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CULTURAL CONTEXT OF EDUCATIONAL SERVICE MANAGEMENT ON EXAMPLE OF E-LEARNING WEBSITE QUALITY

Abstract

The aim of this study is to examine how e-learning website features distinguish in cultural context and to propose the adaptation possibilities of the specific cultural characteristics in e-learning website design with regard to the influence of different cultural dimensions on quality perception. This study examine Hofstede's culture dimensions in the context of their influence on students' attitudes towards e-learning website quality. The paper discusses the influence of different culture dimensions on website quality evaluation. On example of Polish students' experiences the influence of cultural values connected with Hofstede's culture dimensions on e-learning websites perception have been examined.

From the results of this study, it can be inferred that culture plays a significant role in the quality perception of e-learning websites.. The findings from this study are consistent with previous studies related to cross-cultural differences in users' preferences regarding to website features, and show the role of cultural influences in the appropriate e-learning website design. Universities should use findings of this study to develop cultural adapted e-learning websites.

Keywords: *e-learning, culture, culture dimensions, educational service management, educational service quality, e-learning website quality*

Introduction

New technologies have changed the traditional way of education. The development of modern technologies is related to the development of innovative methods and channels of education. E-learning platform as one of these modern technologies enables flexibility in teaching and learning (Rautela et al., 2024). Most of the higher education institutions are providing online courses for their students. However, the shift to online mode has raised many queries on the quality of education (Ali et al., 2022).

Nowadays, the need for e-learning quality is constantly increasing (Dueñas et al., 2021). E-learning websites act as the main link between learners and e-service providers. It is not just an online channel for disseminating information and knowledge, but it could broaden many functions and tasks (Tseng, 2020). Consequently, e-learning website quality should be considered as a critical factor in its success and quality evaluation should be examined more accurately from the learners' perspective (Caber et al., 2013).

More and more universities are implementing student caring strategies in the same way as businesses are taking care of their customers. Today's students are seen as customers of universities and universities must provide the best e-learning service quality to their students (Martinez-Arguelles and Batalla-Busquets, 2016). Service quality depends on the gap between the service perceived by users and the service expected by users. In the area of higher education, service quality is defined in similar way as the difference between the students' higher education service expectations and experiences (Stodnick and Rogers, 2008). Today, universities are changing their strategy of managing relationships with students by considering students as customers and universities as providers of educational services.

The aim of this study is to examine how e-learning website features distinguish in cultural context and to propose the adaptation possibilities of the specific cultural characteristics in e-learning website design with regard to the influence of different cultural dimensions on quality perception.

This study describes Hofstede's (2010) culture dimensions including: individualism, collectivism, uncertainty avoidance, power distance, motivation towards achievement and success (previous masculinity and femininity dimension), short-term and long-term orientation and investigates their influence on students' attitudes towards e-learning website quality (Minkov and Kaasa, 2022).

The paper discusses the influence of different cultural factors on website quality perception and describes the implementation possibilities of the particular culture dimensions in e-learning websites design. On example of Polish students' experiences the influence of cultural values connected with Hofstede's culture dimensions on e-learning websites perception have been examined.

The study is structured as follows. After this introduction, the theoretical foundations and literature review have been presented. Next section details the methodological procedures, followed by an analysis of data and defines the dimensions of the proposed framework and its indicators. Than the results of research have been presented and discussed. Finally conclusion and suggestions for the continuation of the research have been presented, limitation are described, theoretical and practical implications are explored.

Theoretical background

In today's e-learning environment, students are viewed as customers and student satisfaction is always one of the university's most important goals (Lee, 2010). In the e-learning environment, student learning is achieved primarily through interactions between students and the e-learning system. The e-learning system is manifested through the university's e-learning website.

E-learning helps universities integrate further into the global educational environment (Lee, 2010). In particular, international cooperation and links in the field of teaching can take place beyond the boundaries of one country; for example, joint training programs in which domestic students are not required to go to a university abroad to study, but are able to receive full academic services provided by the foreign university (Dabija et al., 2024).

Website quality is difficult to define and capture in an operational way, because this notion represents multidimensional construct (Limbu and Long, 2023; Nedeljković et al., 2023). Members of different cultural groups prefer different icons, colors, and site structures. Design elements that occur often in one group but are less prevalent or absent in other groups are called cultural markers. The use of appropriate cultural markers increases the usability of the web sites (Moriuchi and Moriyoshi, 2024).

Culture can affect the online behaviour of students, therefore cultural differences can also be observed in e-learning websites. Cultures can be described according to specific characteristics or categorized into value categories or dimensions of national culture. The best known cultural dimensions are proposed by Geert Hofstede (2010). A reason for the widespread adoption of Hofstede's classification of culture lies in the large number of countries measured and the simplicity of his dimensions. He developed a model that helps to explain basic value differences. This model distinguishes cultures according to six dimensions: power distance, individualism-collectivism, motivation towards achievement and success (which have now replaced the earlier dimensions of masculinity and femininity), indulgence, uncertainty avoidance, long-term and short-term orientation. Hofstede's framework has been widely accepted by many researchers attempting to understand cultural differences between countries (Minkov and Kaasa, 2022).

His dimensions have been found to be relevant to web design and other aspects connected with e-service quality.

Distinguished culture dimensions have their reflection in online behavior and expectations regarding e – learning website design and content.

According to other studies website should present information logically to users from masculine cultures (high motivation towards achievement and success). Users who are high on motivation towards achievement and success (masculinity culture) value emphasis more on web information designs. While, in case of web users from high uncertainly avoidance cultures, the attention should be paid on navigation features of website (Ganguly et al., 2010).

High uncertainty avoidance and high context cultures tend to have greater use of animation and easier navigability on the sites (Khanum et al., 2012). Collectivist people are more likely to share their information within the group and be less expressive and explicit when providing an opinion about another. This is very different to the individualist users, who would easily give negative ratings and comments for poor performance. A collectivist people would be more lenient towards a bad experience and would rather discuss this experience within the group than make a public statement. Concerning social networking with students in e-learning environment university can create trust and positive influence in certain cultures (Brengman and Karimov, 2012).

Cultures with low uncertainty avoidance, high masculinity, high power distance, and high collectivism seem to nullify the effects of perceived ease of use and perceived usefulness from accepting a technology. The development of effective e-learning websites such as visually pleasing, accessible content information and easy to navigate must appeal to students' from different cultures (Cyr, 2013). Culture has been recognized as an important influential factor for online behaviour, therefore the presentation of website features should be conveyed through cultural factors and catch the attention of students from different countries and cultures (Casaló et. al, 2011). Culture is one of the most important factors determining e-learning website quality requirements.

Research methodology

This study examines the influence of Hofstede's cultural dimensions (2010) on e-learning website quality perception. The culture dimensions included in this study are: individualism, collectivism, uncertainty avoidance, power distance, motivation towards achievement and success (previous masculinity and femininity dimension), and long-term or short-term orientation (Minkov and Kaasa, 2022). In his later research, Hofstede identified a sixth dimension of culture – indulgence. However, indulgence, due to its much later identification and its absence in the original model of the culture dimensions, was excluded from this study. The dimension of indulgence was excepted because of lack description of its influence on website quality in the previous studies.

On example of Polish students' experiences the influence of e-learning website features, which reflect different culture dimensions, on e-learning website quality assessment has been investigated.

Poland is considered to be a country with a collectivistic culture (with a score of 47) and a hierarchical society with high power distance (a score of 68). A high score of motivation towards achievement and success (64) indicates that the society will be driven by competition, achievement and success. Poland scores 93 on uncertainly avoidance dimension and thus has a very high preference for avoiding uncertainty. Poland's score of 49 in term orientation dimension indicates that people prefer a short-term orientation focusing on personal stability (https://www.hofstede-insights.com/country-comparison-tool).

Based on the literature review and the characteristic dimensions of Polish culture the following hypotheses for the causal relationship between the cultural values in e-learning websites and their influence on students' requirements regarding e-learning website quality have been proposed:

- Hypothesis 1 (H1). E-learning website features that reflect collectivistic values are more valuable among Polish students than website features typical for individualistic value.
- Hypothesis 2 (H2). E-learning website features that reflect high power distance are more valuable among Polish students than website features typical for low power distance.

- • Hypothesis 3 (H3). E-learning website features that reflect high motivation towards achievement and success are more valuable among Polish students than website features typical for low motivation towards achievement and success .
- • Hypothesis 4 (H4). E-learning website features that reflect high uncertainly avoidance are more valuable among Polish students than website features typical for low uncertainly avoidance.
- • Hypothesis 5 (H5). E-learning website features that reflect short time orientation are more valuable among Polish students than website features typical for long time orientation.

In order to test the hypotheses, a questionnaire survey has been carried out to gather empirical data. The online questionnaire set up for this study consists of two parts. The first part is demographic information, while the second part collects the main information required for running the main analyses. The first section of the questionnaire gathers personal information about the respondents such as age and gender. The second section of the questionnaire gathers information regarding the information related to all independent variables: individualism-collectivism, uncertainty avoidance, power distance, motivation towards achievement and success, and long-term or short-term orientation.

All survey participants were young people, aged under 26. Each participant of the study was asked to answer the survey questions. The research was conducted on a group of 278 students in January, February, Mai and June 2024. The data was collected in the form of a survey carried out on the e-learning website. Each participant of the study was asked to answer the survey questions. Respondents included 48,2% males and 51,8% females. 53,2% of the respondents were ages 19-20, 42,8 % were ages 21-24, and 4% were over age 24.

In questionnaire, respondents determined the acceptance level and their attitudes to the different features of e-learning website, typical for particular Hofstede culture dimension.

Since the objective of this study is to explore the role of cultural differences in perception of e-learning website, the attitudes towards the e-learning websites will be measured by five-point Likert scale. Each measurement variable varies from 1 to 5, among which 5 means very positive, 4 positive, 3 neutral,

2 negative, 1 very negative. Correlation analyze was used to estimate the relationship between culture dependent students' expectations and estimated e-learning website features. The completed questionnaires were the basis of the study and have been used in the analysis of data, by using correlation coefficient (V-Cramer's coefficient) analysis. The reliability test used was Cronbach's alpha. For all research variables values were higher than 0,8. Cronbach's alpha showed high internal consistency, what implies that the measures are reliable and the evaluation instrument is appropriate for use in research.

Results and discussion

Influence of cultural values reflected in e-learning website features on fulfillment of students' expectations have been analyzed with help of V-Cramer's Correlation Coefficient. The correlation between all investigated culture dimensions and e-learning website features is statistically significant, because the χ^2 – values are higher that critical value (8,11). The characteristic features of e-learning websites typical for a given dimension of culture have been distinguished on the basis of an earlier literature review.

The results have been presented in the table 1.

Table 1. *Expected e-learning website features according to Hofstede's culture dimensions*

Cultural values reflected in e-learning website features (according to Hofstede's culture dimensions)	χ^2 – value	V-Cramer's coefficient
Individualism	*8,37*	*V=0, 512*
-personalization possibilities of e-learning website		
- personalisation of learning content		
Collectivism	*8,32*	*V=0, 798*
- teamwork opportunity		
-social networking in e-learning environment		
-possibilities of information sharing with other students		
-convenience for communication between lecturers and students		
- social networking features (forum, discussion group, chat, presence of social networking services)		
- the ability to perform group tasks		
High power distance	*8,29*	*V=0,843*
- information about higher education institutions hierarchy,		
- information about ranks of lecturers,		
- pictures of lecturers,		
- information about scientific and didactic achievements of lecturers		
-organizational charts on e-learning website,		
- presence of vision and mission statement of higher education institutions		
Low power distance	*8,13*	*V=0,427*
- e-learning website design and aesthetic,		
- user-friendly website features.		
High motivation towards achievement and success	*8,51*	*V=0,823*
-e-learning website reliability and accessibility,		
- short response time in case of problems,		
-high expectation of e-learning website quality,		
-e-learning website functionality,		
- easy navigation,		
- logically presentation of information on website.		
Low motivation towards achievement and success	*8,43*	*V=0,418*
- visually pleasing of e-learning website		
- user-friendly website features		
- use of animation and graphical elements		
High uncertainly avoidance	*8,65*	*V=0,981*
- reliability of e-learning website		
- availability of e-learning website		
- high expectation of e-learning website quality		
- contact information		
- presence of FAQs,		
- presence of site maps,		
- personal data security,		
- privacy policy on e-learning website		
- easy navigation		
- perceived ease of use		
- perceived usefulness		
Low uncertainly avoidance	*8,14*	*V=0,396*
- website aesthetic,		
- accessible content information		
Short term orientation	*8,57*	*V=0,739*
- short response time in case of problems		
- accessibility of technical support		
- quickly online help		
- quickly and accessible contact with lecturer		
Long term orientation	*8,26*	*V=0,423*
-functional design of e-learning website.		
- user-friendly website features		

Source: own study.

Regarding to the first analysed culture dimension (individualism-collectivism), website features that put emphasis on elements connected with expression of collectivistic values are more accepted among surveyed students ($V=0,798$) than website features, which emphasize characteristics related to individualistic values ($V=0,512$). Additionally, for surveyed students more attractive are e – learning websites, that have features connected with high power distance ($V=0,843$) than e-learning platforms, which highlight elements reflected low power distance ($V=0,427$).

The results confirm also that website features connected with high motivation towards achievement and success are more attractive for students ($V=0,823$) than e-learning websites that have features related to low motivation towards achievement and success ($V=0,418$).

Essential for students' expectation fulfilment is consideration website features, which reflect high uncertainly avoidance ($V=0,981$). Such e-learning websites are more attractive for surveyed students than e-learning platforms, which contain elements reflected values typical for low uncertainly avoidance cultures ($V=0,396$). The obtained results indicate that Polish students prefer e-learning websites associated with features, which reflect values connected with short term orientation ($V=0,739$), than websites that contain elements typical for long term orientation ($V=0,423$).

According to conducted analysis, e-learning website design, which takes into consideration cultural values and reflects culture dimensions typical for particular cultural group have positive influence on students' experiences and online learning satisfaction. The difference in acceptance level and students' positive attitudes is especially considerable in case of uncertainly avoidance. Poland is country with very high level of uncertainly avoidance and this fact has its manifestation in research results. The highest acceptance level among surveyed students have website features that emphasize values connected with strong uncertainly avoidance. Therefore, the lowest correlation coefficient reflects small acceptance level in case of website features that emphasize values connected with low uncertainly avoidance. Also, the results related to high power distance and high motivation towards achievement and success confirm that specific website features, which reflect cultural values have significant influence on website quality assessment in case of online classes.

According to conducted analysis all considered culture dimensions, typical for Polish culture, have positive influence on e-learning website quality assessment. Therefore, all research hypothesis are accepted. There is a positive correlation between positive online learning experiences and presence of collectivistic values (H1), high power distance (H2), high motivation towards achievement and success (H3), high uncertainly avoidance (H4), and short term orientation (H5), which are reflected in e-learning website features. The research results revealed that consideration of culture-dependent dimensions, connected with e-learning website design, positive influence students' experiences during online classes.

Students from different cultures have different requirements connected with their expectations regarding e-learning website design and functionality. Their expectations are related with specific culture dimensions and should be considered in e-learning website design, especially in the context of fulfillment quality requirements.

In meeting the ever-growing educational needs of culturally diverse student populations, universities and colleges still seek to maintain high quality standards for online education. Multi-cultural learning environment has unique potential for bringing learners and teachers of different cultures together. Despite almost unlimited learning opportunities, teaching and learning in multi-cultural environment can create serious challenges for both a teacher and a student. It's clear that online course designers need to find ways to overcome these challenges.

In order to obtain student satisfaction, universities must first understand e-learning service quality attributes perceived by students, then necessary actions should be implemented to enhance overall e-learning service quality with the aim of bringing about e-learning student satisfaction.

It is extremely difficult to design an e-learning course that will meet the requirements of students from different cultural backgrounds, as the quality requirements associated with particular cultural dimensions are often different. Knowledge of the cultural context of perceiving quality helps to tailor the design of an e-learning course to a specific group of students, but it is not always possible to design a course that will be universal in terms of quality requirements. One possible solution is to design alternative courses tailored

to the requirements of students coming from different cultural backgrounds. An alternative option is to investigate the preferences of international student groups when it comes to the quality of e-learning websites and modify website designs to meet those requirements.

Students' expectations and requirements are connected with specific culture dimensions and should be considered in e-learning website design. Universities should minimize the negative impact of cross cultural differences through building common frameworks for students from different cultures or adaptation e-learning website features to their specific requirements. The content, imagery and functionality of e-learning website should correspondent with requirements of different students' groups.

Conclusions

In conclusion, it should be stated that in addition to functional requirement of the e-learning website, it should reflects the cultural environment. This research investigated the impact of Hofstede's cultural dimensions on students' attitudes towards e-learning website quality. On example of Polish students' experiences the significant influence of cultural values, reflected in e-learning website features, on distance learning satisfaction has been confirmed. The high level of acceptance e-learning website features typical for collectivistic values, high uncertainly avoidance, high motivation towards achievement and success, high power distance and short term orientation is the consequence of shaped in cultural context students' expectations.

The findings of this study suggest that universities should consider different cultural dimensions, when they decide to formulate strategies about distance learning in international online environment and e-learning website design. Higher education institutions should use findings of this study to develop cultural adapted e-learning websites. E – learning website can be designed and selected so to tailor the learning experience to the cultural expectations of student.

The basis for comprehensively research efforts is the deep understanding that users do not learn the same way and their specificities and characteristics must be thoroughly analyzed in cultural level. In conclusion more empirical usability

studies are needed across several different cultures in order to gain practical knowledge on how to design meaningful and effective e-learning experiences.

In addition, while national culture is important, it is not the sole marker of an individual's learning identity, which also includes past and current experiences and are influenced by specific cultural and social characteristics of the learning environment.

Although, the results of this study may not be generalized due to consideration of the limited number of factors connected with e-learning websites quality and concerning only culture dimensions defined by Hofstede (2010). Additionally, the empirical data were gathered only among Polish students. Further research is needed to examine the influence of cultural differences on e-learning website assessment among the students from other countries. The main limitation of this research is sampling. This limitation should be considered and reduced when conducting next more detailed and long-term study. Because of the complexity of the considered problem, conducting of further research is necessary. A future study should try to extend the findings by using a wider sample and taking into consideration other culture dimensions.

REFERENCES

Ali, M., Puah, C. H., Fatima, S., Hashmi, A., Ashfaq, M. (2022). *Student e-learning service quality, satisfaction, commitment and behaviour towards finance courses in COVID-19 pandemic*. International Journal of Educational Management, 36(6), 892-907.

Brengman, M., Karimov, F. P. (2012). *The effect of web communities on consumers' initial trust in B2C e-commerce websites*. Management Research Review, 35(9), 791-817.

Caber, M., Albayrak, T., Loiacono, E. T. (2013). *The classification of extranet attributes in terms of their asymmetric influences on overall user satisfaction: an introduction to asymmetric impact-performance analysis.* Journal of Travel Research, 52(1), 106-116.

Casaló, L. V., Flavián, C., Guinalíu, M. (2011). *The generation of trust in the online services and product distribution: the case of Spanish electronic commerce.* Journal of Electronic Commerce Research, 12(3), 199-213.

Cyr, D. (2013). *Website design, trust and culture: An eight country investigation.* Electronic Commerce Research and Applications, 12(6), 373-385.

Dabija, D. C., Brătianu, C., Dominici, G., Vătămănescu, E. M. (2024). *Unveiling e-learning and knowledge sharing during the pandemic: From expert skills perception to student satisfaction.* Technology in Society, 77, 102538.

Dueñas, X., Rodríguez, M., Pérez, L. M. (2021). *Asymmetric importance-performance analysis: Measuring classification changes of destination attributes into basic, performance and excitement factors according to the segmentation criterion.* Tourism and Hospitality Research, 21(4), 418-425.

Ganguly, B., Dash, S. B., Cyr, D., Head, M. (2010). *The effects of website design on purchase intention in online shopping: the mediating role of trust and the moderating role of culture.* International Journal of Electronic Business, 8(4-5), 302-330.

Gołębiewski, P. (2024). Human Rights in the context of extradition obstacles. In: Abubakar M, Szewczak M, Laki I, eds, *Nauki społeczne wobec kryzysów z XXI wieku*, 119-129. doi:10.13166/awsge/194546. Wyd. AWSGE.

Hofstede, G. (2010). *Culture's and Organizations: Software of the Mind: Intercultural Cooperation and Its Importance for Survival,* New York: McGraw-Hill

https://www.hofstede-insights.com/country-comparison-tool

Khanum, M., Fatima, S., Chaurasia, M. (2012). *Arabic Interface Analysis Based on Cultural Markers*. International Journal of Computer Science Issues, 9(1), 255-262.

Lee, J. W. (2010). *Online support service quality, online learning acceptance, and student satisfaction.* The internet and higher education, 13(4), 277-283.

Limbu, Y. B., Long, P. (2023). *Impact of e-learning service quality on student satisfaction during the Covid-19 pandemic: A systematic review.* Knowledge Management & E-Learning, 15(4), 523.

Martínez-Argüelles, M. J., Batalla-Busquets, J. M. (2016). *Perceived service quality and student loyalty in an online university*. International Review of Research in Open and Distributed Learning, 17(4), 264-279.

Minkov, M., Kaasa, A. (2022). *Do dimensions of culture exist objectively? A validation of the revised Minkov-Hofstede model of culture with World Values Survey items and scores for 102 countries*. Journal of International Management, 28(4), 100971.

Moriuchi, E., Moriyoshi, N. (2024). *A cross-cultural study on online reviews and decision making: An eye-tracking approach.* Journal of Consumer Behaviour, 23(1), 156-170.

Nedeljković, I., Rejman Petrović, D. (2023). *Student satisfaction and intention to use e-learning during the Covid-19 pandemic.* The International Journal of Information and Learning Technology, 40(3), 225-241.

Rautela, S., Sharma, S., Virani, S. (2024). *Learner-learner interactions in online classes during COVID-19 pandemic: the mediating role of social media in the higher education context.* Interactive Learning Environments, 32(2), 639-654.

Sitek, M. (2018). *Treść praw człowieka w dobie globalnych determinantów egzogennych*. Teka Komisji Prawniczej PAN Oddział w Lublinie 11.2, 399-411.

Stodnick, M., Rogers, P. (2008). *Using SERVQUAL to measure the quality of the classroom experience*. Decision Sciences Journal of Innovative Education, 6(1), 115–133.

Tseng, C. C. (2020). *An IPA-Kano model for classifying and diagnosing airport service attributes.* Research in transportation business & management, 37, 100499.