financial security Desirable lifestyle
Non-economic oriented	**Business-oriented non-economic goal**: Environmental sustainability Product and service development Operational	**Family-oriented non-economic goal** Family harmony Community image and reputation Family legacy

Source: Basco 2017. 5

As a result of Basco's (2017) measurement, economic and non-economic characteristics have been further modified. Thus, he distinguishes between short-term and long-term orientations (goals), as well as among goals related to a provider's behaviour towards various stakeholder groups. The results of the Basco measurement are illustrated in Table 2 below.

Table 2. New dimensionality of family business goals

		Business-Family Orientation	
		Business-oriented	**Family-oriented**
Economic and non-economic orientation	**Short-term**	Sales growth Market share Net profit Cash flow Sales ratio Return on investment	Money available for family Quality of life at work Firm-generated family security Time to be with family
	Long-term	Product development Market development	Respected name in society Good reputation in the business community
	Stewardship	Adapting to client needs Staff development Environmental protection Customer satisfaction Service quality	Family loyalty and support Family unity Family interest in the enterprise Development of children's skills Generate opportunities for children

Source: Basco 2017. 8

When analysing the goals, the evolutionary development of family businesses is also worth considering since family businesses have their own dynamics, they are constantly changing as organic units and these changes have impacts on their goals.

Gersick et al. (1997) have created a development model in which they distinguish among three basic stages of development with respect to family businesses. Family, business, and ownership develop in parallel and go through various phases. In the case of the family, four stages of development are distinguished: the first is the development of the young business, the second is entry into business, the third is working together, and the last stage is the transition of leadership. The stages of ownership development are: owner-controlled development, then sibling partnership and finally cousin consortium. The three stages of business development are start-up, which is followed by expansion (formalisation) and finally by maturity.

According to Le-Breton-Miller (2013), the different stages in the evolution of family firms (founder, post-founder, cousin consortium) influence socio-emotional priorities, preferences and thus the nature of diversity, which is also important for the formation of goals (Table 3).

Table 3. Firm evolution, socio-emotional wealth priorities

Stage of evolution	Founder firms	Post-founder firms	Cousin consortia
Typical firm demographics	Young, small	Established, medium sized	Older, larger, and more complex
Typical firm involvement	Founder owned and run	Family owned and run	Dispersed family ownership, sometimes non-family managed
Socio-emotional wealth considerations			
Dynastic succession	Intended, not achieved	Present, may be wished for	Questionable
Priorities	Pass on healthy firm to later generations	Just rewards for family members, family harmony	Opportunities to use the firm as a family resource
Identification of family with firm	Family members are committed to the business	Family members still mostly committed	Identification reduced to those family members who are mere owners
Emotional attachment among family members	Usually strong – but sometimes founders are emotionally distant	Closely attached nuclear family still involved, but some conflicts	Family members less attached – e.g., cousins less so than brothers

Source: Le Breton-Miller‒Miller 2013. 1393

Family firms are typically small in the early stages and they are usually run by the founder who is happy to manage the business and then passes it on to the descendants. The strong emotional attachment of the founder to the company increases commitment and identification with it. As businesses age, the number of family members and generations involved increases, which can result in the fragmentation of shareholding, the weakening of identification with the firm and often in conflicts among family members (Miller–Le Breton-Miller 2011). As a result, the emotional attachment of family members may weaken, and attention may focus on economic goals rather than on family ones (Sciascia et al. 2014).

Family businesses in the Hungarian wine sector

Wine has always been part of the national culture in Hungary. It has not only provided a livelihood for many Hungarian families for hundreds of years, but the country also has many traditions linked to wine production. The Szepsy family's website is proof of this: *"Our family has been producing wine in Tokaj since the 1500s,* *when the production of 'aszu' wine started, so the history and life of the family and wine are inseparable. Today's generations are proud of their ancestors' achievements, which inspire them to become worthy of their mission. Our aim is to produce the best quality grapes in our vineyards, without compromise."* (Szepsy, n.a.)

According to Tóth (2012), wine trends are pointing towards knowledge-intensive and sophisticated wine segments, premium and super-premium wines on the world market. However, Tóth (2012. 49) also points out in his study that *"Hungary lagged behind this trend in the last decade. [...] while the use and diffusion of knowledge are a significant factor in the diversity of various enterprises...it can also be concluded that Hungarian (wine) enterprises can achieve market success through the innovative nature of the enterprise as a whole, the diffusion of knowledge accumulated in the wine sector through daily contacts and innovative management of enterprise processes."*

In the case of the Hungarian wine regions and wine businesses, infrastructural conditions can be considered unfavourable, and this observation holds true for more successful businesses as well. The sector needs skilled labour, but there is currently a shortage in skilled labour. The more profitable wine businesses are no exception in this respect. There is also specialised knowledge in the sector, which is identified by businesses as a market advantage. Non-institutionalised knowledge transfer among businesses in wine regions is not common, yet competitors do not appear to be enemies, as there is a significant flow of information among them. Mutual knowledge sharing with suppliers is more significant and more evident than with competitors.

Methods and sample

The first step in selecting the sample was to clarify the definition of family business. As a sampling criterion, when selecting family businesses, we used the definition postulated by Budapest Business School's Budapest Lab Entrepreneurship Centre in 2019 (Kása et al. 2019). Accordingly, we considered family enterprises those enterprises that:

a) consider themselves a family business, or

b) where at least 50 percent of the company is owned by at least one family, and

c) the family is involved in the management of the business, or

d) the family members are involved in the company's operations as employees, or

e) the transfer of management and ownership takes place partly or entirely within the family.

We chose to conduct our research using qualitative methodology because this framework best fits our research objectives. We wanted to collect our data through face-to-face interviews because our aim was to comprehend the situation, and the issue under scrutiny could be most thoroughly explored and understood using this method. With our primary research, we were able to gather information directly, through primary surveys, about family business actors in the wine industry. We were able to observe their behaviour, to find out relevant people's views in the sector on their economic and non-economic objectives and their practices related to sustainability.

Based on our research objectives, we defined the following research questions:

1) What are the economic and non-economic objectives of Hungarian family wineries?

2) What are the specific objectives of the individual, the family, and the business in Hungarian family wineries?

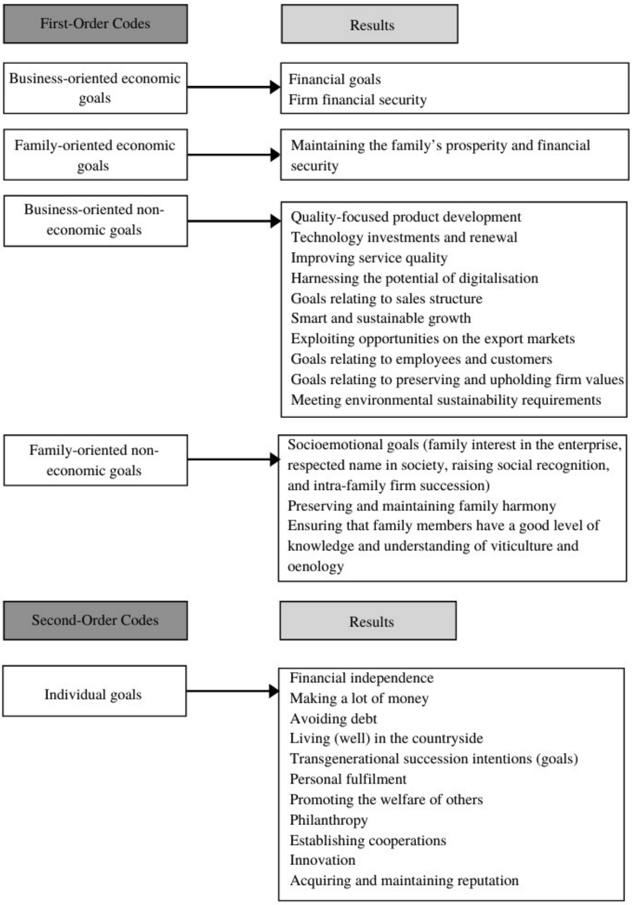
3) What influences the outcome of these objectives?

The interviewees were selected using the snowball method, with the first family wineries being selected from among direct and indirect acquaintances, while the other family wineries included in the research were selected based on recommendations.

At the beginning of our research, it became clear that the turnover of the enterprises would not be a relevant comparable figure for determining the size of the firms, because family wineries typically consist of several different firms operating simultaneously, i.e., a group of companies. Thus, the size of the cultivated area as a firm demographic criterion expresses the firm size in hectares. Our original plan was to conduct the interviews in person as oral interviews on a previously agreed date and time. However, out of the 21 interviews conducted, only the first 6 could be carried out in person due to the situation created by the pandemic. Thus, the remaining interviews were conducted online.

The 21-item sample established with the help of the snowball technique fulfilled our expectations of diversity in qualitative research, as the sample included family wineries from all seven Hungarian wine regions. The data were collected between October 2020 and December 2020. The 21 interviews were conducted with first-, second- or third-generation family wineries from 10 wine districts in Hungary. The size of the holdings in the sample ranged from 2.5 ha to 110 ha, and both male and female winemakers were interviewed. A typical common feature of the sampled enterprises was that in all cases the founder of the enterprise was still an active participant in the business (and it was also typical that a family member was responsible for the winemaking in the enterprise).

The data were structured, coded and the texts analysed using the NVivo 12 software. First, the codes found in the literature (Basco model) were used as primary codes. Once the coding was done, a second round of coding was performed, which was completed based on our own model (Figure 1). After the second round of coding, our results were systematised (Figure 2).



Source: Own research

Figure 2. Code structure of the research

In addition to creating the codes, the data defined by the research team were separately classified (e.g., socio-demographic data, region (wine region), gender, education, size of the production area, family business life cycle: founder, successor, founder active/inactive) and used in the analysis of the sample.

Analysis

The starting point for our analysis was the Basco (2017) baseline model (Table 1). After analysing Basco's four dimensions, we also looked at individual goals to gain a deeper insight into the origins, interactions, and outcomes of corporate goals.

Based on the analysis of the interviews, it can be concluded that the economic goals of the business and the family are strongly intertwined. Equally important, the goals of the individual and the family overlap, i.e., we could observe how the individual's goals became family goals and then business goals. Our respondents were reluctant to talk about the financial aspects of their business and their economic goals, so we have less data on these topics.

Our analysis first presents the economic goals of the businesses and families, then the businesses' and families' non-economic goals, and finally the goals of individuals.

Analysis of business-oriented economic goals

In terms of their economic objectives, family businesses failed to mention short-term, financial-type objectives, and mainly listed long-term, non-financial, economic-professional objectives.

Financial security of the company: One of the many specific characteristics of family businesses is their attitude towards financial issues. In terms of businesses' financial decision-making process, we have found that profit is not necessarily the primary objective, as the coexistence of family and business requires reconciliation between the financial needs of the family and those of the business. In many cases, the needs of family members and the family's financial resources dominate over the opportunities of the business, or vice versa (Csákné Filep 2012). In relation to the economic goals of the family business, the interviewees consider the issue of financial security to be of fundamental importance, but this is typically a joint expectation and aspiration concerning the family and business subsystems, and the issue of financial prosperity cannot be separated in the case of the two subsystems. *"The financial security of the family or the financial security of the enterprise is indispensable, because they are one and the same." (B12)*

Analysis of family-oriented economic goals

When asked to identify the economic goals of the family, family businesses identified maintaining and increasing the family's financial prosperity as the most important goal. Most family businesses operate for and along objectives that are partly detached from economic performance and these businesses continue to operate as long as the family is satisfied. Satisfaction is measured both in terms of economic and financial performance and in terms of the family-business relationship, with the latter including, for example, social prestige and the financial security the business enjoys, and a good working atmosphere. *"The fundamental thing - I used to tell my son - is that I don't want to be proud, I want to be rich." (B13)*

Analysis of business-oriented non-economic goals

The next group of objectives to be analysed is the non-economic corporate objectives of enterprises. In this category, we were able to identify ten groups.

1) *Quality-focused product development*. For small-scale wineries, the concept of quality becomes synonymous with the possibility of staying alive and competitive in the market, as emphasised by several interviewees who own a family winery with around 10 hectares of vineyards.

The quality of wine depends essentially on the quality and composition of the grapes used to make it. In traditional wine producing countries such as Germany and France, the quality of wine is determined by the geographical origin or terroir of the wine (Bora et al. 2018). The following interview extract shows the situation in Hungary regarding this matter:

"With respect to the wine, it all depends on the grape. Then comes the development of the product itself, which includes packaging, corking, labelling and communication." (B17)

2) *Technological development*. The quality of wine is fundamentally linked to the technological characteristics of the vineyard. Regarding the technological characteristics that accompany grape handling and processing, participants were unanimous in their support of technological development, but the picture was nuanced by the different perceptions and values that underpinned their interpretation of the form of technological development, the solutions to be applied in pressing, mash and must treatment, fermentation, and wine treatment.

Some wineries are innovating in the direction of traditional – gentle – solutions: "*We don't really want to innovate technologically; we are trying to keep* *our machines increasingly out of the way... we are very happy with our manual filling, manual corking... it requires more work and is physically more difficult, but these wines are about personality and about the fact that we do touch every bottle five, ten, even ten or fifteen times if we have to." (B16)*

For many wineries, mechanisation is one of the possible ways to achieve efficiency gains due to the severe labour shortage in the sector. Several interviewees listed impressive goals in this context: *"Mechanisation will be the future and the human factor must be minimised...the technology of winemaking itself must be simplified, streamlined and of a higher quality." (B10)*

3) *Improving service quality and customer satisfaction*. Transforming wine tasting into an increasingly complex customer experience was high on the agenda of many interviewees, who added cultural, tourism and gastronomic services to the existing business. This business model is mentioned in several international studies, too. Some wineries are dismissing the idea that wine production, marketing, and sales are their main activities and they are now also taking on the tasks of organising events and providing tourism services (Cennamo et al. 2012). *"Nowadays it is not enough to make wine, you need to be able to sell it, you need a space for guests and here too I see constant change. There is a need for an outdoor area because oftentimes people feel safe there." (B17)*

4) *Exploiting the potential of digitalisation.* The last element of economic targeting is digitalisation, which is evolving quickly in the wake of the crisis caused by COVID and is a major trend sweeping across many sectors, including the wine sector. Family businesses are taking a proactive approach to this issue and are trying to compensate for the decrease in turnover caused by the restrictions and are trying to launch initiatives based on digital solutions. A respondent describes a concrete element of their digital solutions as follows: "*Together with many wineries we have launched online tasting." (B17)*

5) *Sales structure targets*. All the interviewees mentioned sales objectives – the key issues of their sales policy – with reference to local versus export sales, bottled wine versus bulk wine, and sales channels.

Internationalisation was a recurring topic for many of the respondents: for many, this is a way to grow and maximise profits: *"In Hungary we can sell up to 1/3 of our production and we are currently selling our wines abroad... we are trying to build our export market, because you just can't sell so much wine locally, and these markets are very open and like these natural wines." (B15)*

Regarding the choice of distribution channels, we ended up with a heterogeneous sample, with family wineries selling their wines in a variety of forms and ways. There are wineries that favour merchants, others have developed their own network of shops, while some wines are consumed in the gastronomic realm of premium restaurants in Hungary and abroad: *"70% of our wines have already been sold here at the Cellar and the rest in restaurants." (B17)*

6) *Smart and sustainable growth*. Gersick et al. (1997) and Salvato (2004) argue that family businesses tend to prioritise continuity, therefore their drive to maintain the status quo works against growth.

The promotion of growth in a gradual and sustainable way is a common approach in the belief system of the family wineries interviewed. This goes against forcing growth at all costs, including by way of exploiting natural resources, and this is in line with the literature reviewed and cited.

The following opinion and position reflect this well in the context of growth: *"Step-by-step growth, meaning that the increase from 1 barrel to the current 15-16 thousand bottles of wine has been a gradual process. So, we all prioritise safety." (B17)*

7) *Objectives relating to stakeholders.* The next category of non-economic objectives pursued by enterprises can be related to different groups of stakeholders. This includes the objective of building long-term relationships with employees. The aim is to select employees whose long-term view is to do their job in line with the values that are important to the family.

Caring for the employees and developing employment have also become a goal of family businesses. "*Agricultural work is one of the most despised jobs and we are trying to restore its prestige...those who want to work more can do so, they can grow and be proud of the fact that they have muddy boots. Because they cultivate the St. Thomas plot for the Szepsy brand." (B12)*

The other group concerned is the consumer group. The aim of satisfying customer needs is important and is achieved primarily through the production of high-quality wines. Most respondents seek to have as direct a relationship as possible with their customers, since personal direct contact leads to more loyal customers. In those businesses where a gastronomic service (including a restaurant, tasting room and/or accommodation) is not yet available, the aim is to create one. Customer satisfaction was also identified as an objective by respondents.

8) *Objectives related to society*. These are goals aimed at creating different forms of engagement with the society. This commitment became evident from two aspects during the interviews. On the one hand, the aim of contributing to society and local networks was expressed, and, on the other, the aim of enhancing the reputation of the various wine regions was also emphasised.

Astrachan (1988) pointed out that family business and the local community in which it operates are closely linked. The family nature of the enterprise affects such businesses' relationships with the local environment.

If family businesses are aware of the resources offered by their environment, they can use them for their social and economic development. Integration in the local environment and cooperation with the community influence business decisions. However, the local environment is not only the place where the business is located but also the network of shops, points of sale, restaurants, etc. that the business operates. In this respect, such businesses also try to consider the interests of local suppliers. *"We try to take local specifics into account everywhere…we sell local craft beers, brandy and even fruit juices that aren't our products." (B5)*

Family businesses in the Hungarian family winery sector show exemplary solidarity for working together. In all the wine regions we studied, we could see outstanding examples of cooperation with competitors. Such objectives include a commitment to jointly promote the wine region as well as to share infrastructure.

In the past decade, Szekszárd has been one of the first wine regions to show how to think together and implement joint projects: for example, they have organised joint tasting events and have created the Szekszárd-Bottle, which brings local varieties and producers on a mutual platform.

In the Pannonhalma wine region, PH-Value is the result of collaboration: *"The purpose of creating PH-Value was to honour the name of the wine region, and also to improve the quality of the wines of others, to increase each other's knowledge and to really put a product on the table to which everyone, from the Pannonhalma Archabbey to the smallest cellar, can lend their names*." (B5)

The Tokaj Wine Growers' Association was founded in the 1860s and was revived after the 1990 change of regime. The Tokaj Wine Knights Association also continues a local tradition, and their main aim is to promote the Tokaj wine to the world, so they recruit foreign journalists and celebrities as wine knights to become ambassadors for the Tokaj wine. The Tokaj Wine Girlfriends' Association has created a joint bottle. Somló Superior is the result of collaboration among the wineries of the Somló wine region: this Somló wine of protected origin can only be made from grapes grown organically – a unique feature in Hungary.

9) *The objectives of responsible behaviour towards the natural environment.* The personal values of the founder are fundamental in determining the relationship with the environment, and this can override even the financial interests of the company. *"We don't buy the best ploughs, but rather small lawns that may not be as valuable, but that's how we protect these areas. We try to keep them as they are, we don't cultivate them, we keep them in their natural state, we just mow them." (B20)*

The goal of reducing environmental impact has also been brought to the fore with respect to wine bottles. One of the surveyed family businesses offers its consumers quality bulk wine in swing top bottles.

The approach to innovation was strongly emphasised in the responses to the questions concerning the objectives of environmental responsibility. *"Or weather forecasting: there is now information available concerning when you need to spray. And if we can save one round, that's another way of reducing environmental damage. And what do we need for that again? Money to have a weather station that measures humidity and uses different applications to tell you when to spray." (B21)* In relation to the natural environment, it is also important to mention the potential competitive advantage of environmental responsibility. Several of the entrepreneurs interviewed reported that in Austria, for example, many wineries had realised that they could set themselves apart by going organic, which could give them a competitive advantage by selling their products at a higher price. Producers in countries further west are increasingly adopting environmentally friendly practices, and compliance with environmental standards is of paramount importance in the highly competitive wine market.

The respondents pointed out that, in their experience, environmental aspects and organic farming are not a source of motivation for consumers in Hungary. However, Hungarian entrepreneurs whose aim is to enter foreign markets or to increase sales volumes consider the shift to organic farming inevitable.

Our research has shown that environmental sustainability and environmental protection are important goals for Hungarian family wineries. In addition to preserving the environment, we also found a noble goal that goes beyond business and is linked to the Hungarian wine sector. *"We have an important task: to provide propagating materials and preserve the best Furmint types. It's a constant* *process, yet this wine region does not really deal with it and, in the meantime, Furmint varieties are becoming extinct, and they can't be saved later; we don't do it on our own, but in cooperation with Esterházy University." (B12)*

10) *Preserving and maintaining business traditions.* The interviewees were keen to talk about family roots, traditions, and the importance of local roots. It was interesting to see how important it was for them to mention family traditions that go back generations, even in the case of wineries that were founded in the 1990s after the change of regime. Some considered it important to pass on the knowledge of viticulture and winemaking, the knowledge passed on to them by previous generations, while others were concerned with the knowledge and the love of vine and nature. *"The agrarian issue was in me, but for me, grapes mean wine... like in a family of artists, one becomes a magician, another becomes a violinist, and another might join the circus; the basics are similar even if it might appear completely different on different levels, still the affinity is there within us." (B6)*

Finally, it is important to mention the issue of ethics and honesty, which appeared as a natural part of future operations even though is not a stated objective.

Analysis of family-oriented non-economic objectives

The family's non-economic goals reflect its values and non-economic intentions, primarily for the benefit of the family. In this category, three groups are distinguished.

1) From among the *socio-emotional wealth-related goals* on the FIBER scale (Berrone 2012), three of the five dimensions identified were also expressed as objectives during the interviews. The first dimension is (a) *family control and influence*, i.e., maintaining the family's interest. According to Chua et al. (1999), one of the key characteristics that distinguishes family and non-family businesses is the control that family members exercise over strategic decision making: the family and/or owners' desire to retain total control over the firm. The objective of retaining family control was observed in all the businesses studied. Outsourcing management was mentioned, but generally it is not a real option. This may be due to the size of the companies surveyed or to the number of family members working in the companies, i.e., there is no justification for external involvement in strategic decision-making. In one company, an attempt was made to employ a non-family member manager, but this too failed within a short time: "*We recently hired a colleague to take over the operational management tasks, but practically*

within three months we failed.... The two of us, we have an invisible bond between us, and it works. Beyond the fact that he is obviously my father, we are very good friends. We see things in a very similar way and the fact that he has been able to teach me the world view that I need is one of the greatest successes." (B5)

The second dimension (b) *is the identification of family members with the company,* which is defined as the explicit goal of maintaining a good reputation. The second dimension of the FIBER scale indicates that the family identifies with the company. Many researchers have concluded that the interconnectedness of the company and the family is what makes family firms unique. The identity of the family in ownership is inseparable from the company so the company often appears as an 'extension' to the family (Bingham et al. 2011). The reputation and image of the family are also of paramount importance, as the product often bears the family name. *"I want it to be damn good because we have put our name in this story."* (B5) Maintaining the family's reputation is the basis for respect in society. The image in business circles, the recognition of the family, is also of paramount importance. *"Actually, in the case of every bottle of wine, I remind myself that it's the name of my father's family that goes on it. I have no sons, so the name can't survive any other way. Quality is very important; I really want to bottle the best in every way and so it is important what we attach our name to." (B17)*

The fifth dimension (c) of the FIBER scale is the *renewal of family ties through dynastic transition*, and it refers to the intention of leaving the business to the next generation. Zellweger and Astrachan (2008) considered transgenerational sustainability as a central element of socio-emotional wealth. In this sense, the notion of dynasty is relevant in the context of decisions. Research has shown that the intention to pass the business on to the next generation is one of the most important goals of family businesses (Zellweger–Kellermanns 2011). One indicator of an executive's long-term thinking is the intention of generational transitioning. Long-term thinking implies willingness to invest in the long term, to build relationships based on trust, embedding in the community, to build the reputation of the business (Le Breton-Miller 2016).

In 20 out of the 21 interviews we conducted, the intention of generational transitioning was clearly stated as a goal. *"Those who work with grapes can only think long term." (B5)*

In one case, we came across a family constitution drafted in relation to property ownership, duties, and inheritance. There was one case where we found that the owner of the head company (in most cases, these were groups of family companies) was not at all willing to share his thoughts with his family about the long-term future of the winery. *"Anyone who at the age of 65 does not start thinking about slowly handing over the business is doomed to bankruptcy. And in our case, at the age of seventy or so, I don't think it has ever crossed my father's mind, at least we never sat down to talk about, well, kids, who can take over what? It should be done this way, can you or can't you do it?" (B2)*

Family firms tend to pay more attention to water and soil conservation and energy efficiency than non-family firms (James 1999). *"If you also want to pass it on to your children and grandchildren in this form, you must think about it. If you overfertilise the soil, if you use fertilizer as salt, what will your grandchildren produce on that land? A person who thinks this way, in the long term, is not ruining the future of his/her descendants." (B19)*

For long-term sustainability, it is important that both the generation handing down the business and the generation receiving it have a shared goal of running the family business together:

Several respondents talked about the problem that the family business may not be able to support several families from the second generation onwards: *"Family businesses can't be stretched indefinitely in terms of income, so it won't support everyone." (B12)*

2) *The aim to preserve family harmony*. The three dimensions of the *Three Circles model* drawn up by Taiguri and Davis (1992) include the triad of family, business and property and their overlaps. One of the authors, Davis (2014), has also developed a triple model of family business sustainability based on the Three Circles model. Studies spanning the first three generations show that the three factors that explain long-term success are: increasing family wealth, developing useful skills (talent), and maintaining unity. The three dimensions can be achieved through effective management, appropriate ownership and governance structures, and the availability of the necessary amount of resources (financial resources, reputation, talent, strong allies) to build the business. The aim of creating family unity and harmony, is also underscored by our study. The importance of family loyalty and support emerged as a fundamental topic throughout the interviews.

3) *Oenology training for family members*. The third family non-economic category was linked to the next generation and was partly expressed in terms of education and the opportunities that were or would be created for the next

generation. The development of children's skills and the creation of entrepreneurial opportunities for children were clear objectives in all cases.

Selection based on meritocracy, whether the manager is a family member or not, is of paramount importance in family businesses. However, shared socio-emotional wealth and emotional attachment may make a well-educated leader from the founding family more suitable to manage a family business. Such successors are often trained and educated for years before the actual generational transition occurs (Miller 2007). In the absence of a successor with the leadership skills mentioned above, and with the firm growing and becoming more complex, it is often not a family member who holds the top position. Non-family managers may make decisions based on financial priorities that may threaten the sustainability of the family firm (James 1999).

In our experience, it is very important for the first generation to train the next generation. It is important that the next generation works in the family business as well-trained young winemakers, often gaining experience abroad. Second-generation winemakers talk more about creating opportunities than about the importance of professional education. We had a third-generation interviewee who did not believe that studying was important at all for making good wine but they believed much more in the importance of marketing and management skills. *"Viticulture is a horticultural, biologically oriented profession, winemaking is more about chemistry... it is definitely good if someone has a degree in this field; if someone trains him/herself for years, decades, learns it in a self-taught way, they can be as good winemakers as winemakers with a higher education qualification." (B9)*

However, the importance of experiential learning and the model were seen as a very important goal. *"Well, I've been teaching her about smells since she was very young. She's been around in the vineyard or the cellar, so it's a natural medium for her. The other day, she said 'Mum, I'm not going to be a winemaker because it's a lot of work, I'm going to be a kindergarten teacher.' I said that was very good, too. But I still think that by the age of 18 she will be able to make wine." (B17)*

Analysis of individual goals

Based on the model (Figure 1), we also examined individuals' goals in the second round of our data analysis. In many cases, we observed that the goals of the individual and the family are the same: they overlap. Among economic goals, members of the first generation spoke of not having credit and bank loans, while the younger generation considered financial independence from parents to be important.

For the first generation, the intention of generational transitioning was emphasised, while for the second generation the same topic emerged as an opportunity.

The two young, third-generation respondents spoke mostly about their self-fulfilment goals, which were mainly embodied in the innovation, creation or potential creation of a new product or product line. For them, long-term orientation, corporate and family issues were not yet central.

Product innovation objectives were also an important focus for second-generation family members, who are mainly working as winemakers.

Philanthropy involves supporting a cause or institution that is important to the managing and/or owner family, or even to an employee: these include supporting a sports team or club favoured by the owner, supporting charities, participating in charity wine auctions, or providing smaller or larger grants, donations or services to local schools or communities. *"I am also more inclined towards nature conservation, whereas my grandfather was more inclined to support schools, convents and hospitals." (B20)*

Maintaining or building a reputation is particularly important for all generations, as in most cases the product bears the family name.

Results and discussion

Our results are presented in the order of research questions. The first research question concerned the identification of objectives, which were structured according to the Basco model. We distinguished between economic and non-economic goals as well as between company and family-oriented goals. These goals are summarised in Table 4.

The "new" dimensions (Table 2), developed based on the Basco questionnaire measurement, distinguish between short-term, long-term, and stewardship goals. To answer our second research question, we did not only group the results as indicated above but also distinguished between short-term, long-term, and permanent goals based on our own model. This was necessary because our interview research also enabled us to gain a deeper understanding of the goals. The results are summarised in Table 5.

Table 4. Economic and non-economic goals

Economic-oriented	Financial goals Firm's financial security	Maintaining the family's material prosperity and financial security
Non-economic-oriented	Quality-focused product development Technology investments and renewal Improving service quality Harnessing the potential of digitalisation Goals relating to sales structure Smart and sustainable growth Exploiting opportunities on the export markets Goals relating to employees and customers Goals relating to preserving and upholding the firm's values Meeting environmental sustainability requirements	Socio-emotional goals (family interest in the enterprise, respected name in society, raising social recognition, and intra-family firm succession) Preserving and maintaining family harmony Ensuring that family members have good knowledge and understanding of viticulture and oenology

Source: Own research

Our results showed that, after a detailed analysis of the data, which included differentiation between economic and non-economic objectives, it was important to define the temporality of the objectives. Accordingly, we created three categories of goals: short-term, long-term, and permanent ones.

Our results have also shown overlaps among corporate, family, and individual goals, which is very important for corporate performance and efficiency.

(1) Business-oriented goals:

a. Short-term goals, goals that can have a direct impact on economic performance.

b. Long-term goals are primarily related to development. In all the companies surveyed, quality-focused product development was a priority. In addition, the aim of technological development, the development of the different catering units and the need to reinforce or change the sales structure – although with different components – also appeared. The latter usually meant an increase of exports in the direction of HORECA.

(2) Family-oriented goals:

A family's goals are *permanent,* which means they are both short- and long-term. Permanent goals are based on a set of beliefs about a value or set of values, so they do not change or do so only rarely. A family's permanent goals mean a

Table 5. Firm, family, and individual short-term and long-term goals

	Business-oriented	**Family-oriented**	**Individual**
Short-term goals	Financial goals • Firm's financial security • Harnessing the potential of digitalisation to overcome crisis situations • Growth goals • Goals relating to stakeholders (employees, suppliers, communities, and customers)		Financial independence Making a lot of money Avoiding debt Living (well) in the countryside
Long-term goals	*Development goals:* Quality-focused product development • Technology investments and renewal • Market development • Strengthening position in the market • Exploiting opportunities on the export markets • Developing catering establishments • Meeting environmental sustainability requirements • Staff development		Transgenerational succession intentions (goals) Personal fulfilment
Permanent goals		Maintaining the family's material prosperity and financial security • Maintaining family harmony • Supporting family members • Socio-emotional goals (family interest in the enterprise, respected name in society, and raising social recognition) • Goals relating to preserving and upholding family and business values	Promoting the welfare of others (e.g., philanthropy) Establishing cooperation Innovation Acquiring and maintaining reputation
Educational goals		Ensuring that family members have good knowledge and understanding of viticulture and oenology	Personal progress
Environ-mental goals		Environmental responsibility	Personal commitment to environmental sustainability

Source: Own research

kind of responsibility for both the individual and the business. They include socio-emotional goals, goals related to family members, goals related to education, and goals related to the natural environment.

(3) The individuals' goals category includes the goals of the founder, as well as the goals of family members. The analysis of individual goals also yielded some new results, but the most significant finding was the recognition of the ability to clearly distinguish between the different goals of the generations. Our research confirmed the relationships between the evolution of family businesses and socio-emotional priorities described by Le-Breton Miller (2013) (Table 3). While, for the first generation, certain socio-emotional goals (maintaining family control) are more emphatic, economic priorities are more pronounced in the eyes of the second generation. Most of the businesses studied bear the family name and are therefore particularly motivated to preserve their reputation and family identity, which is emphasised by the representatives of both generations.

a. Among individual goals, short-term goals are mainly related to one's current life situation. This includes livelihood issues or goals and opportunities connected to rural life.

b. Long-term goals are mainly related to the issue of succession, which is the starting point for preserving the family nature of the business. The intention to pass the business on to a successor differs among generations. Long-term orientation is particularly important for agricultural businesses. Specific farming knowledge and practices facilitate intergenerational transmission.

c. Some of individuals' permanent goals stem from a personal commitment to a value: for example, a personal commitment to maintaining and improving the natural environment. Learning and personal development goals are also important.

Our third research question concerned the factors influencing the outcome of the objectives pursued by Hungarian family wineries.

The outcome of the goals set at company, family, and individual levels is also worth looking at, as all three need to be met to achieve a harmonious functioning of the business.

a. At the company level, the two identified factors are the industry and the life cycle of the company. Several specific characteristics of the wine industry can be listed, and these may have an impact on the goals of the enterprises. The need to follow consumption and product trends and life cycles, the characteristics and importance of the place of origin keep the goals in a state of constant change.

The change in the life cycle of a business is slower, but with it comes a change in goals. In the case of family businesses, there are changes not only in business and ownership but also in family life cycles.

b. Our studies show that, at the family level, the most dominant phenomenon influencing goal-related outcomes is linked to the socio-emotional factors of different generations and their extent.

c. At the individual level, the characteristics of the resources (mainly human and social) linked to the founder are very important, but the values of other family members, their generational background and willingness to innovate are also important.

Besides the multidimensional nature of goals, it is important to see that organisational goals are closely linked to other level goals, including individual and family goals (Kotlar et al. 2018).

Overall, we have found a wide variety of individual and family goals. Among the goals related to entrepreneurship, however, those related to any aspect of organisational change are completely absent. Respondents did not express any possible external managerial or professional corporate governance goals even in cases where explicit growth and expansion goals were mentioned.

Conclusions

The aim of our research and study was to analyse the objectives of family businesses, based partly on Basco's model and partly on the model described above. We sought to answer the question of what short- and long-term corporate, family, and individual goals are pursued by family businesses in the Hungarian wine sector and examined the extent to which the goals of the generations differ. In addition, we also wished to uncover the characteristics that might influence the outcome of these goals.

It is important to understand stakeholders' economic and non-economic objectives that shape the operation of family businesses, as these jointly influence strategy and performance.

Our research has confirmed the value of using various frameworks for broadening our knowledge about family businesses, as such frameworks provide more in-depth and comprehensive data and knowledge.

Overall, to gain a deeper understanding, it is worth looking at the complex set of family business objectives at the individual, family, and company levels.

Nevertheless, when evaluating performance and success, the whole firm should be considered.

Our research confirms that longitudinal studies are worthwhile, because the first two generations in Hungary already demonstrate the problems and challenges that have arisen due to the lack of well-defined objectives, as described in the literature. These include unplanned or inadequately planned generational transitioning, family conflicts or problems concerning the transfer of responsibilities, while the lack of professional corporate governance planning can be a serious obstacle to the development of family businesses.

Finally, it is important to note that the number of family wineries in our sample may limit the extent to which our findings can be generalised.

Our study contributes to the management literature in several ways: especially, it contributes to the understanding of family businesses as – to our knowledge – no such in-depth research on objectives has been conducted in Hungary so far.

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Consequences of the COVID pandemic: Factors of employee satisfaction with home office, with a special focus on organisational communication, in the light of a survey conducted in Hungary[1, 2]

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The aim of the paper is to demonstrate the impact of the COVID-19 pandemic on satisfaction with working in home office and with organisational communication. The authors' hypothesis is that significant differences can be identified concerning the satisfaction with working in home office, depending on the demographic background of the employees. A further hypothesis is that satisfaction with the organisation's communication significantly and positively influences the satisfaction with working in home office. During the research, 600 Hungarian residents, aged 18-64, who had worked in home office for at least three months, were contacted with an online questionnaire. The survey was carried out at the end of the 3rd wave of the COVID-19 pandemic, in May and June 2021. The findings were that satisfaction with home office primarily depends on the home office experience, and not on the demographic attributes of the respondent. The research revealed that satisfaction with organisational communication and satisfaction with work are closely correlated. The findings make it clear that employers must have open and transparent communication in place so that employees see home office positively.

Keywords: atypical work, home office, remote work, satisfaction, COVID-19.

JEL codes: J24, J29, M12, M54.

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Introduction

The COVID-19 pandemic has been a major shock to the global economy and has very serious socio-economic consequences (EB 2020). One of the pandemic's direct consequences was the closedown of onsite workplaces in several sectors. Thus, the examination of home office as an atypical form of employment became topical and especially important.

Home office as an atypical form of employment had been rather rare in Hungary before, but the concept was introduced to everyone during the pandemic, even to those who had never worked from home previously. Experts have started to examine which work organisation methods enforced by the pandemic will be kept by the companies and what techniques are worth applying in the future (Siklósi 2021). From an employee perspective, future work may also be considerably affected by how the labour force experienced working from their homes during the pandemic. If they are satisfied with it, they may like to work this way also in the future; in fact, they might demand this kind of flexible work. The exploration of employee satisfaction with working from home provides employers with important information, as one tool for attracting and retaining talented labour force may be the provision of this kind of flexibility (Venczel-Szakó 2021).

Internal organisational communication is a tool for strengthening the relationship between the organisation and the labour force, with the primary aim of creating internal cohesion, integration (Borgulya 2014). Communication is the lifeblood of organisational culture that integrates the staff and the units and is present in every aspect of the life of the organisation (Klein 2009). The quality of communication determines the efficient operation of the organisation, and its channels and mechanisms even affect the characteristics of the management structure (Bakacsi 2002). Thus, the quality of communication is of vital importance in the life of an organisation, and it is even more important in the management of crisis situations. Looking at communication as a tool for strengthening human relations, it played an unquestionable role in adapting to the changed working conditions, in ensuring a flawless operation and in overcoming the problem of social distance during the pandemic.

With all these taken into consideration, the research question is whether there is a correlation among the demographic features of employees, organisational communication and satisfaction with home office?

The level of satisfaction with working from home was measured in a sample of 600 persons who had at least 3 months of experience with home office. For defining satisfaction with home office, an individual research framework and a satisfaction index (SI) were created, built on the factors identified during literature review. The relationship between the SI, demographic factors and communication satisfaction was analysed using the method of OLS linear regression.

In the first part of the study, the focus is on the factors impacting work satisfaction and on the respective elements of communication, based on relevant academic publications. This section is followed by the definition of hypotheses, the description of research methodology and hypothesis testing, the presentation of findings together with their managerial implications as well as research limitations and future research directions.

Theoretical framework of the research

The frameworks of the research are set based on the literature review of scientific theories explored by the research (home office, employee satisfaction, communication), looking at the most recent research findings in these fields. On the basis of previous research findings, the theoretical concept of the paper is defined, and the hypotheses are stated.

Home office and remote work as atypical forms of employment

The concepts of remote work and home office are often taken as synonyms, with blurred interpretations (Ásványi et al. 2021).

Remote work is "…a form of employment that is made atypical by the non-conventional place of working and the non-traditional tool of work" (Bankó–Ferencz 2015. 58). As remote work is flexible in time and space, it is one of the most up-to-date work organisation methods (Jarjabka 2010). Remote work can also be taken as the working form of modern times (Bankó et al. 2003). Omondi and K'Obonyo (2018) put it very simple when they said that remote work is when an employee works far from his/her workplace. In the view of Makó et al. (2003), remote work means that employees use both computers and internet during their work. The term *remote work (telecommuting/telework)* was defined by Jack Nilles in 1975 (Nilles 1975). Since then, several synonyms have been developed for remote work as a new, atypical phenomenon (e-work), specified by the following terms in English and German: telework, telecommuting, distance working, remote working, Telearbeit, Bildschirmarbeit, Computerheimarbeit, elektronische Fernarbeit (Bankó–Ferencz 2015).

There are several conceptual approaches to remote work. Definitions refer to the place of work, the use of communication tools, and the method of control. Also, remote working is often associated with intellectual activity, independent problem solving by the employees, the existence of employment status, the importance of being available for the employer, and the condition of the job being fully manageable from a remote workplace (Jarjabka 2010). Blair-Loy and Wharton (2002) say that remote work (telecommuting) means working from home in the whole or part of the working week. Ásványi et al. (2021), to the contrary, consider that the description used in the definition of remote work, i.e. that working takes place in a location other than the location or headquarters of the employer, does not necessarily mean working from home, but may as well be working in another location specified by the employer (as opposed to home office that means working from home).

Working at home (in home office) is a form of remote work, work far from the location of the employer, with work activities taking place at home with the use of info-communication devices (Hárs 2012); in this definition, home office is a sub-category of remote work.

As regards remote work and home office, it must be mentioned that this kind of working is not suitable for all life conditions and for all personalities (Devine et al. 1997).

Kowalski and Swanson (2005) examined the critical success factors of remote working and found that support, communication and trust are indispensable factors in creating the conditions for successful remote working, and at the same time, they remarked that the creation of a remote work programme is not only an opportunity but also a clever strategic business decision. Omondi and K'Obonyo (2018) defined the following factors as conditions for flexible work: quality communication, supportive organisational culture, favourable working conditions, supportive legal regulations, the commitment of the employees, and adequate demographic features of the staff (gender, age, educational attainment).

Beauregard et al. (2019) say that the success of remote work depends on the features and character of the work, on the respective employee, and on the characteristics of the employee's leader. They also stress that technology support is a key factor. In their opinion, the successful application of remote work requires special attention to two fields: selection of the staff and their preparation for remote work, and the management of remote work.

The COVID-19 pandemic has been a major shock to the global and EU economies and has very serious socio-economic consequences (EB 2020). Academics of different disciplines have conducted research on the effects of the COVID-19 pandemic in the short, medium and long run, also taking international and global effects into consideration.

The Hungarian Central Statistical Office (HCSO) collects and publishes recent research findings related to the coronavirus (KSH 2020). TÁRKI created an online platform named “Pandemic-related social science research in Hungary”[6], where COVID-19 research projects underway in Hungary are listed. An online survey reached 1,269 ethnic Hungarian respondents from Transylvania, Romania (Gergely et al. 2020). Another research examined Hungarian organisations and their reactions to the crisis in all three phases of the pandemic, exploring their experiences and expectations (Poór et al. 2021). A research launched by the University of Pécs surveyed the impact of coronavirus on organisational culture, organisational communication, digitalisation, organisational integration, and expectations for the future (Sipos et al. 2020; Jarjabka et al. 2020c).

As of 30 April 2020, Eurofound reached more than 85 thousand persons in the Member States of the EU with their “COVID-19 e-Survey”, which asked about the impact of the pandemic on subjective quality of life, health perceptions, trust in institutions, and concerns about work and workplace (Eurofound 2020a). Based on the answers of more than 110 000 respondents, the “International Survey on Coronavirus”[7] examined the health impacts of the pandemic, fears and coping methods. The Global Research Data Alliance also dealt with the effect of the COVID-19 pandemic (RDA 2020). The International Association of Universities (IAU) published a report based on 576 replies (from 424 universities in 109 countries) to an online questionnaire that was accessible from 25 March to 17 April 2020 (IAU 2020).

The situation brought about by the coronavirus gave a considerable momentum to the penetration of remote work both at international level (Gibson 2020; Eurofound 2020b; Caligiuri et al. 2020; Kronblad 2020) and in Hungary. Before the pandemic, remote work had been a curiosity in Hungary; the proportion of those working from home had remained below 5 per cent. According to the GKI research, this proportion grew to 20 per cent by early June 2000, which concerned

[6] https://adatbank.tarki.hu/en/covid-19-research-in-hungary/

[7] https://covid19-survey.org

approximately 800 thousand people (GKI 2020). In July–September 2021, the proportion of those employed in remote work or home office was 6.3 per cent, 0.3 per cent more than in the previous year (KSH 2021).

Employee satisfaction

Thousands of studies have been published on the definition and measurement of satisfaction with work. Satisfaction cannot be treated objectively; what causes satisfaction or dissatisfaction for individuals may differ person by person (Sipos 2016).

The satisfaction of employees is an outstandingly important factor of organisational success and also an indicator of an organisation's efficiency. A satisfied labour force may even be a competitive advantage for the organisation (Ouedraogo–Leclerc 2013; Izvercian et al. 2016). Dhamija et al. (2019) emphasise that it is the responsibility of the employer, on the one hand, to make their employees "feel good" at the company and reach their goals (that made them join the organisation); on the other hand, it is also the economic interest of the employer to have committed employees because satisfaction, commitment and a good working environment impact the performance and competitiveness of the employees as well as the successful operation of the organisation. Employee dissatisfaction leads to low performance, increased labour turnover and the loss of talented staff.

In the opinion of Brunelle and Fortin (2021), the relation of employees to their employers will change in the future, especially due to the penetration of atypical employment forms. They predict a fundamental change in the motivation methods that boost employees' commitment, and these will be different for office staff and home-office workers.

Locke (1976) described satisfaction as a kind of sensation by which employees relate to their employers. Vroom (1964) also defines satisfaction as happiness deriving from work. Brief (1998) relates satisfaction to an inner state, sensation. Shaffer and Harrison (1998) involve needs and meeting (or failing to meet) these needs in the interpretation of satisfaction; in their opinion, satisfaction is related to whether the needs that can be satisfied by working are actually satisfied or not. Greenberg and Baron (2000) see satisfaction as a kind of intellectual, emotional and behavioural reaction triggered in the individuals about their work.

In the view of Noé (2004) and Becker–Kaerkes (2006), the combined effect of three groups of factors can be seen in the employee satisfaction model:

- *Conditions of satisfaction with work* (recognition of work by society, career opportunities, physical conditions of work, recognition of abilities, appreciation of work performance, safety of work)
- *Conditions of general satisfaction* (family life, entertainment and sports facilities, housing conditions, position and function in society)
- *Individual features* (age, personality type, health condition, desires, endeavours).

Ineson et al. (2013) say that trainings, skills development, working time, the diversity of work, and the safety of the workplace are factors contributing to satisfaction.

In Yang's (2010) view, satisfaction is impacted by role conflict, the misunderstandability of possible roles, overburden, work and family conflict, burnout, socialisation, independence and autonomy.

Van Saane et al. (2003) used a meta-analysis to define those work-related areas that have an effect on employees' satisfaction. These are the following:

- *Character of work* (work that requires diverse skills, complexity of work, challenges posed by work involving routine tasks),
- *Autonomy* (individual responsibility, control over work-related decisions),
- *Career/development* (personal growth and development, training or education),
- *Financial incentives* (wage, fringe benefits),
- *Promotion* (possibility of career building or getting promoted),
- *Supervision* (support from the superior, recognition and fair treatment),
- *Communication* (consulting possibilities, feedback),
- *Work relation with the colleagues*,
- *Sensibility of the job*,
- *Workload* (subjective feeling or lack of time, monotony, social problems, personal conflicts or stress),
- *Strain by work* (compulsory extra work, complexity of the job, uncertainty of the position, or emotional commitment).

Kozák and Sönperger (2019) emphasise the responsibility of employing organisations for creating a friendly workplace atmosphere, encouraging individual performance, and contributing to the preservation of their employees' mental health, which will entail an increase in their self-esteem and self-efficiency.

The efficiency of remote work and home office and their effects visible in the organisation – like retention, loyalty, fluctuation – are impacted by the following factors: whether work is organised around private or community interests, the scale of individual or collective responsibility, whether the employee feels s/he is a member of a cooperative community, whether work is done as an employee or an entrepreneur, whether the personality of the employee fits the requirements of the given position, individual features (time management competencies, independence, age, career plans), the attitude of the leader, and, what is most important on both sides: the role of trust. This kind of atypical working functions very well usually when the employees have greater professional skills and special knowledge. It must also be emphasised, however, that the employee can keep in touch with the employer in many different ways, and the efficiency of cooperation does not depend on the tools applied (Venczel-Szakó et al. 2021).

Exploring the level of employees' satisfaction with their work is one of the most important aspects of workplace research (Pinsonneault–Boisvert 2001). The general belief, in the beginning, was that employees working remotely were more satisfied with their jobs, but this belief could not be solidly supported (Bailey–Kurland 2002; Morganson et al. 2010). Golden and Veiga (2005) examined the impact of remote work intensity on satisfaction with work in the circle of white-collar employees; their findings demonstrated a curve-shaped relationship between the intensity of remote work and work satisfaction, i.e. remote work has a positive impact on work satisfaction up to a certain point, while the impact is negative beyond that point (the authors set the threshold at 15.1 working hours per week). The authors supposed that, for high-intensity remote workers, the negative impact of increased isolation, the decline of interactions with leaders and fellow workers probably have a negative effect on satisfaction with work.

Gajendran and Harrison (2007) worked out the theoretical framework of the impact of remote work. They examined the relation between work done at home, looking at perceived autonomy, work-family conflict, the quality of the contact with the leader, the quality of the remote worker – fellow workers contact, satisfaction with the job, work performance, stress and perceived career chances. Their findings suggest that remote work has a positive effect on perceived autonomy and resulted in a decrease in the number of work-family conflicts.

The demographic variables further detail the picture of the relationship between jobs that can be done from home and employee satisfaction. On the basis of literature (Devine et al. 1997; Bailey–Kurland 2002; Golden 2006; Gajendran–Harrison 2007; Gajendran et al. 2014; Noé 2004; Becker–Kaerkes 2006), it can be presumed that women are more satisfied with home office than men are, as working from their home allows them to better schedule their days, they can balance better household chores and raising children with work, as they do not waste time travelling and thus have more time for other things as well. Men, on the other hand, are more reluctant to working from home; they are less tolerant to "melting" work and private life. As regards age, it is presumed that younger employees (below 35 years) are more satisfied with home office than their counterparts aged 35 or more, as the younger generation is keener on flexible working hours.

A further hypothesis of the authors is that those holding college/university degrees are more satisfied with home office than those without such qualification, as home office requires the employee to be good at time management, have self-control and flexibility, as well as several other skills, abilities and competencies that a person holding a college/university degree possesses.

A hypothesis concerning the place of residence is that employees living in the countryside are more satisfied with home office than those living in the capital city, as they may have access to extra opportunities in certain cases and they can take up work that otherwise they could not.

Another assumption is that those raising children under the age of 12 are more satisfied with home office than those who do not. Working from home allows parents to harmonise work with child-focused tasks, and they do not have to miss from work even if the child is ill.

After reviewing the employee satisfaction literature, we formulated the following hypothesis:

H1: Significant differences can be identified concerning satisfaction with working in home office based on the demographic background of employees.

Communication as a factor contributing to satisfaction

Internal communication is important in every organisation's life (Borgulya 2014), *"communication is the heart of the company's performance"* (Van Riel–Fombrun 2007. 2). Accordingly, its quality determines the successful operation of the organisation, and with its channels and mechanisms, it also impacts the features of the management structure (Bakacsi 2002).

Several authors emphasise the importance of keeping in touch with the employees as part of corporate communication. Van Riel–Fombrun (2007) say that communication is one of the most important abilities of a manager, helping them to get the corporate goals accepted; also, this promotes the commitment of employees. The importance of communication to the employees (communication with the colleagues) is emphasised by Schmidt–Lyczek (2006) and Goodman–Hirsch (2010), while Piwinger–Zerfaß (2007) stresses the importance of communication between the staff and the management and the value-creating role of communication.

Information flow (as a feature of the corporate culture) is a characteristic factor of the organisational culture. Organisations where a free flow of information is provided usually stimulate innovation, they can be taken as workplaces with a more relaxed atmosphere, they plan for a longer time span, they have managers that are dominantly relationship-oriented and they practise emphatic leadership; employees see the social sensibility of their managers as a factor of utmost importance, consensus-seeking is considered as the tool for solving conflicts within the organisation, and they contribute to work satisfaction (Tsai 2011).

Infocommunication technology (ICT) is a precondition for remote work, so the provision of communication infrastructure is indispensable. The management of inner communication implemented with ICT tools contributes, even in the case of remote work/home office, to the strengthening of the relationship and to interactive information flow; in fact, it increases motivation and commitment. This supports and supplements the relevant literature findings of communication management (Argenti 2003; Bray–Williams 2017; Castro–Martins 2010; Grensing-Pophal 2000; Van Riel 1992).

Oral communication has significantly declined with home office arrangements; oral communication several times or at least once a day has been replaced by oral communication on a weekly basis or several times a week. The biggest problem is the lack of daily personal contact, and it is the efficiency of intra-organisational exchange of information that is most often criticised. Among the conditions and aspects of communication, the most crucial is to be informed about everything and to get all work-related information in time. This is followed by the number of tools necessary for home office and the efficiency of intra-organisational information exchange (Jarjabka et al. 2020a; Jarjabka et al. 2020b; Jarjabka et al. 2020c; Sipos et al. 2020).

The findings of Meulen et al. (2019) show that spatial separation directly decreases the frequency of knowledge sharing among colleagues, while separation in time leads to lower quality of work and proactive performance.

Bauer et al. (2019) demonstrates that active and quality contact is the foundation of building trust, irrespective of whether it is realised in an online or offline form. The authors remark, however, that digital communication is more suitable for the implementation of targeted tasks, whereas offline communication is better for building personal relations. They also call attention, at the same time, to the difference between quality and frequent communication.

Akkirman and Harris (2005) showed that virtual office workers were more typically satisfied with organisational communication than conventional office workers were. Murphy and Sashi (2018) also examined the contribution of offline and digital communication to the increase of satisfaction. Personal communication has a more substantial impact on the maintenance of contacts, whereas digital communication is more effective. According to Verčič–Špoljarić (2020), organisations must quickly adapt to be able to reach their employees because the environment of internal communication is constantly changing (e.g. the effect of new technologies); the choice of the inner communication channel is especially important.

Digitalisation and the ongoing digital transformation have impacted almost each company and sector so far (Kronblad 2020; Makarius–Larson 2018), changing the interaction of employees at the workplaces, communication, expectations, as well as the place and time of working. Digitalisation also requires the adaptation and development of new skills and new working methods (Bondarouk–Ruël 2009). In addition, the literature emphasises the importance of investments in the development of new skills, especially if the change entails new technologies and new roles (Heracleous 2003). The basic mission of human resources (HR) managers is to support the employees and help them develop based on the overall organisational strategy (Watson 2009).

As remote work results in the decline of personal interaction and the weakening of social presence and interpersonal ties, the contact with fellow workers and superiors may also weaken (Golden 2006). The change of the interpersonal sphere can be counterbalanced primarily with the use of ICT tools, although this makes it more formalised and asynchronous (Brunelle 2013). Text messages and e-mails do not provide interactions the same as personal ones because they limit the transfer and sensation of nonverbal signs (e.g. intonation, posture and facial expression) (Sharma et al. 1981). Some authors think that relationships may be affected, as this deficiency complicates effective talks among colleagues and the building of trust (Jawadi 2013; Wheatley 2012). Brunelle and Fortin (2021) believe that remote work may influence the quality and character of communication and the development of working relations, as opposed to those working in physical offices.

After the review of the communication satisfaction literature, we formulated the following hypothesis:

H2: Satisfaction with organisational communication significantly and positively impacts satisfaction with working in home office.

Methodology

Method of sampling

This research is focused on those who have experience with working in home office. When such a special target group must be reached, if either there is no official statistical information about its size or demographic features or representative research findings haven't been previously published, no criteria can be defined that can safeguard the representativeness of the whole sample during data recording. When the sources for the implementation of a representative large-sample survey are missing, the only solution is to specify different segments within the target group, in line with the research objectives and quotas, i.e. target numbers can be set for these "units" of analysis in order to have large enough samples for the reliable examination of the opinions of the respective target groups, segments (Sajtos–Mitev 2007).

We conducted an online questionnaire survey between 27 May and 25 June 2021, using random sampling, based on preliminarily defined quotas (Table 1).

Table 1: Quotas used in the research

	Before the COVID pandemic, s/he had worked in home office at least 1 day a week for at least half a year	Before the COVID pandemic, s/he had not worked in home office at least 1 day a week for at least half a year
Since the start of the COVID pandemic, s/he has worked in home office at least 1 day a week for at least 3 months	**QUOTA 1**	**QUOTA 2**
Since the start of the COVID pandemic, s/he has not worked in home office at least 1 day a week for at least 3 months	**QUOTA 3**	**QUOTA 4**

Source: Own research

Characteristics of the sample

Altogether, 600 Hungarian residents aged 18-64 who had worked from their home for at least 3 months were contacted for the survey, i.e. those who had no or little experience of home office were excluded from the group of respondents.

As regards the *gender* of respondents, the proportions of males and females are almost equal, respectively: the number of women filling out the questionnaire was 308 (50.41%), that of men 303 (49.59%), which is not significantly different from their proportions at a national scale (KSH 2021).[8]

Looking at the *age* of respondents, we can see that more than three-quarters of respondents (75.93%) are between 26 and 55 years of age, i.e. career starters and seniors just before retirement are less represented in the sample. The age cohort with the largest proportion (27.82%) was that of respondents aged 36-45, and 7.04% of all respondents were aged 18-25.

As for the respondents' *places of residence*, 42.06% are from Budapest or Pest County (257 persons)[9].

[8] National average in 2021: 9,730,772 persons (male: 4,663,794; female: 5,066,772, i.e. 47.9% male and 52.1% female). Source: https://www.ksh.hu/stadat_files/nep/hu/nep0001.html, accessed: 14.10.2021.

[9] Budapest and its agglomeration concentrate approximately 30% of the total population of Hungary (EURYDICE 2021).

Almost three-quarters of respondents (71.19%) are in a relationship (marriage or cohabitation), almost one-fifth (19.97%) of them are singles and 8.84% are divorced or widows/widowers.

As regards *educational attainment*, almost two-thirds of respondents (61.87%) have a higher education degree, the proportion of those who completed lower secondary education or less is 0.98% and 37.15% completed upper secondary education within the sample.

Of all respondents, 30.28% have a child/children younger than 12. Of those raising children, most were raising one child younger than 12 (59.46%), another 30.27% had 2 children, while 10.27% of respondents had 3 or more children under the age of 12.

The majority of respondents (55.80%) were working in the business sector, 31.40% of them in the public sector, while 12.80% of them were in the not-for-profit sector.

If we look at the company size, we can see that 39.30% of respondents were working for large companies (with 250 or more employees), 25.20% of them for small enterprises (employing 10-49 persons), and 16.69% of them in companies with less than 10 employees.

We built up our questionnaire using questions concerning work satisfaction and communication borrowed from previous research (see *Appendix*).

Description of the linear regression formula

When selecting the statistical methodology, we had in mind that both hypotheses are focused on work satisfaction, which is the dependent variable. Both the demographic and the communication factors appear as independent variables. The impact of the respective factors on work satisfaction is demonstrated by taking all other *ceteris paribus* variables into consideration.

Accordingly, the appropriate methodology can be the OLS linear regression procedure. We examined the normality of the two indices on the basis of both the Kolmogorov-Smirnov and the Saphiro-Wilkinson tests and we found that they significantly differ from normal (p-value is lower than the 5% significance level) (Babbie 2016). Therefore, a logarithmic transformation was made before the application of the OLS linear regression, as transformation keeps the positions of the respective values relative to each other, and it contributes to the normalisation of the values. Dummy variables were made from nominal variables, indicating the reference group in parentheses after the respective variable. The nominal variables included were quota (Quota 1), company size (less than 10 employees), sector (business sector), gender (female), age (aged 36 or older), place of residence (not capital city), educational attainment (not higher than secondary), child younger than 12 (no). Based on these, equation 1 shows the formula applied during the running.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_{12} X_{12} + \beta_{13} Z_1 + \beta_{14} Z_2 + \varepsilon \quad (1)$$

where:

Y = Logarithmic satisfaction concerning working in home office

$X_1 - X_{13}$ independent variables of linear regression: company size, sector, gender, age, place of residence, educational attainment, child(ren) younger than 12, logarithmic communication satisfaction

Z_{1-2} control variable of linear regression: quota

ε = residual

Results and discussion

Descriptive statistics (Table 2) show that respondents typically gave high values to work satisfaction factors (on a Likert scale from 1 to 10). Factor WS10 originally had to be interpreted on an inverse scale (from 10 to 1), but it was reversed for the analysis. With the exception of factors WS1, WS6 and WS11, the most typical value was 10 for each element, with a median of 6 or higher. The highest values were given to the application of skills and knowledge to home office work (average: 7.96).

As far as the elements of communication (C1, C2 and C3) are concerned, high averages can also be seen, the most typical value being 10 in all three cases.

Following this, we created two complex indices from the 11 work satisfaction factors and the 3 communication factors. A simple summation was used for the questions making one single logical unit, by which the theoretical range of work satisfaction index is 11-110, while communication index varies in the 3-30 range. Based on the descriptive statistics of the two indices, the descriptive statistics resulted in low heterogeneity (Table 3).

After the descriptive statistics, we moved on to *Equation 1.* Three runnings were applied for the sake of a gradual approach and for the separate analysis of the two hypotheses. First, we tested the impact of the independent variables without the control variable and logarithmic communication (LR1). Then we analysed the effect of the control variable and logarithmic communication satisfaction (LR2) and we demonstrated the combined effect of all independent variables (LR3).

Table 2. Descriptive statistics of factors related to work satisfaction and communication

Code	Work satisfaction	Average	Median	Mode	Std. deviation	Variation
WS1	When working in home office, I have interesting and challenging tasks.	6.48	7	5	2.54	39.16%
WS2	When working in home office, I am able to use my knowledge and skills.	7.96	8	10	2.18	27.40%
WS3	The amount of work I am given is acceptable on the whole when I work from home.	7.63	8	10	2.30	30.09%
WS4	Home office gives me more stress than working in my office.	7.10	8	10	2.87	40.41%
WS5	In home office, I can harmonise well work tasks with housework and/or looking after the children.	7.19	8	10	2.55	35.53%
WS6	It is hard to harmonise work and homework if I work outside my home.	5.39	5	5	2.92	54.16%
WS7	In home office, the balance of work and private life can be fully reached.	6.60	7	10	2.69	40.72%
WS8	In home office, the boundaries of work and leisure time are clear.	5.94	6	10	2.94	49.55%
WS9	Home office allows flexible scheduling of the working time.	7.85	9	10	2.46	31.29%
WS10	Home office alleviates the planning of work.	7.16	8	10	2.53	35.38%
WS11	In home office, the character of work is different than that of office work.	4.07	4	1	2.59	63.62%
C1	I am given all the information I need for the implementation of my daily routine tasks when I am in home office.	7.64	8	10	2.32	30.42%
C2	When working from home, I miss office gossip, informal communication.	6.23	6	10	3.10	49.78%
C3	In home office, well-established communication channels are used for working.	7.90	8	10	2.22	28.15%

Source: Own research

Table 3. Descriptive statistics of the complex indices describing work satisfaction and communication

Complex indices	Average	Median	Mode	Std. deviation	Relative std. deviation
Work satisfaction	73.38	74	68	16.53	22.53%
Communication satisfaction	21.8	21	21	5.126	23.56%

Source: Own research

The results of the linear regression (Table 4) show that each model is significant; their existence can be taken as justified. In the case of LR1, the explanatory power is low, namely 1.7% based on the adjusted R^2. However, its examination is also important for us, as in the first approach, the effects of factors outside the logarithmic communication values can be identified.

Based on the models LR2 and LR3, we can say that logarithmic communication contributes to the largest extent to the satisfaction concerning working in home office, as LR2 (where logarithmic communication appears) has an explanatory power of 26.7%, while this value is slightly higher (26.9%) for LR3.

During the running we also examined the existence of multicollinearity, and at none of the factors we found the VIF higher than the threshold value of 10 where the involvement of certain variables should have been reconsidered, according to Babbie (2016).

Quotas, taken as control variables, took significant values in each model. They had the greatest impact in model LR1 (satisfaction lower by 12.0% and 15.1%, respectively, compared to Quota1); at the same time, they are significant in each of the three models.

Socio-demographic and labour market factors have no significant influence on none of the factors related to work satisfaction. This means that satisfaction with working in home office depends primarily upon the experience with home office and not on other characteristics of the individual.

However, in the case of model LR3, where communication satisfaction plays a role, one factor proved to be significant: those employed in the public sector experienced a 7.6% higher satisfaction with home office than those working in the business sector. This is partly due to the greater security and predictability that characterise the public sector.

Table 4. Results of the OLS linear regressions

General features of the model	LR1		LR2		LR3	
n	586		586		586	
F	1.822		71.998		17.562	
p	0.042		0.000		0.000	
Adjusted R^2	0.017		0.267		0.269	
Constant	4.357		2.752		2.749	
Variables of the analysis	Stand. B	p	Stand. B	p	Stand. B	p
Quota2 (Quota1)	-0.120	0.006***	-0.089	0.017**	-0.083	0.029**
Quota4 (Quota1)	-0.151	0.001***	-0.063	0.093*	-0.066	0.080*
Size 10-49 employees (<10 employees)	-0.075	0.193			-0.066	0.188
Size 50-249 employees (<10 employees)	-0.075	0.175			-0.075	0.118
Size 250 employees or more (<10 employees)	-0.076	0.222			-0.080	0.137
Sector Public sector (Business sector)	0.031	0.484			0.076	0.047**
Sector Non-for-profit sector (Business sector)	-0.013	0.758			-0.041	0.281
Gender Male (Female)	-0.058	0.168			0.014	0.700
Age Aged 36 or older (Aged 35 or younger)	-0.021	0.613			-0.065	0.070*
Place of residence Capital city (Not capital city)	0.025	0.561			0.004	0.920
Educational attainment Higher education (Not more than secondary education)	-0.015	0.713			-0.020	0.578
Child(ren) younger than 12 Yes (No)	0.024	0.565			0.038	0.291
Logarithmic communication satisfaction			0.500	0.000***	0.516	0.000***

** Significant at 10%, ** significant at 5%, *** significant at 1%*

Source: Own research

Communication satisfaction appears as a factor with significant influence. Model LR2 clearly shows that higher communication satisfaction results in 50.0% higher satisfaction with the workplace. On this ground, we cannot say with certainty whether the communication is a cause or an effect, i.e. whether communication satisfaction contributes to satisfaction with working in home office or the other way around. It is evident, though, that communication and work satisfaction are closely correlated to each other (Pearson correlation: 0.539, p=0.000).

The effect of communication satisfaction identified in LR2 on work satisfaction becomes even stronger for LR3 (51.6%). This strengthening appears parallel to the decrease of the difference identifiable for the quota factors, i.e. the differences in home office experience are increasingly less significant factors.

This supports the findings of Van Riel–Fombrun (2007), Schmidt–Lyczek (2006), Piwinger–Zerfaß (2007), Goodman–Hirsch (2010), and Tsai (2011) that communication, especially the free flow of information, is of utmost importance in the life of an organisation. This also means that it is definitely important for the employees working in home office to be informed about everything and get all work-related information in due time; also, the intra-organisational exchange of information must be effective.

Conclusions

This research focused on the factors influencing satisfaction with working in home office. After the categorisation of those with experiences before (Quota4), after (Quota2), and both before and after (Quota1) COVID-19, the following affirmations can be stated:

The difference identified in the experience with working in home office related to COVID-19 will significantly weaken with the inclusion of the communication satisfaction factor, both as regards its scale and its level of significance.

No significant difference could be identified between the work satisfaction of individuals with different demographic backgrounds, i.e. demographic factors don't influence satisfaction with work. Accordingly, *Hypothesis H1 (Significant differences can be identified concerning satisfaction with working in home office based on the demographic background of employees) is rejected*.

Communication satisfaction will have a significant effect on the level of satisfaction with working in home office. Based on this, *Hypothesis H2 (Satisfaction with organisational communication significantly and positively impacts satisfaction with working in home office) is accepted*.

Therefore, we can conclude that, in order to increase satisfaction with working in home office, employers must follow an open, transparent and efficient communication with their employees.

The main *limitation of the research* is that the respondents' opinions were presumably influenced by stress and fear during the epidemic. Another limitation is that only the employees' side was analysed in the survey, and the employers' opinions, experiences and top-down employee judgment could not be identified.

Future research could include the implementation of an online national questionnaire survey with a sample of 1,000 respondents, representative by gender, age, educational attainment, place of residence, sector and company size. In the representative research, we intend to also ask those without any experience concerning home office; in their case, we will conduct an attitude test. We are planning to conduct the research on a regular (annual or biannual) basis in order to examine the change in employees' and employers' opinions and satisfaction concerning home office as an effect (or irrespective) of the pandemic.

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Appendix: Literature-based factors of satisfaction surveys concerning work satisfaction and communication satisfaction

Code	Factors of satisfaction	Literature background
WS1	When working in home office, I have interesting and challenging tasks.	Noé (2004), Becker–Kaerkes (2006), Saane, N.van et al. (2003), Gajendran–Harrison (2007)
WS2	When working in home office, I am able to use my knowledge and skills.	Noé (2004), Becker–Kaerkes (2006), Saane, N. van et al. (2003), Gajendran–Harrison (2007)
WS3	The amount of work I am given is acceptable on the whole when I work from home.	Noé (2004); Becker–Kaerkes (2006), Yang (2010), Gajendran–Harrison (2007)
WS4	Home office gives me more stress than working in my office.	Yang (2010), Gajendran–Harrison (2007)
WS5	In home office I can harmonise well work tasks with housework and/or looking after the children.	Yang (2010), Saane, N.van et al. (2003), Gajendran–Harrison (2007)
WS6	It is hard to harmonise work and homework if I work outside my home.	Yang (2010), Saane, N.van et al. (2003), Gajendran–Harrison (2007)
WS7	In home office, the balance of work and private life can be fully reached.	Yang (2010), Saane, N.van et al. (2003), Gajendran–Harrison (2007), Carlson et al. (2000), Netemeyer et al. (1996), Golden (2006), Makó et al. (2003)
WS8	In home office, the boundaries of work and leisure time are clear.	Yang (2010), Saane, N.van et al. (2003), Gajendran–Harrison (2007), Carlson et al. (2000), Netemeyer et al. (1996), Makó et al. (2003)
WS9	Home office allows flexible scheduling of the working time.	Ineson et al (2013), Gajendran–Harrison (2007), Makó et al. (2003)
WS10	Home office alleviates the planning of work.	Yang (2010)
WS11	In home office, the character of work is different than that of office work.	Saane, N.van et al. (2003), Hill et al. (1998), Johnson et al. (2008), Kraut (1989), Shamir–Salomon (1985), Gajendran–Harrison (2007), Makó et al. (2003)

Code	Factors of satisfaction	Literature background
C1	I am given all the information I need for the implementation of my daily routine tasks when I am in home office.	Saane, N.van et al. (2003), Meulen et al. (2019), Jawadi (2013), Wheatley (2012), Brunelle–Fortin (2021)
C2	When working from home, I miss office gossip, informal communication.	Saane, N.van et al. (2003), Meulen et al. (2019), Golden (2006), Brunelle–Fortin (2021)
C3	In home office, well-established communication channels are used for working.	Meulen et al. (2019), Brunelle (2013), Jawadi (2013), Wheatley (2012), Brunelle–Fortin (2021)

Source: Own research

Can content marketing focusing on sustainability drive stakeholder engagement? The case of IKEA Hungary's social media communication about sustainability

RITA LUKÁCS[1]

Sustainability communication on social media is a current and complex challenge for companies because of the increasing digitalisation, stakeholders' scepticism, and the importance of sustainable development in companies and people's lives. This study aims to introduce the main theories of content marketing strategy and sustainability communication and show how these concepts can support companies in explaining corporate sustainability messages more engagingly. The article uses IKEA Hungary as an example – the digital content published on social media pages in 2021 was investigated to identify main sustainability topics and messages. The content analysis answers research questions about the factors of stakeholder engagement on social media in sustainability-related topics, and the efficient strategies of sustainability communication through these channels. The main theoretical contribution of the study is that it examines the use of content marketing tools for sustainability communication and stakeholders' engagement in this process, using a relevant example.

Keywords: content marketing, social media, sustainability, sustainability communication, stakeholder engagement.

JEL code: M14.

Introduction

Companies must reconsider their traditional marketing strategies because of increasing resistance and rejection of brand advertising and customers' growing demand for dialogue with companies. Communication about sustainability is increasingly an expectation from their side. However, it is a very complex communication topic. Getting sustainability messages to stakeholders and regaining lost trust can be challenging for companies.

Companies must emphasise online communication with people spending several hours online every day, especially on social media. A less sales-oriented and more long-term approach is necessary to reach targeted audiences more efficiently. The companies focusing on a brand-building and emotion-provoking

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approach can be more successful. More companies share valuable, customer-related content on their websites or social media pages in response to recent challenges.

The importance of sustainable development has increased significantly in recent years as a response to environmental catastrophes, climate change, social problems, and corporate scandals. The stakeholders of companies require corporate commitment and visible results for these challenges. The 2030 Agenda for Sustainable Development defines 17 Sustainable Development Goals (SGDs), adopted by all United Nations Member States in 2015 (United Nations 2015). The goals define a complex sustainability framework for nations and companies and can form the basis for sustainability communication.

The main objective of this study is to introduce content marketing as an efficient online communication strategy for sustainability issues.

The content published by IKEA Hungary on its corporate social media channels in 2021 was analysed to identify key sustainability topics and messages. In addition to communicating the company's efforts and achievements in reducing harmful and negative social, environmental, and ecological impacts, the company also strives to implement awareness-raising and educational communication strategies to encourage its customers to live more sustainably. The study combines the previously mentioned topics and analyses the content marketing strategy focusing on sustainability communication. The literature review summarises the main media consumption trends and introduces the concept of content marketing and the main tools that can be effective in sustainability communication.

The study introduces the emergence and the concept of content marketing, then sustainable development, the other focus of this study. The last part of the theoretical section combines online communication and sustainable development to discuss the primary drivers and tools for online sustainability communication. After describing the applied research methodology, the content marketing strategy of IKEA Hungary is analysed.

Literature review

Definition and main forms of content marketing

Emergence of content marketing

Customers reject advertising to an increasing extent because they feel overloaded by ads. The main reason is that traditional marketing communication interrupts customers in their experience: it bothers them during work, searching for something, or having fun (Whatmough 2019).

Changes in the traditional media concept “POE” reflect the significant digitalisation of the last decade and represent an effective response to the phenomenon of ad rejection in the form of meaningful content and a higher level of customer engagement in the communication process between companies and customers. The abbreviation “POE” stands for paid, owned, earned media. Companies usually use these three main types of media in their communication strategies. Paid media corresponds to traditional advertising on offline and online channels, while owned media summarises all offline and online content created, shared, and controlled by the company. Earned media mainly means editorial publicity generated by journalists, key opinion leaders, and later influencers. The updated version of “POE” includes a fourth element, shared media; its new name is “PESO”. It shows the significant shift toward social media, where companies and customers can create and share content. In addition, all traditional elements are more digital than ever before (Macnamara et al. 2016).

New elements were added to owned media, like content marketing, brand journalism, employee and customer stories, and a variety of audio, visual and video content. Earned media concentrates on cooperation with different types of content creators, journalists, influencers, bloggers, and word-of-mouth. The new dimension, shared media, includes the content shared in social forums or as organic reviews (Dietrich 2021). Among the four dimensions, owned media has the highest importance because quality content provides the basis for a successful communication strategy, as it can generate long-term business impacts and brand favourability (Bayles 2015). When companies put content at the heart of their strategy, it is called content marketing.

Definition of content marketing

The Content Marketing Institute defined content marketing as “a strategic marketing approach focused on creating and distributing valuable, relevant, and consistent content to attract and retain a clearly defined audience and, ultimately, to drive profitable customer action” (Content Marketing Institute 2012).

The most important value of this strategic approach is the lower level of rejection because it is a less intrusive marketing tool, as pointed out by Philip Kotler and his co-authors: “It uses a mix of entertainment, education, and inspiration to attract attention without the hard sell.” (Kotler et al. 2021. 119)

Based on the definitions introduced before, it can be concluded that content marketing is a strategy that focuses on creating and sharing emotion-stirring content with potential and established customers.

Business relevance of content marketing

Content marketing is more relevant to customers compared to advertising. While advertising focuses on the company and its marketing objectives, content marketing approaches customers by responding to their needs and questions. It can support them in their customer decision-making process or in reaching their objectives (Kotler et al. 2017). Delivering valuable information is key to content marketing. This way, companies can earn the attention of their customers. Creating and sharing valuable guides connected closely or indirectly to the company's field of activity are gestures with a long-term business impact (Sas 2018).

It can convert prospects to customers or help nurture and retain existing customers. Focusing less on short-term sales objectives and creating content with a less explicit sales intent can boost revenues if the content is relevant to customers (Kotler et al. 2020). Today's customers are more actively searching for information during their customer journey. Instead of companies' push media, they prefer pulled media (Chaffey–Ellis-Chadwick 2019). It means that companies should produce relevant and helpful content continuously so as to be able to reach customers when they need it (Kotler et al. 2020).

Customer preferences

While creating content, companies should always keep in mind that using the internet or being active in social media, learning more about companies and their products or services is not the primary motivation of customers to use the internet. Although 61% of them use the internet to find information, they prefer watching videos, TV shows or movies (51.5%) or researching how to do things (51%) instead of reading or watching marketing messages. The main reasons for using social media are very similar. People would like to fill up spare time (36%) or to find funny or entertaining content (32%) (We Are Social–Hootsuite 2022). However, if companies succeed in integrating their marketing messages into entertaining content, they can win customers for themselves. Content can be considered an additional, intangible product that companies offer their customers. That is why the content strategy, the business strategy and core corporate values should be aligned (Kotler et al. 2020).

What can be content? It can have various forms based on the aim, the target audience, and the channel where it will be shared. Companies traditionally produce written content (newsletters, reports, press releases, magazines), while customers nowadays prefer more entertaining formats, like videos, infographics, or games (Kotler et al. 2017). Funny or touching content can later be shared by the customers and become viral. That is one example of a successful content marketing strategy. In the following two sub-sections, two other strategic approaches will be introduced.

Forms of engagement in social media

The so-called COBRA (Consumer Online Brand-Related Activities) Model identifies three different levels of social media engagement: consumption refers to the minimum level of engagement when users consume (watch, view) the content. A contribution is a form of interaction (like, share, comment) on brand-related content. The creation of brand-related content is the highest level of engagement (Schivinski et al. 2016). This article focuses on the most widespread type of engagement, contribution.

On Facebook, users can "like" the posts (using the thumb up or other emoticons), leave a comment or share the post with their followers. From a brand perspective, the level of interactions matters, as it influences the reach of corporate posts. Reach means the number of followers who will see the given post in their newsfeeds (Jayasingh–Venkatesh 2015). These measures of interactions represent the level of engagement (Viglia et al. 2018).

On Instagram, the only available metric is the number of likes. However, Instagram started to remove the display of likes on Instagram posts in several countries (Trunfio–Rossi 2021). In the case of YouTube, the number of video views, likes and comments are the most typical measures of engagement (Yang et al. 2022).

Content Marketing Matrix

The Content Marketing Matrix is a well-known strategy for content marketing. It was developed by Dave Chaffey and Dan Bosomworth. The concept distinguishes four types of content by the method of persuasion and its role in the customer journey. The method of persuasion can be either rational or emotional. Depending on the function in the customer journey, it can focus on raising customers' awareness or convincing them to purchase the product or the service. The combinations of these two variables generate the four main categories of the Content Marketing Matrix (Chaffey–Ellis-Chadwick 2019):

- *Educate*: the content raises customers' awareness using rational argumentation. Typical examples: guides, infographics, and articles.
- *Convince*: the main aim of the content is to convince customers about the purchase, using demos, checklists, case studies, datasheets, or price guides.
- *Entertain*: the content can be used at the beginning of the customer decision-making process to raise customers' awareness by entertaining them with quizzes, competitions, games, and viral or branded videos.
- *Inspire*: the content can convince customers about purchasing the product or service by inspiring them with community forums, celebrity endorsements or events.

Content marketing is not new; Campbell, well-known for its canned soups, distributed free booklets with recipes using Campbell's soups as ingredients more than 100 years ago (Bly 2020). As a result of increasing ad rejection, social media usage, and altered communication strategies striving to get more closely connected to customers, it has become popular again in the last few years.

Definition and main fields of sustainable development

Sustainable development is not a new concept either; it emerged in recent years as a global answer for countries and companies to environmental catastrophes, climate change, social problems, and corporate scandals. This section will summarise the definition of sustainability, its importance from a stakeholder point of view, and its significance in the retail industry.

Definition of sustainable development

According to the definition of the United Nations: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987. 41).

All United Nations Member States adopted the Sustainable Development Goals (SDGs) in 2015. The concept defines 17 economic, environmental, and social goals, summarising 169 global targets to be achieved by 2030. It was built on the foundations of the previous initiative, the Millennium Development Goals (MDGs), which more than 178 countries adopted at the Earth Summit in Rio de Janeiro, Brazil, in 1992. The main goal of that initiative was to reduce extreme poverty by 2015 (United Nations 2015). The 2030 Agenda for Sustainable Development is considered a blueprint "for peace and prosperity for people and the planet, now and into the future" (United Nations 2015).

The European Union has also defined sustainable development as one of its long-term objectives: "The Union shall establish an internal market. It shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance." (EU 2012. 3(3)).

As we can understand from the definition, besides economic growth, social and environmental aspects became priorities of the European Union. Besides serving as a roadmap for sustainable development and tackling climate change challenges for the United Nations and its member states, companies have also started to use the SDGs as a framework for their sustainable development strategies. Corporate sustainability aims to find the right balance between economic, environmental, and social aspects. This approach is called People, Planet and Profit or triple bottom line. Companies not only measure and report their performance on relevant indicators but organisational values and processes follow these principles, too (Carroll et al. 2018).

Main fields of sustainability in the retail sector

Retailers have a significant role in motivating and supporting customers to switch to a more sustainable lifestyle. Companies can change their customers' preferences with the help of the products offered and the information shared about them. Companies operating in this industry can act as gatekeepers because their product range and the quality standards they apply can significantly influence shopping behaviour. Retailers face increasing customer expectations regarding soft factors, such as being more environmentally friendly, sustainable, and taking social factors into account, as well as sharing information about these topics (Knoppe 2015). Table 1 summarises the main fields of sustainability in the retail sector.

Customers are increasingly aware of the influence and power they have. The latest customer trust research confirms this trend: 68% of customers believe they have the power to force companies to change (Edelman 2021a). Moreover, if we focus on companies' social impacts, 78% of respondents believe they can force brands to change their social impacts. For example, to use environmentally friendly materials (39%), improve labour practices (38%) or reduce their carbon footprint (37%) (Edelman 2021b).

Table 1. Main fields of sustainability in the retail sector

Field	Main areas
Environment & Product Sustainability	• Sustainable product range • Presentation and marketing of sustainable products • Responsible use of the environment and resources • Product safety
Ethical & Local Sourcing	• Environmental and social standards in the supply chain • Human rights, fair remuneration, safety at work
Gender & Diversity	• Treatment of employees • Equality at the workplace
Community Support	• Transparent communication of value creation • Customer information about sustainability • Community engagement

Source: Knoppe 2015. 17

According to Sughra (2021), retail companies should consider sustainability a long-term investment and opportunity for value proposition because focusing on social, environmental, and economic issues will maintain customers' trust and goodwill and increase profit. Customers are the key drivers of companies becoming more sustainable. Retailers share and, to some extent, forward these expectations to their supply chain and expect their suppliers to implement social and environmental standards. As a result of increasing online presence and social media usage, customers are more informed than ever. Therefore, a good relationship between companies and customers is important. Community engagement is one way of building stronger customer relationships and increasing sales simultaneously.

Main strategies of sustainability communication

Communication about sustainability requires a paradigm shift on the companies' side, considering potential benefits, target audiences, main messages, and the type of communication. This section introduces the main types, styles, and techniques of sustainability communication, focusing on online communication.

According to Pérez and Rodriguez, sustainability communication "refers to the information disclosed by companies about those activities undertaken and that demonstrate the inclusion of economic, social and environmental commitments in the trade operations of companies as well as in the relationships with the groups of interest" (Pérez–Rodriguez 2015. 316).

Corporate benefits of sustainability communication

As a result of previous corporate scandals, stakeholders' concerns about companies' environmental and social impacts have increased. Their growing social and environmental expectations have threatened corporate reputation and legitimacy. It forces companies to redefine business-society relationships and create a new form of corporate legitimacy and open dialogue in society (Colleoni 2013). It has become a driver of corporate reputation due to the increased level of stakeholders' awareness of sustainability, which motivates companies to concentrate more on non-financial issues. Besides being egoistic (self-serving approach), a value-driven company or having a strategic focus on social and environmental issues, meeting stakeholders' expectations is one main driver for companies to adopt the triple-bottom-line approach. People usually perceive corporate efforts as value-driven or strategic if a good fit exists between companies' impacts and sustainability initiatives (Coombs–Holladay 2012). Sustainability has become a priority in brand management in recent years. Although many companies still do not integrate sustainability values into their brand identities, many already use sustainability as a supplemental part of their brand positioning. A few companies use it as a core of their brand positioning, for example, Body Shop (Brunner–Langner 2017).

Communicating corporate sustainability goals and achievements can enhance corporate reputation and help people identify themselves with the company. Nevertheless, companies should try to find the right balance in their communication activities because stakeholders may reject a company if they have the feeling that it communicates too much about its efforts in this field (Coombs–Holladay 2015). While being perceived as a responsible and sustainable company is more important for companies than ever, it can quickly become the "Catch-22" as research results show that the companies actively communicating about their sustainability are intensively criticised by their stakeholders. The critical challenge is getting the sustainability message across to stakeholders without being discredited because they are too "loud" in communicating about sustainability-related activities (Morsing et al. 2008). A too intensive and not credible enough communication about corporate goals and achievements can be perceived as "greenwashing" by stakeholders (Sharma et al. 2021). It can create a boomerang effect, making stakeholders more cynical about excessive self-promotion of the companies (Coombs–Holladay 2012).

Main strategies and styles of sustainability communication

Traditional corporate communication usually follows the one-way communication model, with a one-to-many approach, where the company shares its messages with its audiences and has complete control over its communication channels (Crane–Livesey 2003). Corporate reports, websites, and newsletters can be mentioned as typical examples. These communication instruments do not address stakeholder involvement at all.

The two-way communication model requires efforts and openness from both sides. Two types of this strategy can be distinguished: asymmetric or symmetric (Morsing–Schultz 2006). The company dominates asymmetric or monologic two-way communication by initiating and controlling the exchange of information and opinions. The organisation can demonstrate openness towards its stakeholders by researching them, but the chances of inducing changes are relatively low (Lukács 2015).

Symmetric or honest two-way communication aims to start a meaningful dialogue and co-create a common understanding and changes in corporate or stakeholder strategies. When implementing this communication strategy, companies ask for their stakeholders' advice and discuss sustainability-related issues with them (Vollero et al. 2016). Representatives of different stakeholder groups can participate actively in stakeholder engagement forums or stakeholder advisory boards (Lukács 2015).

The stakeholder response and involvement strategies focus more on stakeholder engagement, which supports the transparency process and provides a more transparent picture of corporate sustainability efforts (Coombs–Holladay 2012). The main difference is the level of control; while stakeholder response tools are initiated and controlled by the company, stakeholder involvement instruments create more symmetrical power relations, empowering stakeholders to actively participate in shaping current and future sustainability strategies. Table 2 summarises the main characteristics of the three sustainability communication strategies, including typical examples.

The stakeholder information strategy includes the most traditional communication tools implemented by companies to communicate about their sustainability-related goals and achievements. As this study focuses on content marketing, part of the stakeholder information and response strategies, the introduction of sustainability communication tools will focus on content platforms, especially social media.

Table 2. Three sustainability communication strategies

Name of the CSR communication strategy	Main characteristics	Examples
The stakeholder information strategy	• Communication ideal: public information, one-way communication • Stakeholder role: support or oppose • Strategic communication task: inform stakeholders about favourable sustainability decisions and actions	• Paid media: online and offline campaigns • Owned media: content platforms (corporate website, blog, social media communication, newsletter), non-financial report, event, packaging • Earned media: press release, influencer marketing
The stakeholder response strategy	• Communication ideal: two-way asymmetric communication • Stakeholder role: respond to corporate actions • Strategic communication task: demonstrate to stakeholders how the company integrates their concerns	• Stakeholder engagement in social media • Stakeholder questionnaire • Stakeholder focus group • Ad hoc stakeholder advisory meeting • Hotline • Online feedback and discussion forum • Donation, Cause-Related Marketing
The stakeholder involvement strategy	• Communication ideal: two-way symmetric communication • Stakeholder role: involvement, participation, suggestions • Strategic communication task: invite and establish a frequent, systematic, and proactive dialogue with stakeholders	• Stakeholder engagement forum • Stakeholder Advisory Panel • Online engagement mechanism • Integration of stakeholders into corporate decision-making processes • Involvement of stakeholders in the investigation of issues, reporting, and policy development

Source: Lukács 2015. 9; Morsing-Schultz 2006. 326

The Italy-based sustainability communications agency Lundquist analysed the sustainability communication of the Top 50 European companies on their corporate websites and social media channels in 2019. As a result, five *communication styles* were identified based on substance and distinctiveness

(Lundquist 2020). Substance is the dimension that evaluates the sustainability approach and transparency of the company, focusing on the amount of information shared and explained. Distinctiveness measures how engaging the content is for stakeholders. The combination of these two dimensions and the high or low level of implementation defines the framework of a 2x2 matrix and the four different communication styles. The fifth category is the "*Sleepers*", those companies that have not yet recognised the importance of communicating about sustainability to their stakeholders.

The "*Traditionalists*" share some information about this topic, but it is neither transparent nor easy to understand. These companies rather focus on compliance disclosure and technical data. The "*Explainers*" publish lots of texts, numbers, and documents, they explain it at a rational level, but the communication is not engaging. "*Glitterati*" companies are just the opposite. These companies put much effort into a very engaging, visually striking sustainability communication to show their commitment, but it is superficial and often lacking concrete information about strategic goals and initiatives. The "*Narrators*" can effectively integrate the rational and emotional components when communicating about sustainability. Their communication is rich in information but still comprehensive and engaging.

Role of engagement in sustainability communication

The internet has become an ideal tool for companies to build their corporate reputation, where they inform and persuade their stakeholders about organisational performance. Online tools for sustainability communication show a higher level of commitment to honesty and transparency on the corporate side. It is an opportunity to better understand stakeholders' concerns and priorities in order to solve these problems. Stakeholders can be active senders of information and connect via social media, supporting the distribution of information between companies, organisations, and stakeholders (Capriotti 2017).

The non-hierarchical communication solutions like social media platforms offer authenticity, transparency, and credibility, which can positively impact companies' image (Reichert 2017). Social media platforms represent a good two-way communication opportunity for companies and their stakeholders. While companies usually use them only to share sustainability updates regularly, they can also start dialogues and discussions with their stakeholders. It can also help in learning more about stakeholders' issues or concerns, assessing to what extent stakeholders are aware of corporate initiatives and their reactions to them, increasing awareness of sustainability initiatives and providing a platform for stakeholder engagement (Coombs–Holladay 2012). The popular platforms Facebook, Twitter, and Instagram are more suitable for virtual conversation, while YouTube mainly serves as a platform for sharing corporate videos about sustainability-related topics.

Nevertheless, only sharing information is not enough anymore. Stakeholders expect companies to use two-way, interactive communication tools and engage in dialogue with them. Research shows the importance of social media in corporate communication about sustainability. As much as 80% of respondents expressed their expectation for companies to engage with them on social media to solve environmental and social challenges (Ali et al. 2015). However, many companies still follow an outdated communication strategy and use social media as a traditional channel to broadcast sustainability-related information. Instead, they could utilise the advantages of social media channels to engage and build relationships with their stakeholders (Gomez 2021).

In recent research, Berestova and her co-authors (2022) analysed sustainability-focused corporate messages on Twitter. They found that when companies tweeted more on social issues, the engagement of all posts (retweets, quotes) increased. Communicating about sustainability topics might improve customer engagement with brands, but an open stand on controversial issues might have a reverse effect. However, the research conducted by Okazaki and Menendez (2017) found that the level of interactions among analysed global firms was very low, with a high number of customer-customer interactions. They studied the use of Twitter for virtual sustainability dialogue. ElAlfy and his co-authors (2020) identified the most frequently mentioned SDGs on Twitter which were: "Good Health and Wellbeing" (SDG3), "Gender Equality" (SDG5), "Affordable and Clean Energy" (SDG7), "Industry, Innovation, and Infrastructure" (SDG9). Their research results show that companies focus on the SDGs related to their core business in their social media communication. It is proof that companies take sustainability seriously and that the SDGs are a helpful framework for corporate sustainability strategies.

From a customer point of view, sustainability messages need to be emotions-evoking and compelling (Knight et al. 2022). If a social media post can generate positive emotions like amusement, excitement or inspiration, more users will share it with their followers (Tellis et al. 2019).

Research aim and methodology

The main aim of the research was to prepare a case study, introducing the main characteristics of sustainability communication of IKEA Hungary. The company was selected based on the author's previous knowledge of its complex content marketing strategy. While the company's website offers extensive sustainability information, including the sustainability report, the analysis was limited to social media communication, as this offers the highest reach and engagement opportunities.

The 17-year-old Ingvar Kamprad founded IKEA in Älmhult, Sweden, in 1943. Initially, he sold watches and pens by mail order (IKEA 2021). IKEA opened its first store in Hungary in 1990. It operates two stores in Budapest, at Örs vezér tere and Soroksár, as well as at Budaörs (IKEA Magyarország 2020). During the financial year 2020, the company generated an annual turnover of 98 billion forints and recruited 180 more people. The volume of online sales has doubled compared to the previous year, accounting for almost 14% of total sales (IKEA Magyarország 2021a).

The core corporate values of the company are (IKEA Magyarország 2021b):

- *Togetherness*: This is at the heart of the company culture. Strength comes from trusting each other, pulling in the same direction, and having fun.
- *Caring for people and planet*: The company has the possibility and the responsibility to make an impact on current and future generations.
- *Cost-consciousness*: Offering affordable solutions to beautiful and functional homes without compromising quality.
- *Simplicity*: Down-to-earth way of being, staying close to reality, being informal and pragmatic.
- *Renew and improve*: Improving constantly, finding solutions to future challenges.
- *Different with a meaning*: Questioning existing solutions, thinking in unconventional ways, and experimenting.
- *Give and take responsibility*: Empowering people, giving, taking responsibility, trusting each other, being positive and forward-looking.
- *Lead by example*: Leadership in action, "walk the talk" leaders, bringing out the best in each other.

The main research questions of the social media content analysis of IKEA Hungary were:

- R1: Considering Knoppe's (2015) categories, which fields of sustainability communication drive the highest stakeholder engagement?
- R2: Considering the sustainable development goals, what are the main foci of corporate sustainability communication?
- R3: Considering the sustainable development goals, which fields of sustainable communication drive the highest stakeholder engagement?
- R4: Which social media channel drives the highest stakeholder engagement?
- R5: Considering the content marketing matrix, which type of content marketing drives the highest stakeholder engagement?
- R6: Which sustainability communication style drives the highest stakeholder engagement?

The social media content analysis method was chosen to analyse the social media communication of IKEA Hungary about sustainability. This method focuses on collecting, summarising, and analysing social media content. The main advantages of content analysis are: it provides a profound insight into a topic, it is highly effective, and social media content is widely accessible and available in electronic format. Content analysis can help understand people's perceptions in an online environment (Lai–To 2015).

In the first step, the social media content published on corporate channels between 1 January and 1 December 2021 was investigated to identify main sustainability topics and messages. IKEA Hungary has official social media accounts on Facebook, Instagram, and YouTube. These three channels were considered during the data collection process. In the next stage of the research, only those posts related to sustainability were included in the analysis. The related posts were processed and coded by category in Excel, focusing on the main message, the SDG they belonged to, and the reach and engagement of the post.

Based on the characteristics of the analysed platforms, different, publicly available indicators were examined to measure engagement:

- In the case of Facebook, likes (all emoticons), comments, and shares are the most relevant metrics.
- On Instagram, only the number of likes is available on the corporate account.
- In the case of YouTube, the number of views and the number of reactions (likes and dislikes) are available as relevant statistics. The number of comments

was excluded from the analysis, as it was disabled for several videos due to the controversial topic.

Of course, several other metrics are available in the analytics of the analysed platforms, but the author did not have access to the corporate profiles. A total number of 42 social media posts were identified. The topics and initiatives were investigated in the last stage of the research. Based on the literature review and the dataset, the researcher analysed the sustainability communication style and described it using the theories introduced in the literature review.

Results

This section will summarise the sustainability-focused content marketing strategy of IKEA Hungary as a case study. First, IKEA Hungary, then its social media channels will be introduced. The main sustainability initiatives are introduced to describe the company's online sustainability communications and its style of communication.

Main social media channels

Altogether, 42 social media posts were shared about social and environmental initiatives on the three analysed channels in the first 11 months of 2021. The company was most active on Facebook; it seems to be its primary social media channel for sustainability-related issues and sharing information about promotions or the company. The reason for the high number of followers is that Facebook shows the sum of followers for all IKEA Facebook channels. There was no local data available for the Hungarian Facebook account only.

Instagram is being used somewhat as a source of inspiration, sharing mainly inspirational photos about homes furnished with IKEA furniture, latest products, and decoration tips. It is the company's youngest platform; the first post was shared more than five years ago. By 2021, 23 posts were published, and 9 have a connection to sustainability.

YouTube was the first social media channel of IKEA Hungary; the corporate channel was started ten years ago. It has more than 8,000 followers, but it is not the heart of the content marketing strategy. In 2021, altogether, 30 videos were published on this channel. The company uses it mainly to share promotional videos, but 10 of the 30 videos introduced the sustainability-related initiatives of the company.

For these three channels, the number of followers (as of 1 December 2021) and the account creation date are shown in Table 3.

Table 3. IKEA Hungary's social media channels

Social media channel	Number of followers	Active since
Facebook	31 210 356	27 November 2012
Instagram	86 900	5 September 2016
YouTube	8 030	19 January 2012

Source: Social media accounts of IKEA Hungary

Main fields of sustainability communication

Table 4 summarises the main sustainability initiatives of IKEA Hungary, which were mentioned at least on one social media channel, following Knoppe's concept (Knoppe 2015). Out of the four categories, no posts were shared about *Ethical and local sourcing* during the analysed period. The *Community Support* category includes most of the initiatives, implementing various environmental and social programmes.

Environment & Product Sustainability is a significant domain for the company as a retail industry representative. Retailers can raise customers' awareness and demand for sustainable solutions by offering a more sustainable product range.

There were only a few posts about *Gender & Diversity*, but these posts generated the highest level of engagement both on Facebook and on Instagram during the examined period. The followers not only commented on and liked the posts about the company committing itself to diversity but many of them also shared them. The conclusion can be drawn that these posts aroused many emotions. The significant number of negative comments confirms previous research findings on the reverse effect of posting about controversial issues (Berestova et al. 2022). However, the high number of comments also increased the organic reach of the post, which supported the company's awareness-raising campaign. In the case of YouTube, the campaign video about domestic violence reached the most views, while the two funny video advertisements promoting products made from recycled PET bottles generated the most engagement.

Community Support was the most dominant among the four sustainability dimensions; this includes most of the initiatives, raising awareness for environmental and social causes. There was only one Facebook post and one YouTube video where the company shared details about its sustainability strategy. Otherwise, awareness-raising and customer education were at the heart of its social media communication about sustainability.

Considering the fields of sustainability initiatives and the type of communication, we can conclude that IKEA's sustainability communication is engaging, drawing its followers' attention to various social and environmental topics. Besides informing them about corporate initiatives, they have also been encouraged to participate in the sustainability programmes by purchasing or reusing products or by committing themselves to social and environmental causes.

Table 4. Main sustainability initiatives based on Knoppe's theory

Field	Main areas
Environment & Product Sustainability	• Product range from recycled and recyclable materials • Air purifier, air quality sensor for a better indoor air quality • Reusable textile packaging instead of wrapping paper • Product safety: product recall • Free supply of spare parts
Gender & Diversity	• Awareness-raising for supporting diversity • A corporate programme focusing on equality, diversity, and inclusion
Community Support	• IKEA Festival – online event for more sustainable homes • Sustainability at IKEA (Circular Hub, second life of furniture) • Awareness-raising for Earth Hour, climate change, and switching off the lights • Awareness-raising for Earth Day, commitment to achieving sustainability goals by 2030 • 'Equal work-sharing at home' awareness-raising campaign • Domestic violence awareness-raising campaign • DIY tips for repurposing products • Cause-Related Marketing campaigns to support victims of domestic violence and LMBTQI NGO

Source: Social media accounts of IKEA Hungary

The answer to the first research question (R1) is that while the field of *Community Support* was the most relevant and popular in corporate social media communication, *Gender & Diversity* had the highest level of stakeholder engagement during the period under review. The social media posts introducing IKEA Hungary's initiatives around these topics generated many shares and positive and negative comments. Posting about controversial issues usually facilitates intensive customer engagement on social media.

Sustainability communication and engagement in social media

Out of the seventeen SDGs, IKEA highlighted five goals on its three social media accounts during the analysed period. These goals focus on the following topics (United Nations 2022):

- *SDG3 – Good health and well-being*: Healthy lives, well-being for everyone by reducing mortality, ending epidemics, preventing substance abuse, achieving universal health coverage, reducing the number of deaths and illnesses caused by hazardous chemicals or air, water, and soil pollution.
- *SDG5 – Gender equality*: Eliminating discrimination against women and all forms of violence against them, recognising unpaid care and domestic work, ensuring women's participation and equal opportunities for decision-making in politics, economics, and public life.
- *SDG10 – Reduced inequalities*: Achieving income growth of the bottom 40% of the population, the inclusion of all people, irrespective of age, sex, disability, race, ethnicity, origin, religion, or economic status, adopting policies to achieve greater equality, facilitating safe migration and mobility of people.
- *SDG12 – Responsible consumption and production*: Achieving the sustainable management and efficient use of natural resources, decreasing waste and food waste, environmentally sound management of chemicals and wastes, minimising negative impacts on human health and the environment, integrating sustainability information into corporate reports, applying sustainable public procurement practices.
- *SDG13 – Climate action*: Strengthening resilience to climate-related hazards and natural disasters, integrating climate change measures into policies and strategies, improving education and awareness-raising on climate change mitigation.

To answer the second research question (R2) the detailed distribution of SDGs on the three social media channels is shown in Table 5. The company's primary focus was responsible consumption and production, followed by gender equality. Climate action was only mentioned on Facebook, while reduced inequalities were featured on Facebook and YouTube. Corporate sustainability goals and achievements were detailed on the corporate website, and the social media channels have been dedicated rather to sustainability-related products, promotions, and awareness-raising initiatives.

Table 5. SDGs in social media communication of IKEA Hungary

	Social media channel		
SDG	**Facebook**	**Instagram**	**YouTube**
3 – Good health and well-being	3	4	1
5 – Gender equality	5	3	1
10 – Reduced inequalities	5	0	3
12 – Responsible consumption and production	8	2	5
13 – Climate action	2	0	0
Total	**23**	**9**	**10**

Source: Social media accounts of IKEA Hungary

Sustainability communication with the highest engagement

IKEA Hungary highlighted the importance of a more comfortable and greener home in one of its IKEA Festival YouTube live streams, as it can lead to better mental health. The other campaign about SDG3 (*Good health and well-being*) focused on indoor air quality by promoting its air purifier and air quality sensor. The Facebook posts about SDG3 topics generated altogether 835 likes, 137 comments and 39 shares, the Instagram posts received 127 thousand likes, while the IKEA Festival live stream had only 769 viewers on YouTube. The New Year's resolution Instagram post about preparing healthy food in sustainable food boxes was the most successful Instagram content of the company in the analysed period; almost 125 thousand followers liked it.

In the case of *Gender equality* (SDG5), the company started two noteworthy initiatives in 2021. The first campaign began in the spring of 2021 and raised awareness for more equal work-sharing at home. This goal was supported by a campaign video and a quiz-based game for couples to play on Instagram, named "Fifty-Fifty". The questions and the exciting insights displayed on Instagram Stories can help map their attitudes and feelings towards chores. The topics raised during the game support couples in discussing these questions at home and reaching an agreement, which benefits both parties. The more equal work-sharing campaign generated 349 likes, 143 comments, 12 shares on Facebook, and 1124 likes on Instagram.

The second awareness-raising campaign about domestic violence started in November 2021. Its main aim is to inform victims about their opportunities and support witnesses with a guide to helping victims. The educational Facebook video had 10,000 views, while the 3 posts generated 1,009 likes, 307 comments and 169 shares. The two Instagram posts received almost 18 thousand likes, while the YouTube video had 130 thousand views in the analysed period.

Social media communication about *Reduced inequalities* (SDG10) referred mainly to commitments to diversity and summarising a corporate programme to support diversity and the integration of migrants. IKEA also published a video podcast about this topic on YouTube to commemorate World Refugee Day. The Facebook video had 1,700 views, while the 3 YouTube videos had only 764 views. The 5 Facebook posts received 20.5 thousand likes, 4,100 comments and almost 1,000 people have shared them. The company's statement about supporting diversity as a reaction to a government decision received the highest number of likes in the analysed period. Altogether, 11 thousand followers showed their support this way.

Responsible consumption and production (SDG12) were the most frequent topics of the posts shared in the first 11 months of 2021. On Instagram, the company shared two posts with tips & tricks about repurposing or re-designing furniture and kitchenware instead of purchasing new items. The 3-day online event IKEA Festival for more sustainable homes had international and local programme elements, from experts' sharing their ideas about a more comfortable and sustainable home to entertaining music. The live broadcasts and their over 10 hour-long recordings had more than 60 thousand views on Facebook and only 1,500 on YouTube. Two Facebook posts were shared about reusable and recycled products, one about recalling a potentially dangerous product and another about the free supply of spare parts to extend the life of products, protect the environment, and save money. The eight Facebook posts generated 800 likes, 86 comments, and 33 shares, while the two Instagram posts with DIY ideas received 2,350 likes. The five YouTube videos (2 commercials, 2 festival live streams, and 1 podcast) had 52 thousand views. The most popular video was a commercial about a product that looks like sheepskin but it is actually made of reused PET bottles.

Although *Climate action* (SDG13) initiatives were detailed on the corporate website, the company shared only two Facebook posts mentioning the importance of tackling the climate change challenge. These posts generated 190 likes, 12 comments, and 11 shares.

Based on the analysis of stakeholder engagement in social media, the answer to the third research question (R3) can be formulated: of the several sustainability-related initiatives started in 2021, social media posts about *Reduced inequalities* (SDG10) generated the most engagement among stakeholders. This was a controversial topic which generated lots of emotions.

Tables 6, 7 and 8 highlight the most popular social media posts published by IKEA Hungary during the analysed period.

Table 6. The most popular Facebook posts published by IKEA Hungary

		Engagement		
Topic of the post	**SDG**	**No of likes**	**No of comments**	**No of shares**
Diversity (pride)	SDG10	11 000	1 300	393
Diversity IDAHOT	SDG10	5 500	2 100	436
Family is family	SDG10	2 300	284	135
Personality, not sexuality defines home	SDG10	947	321	13

Source: Facebook account of IKEA Hungary

Table 7. The most popular Instagram posts published by IKEA Hungary

Topic of the post	SDG	No of likes
New Year's resolution (healthy eating, sustainable food boxes)	SDG3	124 577
Campaign video against domestic violence	SDG5	17 336
Repurpose furniture instead of purchasing	SDG12	1 322

Source: Instagram account of IKEA Hungary

Table 8. The most popular YouTube videos published by IKEA Hungary

Topic of the post	SDG	No of views	No of reactions
Campaign video against domestic violence	SDG5	130 630	246
Better world starts at home (sheepskin from PET bottles)	SDG12	32 392	72
IKEA Festival live stream	SDG12	13 273	70
Better world starts at home (blanket from wood)	SDG12	5 426	90

Source: YouTube account of IKEA Hungary

Tables 6, 7 and 8 summarise the answer to the fourth research question (R4). It can be concluded that YouTube generated the most views due to its emotional messages, while Instagram performed well in terms of the number of likes, especially with inspirational content. The company placed most emphasis on Facebook in its sustainability communication, with most social media posts being published through this social media channel. IKEA Hungary succeeded in starting a dialogue on sustainability-related topics on Facebook, as evidenced by the high number of comments posted by stakeholders. The data shows that each social media channel has its own place in the communication mix; however, the specificities of each platform need to be considered when creating content.

Sustainability communication style

The tone of IKEA Hungary's sustainability communication on social media is direct, friendly, and engaging; they emphasise using plain language. This communication style fits well with the overall corporate communication strategy and is aligned with the core corporate values.

Based on the usual friendly and funny communication style, we could assume that the main aim of sustainability communication will be to entertain the social media followers. Nevertheless, the analysis of social media posts revealed that the communication strategy is colourful. Table 9 shows examples of content marketing tools implemented by the company.

Table 9. Content marketing matrix of IKEA Hungary

	Awareness	**Inspire**
Emotional	ENTERTAIN • Equal work-sharing at home survey & game • 'Blanket made from wood' spot	INSPIRE • IKEA Festival • DIY tips for repurposing products
Rational	EDUCATE • Video report about corporate programme focusing on equality, diversity, and inclusion • Sustainability podcasts	CONVINCE • Reusable Christmas gift bags • Air purifier for a better indoor air quality

Source: Social media accounts of IKEA Hungary

We can conclude that IKEA uses all four types of content marketing, using both emotional and rational argumentation, focusing on raising awareness among customers and inspiring them. For the social media posts with the highest stakeholder engagement, emotional argumentation was more effective than rational reasoning. However, the topics studied were very different and it is, therefore, difficult to answer the fifth research question (R5). To draw more robust conclusions, the content marketing strategies of several companies on different sustainability-related topics should be analysed. In the case of IKEA Hungary, it is worth highlighting that the style of communication on sustainability projects is aligned not only with the brand values but also with the topic and the communication objective. The company uses all four elements of the Content

Marketing Matrix in its content marketing strategy to select the one that best fits the message.

Based on the sustainability communication styles identified by the sustainability communications agency Lundquist, we can conclude that IKEA Hungary follows the “Narrators” strategy. The company has used both rational and emotional elements in its social media communication about sustainability; the posts are informative and engaging. While the social media posts containing emotional elements resulted in a higher level of stakeholder engagement, rational elements also have an important role in the content marketing strategy, as transparency can increase the level of trust.

The company clearly dominated the communication process; stakeholders were rarely invited to share their thoughts. While the stakeholder information strategy is well developed, IKEA could increase the level of engagement by utilising the opportunities provided by social media channels. Out of the three sustainability communication strategies introduced in the literature review, the stakeholder information strategy is the least engaging, while the stakeholder involvement strategy is based on intensive dialogue with stakeholders. To summarise the answer to the last research question (R6), the “Narrators” sustainability communication style and the stakeholder information strategy drive the highest stakeholder engagement.

Conclusions

The paper introduced content marketing as an effective response to customers’ ad rejection and scepticism and promoted social media in corporate sustainability communication as a solution for two-way communication and stakeholder engagement.

The study aimed to examine the potential for implementing content marketing in sustainability communication, using the example of IKEA Hungary. The study combined two current corporate challenges: the effective reach of customers and communication about a very complex topic – sustainability – in an easy-to-understand and engaging way.

The wide range of topics and initiatives illustrate the complexity of sustainability communication. The fact that IKEA Hungary shares only some of its initiatives on social media shows that it is not its primary channel yet for sustainability communication. The analysed data allow us to conclude that the company’s followers are open to sustainability messages.

The social media communication of IKEA Hungary was investigated to answer the defined research questions (R1-R6) on sustainability communication and stakeholder engagement. Out of the four sustainability fields identified by Knoppe (2015), most of the initiatives that the company launched concerned *Community Support*, with the highest stakeholder engagement in *Gender & Diversity*. Of the 17 SDGs, *Responsible consumption and production* (SDG12) stood out with the most social media posts. This is a significant domain, closely connected to the company's core business activities. *Reduced inequalities* (SDG10) generated the most engagement among stakeholders. It is a controversial topic, evoking a lot of emotions.

Of the three social media channels examined, YouTube generated the most views, Instagram the most likes, and Facebook the most comments. There is no single ideal platform for sustainability communication, so companies need to find the right platform for each piece of content.

IKEA Hungary uses all four types of content defined by the Content Marketing Matrix, using both rational and emotional argumentation, with the aim of raising awareness or inspiring its followers. The company's sustainability communication strategy is not only informative but also engaging, therefore it can be stated that it follows the strategy called "Narrators".

The social media content analysis shows that while the company is active in social media and presents the main sustainability initiatives to its followers, the level of engagement is low. Despite the informative and engaging communication style, the company mainly focuses on one-way communication in the field of sustainability. However, the company experiments with more engaging ideas, such as the "Fifty-Fifty" quiz-based game on Instagram Stories, which was created to raise awareness for more equal work-sharing at home. The stakeholders could be more empowered to make their voices heard since, at the moment, the company dominates communication on social media channels.

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Understanding the causality relationship between renewable energy consumption and unemployment rates: The Toda-Yamamoto technique

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Jordan has the potential to lead the efforts toward the expansion of renewable energy projects in the Middle East. Expansion in renewable energy projects means creating green jobs in the energy sector. This paper aims to examine the causal relationships among renewable energy consumption, total unemployment rates, general government final consumption expenditure, and gross fixed capital formation by applying the Toda-Yamamoto causality test. The time series covers the period from 1991 to 2018. The results show that the variables are cointegrated in the long run. Moreover, our results show that unidirectional causality runs from all the variables toward total unemployment rates. On the other hand, causality is not detected between the other variables. It is confirmed that, in the long run, renewable energy can contribute to job creation. In conclusion, it is suggested that both investments and policies should focus on utilising renewable energy projects; it would create more green jobs, especially in the energy sector.

Keywords: Toda-Yamamoto technique, causality test, renewable energy, unemployment, energy policies.

JEL codes: C01, E24, Q01, Q43.

Introduction

Utilising renewable energy became a priority in the previous years, and many countries are working on greening their energy sector. A transition to renewable energy directly reduces CO_2 emissions while achieving the Sustainable Development Goals (SDGs) by 2030. Jordan can lead the efforts toward expanding renewable energy projects in the Middle East. The geographical location and the total number of 330 sunny days, for instance, make the country suitable for utilising solar energy (Qasaimeh et al. 2014).

Jordan introduced the Renewable Energy and Energy Efficiency Law, supplemented by rules and regulations to guide renewable energy projects. Furthermore, Jordan Renewable Energy and Energy Efficiency Fund (JREEEF)

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was established to facilitate the implementation of renewable energy projects and energy efficiency in Jordan. Expansion in renewable energy projects means creating green jobs in the energy sector; this would help the government to achieve its green growth plan while reducing the unemployment rates. In 2020 and after the Covid-19 outbreak, the unemployment rate of the total labour force increased to 19.0% compared to 16.8% in 2019 (World Bank 2021). According to the Ministry of Energy and Mineral Resources, by 2020, the contribution of renewable energy resources to electricity generation was 20%, while 80% came from natural gas consumption. Domestic energy resources contributed only 22% of total electricity generation (Ministry of Energy and Mineral Resources 2020). Until the end of 2019, nearly 26 000 jobs in Jordan were in the renewable energy sector (IRENA 2020): solar photovoltaic technology offers 20 000 jobs, followed by solar/heating technology (4000 jobs) and wind energy (1100 jobs). According to the same report by IRENA, Jordan is one of the top ten countries in terms of employment in the solar heating and cooling sector. By the end of 2020, the number of jobs in Jordan related to the renewable energy sector increased to 37 000.

This paper applies the Toda-Yamamoto causality test to examine the causal relationships among renewable energy consumption, total unemployment rates, general government final consumption expenditure, and gross fixed capital formation.

Literature review

Apergis and Salim (2015) used a sample from 80 countries to study the relationship between renewable energy consumption and unemployment, using a non-linear Granger causality test. The results indicated that renewable energy consumption positively impacts unemployment rates. The results also showed that, on the disaggregated level, in regions such as Latin America and Asia, energy efficiency and the cost of adopting renewable technologies are the main factors affecting job creation in the renewable energy sector.

Using the autoregressive distributed lag model (ARDL), Khobai et al. (2020) studied the short-run and long-run relationship between renewable energy consumption and unemployment rates in South Africa. Their results showed that in the long run, unemployment rates were negatively affected by renewable energy consumption, while in the short run, no relationship was detected.

Saidu Musa and Rabiu (2020) used the Toda-Yamamoto technique to study the causality relationship between renewable energy consumption and Nigeria's unemployment rates from 1991 to 2015. They found that in the long term, bidirectional causality runs from consumption of renewable energy to unemployment, foreign direct investment to consumption of renewable energy, investments to consumption of renewable energy, and private sector credit to investments. In contrast, a unidirectional causality runs from investments to unemployment and private sector credit to unemployment.

Satrovic and Adnan (2020) used the Granger causality test to study the linkage between youth unemployment rates and energy consumption in 34 OECD countries from 1991 to 2015. The findings demonstrated a causal link between energy consumption and youth unemployment rates. The authors suggest that policymakers in the OECD member states should promote energy consumption in the industrial sector. They also suggest that supporting startups can lead to reducing youth unemployment rates.

Yilanci et al. (2020) studied the cointegration relationship between renewable energy consumption and unemployment rates for selected OECD countries. The researchers used the Fourier ADL cointegration test for that purpose. The study revealed mixed results for the selected countries, indicating that unemployment rates are affected positively by renewable energy consumption in Austria, Portugal, and Spain and negatively in Australia, Chile, France, Germany, and Japan.

Azretbergenova et al. (2021) used the panel ARDL test to study the relationship between renewable energy consumption and unemployment rates in 27 countries in the European Union. The findings pointed out that employment rates increase by 0.08% when 1% of the energy produced is renewable. They suggest that investing in the renewables sector can contribute to reducing unemployment rates.

El Moummy et al. (2021) studied the role of renewable energy consumption in reducing unemployment rates in Morocco. They used the Granger causality test for the period 1990 to 2017. The results of the study revealed that renewable energy consumption causes unemployment rates. They argued that investments in the energy sector should focus on renewable energy, which can reduce unemployment rates.

Pai et al. (2021) combined a 50-country dataset of job intensities throughout 11 energy technologies and five job categories, using an integrated assessment model under three shared socioeconomic pathways. Their results showed that under the "global warming to well below 2 degrees" scenario, energy sector jobs would grow from 18 million to 26 million by the year 2050. They reported that employment in the fossil fuel sector will be lost but will also be compensated by wind and solar energy sectors.

Researchers studied the relationships between energy consumption and unemployment mainly using causality tests, but the literature offered on this topic is still limited. There is a lack of understanding of such relationships within the context of Jordan. This paper will fill this gap in the literature by utilising the Toda-Yamamoto technique to test the causality between renewable energy consumption and unemployment rates, including two national account indicators.

Data and methodology

Descriptive analysis

Annual data for the period 1991-2018 for Jordan were collected from the World Bank database. Table 1 shows the definitions of the variables used in this study. All the variable time series were transformed into natural logarithms. Natural logarithms are necessary for econometric analysis since they can minimise regression problems and define elasticity in the model (Wooldridge 2016; Saidu Musa–Rabiu 2020). The time series covers 28 years; data were collected from the World Bank database. The descriptive analysis results in Table 2 show the mean, the maximum, the minimum, the skewness, the kurtosis, and the Jarque-Bera probability for all the series.

The skewness coefficients show that all the series skewed positively, except general government final consumption, which was negatively skewed. The kurtosis values reveal that the general government's final consumption and gross fixed capital formation as a percentage of GDP are platykurtic. In contrast, renewable energy consumption and total unemployment rates are both leptokurtic. The results also show that all the variables deviate below their average mean values. The Jarque-Bera p-values show that the general government's final consumption and gross fixed capital formation as a percentage of GDP are normally distributed, while renewable energy consumption and total unemployment rates are not normally distributed within the time series period. Figure 1 shows more details on the trend of the time series. The trend of renewable energy consumption shows that consumption increased from 2015. Unemployment rates show a rising trend since 2014. General government's final consumption and gross fixed capital formation as a percentage of GDP show fluctuations during the study period, with a generally negative trend during the latest year of the record.

Table 1. Description of variables used in this study

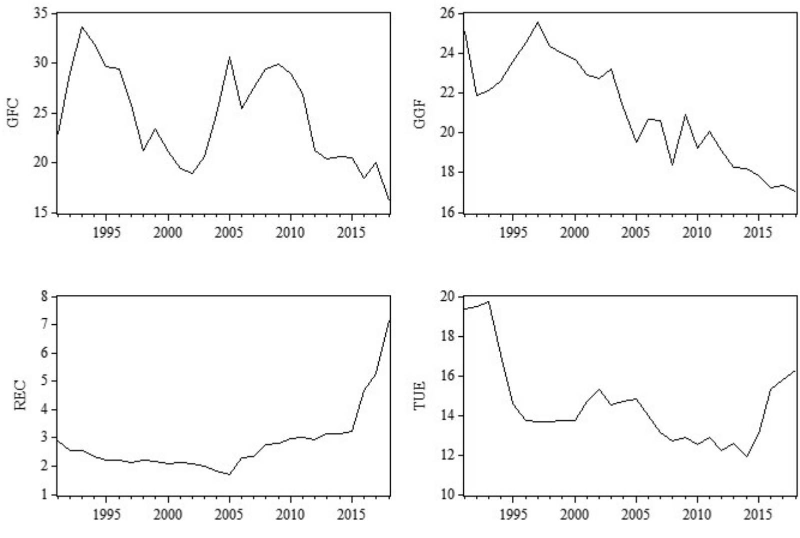
Variable	Description
REC	Renewable energy consumption as a percentage of total final energy consumption
TUE	Unemployment as a percentage of the labour force
GGF	General government final consumption expenditure as a percentage of GDP
GFC	Gross fixed capital formation as a percentage of GDP

Source: World Bank 2021

Table 2. Descriptive analysis

	REC	TUE	GFC	GGF
Mean	2.811	14.570	24.553	21.141
Median	2.432	13.870	24.099	21.110
Maximum	7.190	19.700	33.561	25.547
Minimum	1.688	11.900	16.125	17.058
Std. Dev.	1.161	2.141	4.793	2.613
Skewness	2.398	1.202	0.156	-0.026
Kurtosis	8.876	3.677	1.774	1.738
Jarque-Bera	67.104	7.280	1.868	1.861
Jarque-Bera p-value	0.000	0.026	0.393	0.394
Observations	28	28	28	28

Source: Own research based on World Bank 2021



Source: World Bank 2021

Figure 1. Trend in the selected time series used in the study

Unit root test

Economic time series show a trend in either mean, variance, or both (Das 2019). If the time series mean and variance remain constant, it is stationary (Szép 2014). Thus, the stationarity of the time series should be evaluated. Before testing, it is crucial to overcome the problem of non-stationarity; this can be done by first differencing and de-trending (Das 2019). There are multiple methods to test time series stationarity of unit root; among those, the most popular one is the augmented Dicky-Fuller (ADF) test developed by Dicky–Fuller (1979). The ADF test tends to reject the null hypothesis of non-stationarity. Another test, KPSS, is practical and used to confirm the results. Contrary to the ADF test, the KPSS test tends to accept the null hypothesis of non-stationarity. When testing the non-stationarity of the time series, we can choose from three options that we can include in the equation: first, there is no intercept or trend; second, only intercept but no trend; and third, including both an intercept and trend (Enders 2015).

Toda-Yamamoto Technique

To investigate the long-term relationship between renewable energy consumption and unemployment rates for the study period, we used the non-Granger causality test by Toda and Yamamoto (1995). No matter the order of integration of the series or whether they are cointegrated or not, the Toda and Yamamoto causality method is effective and applicable. This method applies to stationary time series at level, first difference, or second difference. The technique was structured based on the augmented Vector Autoregressive (VAR) modelling method and the Wald test statistic. The test is based on asymptotic chi-square (χ^2) values that are distributed regardless of the cointegration properties and the stationarity of the data series. In this technique, we estimate the $(k + d_{max})^{th}$-order VAR where k is the determined lag length, and d_{max} is the maximal order of integration. Our study performed the Toda-Yamamoto long-run non-Granger causality test using VAR with four lags (k=3 and d_{max}=1). The matrix form of the equation is written in equation (1).

$$\begin{bmatrix} lnREC_t \\ lnTUE_t \\ lnGGF_t \\ lnGFC_t \end{bmatrix} = \eta_0 + \eta_1 \begin{bmatrix} lnREC_{t-1} \\ lnTUE_{t-1} \\ lnGGF_{t-1} \\ lnGFC_{t-1} \end{bmatrix} + \eta_2 \begin{bmatrix} lnREC_{t-2} \\ lnTUE_{t-2} \\ lnGGF_{t-2} \\ lnGFC_{t-2} \end{bmatrix} + \eta_3 \begin{bmatrix} lnREC_{t-3} \\ lnTUE_{t-3} \\ lnGGF_{t-3} \\ lnGFC_{t-3} \end{bmatrix} + \eta_4 \begin{bmatrix} lnREC_{t-4} \\ lnTUE_{t-4} \\ lnGGF_{t-4} \\ lnGFC_{t-4} \end{bmatrix} + \begin{bmatrix} \mu_{lnREC} \\ \mu_{lnTUE} \\ \mu_{lnGGF} \\ \mu_{lnGFC} \end{bmatrix} \quad (1)$$

lnREC represents the log of renewable energy consumption, *lnTUE* represents the natural log of total unemployment rates, *lnGGF* is the general government final consumption expenditure log, and *lnGFC* describes the gross fixed capital formation. $\eta_1 \ldots \ldots \eta_4$ represent the 4*4 matrices of quantities with η_0 identity matrix. The disturbance terms that have zero mean and constant variance is represented by μ_s.

Results and discussion

The correlation analysis is applied as a first step to make sure that multicollinearity does not exist. The correlation matrix cannot indicate causality, but on the other hand, all the variables should show no high multicollinearity (coefficient factors between -0.9 and 0.9) (Field 2009). Table 3 shows that the correlation between the variables is within the limits, and no multicollinearity exists. The correlation analysis outcomes show a significant negative correlation between renewable energy consumption, the general government's final consumption, and gross fixed capital formation as a percentage of GDP. It means that when renewable energy consumption increases, the two variables will decrease.

Table 3. Correlation Matrix of the variables

		lnGFC	lnGGF	lnREC	lnTUE
lnGFC	Pearson Correlation	1			
lnGGF	Pearson Correlation	0.301	1		
	Sig. (2-tailed)	0.12		0	
lnREC	Pearson Correlation	-.476*	-.710**	1	
	Sig. (2-tailed)	0.01	0		
lnTUE	Pearson Correlation	0.125	0.264	0.073	1
	Sig. (2-tailed)	0.525	0.175	0.712	

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Source: Own research

Table 4 shows that when testing the unit root using ADF with intercept only, the variables are stationary at first difference, except for renewable energy consumption. On the other hand, performing the analysis including both intercept and trend shows that all the variables are integrated at first difference. The KPSS test is employed to test the stationarity of the variables. KPSS test results are listed in Table 5. The results show that the null hypothesis of stationarity is accepted at the first difference when tested at intercept and trend at the 5% level (values of 5% level are between brackets).

Table 4. Unit root test using ADF test

	Maximum Lag (AIC)	ADF unit root test Intercept			ADF unit root test Intercept and trend		
		I(0)	I(1)	I(2)	I(0)	I(1)	I(2)
lnREC	**3**	2.069 (0.999)	-1.363 (0.584)	-10.185 (0.000)	0.095 (0.996)	-5.181 (0.002)	-10.020 (0.000)
lnTUE	**3**	-2.941 (0.054)	-3.222 (0.030)	-5.084 (0.001)	-2.051 (0.547)	-3.874 (0.028)	-4.789 (0.005)
lnGGF	**3**	0.012 (0.952)	-7.7337 (0.000)	-5.295 (0.000)	-2.839 (0.197)	-7.809 (0.000)	-5.134 (0.002)
lnGFC	**3**	-1.083 (0.708)	-4.501 (0.002)	-5.502 (0.000)	-1.885 (0.634)	-4.465 (0.008)	-5.280 (0.001)

Source: Own research

Table 5. Unit root test using KPSS test

	Maximum Lag (AIC)	KPSS unit root test Intercept			KPSS unit root test Intercept and trend		
		I(0)	I(1)	I(2)	I(0)	I(1)	I(2)
lnREC	**3**	0.521 (0.463)	0.563 (0.463)	0.105 (0.463)	0.206 (0.146)	0.073 (0.146)	0.085 (0.146)
lnTUE	**3**	0.374 (0.463)	0.319 (0.463)	0.085 (0.463)	0.130 (0.146)	0.074 (0.146)	0.074 (0.146)
lnGGF	**3**	0.730 (0.463)	0.071 (0.463)	0.136 (0.463)	0.118 (0.146)	0.061 (0.146)	0.088 (0.146)
lnGFC	**3**	0.278 (0.463)	0.174 (0.463)	0.111 (0.463)	0.088 (0.146)	0.078 (0.146)	0.110 (0.146)

Source: Own research

Using the VAR framework, optimum lag length criteria were applied. The results are listed in Table 6. Four criteria suggested that three lags were the optimum lags for our model estimation.

Table 6. VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	55.46603	NA	1.91E-07	-4.11728	-3.92226	-4.06319
1	136.2399	129.2383	1.10E-09	-9.2992	-8.324094*	-9.02874
2	151.9559	20.11645	1.26E-09	-9.27647	-7.52129	-8.78966
3	180.6608	27.55666*	6.25e-10*	-10.29286*	-7.7576	-9.589688*

* Indicates lag order selected by the criterion. LR: sequential modified LR test statistic (each test at 5% level). FPE: Final prediction error. AIC: Akaike information criterion. SC: Schwarz information criterion. HQ: Hannan-Quinn information criterion

Source: Own research

To estimate the long-term cointegration relationship between the variables, the Johansen and Juselius test was conducted, and the test results are provided in Table 7. The results show that the null hypothesis of no cointegration is rejected. Moreover, the relationship exists in both the trace and max-eigen value statistics. This result implies that the series are cointegrated, and in the long term, they move together.

Table 7. Johansen and Juselius test for cointegration result

Hypothesis	Eigenvalue	Trace statistics	0.05 Critical Value	P-value
Trace Test Statistic				
None *	0.904*	105.115	63.876	0.000
At most 1 *	0.721*	48.944	42.915	0.011
At most 2	0.413	18.326	25.872	0.323
At most 3	0.206	5.537	12.518	0.521
Maximum Eigenvalue Test Statistic				
	Eigenvalue	**Max-Eigen Statistic**	**0.05 Critical Value**	**P-value**
None *	0.904*	56.170	32.118	0.000
At most 1 *	0.721*	30.618	25.823	0.011
At most 2	0.413	12.789	19.387	0.345
At most 3	0.206	5.537	12.518	0.521

* Denotes rejection of the hypothesis at the 0.05 level

Source: Own research

Table 8 details the causal links between unemployment rates and renewable energy consumption. The results indicate that the null hypothesis of no causality from all the variables toward unemployment is rejected. Renewable energy consumption has a solid causality relationship to unemployment rates where p-value is <0.05; this implies that investment in renewable energy can, in the long term, contribute to minimising unemployment rates. The results also show that gross fixed capital formation positively influences unemployment rates, indicating that capital formation catalyses employment in Jordan. Finally, a causal relationship is detected from general government final consumption expenditure towards unemployment rates but at a lower p-value than the previous indicators.

Our paper’s findings support the literature reviewed. Regardless of the econometric method used in the mentioned literature, there is a general agreement that renewable energy consumption causes unemployment. Nevertheless, some findings suggest that there is a causal relationship between the two sides. These findings demonstrate the close association between the two factors and the impact of developing renewable energy sources on lowering unemployment rates. The results also show that Jordan can benefit from diversifying the energy system and reducing the unemployment rates in the country by creating new opportunities in the energy sector.

Table 8. Toda-Yamamoto causality test results

Null Hypothesis	Chi-Square (χ^2)	P-value
Renewable energy consumption does not cause unemployment	9.402	0.024
Gross fixed capital formation does not cause unemployment	8.929	0.030
General government final consumption expenditure does not cause unemployment	7.164	0.067
Unemployment does not cause renewable energy consumption	1.707	0.635
Unemployment does not cause general government final consumption expenditure	2.356	0.502
Unemployment does not cause the gross fixed capital formation	0.686	0.877
Gross fixed capital formation does not cause renewable energy consumption	0.452	0.929
General government final consumption expenditure does not cause renewable energy consumption	0.816	0.846
General government final consumption expenditure does not cause the gross fixed capital formation	0.366	0.947
Gross fixed capital formation does not cause general government final consumption expenditure	0.817	0.845
Renewable energy consumption does not cause the gross fixed capital formation	1.213	0.749
Renewable energy consumption does not cause general government final consumption expenditure	5.619	0.132

Source: Own research

Conclusions

This study examined the causal relationship between renewable energy consumption and unemployment in Jordan over the period of 1991-2018 using the Toda and Yamamoto causality technique. The study builds on the previous literature, and its results confirm the previous studies and highlight the importance of investing in developing renewable energy resources. In the literature review section, the previous works showed that renewable energy consumption could play a significant role in creating jobs; this also applies to Jordan, as the results revealed.

Jordan has the potential to lead the efforts in the Middle East in terms of utilising renewable energy resources because of its unique location and the high number of sunny days.

The study revealed that there is a causal relationship running from renewable energy consumption towards unemployment; this gives a strong indicator that, in the long term, investing in renewable energy can contribute to reducing unemployment rates in the country. Moreover, the outcomes showed that both gross fixed capital formation and general government final consumption cause unemployment, which leads to the conclusion that a capital increase can lead to creating more job opportunities.

The results suggest that unemployment rates in the energy sector can be reduced by increased production and consumption of renewable energy. Constraints to investment in the industry should be removed by lowering taxes and initial prices while improving the infrastructure. Promoting private sector investment in the field of renewable energy can open up new employment opportunities. Future research in Jordan should concentrate on the role of renewable energy in boosting energy security, equality, and energy transition as more nations around the world move toward increasing the share of renewables in the energy mix.

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