

THE IMPACT OF CULTURAL DIMENSIONS ON ONLINE STORE LOYALTY

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Abstract. Although online stores operate internationally for an already long time, the impact of cultural differences on them only recently gained interest. The aim of this study is to assess the impact of cultural dimensions on loyalty to online stores. It is based on a systematic analysis of 10 core databases that included 3,557 articles published between 2000 and 2020. Using PRISMA steps, 116 articles, totalling around 56,000 respondents from 25 different countries across all continents, are included in the meta-analysis. The results extend theoretical knowledge by showing that uncertainty avoidance harms customer loyalty, while masculinity has a positive impact. Additionally, it is found that loyalty is lower in countries with a low level of long-term orientation and higher in countries with a high level of power distance or a low level of indulgence. Lastly, individualism has no impact on the level of loyalty. Theoretical and managerial implications are also presented.

Keywords: loyalty to online stores, culture, power distance, long-term orientation, masculinity, individualism, indulgence, uncertainty avoidance.

JEL Classification: M31.

Introduction

Retail e-commerce of consumer goods is highly dynamic and the leading form of total retail global sales. In 2020, it reached an 18% share of the total global retail sales and over a 1% annual growth rate is forecasted, resulting in nearly a 22% share of total global retail sales by 2024 (International Trade Administration, n.d.). The COVID-19 pandemic has further encouraged the increase in e-commerce sales and its operation in a cross-border environment as customers were forced to rethink the risks associated with physical shopping and had increased free time that could be used for shopping online (Pham et al., 2020). The global cross-border B2C e-commerce market size was US\$ 765 billion in 2021 and is forecast to

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achieve US\$ 6,209.29 billion by 2030 (Polaris Market Research, n.d.). The growing scale of e-commerce has created a significant increase in competition among companies operating online. There are over 26 million e-commerce sites globally in 2022 with more created every single day. Their number has increased by more than 6.2 million compared to 2021 (Kiniulis, 2022). This changes e-commerce sites' priorities and makes the acquisition of consumers and the maintenance of long-lasting relationships crucial. On the other hand, culture has an unquestionable impact on consumer behaviour by shaping their perceptions (De Mooij & Hofstede, 2011). Therefore, to remain competitive while facing globalisation and increasing cultural diversity among consumers, online stores need more cross-cultural research to enhance their ability to adjust their marketing decisions to customers with different national cultural values (Shaikh & Karjaluo, 2015). Although past research has attempted to identify various factors affecting customer loyalty to online stores, including customer satisfaction, trust, perceived usefulness, and perceived ease of use, and even gamification (Fang et al., 2014; Faraoni et al., 2018; Peña-García et al., 2018; Bauer et al., 2020; Hwang & Choi, 2020), national culture and its dimensions remain under-researched. Most of the studies related to the measurement of e-loyalty about national culture have been based on single-country analysis. Only a few studies have investigated two different countries (Jin et al., 2008; Chen et al., 2015; Gracia et al., 2015). Furthermore, many have investigated limited numbers of national cultural dimensions (e.g.: De Mooij & Hofstede, 2002; Steenkamp & Geyskens, 2006; Frost et al., 2010; Gracia et al., 2015) or have investigated culture as a whole (e.g.: Kassim & Abdullah, 2010). Moreover, most of these studies are theoretical (e.g., De Mooij & Hofstede, 2002), and contradicting results do not allow extensive comparisons between the studies. Therefore, there is still a research gap on the impact of cultural dimensions on customers' online store loyalty.

The aim of this study is to investigate the impact of cultural differences on customer loyalty to online stores. It employs a meta-analysis and focuses on Hofstede's six cultural dimensions: individualism/collectivism, power distance, masculinity/femininity, uncertainty avoidance, short-/long-term orientation, and indulgence/restraint.

The structure of the paper is as follows: the literature review presenting the relevant research for the phenomenon under consideration, research methodology, results, discussion, and conclusions.

1. Theoretical background and hypothesis development

1.1. E-loyalty

The emergence of electronic commerce has increased the need to understand customer loyalty in the web-based market space, or "e-loyalty". Increasingly, research papers are addressing the concept of e-loyalty; however, a review of these shows that there is significant diversity regarding the measurements and conceptualisation of online loyalty (Toufaily et al., 2013). According to Oliver (1999, p. 34), customer loyalty is a "deeply held commitment to re-buy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing

efforts having the potential to cause switching behaviour". The concept of e-loyalty broadens the traditional brand loyalty concept while including online consumer behaviour aspects. The interface with the electronic environment entails new factors not characteristic of the physical environment and can encourage customer loyalty. Therefore, e-loyalty can be described as the intention to revisit the online store or make future purchases from it (Ilsever et al., 2007).

To conceptualise customer loyalty, previous research has used three approaches: behavioural, attitudinal, and integrated (Zhang et al., 2014a). The behavioural dimension measures loyalty through repeat-purchase behaviours (Skačkauskienė et al., 2015) while the attitudinal dimension is associated with emotional attachment and consumers' psychological involvement (Fernandes & Moreira, 2019). The integrated approach combines the behavioural and attitudinal approaches and creates a new concept of loyalty. However, the study by Dikčius et al. (2022) measured the differences between three different dimensions of loyalty using a meta-analysis but it did not find any differences. Therefore, this study analyses loyalty to online stores and the impact of culture on it without separating it into dimensions.

1.2. Culture

The growth of e-commerce has increased the opportunities for e-retailers to reach customers globally. Therefore, cross-cultural marketing research has gained considerable attention from scholars. Previous research has suggested that global culture shapes individuals' values and has a significant impact on customer behaviour (Petersen et al., 2015). A rich number of studies have shown that the relationship between customer loyalty and its antecedents is moderated by cultural factors (e.g. Han et al., 2017; Diallo et al., 2018), and some studies have revealed their direct impact on loyalty (e.g. Khare, 2014; Malik & Ramay, 2017). However, only a small number of studies have examined the impact of national culture on antecedents of customer e-loyalty or directly on it (e.g.: Jin et al., 2008; Frost et al., 2010; Gracia et al., 2015; Chen et al., 2015). For example, Gracia et al. (2015) confirmed that the influence of e-service quality and satisfaction on e-loyalty intentions is moderated by individualism/collectivism, and masculinity/femininity. However, Frost et al. (2010) obtained contradictory results and argued that individualism and collectivism have no impact on the loyalty of online consumers. Even fewer studies have considered loyalty to online stores and the size and variety of national samples were often limited. Furthermore, the impact of the culture has often been limited to the measurement of a specific cultural dimension or a culture as a whole (e.g., Steenkamp & Geyskens, 2006; Chen et al., 2015). Chen et al. (2015) identified a significant difference in the relationship between system quality and e-loyalty in the power distance dimension across two countries, namely Taiwan and Thailand.

Studying loyalty to online stores cannot be separated from national culture. Hofstede's model is one of the most comprehensive cultural research models including four dimensions used to distinguish between different national cultures. Later, due to cultural complexity and the desire to better understand the differences between them, two additional dimensions, namely long-term orientation versus short-term orientation and indulgence-restraint, were added to this model (Hofstede et al., 2010). This study investigates all six dimensions of Hofstede's model and their impact on loyalty to online stores.

Uncertainty avoidance. Uncertainty avoidance describes the tolerance of uncertainty within a specific culture. Countries with high uncertainty avoidance levels tend to avoid uncertainty by implementing strict rules or guidelines and are sensitive in accepting new knowledge, and innovations (Chen et al., 2015). Kumar and Pansari (2016) found that people from countries with a high level of uncertainty avoidance tended to buy products from the same retail channel and were more likely to cross-buy from their trusted retailer. Malik and Ramay (2017) found that uncertainty avoidance had a positive impact on customer loyalty to higher education institutions, while Lam (2007) stated that individuals who scored high in uncertainty avoidance were more prone to brand loyalty. Moreover, previous studies have revealed that this cultural dimension has a positive impact on loyalty indirectly through satisfaction, which is one of the strongest antecedents of loyalty to online stores (Mofokeng & Tan, 2021). According to Djelassi et al. (2018), satisfied customers in a high uncertainty avoidance culture trust existing and satisfactory products instead of looking for new ones. Based on this, the following hypothesis is developed:

H1: The level of loyalty to online stores is higher in the case of a high uncertainty avoidance culture than in the case of a low uncertainty avoidance culture.

Long-term/short-term orientation. According to Hofstede's model, long-term orientation is strongly related to a future-oriented view of events rather than a short-term perspective (Hofstede, 1991). Customers who have a long-term orientation prefer long-term reciprocal benefits over a single transaction (Gundlach & Murphy, 1993). Therefore, they are more likely to purchase products from known and trusted companies, which will result in their satisfaction and loyalty (Lam et al., 2009). This is in line with the assumptions of Luria et al. (2014) that, individuals from long-term orientation societies expect more future interactions with others and this may influence them to be more loyal. Khare (2014) and Zhang et al. (2014b) also confirmed that the long-term orientation dimension influences customer loyalty to online stores. Therefore, the following hypothesis can be proposed:

H2: The level of loyalty to online stores is higher in the case of a high long-term orientation culture than in the case of a low long-term orientation culture.

Power distance. The concept of power distance states that individuals within a society are unequal and therefore a hierarchical order is needed to allocate power and wealth unequally (Hofstede, 2001; Zhang et al., 2010). Low power distance societies are more independent of hierarchy and have a higher tendency to change and innovate (Sadeghi et al., 2014). Conversely, high power distance countries are dependent on their leaders and their approval. While analysing the relationship between e-loyalty and power distance, Jin et al. (2008) found that the influence of e-satisfaction on e-loyalty was significantly greater in South Korea (a high-power distance country) than in the USA (a low-power distance country). Although there is a significant research gap in determining the relationship between e-loyalty and power distance, more studies have been conducted to reveal this relationship with offline loyalty. Some authors have noted that power distance has a positive impact on loyalty (Khare, 2014; Malik & Ramay, 2017; Lee et al., 2019), and other studies have proved the positive moderating effect of power distance on antecedents and loyalty (Zhang et al., 2022). However, Lam

(2007) did not prove the difference in loyalty depending on power distance. Even though the results of previous studies are relatively contradictory, we hypothesise:

H3: The level of loyalty to online stores is higher in the case of a high-power distance culture than in the case of a low-power distance culture.

Masculinity/femininity. According to Hofstede's model, this dimension focuses on the extent to which feminine or masculine values are more important within a specific culture. Countries with a high level of masculinity are likely to be characterised as competitive, achievement- and success-driven, while more feminine societies value empathy, environmental awareness, and quality of life (Hofstede, 2001; Hofstede et al., 2010). Liu et al. (2001) revealed that customers from a masculine culture are less likely to switch to other companies, even when they are dissatisfied with the service quality. Further, Karahanna et al. (2013) concluded that masculine cultures are more likely to show loyalty to specific websites. However, Kumar and Pansari (2016) found that the higher the masculinity in a country, the lower cross-shopping in the store as consumers from highly masculine cultures are likely to purchase the latest fashion products from different specialty stores to preserve their social status. Additionally, some authors have not found a relationship between masculinity and loyalty (Malik & Ramay, 2017; Thompson & Chmura, 2015). Nevertheless, we hypothesise:

H4: The level of loyalty to online stores is higher in the case of a masculine culture than in the case of a feminine culture.

Individualism/collectivism. Individualism is related to the degree to which people feel independent within a society, while collectivism emphasises the primary importance of groups, including the family. Lam (2007) stated that individuals who scored high in individualism may show greater brand loyalty and are more inclined to believe in themselves, perform beneficial actions for themselves, and are less influenced by others. Likewise, Hewett et al. (2006) revealed a positive impact of individualism on organisational repurchase intentions. Furthermore, it was confirmed that consumers in individualist, lower uncertainty avoidance countries more easily adopt online shopping (Tong, 2010; Kim et al., 2013). This can be explained by the fact that offline shopping provides customers with the possibility to socialise and interact with others (Djelassi et al., 2018) which is more appreciated by collectivistic countries, while online shopping is more focused on the individual person and their preferences, which is more likely to be appreciated by individualistic countries (Oyserman & Lee, 2007). However, Lee et al. (2019) found a negative relationship between individualism and loyalty. Following this line of thinking, we hypothesise that:

H5: The level of loyalty to online stores is higher in the case of a individualistic culture than in the case of a collectivist culture.

Indulgence/restraint. Indulgence versus restraint refers to the extent to which society allows itself free gratification and enjoyment of life (Hofstede, 2001). Indulgent societies prioritise fun, enjoyment, and hedonic and relational rewards, whereas restrained societies prefer strict social norms that constrain personal gratification and offer utilitarian and altruistic rewards (Hofstede, 2001; Chen et al., 2021). Previous research confirmed the direct or indi-

rect impact of indulgence on customer loyalty. For example, Suhartanto et al. (2022) found a positive relationship between indulgence and loyalty. Zhou et al. (2015) noted that continuance intention was higher for countries with high indulgence than low ones. Additionally, Huang and Crotts (2019) stated that indulgence had a positive impact on satisfaction which is closely related to loyalty. Based on this, we develop the following hypothesis:

H6: The level of loyalty to online stores is higher in the case of a indulgent culture than in the case of a restrained culture.

2. Research methodology

2.1. Selection of articles

The articles in this study were selected during July 2021 from the most important databases for marketing studies: EBSCOhost Business Source Complete, Emerald, SAGE Journals Online, ScienceDirect, SpringerLink, Taylor & Francis, Web of Science, Wiley Online Library, BASE, and Scopus. They were selected due to their greatest coverage and frequent use by solid systematic reviews (Vrontis et al., 2021). Congruent with other systematic reviews in marketing and consumer behaviour, we limited our search to peer-reviewed journal articles, book chapters, and conference proceedings, omitting books, theses, and other nonrefereed publications. This is because peer-reviewed journal articles provide validated knowledge and have the proven authority to make an influence. The established peer-reviewed academic journals shape ongoing research on both theoretical and empirical issues by creating new knowledge for future research (Furrer et al., 2008).

The first step of the search was to use the keywords “e-loyalty” and “e-loyalty”. During the second step, e-loyalty was replaced with the words “loyalty”, “repurchase”, “retention”, and “return” as well as keywords related to the online environment: “online”, “internet”, “web”, “e-”, “electronic”, and “virtual”. Both searches used the Boolean operators OR, AND. Based on the best practice of previous systematic literature reviews (e.g., Pisani et al., 2017), titles, keywords/subject terms, and abstracts were searched. However, the current search was narrowed to the titles of articles.

2.2. Inclusion and exclusion criteria

As there is a tendency in systematic research to restrict the time horizon to the most recent few decades (McCrae et al., 2015), the researchers decided to review the period between 2000 and 2020. Even though e-commerce began before 2000, a very limited number of articles were printed before this timeframe. As discussed above, only peer-reviewed articles were included in the research. Therefore, books, theses, and all grey literature were excluded from the analysis. Articles that were shorter than four pages were also excluded from analysis as most of them were abstracts published in popular magazines or contained no primary information. Only primary studies that apply quantitative methods to investigate human participants samples were selected. Therefore, theoretical, conceptual, and literature analyses were not included. Due to the multidimensionality of customer loyalty, articles needed to include

a measurement of at least one type of loyalty. Furthermore, loyalty had to be related to the exact store. Therefore, articles that measured loyalty to online retailing in general, loyalty to services, brands of products, or stores in an offline environment were excluded from further analysis. Finally, the selected studies had to be published in English.

2.3. Screening of articles

The search of articles yielded 7,010 hits in the selected databases. Using Zotero software, some of the articles were found to be duplicates (3,453), which resulted in 3,557 articles being selected for deeper analysis. Additionally, 1,154 articles were removed as they were not written in the English language, were non-academic articles, or comprised less than four pages. 2,403 potentially relevant articles were selected for a deeper analysis of suitability. Two experts (a professor and an associate professor) manually read the titles and abstracts of these articles. 1,613 articles were removed from the list because the measured loyalty was not related to the e-loyalty or online store (return in finance, retention in communication, loyalty in management, education, or other areas of research) leaving a total of 790 articles. For the remaining articles where the relevance and eligibility were not clear within the title or abstract, full-text screening was conducted. Some of the articles were theoretical or conceptual (had no empirical data) or related to banks or other services (rather than online stores), measured online purchasing in general or loyalty of product brands, B2B loyalty, or simply had no evaluation of loyalty. After this screening process, 116 studies remained for meta-analysis.

2.4. Final sample

The final sample of studies on the evaluation of loyalty to an online store comprised 116 articles reporting 135 measurements. The number of articles almost doubled every five years. Only seven articles with an evaluation of loyalty to online stores were published between 2001 and 2005. Over the following five years, this number reached 18 and within the period between 2016 and 2020, 58 articles were published (see Figure 1). This proves that interest in loyalty to online stores is rapidly growing. This recent growth of academic interest reflects the fast increase in e-commerce. It is worth noting that, although the sampling of academic knowledge production ended in the year 2020 as data for 2021 was incomplete, more research would likely have been published by the end of 2021.

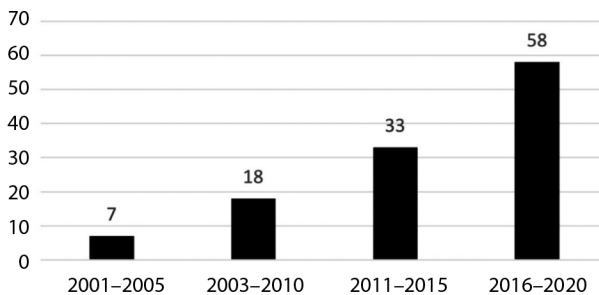


Figure 1. Growth of articles about online store loyalty

Articles were taken from 87 journals and proceedings. Most of the articles were found in journals such as the Journal of Business Research and the Journal of Retailing and Consumer Services (five studies in each), Internet Research and the Journal of Travel & Tourism Marketing (four studies in each), the Journal of Organizational Computing and Electronic Commerce, the International Journal of Information Management, and the Journal of Electronic Commerce Research (three studies in each). The journals Psychology & Marketing, Managing Service Quality, the Journal of Interactive Marketing, the International Journal of Internet Marketing and Advertising, Information & Management, Electronic Commerce Research, Decision Support Systems, Behaviour & Information Technology, and the International Journal of Business Information Systems each yielded two articles suitable for the analysis. More than half of the articles (60%) were found in journals with the web-of-science impact factor.

The selected studies were performed in 25 different countries. The largest number of studies was from China ($n = 34$), followed by the USA ($n = 15$), India ($n = 13$), and South Korea ($n = 9$). A few studies were done in the UK ($n = 6$), Brazil ($n = 5$), Malaysia ($n = 5$), Spain ($n = 4$), and Australia ($n = 4$), while several studies ($n = 11$) had samples from several countries. In total, more than 56,000 respondents participated in the studies.

2.5. Data coding

All of the selected studies included measurements of customer loyalty to an online store, which measured participants' perceptions of their loyalty. A mean and standard deviation (sometimes a standard error) were reported as measurements of loyalty. Customer loyalty to online stores was measured on a variety of scales, creating difficulty when comparing across studies. Even though all measurements were based on the Likert scale, some studies used five-point scales while others used six- or even seven-point scales. Based on various scales, we converted the means to a ten-point scale using the formula:

$$Y = ((B - A) \times (x - a) / (b - a)) + A. \quad (1)$$

The same transformation was performed for standard deviations to unify them using the formula:

$$Y = x \times (B - A) / (b - a). \quad (2)$$

We also coded countries according to their cultural dimensions. Six dimensions were used following Hofstede's 6-D model of national culture (Hofstede Insights, n.d.): power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence. Based on these points presented in Hofstede's Country Comparison, we categorised countries as "low", "average", or "high" across certain dimensions. Countries with less than 45 points were assigned to the "low" category, while the "high" category included countries with more than 55 points. Countries with 45–55 points were included in the "average" category since these have no clearly expressed cultural dimension. Some studies were conducted in several countries or had a global focus. We assigned these studies to one of the groups if the countries belonged to the same level, as in the case of individualism in Indonesia, Malaysia, Singapore, Thailand, or Vietnam. We excluded them from the analysis if they belong

to different levels within a certain dimension, such as in the case of Colombia and Spain for indulgence or Indonesia, Malaysia, Singapore, Thailand, and Vietnam for long-term orientation. Finally, Qatar had no points for two of the dimensions – long-term orientation and indulgence. Therefore, it was also excluded from the analysis.

2.6. Meta-analytic procedures

We used meta-analysis for the data analysis, which is the statistical approach of quantitatively synthesising the results of multiple studies. However, the techniques for conducting a meta-analysis “remain fluid and evolving as various communities establish normative rules” (Allen, 2020, p. 75). Typically, meta-analysis is applied to evaluate causality by calculating effect size, which is the main intention in the meta-analysis of clinical studies (Mikolajewicz & Komarova, 2019). However, a meta-analysis can also be applied for exploratory or descriptive purposes (Gurnsey, 2017) using means or even percentages reported in previous studies. Due to the lack of universal data configurations and depending on their purpose, meta-analysis procedures require some degree of adaptation to the unique circumstances of the existing data (Jak, 2015). We calculated the meta-mean of customer loyalty to online stores using formulas presented by Gurnsey (2017), which were based on a method described by Hunter and Schmidt (1990). The meta-mean was calculated as a weighted sum for unequal sample sizes:

$$M = \frac{\sum_{i=1}^k n_i \times m_i}{\sum_{i=1}^k n_i}. \quad (3)$$

Formulas presented by the same author were used for the calculation of variance and the square of the estimated standard error.

$$S^2 = \frac{\sum_{i=1}^k n_i (m_i - M)^2}{\sum_{i=1}^k n_i} \frac{k}{k-1}; \quad (4)$$

$$S_M^2 = \frac{\sum_{i=1}^k n_i (m_i - M)^2}{(k-1) \times \sum_{i=1}^k n_i}. \quad (5)$$

Cohen's d was used to describe the standardized mean differences. M_1 and M_2 were the means for the first and second samples, and SD_{pooled} is the pooled standard deviation for the samples.

$$d = \frac{M_1 - M_2}{SD_{pooled}}. \quad (6)$$

SD_{pooled} was calculated using this formula:

$$SD_{pooled} = \sqrt{\frac{\sum (X_1 - \bar{X}_1)^2 + \sum (X_2 - \bar{X}_2)^2}{n_1 + n_2 - 2}}. \quad (7)$$

The evaluations were conducted based on values suggested by Cohen (1988), in which values below 0.2 were considered a small effect, below 0.5 for medium, below 0.8 for large, and values higher than 0.8 were considered a huge effect (Lakens, 2013).

3. Results

The meta-analysis of 135 cases, which included more than 56,000 respondents, showed the differences in the level of loyalty based on Hofstede’s cultural dimensions (see Table 1). Clients from countries with low uncertainty avoidance (such as China, India, the UK, and Vietnam) expressed a higher level of loyalty to online stores ($M_m = 7.08$) compared to countries with high levels of uncertainty avoidance (UA) dimensions (such as Brazil, Colombia, Spain, France, Greece, Italy, or Japan) ($M_m = 6.48, d = 3.58$). In addition, the evaluation of loyalty to online stores in cases of the average level of UA (including countries like the USA, Canada, and Australia) was higher than in cases of low UA ($M_m = 6.82, d = 1.25$), but lower than in a case of high UA ($d = 1.87$). Such results indicate a negative relationship between the level of uncertainty avoidance and the level of loyalty to online stores. These findings force us to reject H1 as the data presented the opposite direction than was expected.

Some differences were also found in the dimension of long-term orientation. Respondents from countries with a low level in this dimension (Australia, Jordan, Iran, and Portugal) were less loyal to online stores ($M_m = 6.48$) than those who lived in countries with a middle (Greece, Pakistan, Spain, and India) ($M_m = 6.96, d = 2.26$) or high level of long-term orientation (China, Vietnam, Indonesia, France, and Italy) ($M_m = 6.90, d = 2.60$). Such results allow us to accept H2.

Table 1. Level of loyalty towards online stores across cultural dimensions.

	<i>k</i>	<i>n</i>	M_m	<i>SD</i>	<i>CI LO</i>	<i>CI HI</i>	Cohen's <i>d</i>	
Uncertainty Avoidance								
Low <45	41	14 922	7.08	0.19	7.02	7.14	1.25	L/M
Middle 45-55	31	12 136	6.82	0.23	6.74	6.90	1.87	M/H
High >55	58	25 751	6.48	0.15	6.44	6.52	3.58	L/H
Masculinity								
Low <45	21	7166	6.18	0.14	6.12	6.24	1.42	L/M
Middle 45-55	44	19 698	6.43	0.19	6.37	6.49	3.70	M/H
High >55	64	26 765	7.05	0.15	7.01	7.09	5.89	L/H
Long-term orientation								
Low <45	45	24 638	6.48	0.20	6.42	6.54	2.26	L/M
Middle 45-55	31	12 202	6.96	0.23	6.88	7.04	0.36	M/H
High >55	53	17 612	6.90	0.12	6.87	6.93	2.60	L/H

End of Table 1

	<i>k</i>	<i>n</i>	M_m	<i>SD</i>	<i>CI LO</i>	<i>CI HI</i>	Cohen's <i>d</i>	
Indulgence								
Low <45	53	19 050	6.87	0.15	6.83	6.91	2.16	L/M
Middle 45–55	28	9712	7.18	0.13	7.13	7.23	4.38	M/H
High >55	45	23 935	6.37	0.21	6.31	6.43	2.70	L/H
Power distance								
Low <45	32	12 610	6.68	0.26	6.59	6.77	0.38	L/M
Middle 45–55	6	1477	6.80	0.55	6.36	7.24	0.24	M/H
High >55	94	39 836	6.77	0.02	6.77	6.77	0.69	L/H
Individualism								
Low <45	77	32 497	6.68	0.13	6.65	6.71	2.29	L/M
Middle 45–55	18	7454	7.05	0.26	6.93	7.17	1.46	M/H
High >55	38	15 833	6.71	0.22	6.64	6.78	0.18	L/H

Note: L/M = low compared to middle level; M/H = middle to high level; L/H = low to high level.

Some differences were also observed in the case of power distance. A moderate difference in loyalty to online stores was noted between respondents living in countries with low (the UK, Australia, Netherlands, North America, and the USA) ($M_m = 6.68$) and high (Portugal, Qatar, South Korea, China, and India) ($M_m = 6.77$, $d = 0.69$) power distance. We expected a higher level of loyalty in countries with an average level of power distance (South Africa, Italy, and Pakistan). However, due to a low number of studies, Cohen's *d* showed relatively weak differences compared to other groups of countries. Based on the difference between a low and high level of power distance, H3 was confirmed as a higher level of loyalty toward online stores was noted in countries with a high level of power distance.

Another important dimension was masculinity. The level of loyalty to online stores was much weaker for countries with a low level of masculinity (a feminine culture – the Netherlands, Portugal, and South Korea) ($M_m = 6.18$) than for the average level (an unexpressed dimension of masculinity – Malaysia, Canada, and Brazil) ($M_m = 6.43$, $d = 1.42$). Meanwhile, respondents from countries with a high level of masculinity (a masculine culture – Italy, the USA, China, and India) had the strongest loyalty to online stores ($M_m = 7.05$) compared to those with an average ($d = 3.70$) or low ($d = 5.89$) level of masculinity. Therefore, there is a positive relationship between the cultural dimension of masculinity and the level of loyalty to online stores. Therefore, H4 is accepted.

Individualism presented the opposite results. The highest level of loyalty to online stores was found in countries with an average level of individualism (an unexpressed dimension of individualism – India, Japan, and Spain) ($M_m = 7.05$). While for low (a collectivist culture – Colombia, Spain, Greece, Pakistan, and Qatar) ($M_m = 6.68$, $d = 2.29$) or high levels (an individualistic culture – Canada, the USA, Northern Ireland, and the UK) ($M_m = 6.71$, $d = 1.46$) of individualism, this was much lower, and there was no difference between the last

two. Thus, we reject H5 although the high level of loyalty in countries with an average level of individualism opens the area for discussion.

Lastly, the indulgence dimension presented unexpected results. People living in countries with a high level of indulgence (an indulgent culture – USA, Brazil, Australia, and South Africa) were less loyal to online stores ($M_m = 6.37$) than those who lived in countries with low levels (a restrained culture – Portugal, Spain, South Korea, China, and India) in this dimension ($M_m = 6.87$, $d = 2.70$). However, the most loyal respondents to online stores lived in countries with a middle level of indulgence (an unexpressed dimension of indulgence such as Jordan, France, Greece, and Turkey). Hypothesis H6 is rejected while high loyalty levels for the middle level of indulgence leave the topic open for deeper analysis in future studies.

4. Discussion

This study is the first to analyse the impact of all six Hofstede cultural dimensions on loyalty to online stores using meta-analytic procedures. The findings of this study proved the dependency of the phenomena of loyalty on the country's culture. Another significant contribution of this paper is the finding out of the different cultural impact on e-loyalty depending on the exact Hofstede dimension. This raises doubts about the studies in which the cultural impact was revealed based on differences between two countries in general without paying attention to exact cultural dimensions.

Two cultural dimensions, uncertainty avoidance and indulgence, presented unexpected results. Previous studies assumed that in high uncertainty avoidance cultures, people try to make their life as predictable and controllable as possible (Hofstede, 2011; Voegel & Wachsmann, 2022) and a positive relationship with loyalty should exist (Lam, 2007; Djelassi et al., 2018). Contrary to the previous studies that were based on a few countries, this study revealed that the lower the level of uncertainty avoidance in a culture, the higher the customer loyalty level to an online store. There may be a logical explanation for these findings. Most of the previous studies measured the impact of uncertainty avoidance on offline loyalty formation. The object of this study was loyalty to online stores. E-commerce is often related to higher safety and privacy risks (e.g. Zimaitis et al., 2022) compared to offline shopping which can be intimidating for high uncertainty avoidance cultures and reduce customers' satisfaction with the purchase leading to a lower level of loyalty. Conversely, low uncertainty avoidance cultures are comfortable with uncertainty and are usually more tolerant of risk-taking. Furthermore, greater tolerance has a positive effect on satisfaction, which in turn increases loyalty (Reimann et al., 2008; Mofokeng & Tan, 2021). In the case of indulgence, this study's results confirmed that people living in countries with a high level of indulgence were less loyal to online stores than those who lived in countries with low levels of indulgence. This contradicts previous research (e.g., Huang & Crotts, 2019; Suhartanto et al., 2022). Again, as in the case of uncertainty avoidance, the reason behind this is that the mentioned studies analysed offline loyalty which is different from loyalty to online stores, which is characterised by its contactless nature and the technologies involved. In support of this, previous studies have argued that buyers from high-indulgence countries find offline shopping as a place for spending leisure time (Gilboa et al., 2020). Conversely, online shops usually provide better

utilitarian value and less entertainment which are more expected by higher restraint or lower indulgence countries (Lim & Dubinsky, 2004).

Hofstede's cultural dimensions of long-term orientation, power distance, and masculinity were also predicted in literature to have a strong direct or indirect impact on customers' loyalty. However, most of the studies analysed offline loyalty as a dependent variable. The study's results also revealed that respondents from countries with a low level of long-term orientation were less loyal to online stores than those who lived in countries with a middle or high level of long-term orientation. This confirms the results of Luria et al. (2014) and Khare (2014) that, in long-term orientation societies, individuals expect to have more future interactions with others, and this may influence them to be more loyal. Regarding power distance, the results of this study revealed that the level of loyalty to online stores is higher in the case of a high-power distance level than in the case of a low power distance level. This is in line with previous studies which have reported the positive impact of power distance on loyalty (Malik & Ramay, 2017; Thompson & Chmura, 2015). The results of this study have also revealed that the level of masculinity in the country had a positive impact on respondents' loyalty to online stores. Previous research has presented contradicting results regarding the impact of masculinity on the level of loyalty. However, it is commonly understood that masculine cultures are more focused on material success, knowledge, task performance, and service quality (San Martin & Jimenez, 2011), which is strongly related to satisfaction and loyalty and is in line with our study's results.

Finally, individualism had no impact on consumer loyalty toward online stores even though a higher level of loyalty was reported for individualistic countries in previous studies (Frank et al., 2015; Lam, 2007). This study identified a very high level of loyalty in countries with a middle level of individualism. These results could mean that these countries had a high level of loyalty due to other dimensions or the impact of individualism could be indirect. This is in line with the findings of some previous studies (Suhartanto et al., 2022).

Conclusions

Conclusions and managerial implications. The study creates several conclusions and managerial implications. First, it was confirmed that loyalty to online stores is impacted by a country's culture. Second, it was further revealed that loyalty to online stores differs depending on a specific cultural dimension. Uncertainty avoidance harmed customer loyalty, while masculinity had a positive impact. Further, loyalty was lower in countries with a low level of long-term orientation and higher in countries with a high level of power distance or a low level of indulgence. Lastly, individualism had no impact on the level of loyalty. This adds insights to the theoretical knowledge of loyalty and its formation phenomena in a cross-border environment.

Understanding cultural differences and how they affect loyalty to online stores is very important in e-commerce business development and has valuable managerial implications. First, marketing strategies including the design of the online stores and user experience should be developed in consideration of the cultural differences of individual countries which can significantly affect customer loyalty. Second, products and loyalty programs should also

be adapted to correspond to cultural differences. For example, product sustainability, the company's adaptability, and long-term benefits offerings to customers would further increase loyalty to online stores in countries with a higher level of long-term orientation.

Limitations and future research. Certain limitations of this study highlight key directions for future research. First, this study is based on a meta-analysis in which only the results of published studies in the English language were included. Future studies may seek to confirm the results based on primary data instead of secondary data, which is inherent to meta-analysis. Second, the ages of the respondents were not analysed in this study. As generation Z purchases goods online more than generations X and Y, our results may show a biased representation depending on which generations responded. As we can only speculate on this, future studies could seek to validate this. Third, this study only analysed customer loyalty to online stores. However, the rapidly growing field of online services creates new and broader questions about consumer loyalty to online services. This could also be under consideration in future research. In addition, the phenomenon of loyalty could also be applied to employees. Lastly, further studies should reveal how different online store aspects (e.g. perceived enjoyment, perceived usefulness, and perceived ease of use) relate to cultural dimensions. This information could be used to increase consumer satisfaction and loyalty.

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