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INTERACTION MODEL OF UNIVERSITIES AND EDUCATIONAL SERVICES' CONSUMERS IN THE CONTEXT OF DIGITALIZATION

Abstract

With increasing transparency of business processes and accessibility of information, consumers in the educational sphere are gradually transforming from passive recipients of educational services into active participants in the formation of university corporate policy. This transformation is especially important in the field of sustainable development, where consumer expectations, assessments and behavioral reactions can influence both communication practices and strategic priorities of higher education institutions. The article presents a conceptual model of interaction between consumers of educational services and universities in a virtual environment, aimed at ensuring the effective implementation of sustainable development principles in university business processes. The purpose of the study is to develop and empirically confirm a conceptual model of interaction between consumers and universities in the digital environment that facilitates university adaptation to sustainability requirements. To achieve this purpose, mixed research methods were used, including an expert survey and correlation and regression analysis based on data from 50 Kazakhstani universities. The results demonstrate statistically significant relationships between consumer activity in the virtual environment and indicators of university sustainable development. Particular importance is associated with activity in social networks, participation in online initiatives, information transparency and feedback mechanisms. The findings confirm that informed and active consumers of educational services can play a transformative role in the development of sustainable university strategies. Digitalization increases the speed of communication, expands opportunities for participation and creates additional conditions for integrating consumer expectations into university management.

Keywords: interaction model, sustainable development, virtual environment, educational sphere, labor market, digitalization, consumer behavior.

Introduction

Modern transformations in the economy and society are accompanied by a gradual change in the role of consumers in relationships with organizations. The traditional model, in which consumers acted

mainly as final recipients of goods and services, is increasingly being replaced by a model of active participation. Consumers now have greater access to information about organizations, their social responsibility, environmental initiatives, management practices and compliance with sustainable development principles.

Current studies demonstrate that consumers increasingly consider sustainability when making purchasing decisions [1].

Sustainability is therefore becoming not only an internal corporate issue but also a factor related to competitiveness, reputation and the ability of organizations to respond to changing consumer expectations [2].

For higher education institutions, this problem has particular significance. Universities perform educational, social and economic functions and interact with a broad range of stakeholders, including students, applicants, graduates, employees, employers, public authorities and local communities. Therefore, sustainable university development includes not only environmental projects but also social responsibility, openness, accessibility, communication quality and adaptation to changing public needs.

Previously, communication between organizations and consumers was largely one-directional [3]. Organizations distributed information, while consumers mainly received it [4]. Social networks, online platforms, rating systems and digital communities have significantly changed this relationship.

Consumers can now publish comments, reviews and recommendations, participate in discussions and influence the perceptions of other participants. As a result, the virtual environment becomes an important space in which organizational reputation is formed.

In the educational sphere, applicants and students can compare universities through publicly available information, rankings, social networks and online reviews. They can also evaluate environmental and social initiatives and observe the extent to which universities communicate their sustainable development priorities.

At the same time, digital interaction provides universities with additional information about consumer expectations. Comments, reactions, reposts, participation in surveys and online initiatives can be considered important sources of feedback.

This approach demonstrates that consumer decisions may depend not only on price and functional characteristics but also on environmental, social and ethical factors. In the educational sphere, students and applicants may similarly evaluate universities on the basis of reputation, social responsibility and sustainable development practices [5].

Stofejova et al. emphasize the environmental aspect of consumer behavior and indicate consumers' willingness to pay for environmentally friendly products [6].

Within this approach, consumers are considered not only as recipients of corporate decisions but also as sources of information that can influence the development of organizational strategies [7].

For universities, this is particularly relevant because interaction with consumers is usually long-term. Students interact with a university during several years, while graduates may continue participating in university communities after completing their studies [8].

One of the most important characteristics of the digital environment is the reduction of information asymmetry. Consumers can obtain information not only from official university sources but also from social networks, independent platforms and other users.

This increases the importance of information transparency. If sustainability information is regularly and clearly communicated, consumers are better able to understand the activities and priorities of a university.

Another important component is feedback. Digital technologies allow consumers to rapidly express their opinions regarding educational quality, environmental initiatives, social responsibility and other aspects of university activity.

However, collecting feedback alone is insufficient. Universities also need mechanisms for analyzing the information received and incorporating the results into strategic decision-making.

This requirement determines the importance of analytical systems in the proposed conceptual model.

The virtual environment also creates opportunities for collaborative value creation. Consumers can participate in surveys, discussions, crowdsourcing projects and other forms of digital interaction.

In this case, consumers become not only evaluators of university activity but also direct participants in the development of initiatives.

The interaction between these components forms a cyclical process in which universities publish information and implement initiatives, consumers react through digital channels, collected information is analyzed and the results can subsequently influence management decisions.

To achieve the stated purpose, the following tasks were formulated:

- ♦ to develop a conceptual model of interaction between consumers and universities in a virtual environment;
- ♦ to analyze current trends in consumer influence on university sustainable development;
- ♦ to determine mechanisms of consumer influence on sustainable development strategies;
- ♦ to assess relationships between indicators of digital consumer activity and indicators of university sustainable development.

Materials and methods

For a comprehensive study of consumer influence on the sustainable development of universities, a mixed methodological approach combining qualitative and quantitative methods was used.

The study was implemented sequentially. The qualitative stage, represented by an expert survey, preceded the quantitative stage, which included correlation and regression analysis.

The expert sample was formed through targeted selection using the maximum variation criterion.

The final sample consisted of 50 experts:

- ♦ 18 representatives of the educational sector, including heads of university sustainable development departments;
- ♦ 15 representatives of the scientific community with publications on sustainable development and the digital economy;
- ♦ 12 consultants specializing in sustainable development strategies;
- ♦ five civil servants representing specialized departments and regional authorities with at least five years of professional experience.

The diversity of the sample made it possible to obtain different professional assessments and reduce the risk of systematic bias.

Representatives of universities provided an institutional perspective, researchers contributed academic assessments, consultants reflected practical strategic experience, while civil servants assessed the issue in the context of economic and regional development.

The combination of closed and open questions allowed both comparable numerical assessments and more detailed expert explanations to be obtained.

Procedure

The survey was conducted in two consecutive stages during October–December 2024.

The first stage included an online survey conducted through a digital questionnaire platform.

The second stage consisted of structured in-depth interviews with eight experts.

The purpose of the interviews was to clarify the principal concepts and mechanisms identified during the first stage.

Each interview lasted approximately 45–60 minutes. With the consent of the participants, the interviews were recorded and transcribed for further analysis.

Analytical methods

Quantitative expert data were analyzed using descriptive statistics and Kendall's coefficient of concordance W.

Qualitative data obtained from open-ended questions and interviews were processed through content analysis in accordance with the coding paradigm of Corbin and Strauss.

The analysis included two groups of variables.

The independent variables characterized consumer activity in the digital environment:

X1: activity in university social networks related to sustainable development issues;

X2: activity concerning sustainable development in university social networks, represented by a cumulative index including posts, comments, reposts and likes normalized by reach;

X3: participation in university online sustainable development initiatives, expressed as a percentage of participants from the general base.

The dependent variables characterized university sustainable development:

Y1: volume of investments in environmental projects as a percentage of university income;

Y2: number of implemented social initiatives;

Y3: position in sustainable development rankings, represented by a composite index based on national and international rankings.

The selected variables represent different dimensions of both consumer activity and sustainable development.

X1 reflects communication activity, X2 characterizes the intensity of interaction in social networks, while X3 indicates direct participation in online initiatives.

Y1 reflects the financial dimension of sustainable development, Y2 represents practical social activity and Y3 reflects external reputational assessment.

Data were collected from public university sustainable development reports for 2020–2024, social media monitoring systems, IQAA-Ranking and other national ranking data.

Results and discussion

The expert survey made it possible to identify the principal factors and mechanisms through which consumers of educational services influence sustainable university development.

Kendall's coefficient of concordance amounted to 0.74, indicating a relatively high level of agreement among the experts.

Table 1 – presents the average assessments of the importance of individual consumer influence factors

Factors	Average significance score (on a 5-point scale)	Standard deviation	Quartile-intermediate range
Digital activism (universities in social networks)	4,7	0,5	0
Customer reviews about the environmental and social aspects of universities' activities	4,5	0,6	1
Participation in online surveys and surveys on sustainable development issues	4,2	0,7	1
Using digital platforms to monitor the impact of educational services on the social environment	4,0	0,8	1
Co-creation of value in a virtual environment (crowdsourcing)	3,9	0,9	2
Personal communication with companies through digital channels	3,8	0,7	1
Participation in virtual communities that promote the sustainable development of higher education institutions	3,7	0,8	1
Note: Compiled by the authors.			

The results presented in table 1 demonstrate that digital activism in university social networks received the highest expert assessment, with an average significance score of 4.7.

This result indicates that social networks are considered one of the principal channels through which consumers can influence university sustainable development.

Social media allow information to be distributed rapidly and provide opportunities for comments, reposts and public discussion.

Consumer reviews concerning environmental and social aspects of university activity received an average score of 4.5.

Reviews can simultaneously perform several functions: provide information to other consumers, serve as feedback for universities and influence institutional reputation.

Participation in online surveys concerning sustainable development received an average score of 4.2.

This confirms the importance of structured feedback mechanisms that allow universities to identify consumer expectations more systematically.

The use of digital platforms to monitor the influence of educational services on the social environment received an average assessment of 4.0.

Such monitoring allows universities to accumulate information and evaluate changes in consumer behavior over time.

Collaborative value creation in a virtual environment, including crowdsourcing mechanisms, received an average score of 3.9.

Although this assessment is lower than for social media activity and reviews, it remains significant and demonstrates the potential of consumer participation in developing university initiatives.

Personal communication through digital channels received an average value of 3.8, while participation in virtual communities promoting sustainable development received 3.7.

Thus, all factors included in Table 1 were assessed by experts as significant, although the strongest role was attributed to public digital interaction and information exchange.

Digital technologies reduce information asymmetry between universities and consumers. Consumers can access official and independent information sources and actively exchange information.

As a result, information concerning university activities can rapidly reach a large audience.

The second mechanism is direct economic impact.

It is associated with changes in consumer decisions depending on whether a university is perceived as complying with sustainable development principles.

Applicants, students, graduates and other stakeholders may take university reputation and social responsibility into account when making decisions.

The third mechanism is reputational impact.

It involves the formation of public opinion about universities through digital channels.

Digital environments significantly increase the speed at which reputation can be created or damaged.

Information distributed through social networks may affect university image within a relatively short period.

At the same time, reputational effects can accumulate over time as consumers repeatedly encounter similar assessments and information.

The three mechanisms are interconnected.

Information dissemination can influence reputation, while reputational changes may subsequently affect consumer decisions.

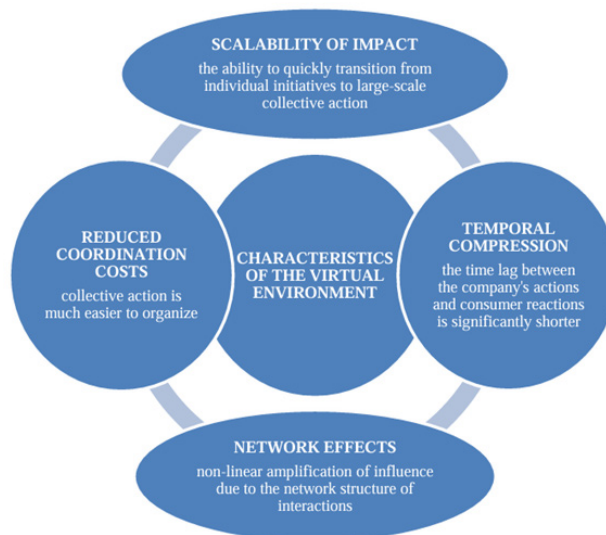


Figure 1 – Features of the mechanisms of consumer influence on companies' sustainable development in the virtual environment

Note: Compiled by the authors.

The virtual environment reduces the time required for communication and increases the potential scale of consumer influence.

Information can spread rapidly and remain accessible for a considerable period.

At the same time, digital interaction creates opportunities for accumulating data about consumer reactions.

This allows universities not only to experience consumer influence but also to analyze it.

The results are presented in table 2.

Table 2 – Correlation coefficients between consumer activity indicators and University sustainable development indicators in virtual environments

Indicator	Volume of investments in environmental projects (Y1)	Number of implemented social initiatives (Y2)	Position in the rating of sustainable development (Y3)
Number of messages on digital channels on sustainable development issues (X1)	0,68*	0,72*	0,65*
Activity of the company on sustainable development in social networks (X2)	0,75*	0,64*	0,78*
Participation in universities' online sustainable development initiatives (X3)	0,62*	0,76*	0,70*
Note: Compiled by the authors. * $p < 0.01$			

The correlation between X1 and environmental investments Y1 is 0.68.

The relationship between X1 and the number of social initiatives Y2 is 0.72, while the correlation between X1 and sustainable development ranking position Y3 equals 0.65.

These results indicate that greater sustainability-related activity in digital channels is associated with higher sustainability indicators.

The second independent variable, X2, demonstrates a correlation of 0.75 with environmental investment Y1.

The relationship between X2 and Y2 is 0.64.

The strongest correlation in the entire analysis is observed between X2 and Y3 and amounts to 0.78.

This indicates a particularly close relationship between university social media activity concerning sustainable development and university positions in sustainability rankings.

The third independent variable, X3, demonstrates a correlation of 0.62 with environmental investments Y1.

The relationship between X3 and Y2 reaches 0.76.

This is the strongest relationship associated with X3 and suggests that participation in online sustainable development initiatives is particularly closely connected with the number of implemented social initiatives.

The correlation between X3 and Y3 is 0.70.

Taken together, the results indicate that different forms of digital activity are associated with different aspects of sustainable development.

Social media activity is particularly closely associated with environmental investment and ranking positions, while direct consumer participation is strongly associated with social initiatives.

These relationships correspond to separate components of the proposed conceptual model.

Variables associated with social media activity are connected with digital infrastructure, information openness and feedback.

Consumer participation is more directly related to collaborative value creation.

The expert study also confirms the importance of all five components of the model.

The highest expert assessment was obtained by the component “Information transparency mechanisms”, with an average score of 4.5.

The “Feedback system” component received 4.3 points.

The “Analytical systems” component received 3.8 points.

Although this value is lower, it still indicates significant potential.

The relatively lower assessment may be related to the fact that analytical systems are not yet fully integrated into university digital management practices.

Universities may actively communicate through social networks without systematically analyzing consumer reactions.

Therefore, analytical development represents an important direction for further improvement of the model.

The results are presented in table 3.

Table 3 – Results multiple linear regression

Dependent variable	Independent variable	Standardi-zed β-coefficient	t-test	p-value	R²
Volume of investments in environmental projects (Y1)	X1	0,25	2,87	0,006	0,68
	X2	0,49	5,42	<0,001	
	X3	0,18	2,14	0,038	
Number of implemented social initiatives (Y2)	X1	0,32	3,65	<0,001	0,72
	X2	0,21	2,45	0,018	
	X3	0,46	5,28	<0,001	
Position in sustainable development ratings (Y3)	X1	0,23	2,76	0,008	0,75
	X2	0,52	6,14	<0,001	
	X3	0,29	3,42	0,001	
Note: Compiled by the authors.					

For Y1, representing investments in environmental projects, the strongest standardized coefficient is observed for X2 and amounts to 0.49.

The standardized coefficient for X1 is 0.25, while X3 has a coefficient of 0.18.

Thus, university activity in social networks concerning sustainable development makes the largest contribution to variation in environmental investments among the included variables.

The determination coefficient for the model is $R^2=0.68$.

For Y2, representing the number of implemented social initiatives, the strongest contribution is associated with X3.

Its standardized β coefficient equals 0.46.

The coefficient for X1 is 0.32, while X2 has a coefficient of 0.21.

The determination coefficient amounts to $R^2=0.72$.

This result demonstrates that direct participation in online sustainability initiatives is particularly important in relation to university social activity.

For Y3, representing sustainable development ranking positions, the largest coefficient is again associated with X2.

Its standardized β value equals 0.52.

X3 has a coefficient of 0.29 and X1 has a coefficient of 0.23.

The determination coefficient reaches $R^2=0.75$.

This is the highest R^2 value among the three regression models.

The results of regression analysis therefore confirm the conclusions obtained during correlation analysis [9].

University social media activity concerning sustainable development contributes most strongly to environmental investment and ranking positions.

Consumer participation in online initiatives contributes most strongly to the number of social initiatives [10].

The relatively high determination coefficients, ranging from 0.68 to 0.75, indicate that the selected indicators explain a considerable proportion of variation in university sustainability indicators.

At the same time, university sustainable development is influenced by many additional factors that are not included in the present analysis [11].

The combined results of the expert survey, correlation analysis and regression analysis demonstrate consistency between qualitative and quantitative stages.

Experts identified digital activism, reviews and participation in online initiatives as important mechanisms [12].

The statistical analysis subsequently confirmed significant relationships between digital activity and university sustainability indicators.

This correspondence supports the functional relevance of the proposed conceptual model.

Particular importance is associated with the phenomenon of temporal compression, under which consumer reactions to university activity may occur almost immediately [13].

Digital platforms significantly reduce the time between an organizational action and public response.

This creates additional requirements for reputational risk management.

Universities need mechanisms for continuous monitoring and timely response.

Such changes may remain superficial if sustainability principles are not integrated into actual business processes.

This approach corresponds to the risks associated with greenwashing discussed by Gitelman, Kozhevnikov and Chebotareva [14].

Proactive digital transformation, in contrast, involves a deeper reconsideration of business processes and integration of sustainable development principles into university strategy.

Digital tools are used not only to publish information but also to collect feedback, analyze consumer expectations and support participation.

This approach corresponds to the relationship between digital technologies and sustainable development considered by Sadaa et al. [15].

The distinction between reactive and proactive adaptation is important because high digital activity alone does not necessarily indicate a high level of sustainability.

The strategic significance of digital communication depends on whether universities use the information obtained to improve their activities.

Therefore, analytical systems and feedback mechanisms are important components of the conceptual model.

The practical significance of the model is associated with the possibility of organizing digital interaction as a complete management cycle.

Digital infrastructure provides communication channels.

Information transparency ensures access to relevant information.

Feedback systems collect consumer reactions.

Collaborative platforms support participation.

Analytical systems transform accumulated information into a basis for decision-making.

The effectiveness of the model therefore depends on interaction between these components rather than on the development of one digital instrument separately.

Conclusion

The integrated results of the expert survey, correlation analysis and regression analysis provide a comprehensive representation of mechanisms through which consumers of educational services influence the sustainable development of universities in the virtual environment.

The study confirms that digitalization changes the nature of interaction between universities and consumers.

Consumers receive greater access to information and more opportunities to express opinions, participate in initiatives and influence public perceptions.

Universities receive additional information about consumer expectations but also face increased requirements regarding transparency and responsiveness.

The interaction between these components forms a cyclical process.

University activities generate consumer reactions, these reactions are collected and analyzed, and the obtained information may subsequently influence management decisions.

The results of the expert survey confirm the importance of the identified factors.

Kendall's W of 0.74 indicates a relatively high level of agreement among experts.

The highest assessments were obtained for digital activism, consumer reviews, information transparency and feedback mechanisms.

The quantitative results also support the proposed model.

All selected indicators of consumer activity demonstrate statistically significant positive relationships with university sustainability indicators.

The strongest correlation, $r=0.78$, is observed between university activity in social networks concerning sustainable development and university positions in sustainability rankings.

Consumer participation in online sustainability initiatives is strongly associated with the number of implemented social initiatives, with a correlation of $r=0.76$.

Regression analysis demonstrates that X2 makes the largest contribution to variation in environmental investments and sustainability ranking positions.

X3 makes the largest contribution to variation in the number of implemented social initiatives.

The determination coefficients ranging from $R^2=0.68$ to $R^2=0.75$ indicate that the selected digital activity indicators explain a considerable proportion of variation in sustainability indicators.

The results therefore demonstrate that different forms of consumer activity influence different aspects of university sustainable development.

At the same time, several methodological limitations should be considered.

First, the identified correlations do not necessarily demonstrate direct cause-and-effect relationships.

Universities with more developed sustainable development strategies may themselves be more active in digital communication.

Future longitudinal studies are therefore needed to determine the direction of relationships more accurately.

Second, the study focuses on Kazakhstani universities.

Institutional, cultural and digital characteristics of Kazakhstan may influence the mechanisms identified.

Cross-cultural studies could therefore be used to verify the model in other national educational systems.

Third, the study partly relies on university reporting concerning investments and implemented initiatives.

Future research should include independent data sources to verify sustainability indicators.

Fourth, the quantitative analysis includes only a limited number of indicators of virtual consumer activity.

Future studies could additionally examine comment sentiment, response time, participation of graduates, structure of digital communities and other forms of consumer interaction.

Despite these limitations, the results demonstrate that consumer activity in the virtual environment represents an important factor associated with university sustainable development.

Information transparency, digital communication, feedback and consumer participation should therefore be considered interconnected elements of modern university management.

The practical implication is that universities should not limit digitalization to the introduction of individual communication channels.

Greater effectiveness can be achieved when digital infrastructure is combined with information openness, feedback mechanisms, collaborative interaction and analytical support.

Under such conditions, consumers of educational services become not only recipients of information but active participants in sustainable university development.

The transformation of consumer roles is particularly important in the context of changes in the labor market and increasing requirements for higher education institutions.

Universities need to demonstrate adaptability, social responsibility and the ability to respond to changing technological and social conditions.

The virtual environment becomes one of the principal spaces in which such adaptability is evaluated.

Further development of the proposed model should therefore focus on longitudinal analysis, expansion of quantitative indicators and comparison between universities operating in different institutional environments.

These directions will allow the role of digital consumer activity in sustainable university development to be assessed more accurately.

REFERENCES

- 1 Kronthal-Sacco R., Whelan T. Sustainable share index™: Research on IRI purchasing data (2013–2018). NYU Stern, 2019.
- 2 Mambetova F., Sozaeva T., Sulumov S., Khuriev R. The phenomenon of human capital in the context of a new format of civilizational development // *Revista Juridica*. 2024, vol. 79, no 3, pp. 683–697. URL: <https://doi.org/10.26668/revistajur.2316-753X.v3i79.7523>
- 3 Tsimonis G. Transforming consumption: the role of digital experiences, consumer spirituality, environmental beliefs, and digital efficacy in driving sustainable choices // *Journal of Marketing Management*. 2024, vol. 40, no. 1–2, pp. 76–102.
- 4 Silveira P.D., Sandes F.S., Xara-Brasil D., Santos M. Brands' Green Activism: An Empirical Comparison between Posts of Digital Influencers and Brands // *Sustainability*. 2024, vol. 15, no. 16, pp. 57–72.
- 5 Lu Y. Sustainability-Driven Consumer Experience Design of an Online Retail System for Household Appliances // *International Journal of Human-Computer Interaction*. 2023, vol. 12, no. 39, pp. 2235–2251.
- 6 Stofejova L., Král' Š., Fedorko R., Bačík R., Nastišin L. Sustainability and Consumer Behavior in Electronic Commerce // *Sustainability*. 2023, vol. 22, no. 15, pp. 156–175.
- 7 Cano J.A., Londoño-Pineda A., Campo E.A., Arango J.A. Sustainable Business Models of E-marketplaces: An Analysis from the Consumer Perspective // *Journal of Open Innovation*. 2023, vol. 3, no. 9, pp. 147–164.
- 8 Wilson A.J., Kask R., Li M. Exploring Circular Digital Economy Strategies for Sustainable Environmental, Economic, and Educational Technology // *International Transactions on Education Technology*. 2024, vol. 2, no. 8, pp. 124–139.
- 9 Adepeju A.A., Ibem E.O., Oluwatayo A.A., Okagbue H.I. Influence of client relationship management strategy on organisational performance // *International Journal of Sustainable Development and Planning*. 2024, vol. 8, no. 19, pp. 3165–3174. URL: <https://doi.org/10.18280/ijstdp.190829>
- 10 Moro M.C.F., Beck C., Sobieski J. O. Digital democracy: the role of smart cities in global sustainability // *Revista Juridica*. 2024, vol 80, no. 3, pp. 327–355. URL: <https://doi.org/10.26668/revistajur.2316-753X.v3i80.7340>
- 11 Akhmetshin E., Sultanova S., Shichiyakh R., Khodjaeva M., Stepanova D., Nurgaliyeva A. Efficiency in urban management and smart city concepts: A Russian cities case study // *International Journal of Sustainable Development and Planning*. 2024, vol. 4, no. 19, pp. 1379–1387.
- 12 Kashyap A.K., Sharma V. Regulatory reforms for structured green finance: Exploring the case of International Finance Service Centre, India // *International Journal of Ecosystems and Ecology Science*. 2022, vol. 4, no. 12, pp. 79–90. URL: <https://doi.org/10.31407/ijeess.12.410>
- 13 Hien L.T., Tam P.T. Impacting information technology on investment capital attraction and sustainable development: A case study in Vietnam // *Qubahan Academic Journal*. 2025, vol. 1, no. 5, pp. 63–80. URL: <https://doi.org/10.48161/qaj.v5n1a1192>
- 14 Gitelman L.D., Kozhevnikov M.V., Chebotareva G.S. Strategic intelligence of an organization amid uncertainty // *International Journal of Energy Production and Management*. 2021, vol. 3, no 6, pp. 294–305. URL: <https://doi.org/10.2495/EQ-V6-N3-294-305>.
- 15 Sadaa A.M., Genasan Y., Harhoch H.K., Hazza O.T., Mukhlif M.A. A new key to a sustainable future: Promoting sustainability performance through digital technologies, ESG activities, and circular economy in Jordanian energy companies // *International Journal of Sustainable Development and Planning*. 2024, vol. 10, no. 19, pp. 3935–3947. URL: <https://doi.org/10.18280/ijstdp.191022>

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ЦИФРЛАНДЫРУ КОНТЕКСТІНДЕГІ УНИВЕРСИТЕТТЕР МЕН БІЛІМ БЕРУ ҚЫЗМЕТТЕРІН ТҰТЫНУШЫЛАРДЫҢ ӨЗАРА ӘРЕКЕТТЕСУ МОДЕЛІ

Андатпа

Бизнес-процестердің ашықтығы мен ақпараттың қол жетімділігінің артуымен білім беру саласындағы тұтынушылар біртіндеп білім беру қызметтерін пассивті алушылардан университеттің корпоративтік саясатын қалыптастырудың белсенді қатысушыларына айналууда. Бұл трансформация тұтынушылардың күтулері, бағалаулары және мінез-құлық реакциялары коммуникация тәжірибесіне де, жоғары оқу орындарының стратегиялық басымдықтарына да әсер етуі мүмкін тұрақты даму саласында ерекше маңызды. Мақалада университеттің бизнес-процестерінде тұрақты даму қағидаттарын тиімді енгізуді қамтамасыз етуге бағытталған білім беру қызметтерін тұтынушылар мен университеттердің виртуалды ортадағы өзара әрекеттесуінің тұжырымдамалық моделі ұсынылған. Зерттеудің мақсаты-университеттің тұрақтылық талаптарына бейімделуін жеңілдететін цифрлық ортадағы тұтынушылар мен университеттер арасындағы өзара әрекеттестіктің тұжырымдамалық моделін әзірлеу және эмпирикалық растау. Осы мақсатқа жету үшін аралас зерттеу әдістері қолданылды, оның ішінде сараптамалық зерттеу және 50 Қазақстандық жоғары оқу орындарының деректері негізінде корреляциялық және регрессиялық талдау жүргізілді. Нәтижелер виртуалды ортадағы тұтынушылық белсенділік пен университеттің тұрақты даму көрсеткіштері арасындағы статистикалық маңызды байланысты көрсетеді. Ерекше маңыздылығы әлеуметтік желілердегі белсенділікпен, онлайн-бастамаларға қатысумен, ақпараттың ашықтығымен және кері байланыс механизмдерімен байланысты. Нәтижелер білім беру қызметтерінің ақпараттандырылған және белсенді тұтынушылары университеттердің тұрақты даму стратегияларын әзірлеуде трансформациялық рөл атқара алатынын растайды. Цифрландыру байланыс жылдамдығын арттырады, қатысу мүмкіндіктерін кеңейтеді және тұтынушылардың үміттерін университет басшылығына енгізу үшін қосымша жағдайлар жасайды.

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МОДЕЛЬ ВЗАИМОДЕЙСТВИЯ УНИВЕРСИТЕТОВ И ПОТРЕБИТЕЛЕЙ ОБРАЗОВАТЕЛЬНЫХ УСЛУГ В КОНТЕКСТЕ ЦИФРОВИЗАЦИИ

Аннотация

С повышением прозрачности бизнес-процессов и доступности информации потребители в сфере образования постепенно превращаются из пассивных получателей образовательных услуг в активных участников формирования корпоративной политики университета. Эта трансформация особенно важна в области устойчивого развития, где ожидания, оценки и поведенческие реакции потребителей могут влиять как на коммуникационные практики, так и на стратегические приоритеты высших учебных заведений. В статье представлена концептуальная модель взаимодействия потребителей образовательных услуг и университетов в виртуальной среде, направленная на обеспечение эффективной реализации принципов устойчивого развития в бизнес-процессах университета. Целью исследования является разработка и эмпирическое подтверждение концептуальной модели взаимодействия между потребителями и университетами в цифровой среде, которая облегчает адаптацию университетов к требованиям устойчивого развития. Для достижения этой цели были использованы смешанные методы исследования, включая экспертный опрос и корреляционно-регрессионный анализ на основе данных 50 казахстанских университетов. Результаты демонстрируют статистически значимые взаимосвязи между потребительской активностью в виртуальной среде и показателями устойчивого развития университета. Особое значение придается активности в социальных сетях, участию в онлайн-инициативах, информационной прозрачности и механизмам обратной связи. Полученные результаты подтверждают, что информированные и активные потребители образовательных услуг могут сыграть преобразующую роль в разработке стратегий устойчивого развития университетов. Цифровизация повышает скорость коммуникации, расширяет возможности для участия и создает дополнительные условия для интеграции ожиданий потребителей в управление университетом.

Ключевые слова: модель взаимодействия, устойчивое развитие, виртуальная среда, образовательная сфера, рынок труда, цифровизация, потребительское поведение.

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