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3 **Revealing the effect of acculturation process on e-commerce acceptance: the case**
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5 **of intra-European acculturation**
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7

8 **Abstract**
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10 **Purpose** The popularity of e-commerce has increased significantly over recent years.
11
12 However, this growth is not shared by all European Union states. One reason for this
13 discrepancy is culture which impacts on e-commerce acceptance. The purpose of this
14 research is to reveal the effect of acculturation process on e-commerce acceptance.
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19 **Design/methodology/approach** Structural equation modeling is employed to test
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21 three research models: Technology Acceptance Model, Theory of Planned Behaviour
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23 model and Motivational Model
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27 **Findings** The findings show that attitudes towards e-commerce change in relation to
28
29 the perception of control and the influence of subjective norms, which impact
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31 intentions to use e-commerce before movement to a host country's culture. However,
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33 its effect diminishes after the exposure to the influence of a host culture
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37 **Originality/value** This is the first study to demonstrate the existence of the effect of
38
39 acculturation process on mingling and migrating consumers and their changing
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41 attitudes towards e-commerce acceptance.
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44 **Keywords** Technology Acceptance; E-commerce; Acculturation; Culture: Europe
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47 **Paper type** Research paper
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1. Introduction

Online shopping or e-commerce has become a common practice for consumers. In 2015, nearly 1.5 billion consumers worldwide purchased products via e-commerce (Statista, 2017a) and this number is forecasted to be in excess of 2 billion globally by 2019. E-commerce therefore, is a vital shopping channel for consumers worldwide (Chaparro- Pelaez *et. al.*, 2016). Furthermore, it is an important accelerator of global trade (Deng and Wang, 2016) as it generates 3.4 trillion US dollars in B2C e-commerce sales worldwide (Statista 2017b). North America is currently the largest regional market for online shopping, with predicted sales growth of 1.5 trillion US dollars by 2018 (Statista, 2017c). This is followed by China and Europe, where among the 28 European Union member countries (EU), one out of five businesses sell its products via e-commerce (Eurostat, 2017).

To this end, the EU represents an interesting case study. Despite the lack of internal borders ensured by European Single Market policy, there appears a wide variation in the share of e-sales across its member countries. For example, while e-sales in the UK in 2016 exceeded 71.05 billion Euros, e-sales in countries such as Poland and Sweden only amounted to 6.03 billion Euros and 5.74 billion Euros respectively. Furthermore, despite the EU directive of free movement of goods and people, it appears that cross border e-commerce has not been fully exploited by EU businesses. Statistics show only 8% of EU businesses made e-sales to other EU countries (Eurostat, 2014). This implies that although e-commerce, being an unarguably attractive strategy for consumers and businesses, not all EU consumers uniformly use it as a shopping channel. There is evidence to suggest that this discrepancy is due to the effect consumers' culture has on technology acceptance.

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3 Notwithstanding, some significant research attention has questioned the role of
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5 culture-related issues on ICT acceptance (Tsatsou, 2012). Previous research on e-
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7 commerce acceptance has provided strong evidence confirming that the discrepancy
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9 in e-sales across countries is caused by the effect of a country's culture, which affects
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11 consumers' attitudes towards e-commerce (Srite and Karahanna, 2006; Yoon, 2009;
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13 Herold and de Seta, 2015). This has been further confirmed by Shiu *et. al.*,(2015) who
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15 noted the effect of culture on consumers' attitudes towards online environment from
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17 seven EU countries. In line with these research findings, Singh *et. al.*(2005) suggested
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19 that in order for e-commerce strategy to be successful, it must reflect the country's
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21 culture as it has an effect on online shopping consumers.
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25 Yet, we argue that such an approach to e-commerce strategies development in
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27 accordance to the requirements of target country's culture may not be adequate
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29 anymore. The increased mobility of EU consumers, ensured by the free movement of
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31 goods and people EU directive, brings up the possibility of consumers' attitudes
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33 towards e-commerce being subject not only to the effect of culture, but possibly the
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35 effect of acculturation process. Simplistically, acculturation is defined as 'the general
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37 process of movement and adoption to the consumer cultural environment in one
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39 country by persons from another country' (Penaloza, 1994; 33). Acculturation implies
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41 that consumers' culture-determined attitudes towards e-commerce may change due to
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43 the influence of a new, host country's culture which e-businesses need to account for.
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49 Considering growing intra-European migration and their steadily increasing
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51 disposable income levels of migrants (Marczak, 2011) as well as EU commitment to
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53 boost cross-border e-commerce, the examination of the effect of acculturation process
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55 on e-commerce acceptance is vital to ensure that e-businesses can effectively target
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3 groups of migrants not only majority culture members, and establish cross-border e-
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5 commerce strategies.
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8 In this respect, in an offline environment, the change of culture-determined values,
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10 attitudes and consumption patterns due to the exposure to the host country's culture
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12 has been extensively studied (see Penaloza, 1994; Oswald, 1999; Penaloza and Gilly,
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14 1999; Alvarez *et. al.*, 2014; Askegaard *et. al.*, 2005; Flower *et. al.*, 2007; Chytкова,
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16 2011; Jamal and Shukor, 2014). Huggins *et. al.*, (2013) and Schau *et. al.*, (2017)
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18 demonstrated the possibility of acculturation taking place online. Our study aims to
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20 show empirically the effect of acculturation process towards e-commerce acceptance.
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22 The study provides theoretical contribution by extending the research stream on the
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24 effect of culture on e-commerce acceptance, and derive practical and policy
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26 implications that will allow for e-commerce strategies to target migrants group and
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28 span across country's cultural boundaries.
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35 2. Background literature

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37 The literature acknowledges that e-commerce acceptance does not occur in a
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39 cultural vacuum encouraging numerous research projects that investigate the effect of
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41 a country's culture on consumers' acceptance of e-commerce. In this research stream,
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43 culture is seen as 'mental programming', which guides consumers' attitudes towards
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45 e-commerce (e.g. Srite and Karahanna, 2006, Yoon 2009). As such, e-commerce
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47 research seeks to operationalise culture at its aggregate level, assuming that
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49 individuals acquire values, attitudes and belief systems as well as learn patterns of
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51 behaviour from living within boundaries of a country's culture (Craig and Douglas,
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53 2006). Accordingly, research investigating the effects of culture on consumers'
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3 acceptance of e-commerce adopts the reasoning typified by Srite and Karahanna
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5 (2006). Their study acknowledges that culture is primarily defined through values,
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7 which are manifested throughout espoused national cultural values. Hence, the
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9 investigation of the effect of culture on e-commerce acceptance is accessed through
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11 examination of consumers' espoused national cultural values shared within a
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13 particular group of people (i.e. society, nation or country). These are commonly
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15 identified on the basis of Hofstede's framework, which allows for assessment of the
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17 effect of country's culture on values of its residents (Mazaheri *et. al.*, 2014; Shiu *et.*
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19 *al.*, 2015).

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23 Prior research investigating the effect of culture on e-commerce acceptance
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25 incorporates Hofstede's cultural framework to study the effect of culture on
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27 consumers' acceptance of e-commerce. For example, an early research by Pavlou and
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29 Chain (2002) measured the effect of Hofstede's cultural dimensions on consumers'
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31 attitudes towards e-commerce in two countries represented by opposite espoused
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33 national cultural values (i.e. Chinese and American cultures). They identified the
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35 moderating effect of individualism vs. collectivism (IC) and long-term orientation
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37 (LTO) on consumers' attitudes towards e-commerce, but they were unable to identify
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39 any moderating effect of power distance (PD) on consumers' intentions to use e-
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41 commerce. Similar research by Yoon (2009) also failed to ascertain the effect of PD
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43 on consumers' e-commerce acceptance. While examining the effect of Hofstede's
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45 cultural dimensions on Chinese consumers' intentions to use e-commerce, he
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47 identified a moderating effect of LTO on consumers' intention to accept e-commerce,
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49 confirming Pavlou and Chain's (2002) findings. This effect, however, is only
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51 recorded in studies conducted on Chinese consumers, thus research which primary
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3 interest does not focus on Confucian Chinese culture, does not to examine it at all
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5 (Srite and Karahanna, 2006).
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8 As well as the LTO effect, Yoon (2009) also identified some moderating influence
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10 of masculinity vs. femininity (MF) on consumers' intention to accept e-commerce.
11 This concurs with earlier studies including Stafford *et. al.*'s (2004) comparison of
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13 online shopping behaviour of consumers based in three different countries (US,
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15 Turkey and Finland). They identified a positive effect of MF and concluded that
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17 consumers from cultures characterised as feminine (i.e. Finland) tend to be less
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19 involved in shopping on e-commerce sites than consumers from cultures identified as
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21 masculine (i.e. Turkey). They did not, however, note any difference between
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23 consumers espoused to the values of Turkish and American cultures in terms of the
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25 effect of MF on their intention to accept e-commerce. This indicates that there are
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27 espoused national cultural values other than those assessed on the basis of MF, which
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29 might affect e-commerce acceptance (Zhou *et. al.*, 2007). Those values are
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31 represented by Hofstede's uncertainty avoidance (UA) and IC, which moderating
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33 effect on consumers' e-commerce acceptance has been consistently revealed (e.g.
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35 Yoon, 2009; Hwang and Lee, 2012). This effect of UA and IC on consumers'
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37 attitudes has been recently verified by Shiu *et. al.*, (2015), who conduct their research
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39 on consumers from seven EU countries. Specifically consumers whose country's
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41 culture is perceived to be collectivistic and high on the UA index have been found to
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43 have less favorable attitudes towards e-commerce, while consumers whose culture is
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45 identified as individualistic and low on the UA index appear to be more prompt to
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47 accept and use online shopping channels. This is continuously confirmed by e-
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49 commerce sale and purchase statistics, where significant difference in e-commerce
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3 use is noticeable between country's cultural boundaries identified as individualistic
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5 low on AU index and these identified as collectivistic high on UA index.
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8 In the light of the above research findings, the understanding of consumer culture
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10 determined attitudes towards e-commerce has been one of the most important
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12 elements of e-commerce strategy development. These previous studies however, did
13
14 not account for the possibility of culture-determined attitudes change which
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16 acculturation theories expose. Acculturation is defined as 'the general process of
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18 movement and adoption to the consumer cultural environment in one country by
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20 persons from another country' (Penaloza, 1994; 33). As a process, acculturation is
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22 about learning values, attitudes, and consumption patterns from a host country's
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24 culture that is different from the one in which an individual grew up. The process
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26 causes changes in culture-determined behavioural patterns, which may become more
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28 like those of the host country's culture (Penaloza and Gilly, 1999; Alvarez *et. al.*,
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30 2014).
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35 Early research on acculturation by Berry (1980), has shown that the
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37 acculturation process comprises three stages; contact, conflict and change. In order for
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39 the change of culture-determined behaviour to occur, contact with host culture has to
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41 first take place. The contact with the host culture can be physical (i.e. due to
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43 movement and relocation) or, it can occur via the online platform Schau *et. al.*,
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45 (2017). Second, due to the contact and unfamiliarity with the host country's cultural
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47 requirements, the possibility of cultural conflict may occur. And finally, the last stage
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49 is the manner on how consumers deal with this cultural conflict. At this stage,
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51 consumers can either fully adopt behavioural patterns of the host country's culture
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53 (assimilation strategy), or they can reject them while maintaining values of culture in
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55 which they grew up (separation strategy). Similarly, instead of assimilation or
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3 separation, consumers may maintain attitudes and values of two countries' cultures, or
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5 decide to refuse both cultures and their requirements. Alternatively, literature
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7 (Lerman *et. al.*, 2009; Alvarez *et. al.*, 2014) have also argued that cultural groups may
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9 not only assimilate with the host country's culture but they may 'over-assimilate', or
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11 'hyper-identify' with the culture in which they grew up (Wallendorf and Reilly,
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13 1983). Some consumers can selectively 'culture swap' (Penaloza, 1994; Oswald,
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15 1999) or they can be subjected to 'hyperfiliation' and strive to develop connections
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17 with host country's culture (Bradford and Sherry, 2014). Regardless of these
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19 polarized arguments, researchers agree that such a movement between countries will
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21 result in behavioral change of culture- determined attitudes, values and consumption
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23 patterns which can be described as 'bought, sold, and worn like a loose garment'
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27 (Oswald, 1999; 304).

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30 To date, much of these acculturation observations are based in the traditional
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32 shopping environment where research on various cultural groups has flourished
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34 (Askegaard *et. al.*, 2005; Flower *et. al.*, 2007; Chytkova, 2011; Jamal and Shukor,
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36 2014). Investigation of the acculturation process in the online shopping environment
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38 began recently, and it suggest that contact with the host country's culture which
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40 initiates a change of culture-determined behavior can also occur through the online
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42 platform (Bradford and Sherry, 2014; Li and Tsai, 2015; Schau *et. al.*, 2017).
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44 Previous research on consumers' perception of service quality in the context of online
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46 self-service encounters (Miyazaki *et. al.*, 2007), as well as online information search
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48 and shopping preferences (Becerra and Korgaonkar, 2009) and social media use (Li
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50 and Tsai, 2015) after the movement to host country's culture have confirmed this
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52 assumption. However, this possibility of change of culture-determined attitudes
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54 towards e-commerce due to exposure to host country's culture is still at its infancy.
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3 One of the first study exploring this phenomenon examined the effect of
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5 acculturation and cultural confinement of US Hispanic consumers and concluded that
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7 consumers' acculturation process indeed plays an important role in influencing
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9 consumers' online decision-making process (Huggins et. al., 2013). Recently, Schau
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11 et. al., (2017) recognised that online forums can serve as a possible acculturation
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13 platform. Therefore, this study aims to extend the emerging stream of research and
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15 uncover the effect of acculturation process on consumers' attitudes towards e-
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17 commerce acceptance. To the authors knowledge this is the first study examining this
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19 phenomenon.
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23 **3. Research methodology**

24 *3.1. Theoretical framework*

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29 Researchers have made a significant effort in building theories to examine
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31 determinant factors of e-commerce acceptance (Venkatesh et. al., 2003; Chaparro-
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33 Pelaez et. al., 2016). The focus of these research have been put on employing
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35 previously developed models which explain the relationship between attitudes and
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37 intentions, and subsequent consumer actual behaviour and e-commerce use (Taylor
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39 and Todd, 1995; Kurnia et. al., 2015). For example, Venkatesh et. al., (2003; 2012),
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41 while developing Unified Theory of Acceptance and Use of Technology (UTAUT)
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43 model and subsequent UTAUT2, identified eight 'predominant' models used to
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45 evaluate e-commerce acceptance. These models are well established and extensively
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47 tested, giving assurance of their overall explanatory power (Taylor and Todd, 1995).
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49 Neither the models nor their variables, however, have so far generated clear
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51 information as to which factors are key in e-commerce acceptance. This might be
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53 because the models cannot be used to accurately assess behavior, which involves
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3 uncertainty related to actions beyond the consumers' control (i.e. purchase in the
4 online environment). To overcome this limitation, researchers focused on the
5 behaviour through which goals are accomplished (i.e. intentions to use e-commerce)
6 rather than goals themselves (i.e. actual use) (see Srite and Karahanna, 2006, Yoon,
7 2009).

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10 For this study 'predominant' models as identified by Venkatesh *et. al.*, (2003)
11 were reviewed, and four models having a direct relationship between attitudes and
12 behavioural intention were identified; Theory of Reasoned Action (TRA), Technology
13 Acceptance Model (TAM), Theory of Planned Behaviour (TPB), Motivational Model
14 (MM). Three models were selected to form the central pillar of this study. These are
15 TAM, TPB and MM (for a summary please see Venkatesh *et. al.*, 2003). TRA was
16 excluded from the investigation, as the remaining three models are direct extension of
17 the original TRA. The variables attached to these models are compatible and their
18 wide range allows to assess the role of acculturation process on both hedonic and
19 utilitarian motives for e-commerce acceptance, where its importance has been
20 highlighted in the literature (e.g. Venkatesh *et. al.*, 2012; Mazaheri *et. al.*, 2014;
21 Ashraf *et. al.*, 2016; Lu *et. al.*, 2017). Additionally, the application of all three
22 models, can provide more specific indication of the occurrence of the acculturation
23 process than an examination of a single model. The models and research hypotheses
24 have been adopted from Venkatesh et al (2003) (see Table 1.), and they are tested
25 following research approach outlined below.

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5 3.2. *Research approach*
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8 To reveal the effect of acculturation process of consumers' attitudes towards e-
9 commerce, research hypotheses were tested following the approach by Douglas and
10 Craig (1997). According to their study, research on acculturation should prioritise the
11 selection of the relevant unit of analysis (i.e. the cultural group) as well as the context
12 in which the unit is situated. They further highlight the importance of evaluation of
13 the research design and recommended the comparative examination of attitudes of the
14 cultural group before and after movement and exposure to host country's culture.
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23 As mentioned in the Introduction, EU-28 provides an interesting context for cross-
24 cultural research, and thus research on EU member states is growing (e.g. Oliveira
25 and Martins, 2010; Shiu *et. al.*, 2015). The European Single Market policy facilitates
26 free movement of people and goods within the boundaries of EU-28. As a result, in
27 2014, a total of 3.8 million people immigrated to one of the EU-28 Member States,
28 among which 1.3 million people with citizenship of a different EU Member State
29 from the one to which they immigrated (Eurostat, 2016). The UK is the most popular
30 destination for EU migrants following an unprecedented 284,000 EU citizens arriving
31 to live in the UK in 2016 (Office for National Statistics, 2016). Among intra-

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43 European migrants to the UK, Polish nationals are the biggest migration group.

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45 Furthermore, Polish culture is characterized as high on UA index, while British

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47 culture is one of the lowest UA cultures in Europe. Both cultures also differ in their

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49 IC scores. As discussed in Section 2., these cultural differences regulate e-commerce

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51 adoption rates, which is further verified by statistics, which show significant

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53 differences in e-commerce use. Therefore, considering the size of intra-European

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55 migration, significant differences in national cultural values and discrepancies e-
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3 commerce use between the UK and Poland, this paper aims to uncover the possible
4 effect of acculturation process on e-commerce acceptance by exploring the case of
5 UK Poles.
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9 As indicated above, the attitudes of UK Poles towards e-commerce, as identified
10 on the basis of TAM, TPB and MM, before movement- Culture A (i.e. Poland), and
11 after exposure to host country's culture- Culture B (i.e. the UK) are examined. Figure
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16 1. summarises our research methodology.
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25 The hypotheses were tested through a questionnaire with items adopted from
26 previous studies. ATB and PBC constructs were developed from the study by Taylor
27 and Todd (1995), IM was adopted in a research by Venkatesh (2000), SN was adopted
28 from Srite and Karahanna (2006) and finally, the constructs of PU, PEOU and IUSE
29 were adopted from the study by Yoon (2009). All items were measured on a seven-
30 point Likert scale. In addition to questions measuring attitudes towards e-commerce,
31 questions aiming to assess demographic characteristics of respondents and to provide
32 an overview of the exposure to host country's culture (Culture B) were developed. In
33 order to ensure a high response rate, the questionnaire was translated into the
34 respondents' native language and the back-translation method is applied to avoid
35 possible linguistic bias. The questionnaires were distributed in two ways. The field
36 version of the questionnaire was delivered in workplaces employing UK Poles; 45
37 questionnaires were collected. The online version was posted on online forums and
38 social media community groups. This collection method appeared to be most
39 effective, and it resulted in 580 responses. Although there is significant discrepancy in
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3 the number of online and offline questionnaires collected, the respondents to both
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5 questionnaires confirmed that they are familiar with e-commerce and that they used e-
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7 commerce. Thus, it deems appropriate to include all the responses into the analysis.
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10 11 12 13 **4. Analysis and Research findings**

14 15 *4.1. Sample*

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17 In total, 625 respondents participated in the study among which 603 provided
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19 usable responses. All respondents confirmed that they associate themselves with
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21 Culture A, and they have been exposed to Culture B for at least two years, which
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23 aimed at ensuring relative familiarity with e-commerce in both cultures. Among the
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25 603 usable respondents 62.5% are female and 37.4% are male. The majority are
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27 between 22 and 34 years old (67.8%), 22% is in the age group 35- 44 and 6.4% in the
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29 group below 21 years old. 21 (3.4%) were in their mid-30s and 40s, and one
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31 respondent (.1%) indicated that he/she is over age 55. All respondents appear to be
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33 well educated with 54.8% holding secondary school diploma and 43.7% holding
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35 university degrees. Overall, the demographic characteristics of respondents presented
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37 in Table 2 reveal that the respondents represent a general migration trend as outlined
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39 by House of Commons (2016), confirming the generalisability of the study to the
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41 sample population being studied.
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50 51 *4.2. Reliability and validity of measured items* 52 53 54 55 56 57 58 59 60

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3 In order to test the research hypotheses first psychometric properties of the scale
4 are assessed. Consequently, Cronbach's Alpha test is run. All measured items meet
5 the guidance exceeding the required .70 level (see Table 3).
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16 Furthermore, Composite Reliability (CR) and Average Variance Extracted (AVE)
17 are tested to confirm the validity of each item. The tests reveal that all of the items
18 exceed recommended AVE value (>.50) and CR value (>.70), and thus the reliability
19 and validity of all items is confirmed. (see Table 4).
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31 4.3. Statistics for indices of fit

32 In order to determine model fitness the following indices are examined: Chi-
33 squared (χ^2), degrees of freedom (df), Chi-squared/ degrees of freedom (χ^2/df),
34 goodness of fit index (GFI), the average goodness of fit index (AGFI), the root mean
35 square error of approximation (RMSEA), the comparative fit index (CFI), the Tucker
36 Lewis index (TLI) as well as parsimony normed fit index (PNFI) and parsimony
37 goodness of fit index (PGFI) (see Table 5).
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46 In all tested models, items of means of absolute fit meet the standard with the
47 exception of χ^2/df , where χ^2/df exceeds 3.0 level, which seems to be due to the fact
48 that the χ^2 is subject to the limitation of the sample size (Iacobucci, 2010). Apart from
49 χ^2/df however all indexes meet the guidance in all tested models, hence it can be
50 stated that the overall fitness of all tested models is confirmed.
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Since common method variance can be a source of measurement error leading to potentially misleading research findings, techniques for common method bias as recommended by Podsakoff *et. al.*, (2003) were employed. Finally, in order to test possible bias statistically, the Harman's single factor test was run to confirm that the bias does not exist in the study. According to the Harman's test one factor explain less than 50% of variance, hence it is confirmed that bias does not exist in the sample.

4.4. Structural Equation Modeling (SEM)

This study used SEM to test the research hypotheses. SEM has been commonly applied in research examining TAM, TPB, MM and other models in the context of technology adoption (e.g. Venkatesh et al, 2010; 2012), as well as in studies examining the effect of culture on e-commerce adoption. (Strite and Karahanna, 2006; Yoon, 2009). Based on SEM of TAM, it has been revealed that the relationship between PU and IUSE is statistically significant in Culture A at $p < .001$ and Culture B at $p < .001$, hence H1 is supported indicating the perception of e-commerce usefulness is a significant factor impacting consumers intentions to use e-commerce regardless of the country's culture consumers are exposed to. This relationship has been additionally verified while testing the MM model, where the relationship between PU and IUSE is also found to be significant in both cultures at $p < .001$. The impact of perception of ease of use on e-commerce acceptance however, has not been confirmed neither in Culture A not in Culture B. The relationships between PEOU and IUSE is insignificant in Culture A and in Culture B, hence H2 is

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3 rejected. Finally, the relationship between PEOU and PU is statistically significant in
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5 both Culture A and Culture B at $p < .001$, which supports H3. Therefore, based on the
6
7 examination of variables of TAM it can be confirmed that consumers' attitudes
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9 towards e-commerce in relation to perceived usefulness remain unchanged after
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11 movement to host country's culture. Thus, PU is equally important factor driving
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13 consumers' intentions to use e-commerce before and after movement to the host
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15 country's culture.
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18 Applying SEM to the TPB model, the analysis revealed that there is
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20 significant relationship between PBC and IUSE in Culture A at $p < .05$, which
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22 confirms H4 in Culture A. Such a relationship however was not significant in Culture
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24 B (H4 is rejected in Culture B). This indicates that consumers' perception of
25
26 behavioural control is a factor driving intentions to use e-commerce in Culture A, but
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28 this factor is not a significant driver for e-commerce acceptance in Culture B.
29
30 Furthermore, the relationship between ATB and IUSE is found to be insignificant in
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32 both Culture A and B, which rejects H5. The relationship between SN and IUSE in
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34 Culture A has been found to be significant at $p < .01$, but while examined in Culture B
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36 it has been found as insignificant. Thus, H6 is confirmed in Culture A, but it is
37
38 rejected in Culture B indicating that consumers' attitudes towards e-commerce are
39
40 subject to the influence of the reference group in Culture A only. Finally, there is
41
42 statistically significant relationship between SN and ATB as well as ATB and PBC in
43
44 both Culture A and Culture B at $p < .001$. Thus H7 and H8 are supported in both
45
46 cultures. Based on the SEM of TPB, it can be confirmed that the effect of
47
48 acculturation process exists as consumers' attitudes towards e-commerce change.
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51 Such a change is observed in relation to the consumers' perceived behavioural control
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53 and subjective norms, both of which have significant impact on e-commerce
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3 acceptance decision before movement to host country's culture. While espoused to
4 national cultural values of host country (Culture B) however, the impact of those
5 factors on intentions to use e-commerce diminished, as the relationships between PBC
6 and IUSE as well as SN and IUSE were not confirmed.
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11 Finally, while testing the MM model no changes in terms of hedonic
12 motivators were observed. Specifically, the relationship between IM and IUSE in
13 Culture A and Culture B was insignificant, thus H9 is rejected. Furthermore, the
14 relationship between IM and PU was significant at $p < .001$ in both Culture A and
15 Culture B, which supports H10. Consequently similarly to TAM, results of the SEM
16 of MM did not reveal any change in attitudes towards e-commerce acceptance. The
17 results are presented in Table 6 below.
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33 Based on the above SEM results, some change in consumers' intention to use e-
34 commerce has been revealed while moving form Culture A to Culture B. Specifically,
35 the change in consumers' attitudes related to behavioural control over e-commerce
36 and impact of subjective norms on intentions to use e-commerce has been observed.
37 While exposed to Culture A consumers' intentions to accept e-commerce are subject
38 to their perception of control as well as evaluation of the opinion the reference group
39 whether or not consumers should accept and use e-commerce. After the movement
40 and exposure to host country's culture such an impact of PBC and SN on IUSE was
41 not confirmed. This change of attitudes after movement to the host country's culture
42 is accounted for in the effect of the acculturation process on consumers' attitudes
43 towards e-commerce.
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5. Discussion and research contribution

Applying three intention-based models; TAM, TPB and MM, this comparative study addresses the research gap and it reveals that there is an effect of acculturation process on consumers' attitudes towards e-commerce. Specifically, the results show that perceived behavioral control and subjective norms 'can be bought, sold, and worn like a loose garment'. This is because consumers' attitudes towards e-commerce can change as a result of movement to a host country's culture characterised as highly individualistic and with a low UA index.

The empirical evidence show significant impact of perceived behavioural control and subjective norms before movement to host country's culture, but this impact was found to be insignificant while exposed to individualistic, low AU host culture values. This observed change in consumers' attitudes towards e-commerce in relation to perceived behavioural control and subjective norms before and after movement to host country's culture is accounted for by the effect of acculturation process. Furthermore, this study confirms previous research findings, which stressed the importance of perceived usefulness in e-commerce acceptance regardless of the culture consumers are exposed to (Venkatesh *et. al.*, 2012; Mazaheri *et. al.*, 2014; Ashraf *et. al.*, 2016)

The specific findings of research further contribute to e-commerce literature on two levels. First, this research contributes to the extensive stream of literature on the effect of culture and consumers' e-commerce acceptance. The findings extend this research stream and they demonstrate that consumers' attitudes towards e-commerce

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3 are not culture bound. This research shows that the effect of acculturation process on
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5 consumers' attitudes towards e-commerce exists. The results of empirical research
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7 prove that culture determined attitudes towards e-commerce are subject to the
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9 acculturation process and therefore they can change. This is particularly true in
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11 reference to perceived behavioural control caused by cultures' UA index, and
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13 subjective norms which impact on e-commerce is directly related to country's IC
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15 dimension. Moreover, this study reveals that regardless of the culture consumers are
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17 subject to their e-commerce acceptance decision is strongly influenced by their
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19 perception of e-commerce usefulness deriving from e-commerce use.
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23 In addition to contribution to e-commerce acceptance literature, this study
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25 addresses the concerns of Jamal (2003) and Askegaard *et. al.*, (2005) with regards to
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27 the limited academic research on acculturation of immigrants in Europe. This study
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29 reveals the effect of acculturation process on e-commerce acceptance while exploring
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31 the case on intra-European migrants. Specifically this study, while comparing and
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33 contrasting perceptions towards e-commerce of UK Poles before and after movement,
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35 reveals change of attitudes towards online shopping. Hence, this study contributes to
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37 acculturation research by investigating the case of intra-European acculturation.
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41 In addition to theoretical contributions, this study derives managerial and
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43 policy implications. This study shows that consumers' culture determined attitudes
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45 towards e-commerce can change, and therefore e-businesses do not have to be
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47 restrained in their e-commerce strategies to target one culture, they can effectively
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49 target growing group of migrants. This can be achieved by increasing migrant's
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51 perception of control over e-commerce activities, and increased general opinion of
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53 others about e-commerce. This can be achieved by highlighting terms and conditions
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55 of e-retailer as well as country specific and EU online shopping regulations. Equipped
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3 with formal, structured rules and regulations consumers may be more willing to
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5 accept e-commerce and use it. The positive experience with e-commerce in turn, may
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7 generate word of mouth, which will influence e-commerce acceptance decision of
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9 others in the collectivistic society.

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12 Furthermore, the findings imply that e-businesses do not have to be restrained
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14 to one country's culture. On the contrary, they can design cross-border e-commerce
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16 strategies that will address different cultural requirements. This study demonstrates
17
18 that regardless of the culture that consumers are exposed to, their intentions to accept
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20 e-commerce are determined by the perception of e-commerce usefulness. E-
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22 businesses therefore have to design e-commerce strategies highlighting the usefulness
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24 of online shopping over shopping in traditional, brick-and-mortar shops.
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28 To support e-businesses in their efforts, the EU-28 while reinforcing its Digital
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30 Single Market strategy across the EU should focus not only on improvements of e-
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32 commerce parcels delivery and increasing consumers trust in e-commerce (European
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34 Commission, 2015), but they should also reinforce other motives which drive
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36 consumers e-commerce acceptance. This study reveals that these motives refer to
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38 consumers' perception of control over their e-commerce activities, opinion of others
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40 about e-commerce and overall perception of usefulness of online shopping platforms.
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47 *5.1. Study limitations and further research*

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49 This study is subject to the following limitations and this opens additional
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51 avenues for further research. First, to study the effect of acculturation we collected
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53 quantitative data at one point in time. However, further research is encourage to
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55 employ longitudinal approach to study the effect of acculturation on e-commerce
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3 acceptance, which may provide new insights into the phenomenon. Second, this study
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5 reveals the effect of acculturation process of e-commerce acceptance while exploring
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7 the case of UK Poles. Polish consumers residing in the UK were chosen as a group to
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9 be studied due to the following reasons; (1) significant discrepancy between Poland
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11 and the UK in e-sale, (2) significant differences in exposed national cultural values as
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13 identified by Hofstede's framework, as well as (3) increased migration of Poles to the
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15 UK. The focus of this research on one cultural group limits the generalisability of the
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17 findings to other groups of immigrants. Thus, further research is encouraged which
18
19 will examine the existence of the effect of acculturation process on other cultural
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21 groups. Second, the aim of this research is to reveal the effect of acculturation process
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23 on e-commerce acceptance. This has been achieved by employing previously
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25 developed and extensively tested models (TAM, TPB and MM). This study however,
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27 does not contribute to the research with new attitudes impacting e-commerce
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29 acceptance and use. To address this limitation, exploratory research is therefore
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31 encouraged to provide in-depth understanding of the revealed effect. Finally, although
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33 the study establishes that the change in the consumers' attitudes towards e-commerce
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35 is subject to perceived behavioural control and subjective norms, further research
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37 should focus on assessing the extent to which time spent in the host country's culture
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39 might impact on the consumers' acceptance of e-commerce.
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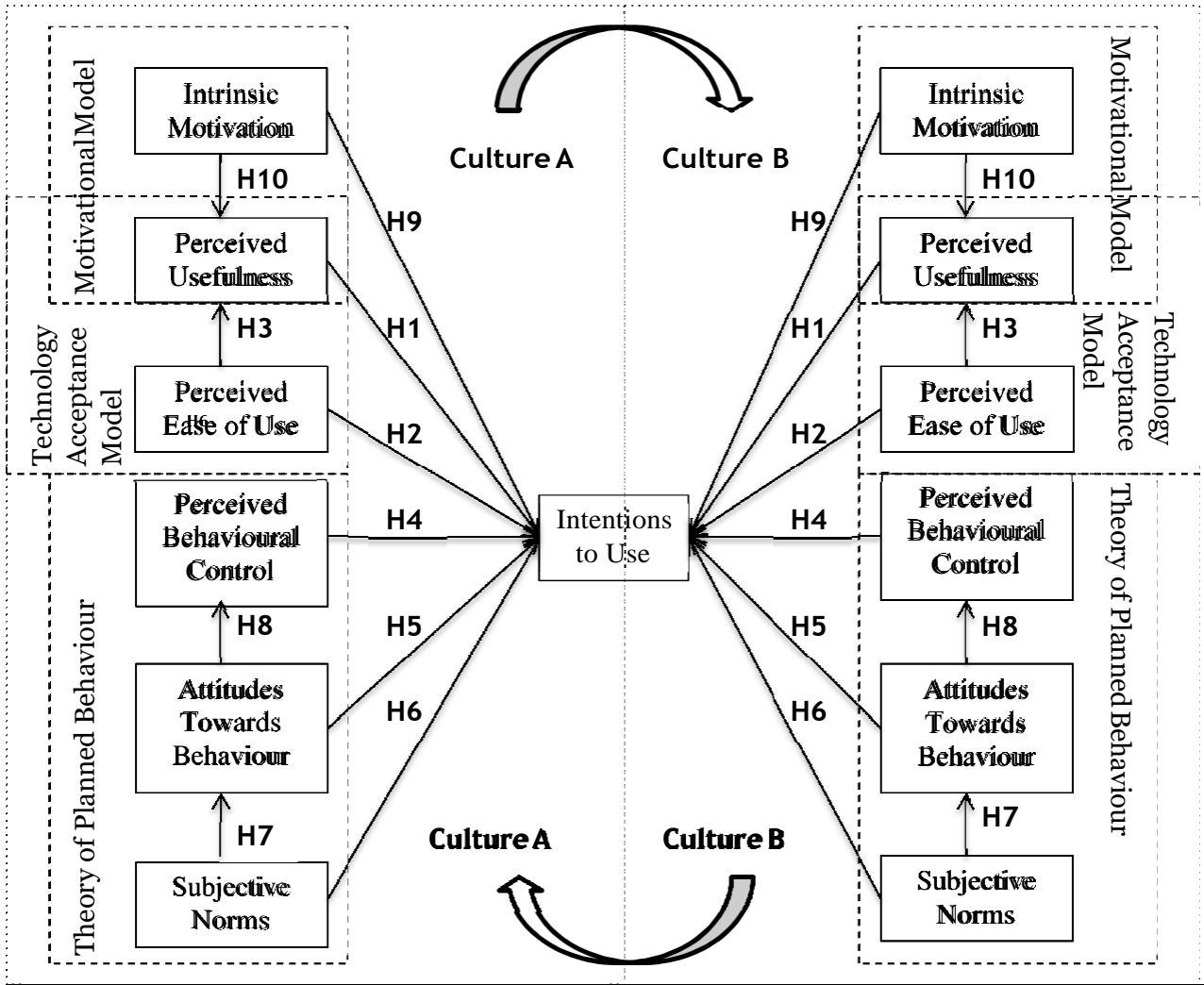


Figure 1. Conceptual framework

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Table 1. Research hypothesis

Hypotheses		
TAM		
H1	PU-> IUSE	Perceived usefulness (PU) impacts intention to use (IUSE) e-commerce
H2	PEOU-> IUSE	Perceived ease of use (PEOU) impacts intention to use (IUSE) e-commerce
H3	PEOU-> PU	Perceived ease of use (PEOU) impacts perceived usefulness (PU) e-commerce
TPB		
H4	PBC-> IUSE	Perceived behavioural control (PBC) impacts intention to use (IUSE) e-commerce
H5	ATB-> IUSE	Positive attitudes towards behaviour (ATB) impacts intention to use (IUSE) e-commerce
H6	SN->IUSE	Subjective norms (SN) impacts intention to use (IUSE) e-commerce
H7	SN-> ATB	Subjective norms (SN) impacts attitudes towards behaviour (ATB)
H8	ATB-> PBC	Attitudes towards behaviour (ATB) impacts perceived behavioural control (PBC) over e-commerce
MM		
H9	IM->IUSE	Intrinsic motivation (IM) impacts intention to use (IUSE) e-commerce
H10	IM-> PU	Intrinsic motivation (IM) impacts perceived usefulness

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(PU) e-commerce

Table 2. Demographic characteristic of respondents

	Value	Frequency	Percept
Gender	Female	377	62.55%
	Male	226	37.45%
Age	21 and under	39	6.47%
	22-34	409	67.82%
	35-44	133	22.05%
	45-54	21	3.48%
	55-64	1	.16%
	65 and over	0	.00%
Education	Primary school	9	1.45%
	Secondary school	331	54.85%
	Higher Education	263	43.70%

Table 3. Cronbach's Alpha test

	Culture A	Culture B
IUSE	.727	.745
PU	.909	.922
PEOU	.946	.963
SN	.829	.780
ATB	.945	.953
PBC	.882	.925
IM	.933	.930

Table 4. Compose reliability (CR) and Average Variance Extracted (AVE)

	Composite Reliability (CR) (recommended minimum value >.70, acceptable value >.60)		Average Variance Extracted (AVE) (recommended minimum value >.50)	
	Culture A	Culture B	Culture A	Culture B
IUSE	.747	.782	.506	.566
PU	.910	.920	.716	.745
PEOU	.945	.963	.813	.868
SN	.841	.799	.728	.670
ATB	.947	.956	.817	.844
PBC	.881	.923	.713	.801
IM	.933	.931	.824	.819

Table 5. Indices of fitness

Indices of fit	TAM		TPB		MM	
	Culture A	Culture B	Culture A	Culture B	Culture A	Culture B
χ^2 ($p > .50$)	181.915	188.95	145.971	172.48	61.194	116.370
		7		5		
df (>0)	41	41	49	49	32	32
χ^2/df (<3.0)	4.437	4.609	2.979	3.520	1.912	3.637
GFI (>.90)	.947	.945	.962	.955	.981	.963
AGFI (>.90)	.916	.912	.940	.928	.967	.937
RMSEA (<.08)	.076	.077	.057	.065	.039	.066
CFI (>.90)	.972	.977	.981	.981	.993	.982
TLI (>.90)	.963	.969	.976	.974	.990	.974
PNFI (>.50)	.719	.724	.722	.723	.700	.693
PGFI (>.50)	.588	.587	.605	.600	.571	.560

Table 6. SEM (** $p < .001$, ** $p < .01$, * $p < .05$)

		Culture A	Culture B
TAM model			
H1	PU -> IUSE	.290***	.455***
H2	PEOU -> IUSE	.005	-.045
H3	PEOU -> PU	.753***	.877***
TPB model			
H4	PBC -> IUSE	.208*	.154
H5	ATB -> IUSE	.000	.165
H6	SN -> IUSE	.121**	.064
H7	SN -> ATB	.531***	.573***
H8	ATB -> PBC	.955***	.896***
MM model			
H9	IM -> IUSE	.071	.023
H10	IM -> PU	.738***	.804***
H1	PU -> IUSE	.261***	.407***

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3 **Response to Reviewer 1**

4 Dear Reviewer,

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6 Thank you very much for helping us in making our work an even stronger paper. We have updated the
7 paper as per your suggestions and comments. For clarity and convenience, we have taken the liberty
8 to replicate your comments (in bold font), with each comment followed by our explanation (in italics)
9 on the right of the table of how we have dealt with the particular concern. We have also provided
10 references to specific paragraphs/pages to highlight how the comments are addressed.
11

12 This paper studies the impact of acculturation process on ecommerce acceptance using sample of
13 over 600 questions of Polish immigrants in the UK. Structural equation modelling is applied to test
14 the hypotheses. While overall the paper addresses an interesting topic and is relevant to real word
15 problems, there are several issues/questions that need to be addressed before it can be accepted
16 for publication by IMDS. They are listed below for consideration.
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18

No	Comments from the Reviewer 1	Authors' Reply
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33	1 The motivation for the paper's main research question is not well supported or adequate. The author(s) provide some figures/examples to show the growth of e-commerce and importance of culture aspect. However, what the paper lacks is a clear set of examples to show how acculturation process affects consumers' behavior in the context of e-commerce or alternatively explain clearly why it is important to study the impact of acculturation process on e-commerce.	<i>Based on your comments, we have rewritten the introduction to the paper (Section 1). In this section, we have reduced our comments on culture but instead positioned the argument along the lines of acculturation and why it is important to study the phenomenon. Specifically, on p.3. we argue that due to increased migration within EU and steadily growing disposable income of intra-European migrants it is vital to assess if their attitudes towards e-commerce are subject to the effect of acculturation process. Based on this assessment e-businesses will be in a better position to target this growing consumer group not only majority culture members.</i>
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60	2 The literature review is too long. As far as I can see, section 2, 3, and 4 are all related to theoretical background and it should be condensed and merged into one literature review section. The current three sections of relevant literature do not help clearly spell out why this study is important, what's the gap in this literature, also how this study intends to contribute to the literature. I would recommend comparing the existing literature to this research, and emphasize the contributions of the proposed mechanism with respect to contextual gaps.	<i>We note the comments on the length of the literature review. Following your advice, we have restructured the entire literature review into one section (Section 2). We have reduced significantly the amount of literature on "culture" and instead focused on the importance of "e-commerce acceptance" and how it might be influenced by the culture of another country. This leads to our argument and framing of the acculturation process and how it is important that we study this phenomenon.</i>

No	Comments from the Reviewer 1	Authors' Reply
3	A conceptual framework is proposed (figure 1). It would be better if the author(s) can link hypotheses to the conceptual framework. For instance, extend the conceptual framework and position the relevant hypotheses in the framework.	<i>To address reviewer's comment we have developed new framework (see Figure 1), which visually present hypotheses stated.</i>
4	Over 90% (580) of questionnaire responses were from online survey and a small percentage of (45) responses were from those delivered in workplaces. Obviously, people filling online questionnaires are more exposed to Internet and therefore more like to accept e-Commerce. How does this data source impact on the results?	<i>All respondents taking part in the study confirmed they are familiar with e-commerce and that they have been using e-commerce in Poland and/or in the UK. Since the respondents taking offline survey confirmed that they are familiar with e-commerce and they have experience using it, it deemed appropriate to include these responses into the analysis. This has been stated on p.12. Furthermore to ensure that there is no bias in the results obtained, online and offline responses were compared and contrasted following Armstrong and Overton (1997) test for non-response bias. No significant differences between respondent's demographic profiles were noticed. Consequently the authors were satisfied to include offline responses in the analysis.</i>
5	It might be more appropriate to use the longitudinal study to investigate the impact on the acculturation process on e-commerce acceptance. The time element can be important. While the author(s) only selected questionnaires from people who have been the UK for 2 years, it may not be the best way to measure the acculturation process. This cannot be easily addressed using the existing dataset but can be certainly explored in future. The author(s) may acknowledge it and point out as one of the future directions in the conclusion.	<i>Thank you for this comment. The longitudinal approach to study the effect of acculturation on e-commerce acceptance has been suggested in the conclusion section, see p.20</i>

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3 **Response to Reviewer 2**

4 Dear Reviewer,

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6 Thank you very much for helping us in making our work an even stronger paper. We have updated the
7 paper as per your suggestions and comments. For clarity and convenience, we have taken the liberty
8 to replicate your comments (in bold font), with each comment followed by our explanation (in italics)
9 on the right of the table of how we have dealt with the particular concern. We have also provided
10 references to specific paragraphs/pages to highlight how the comments are addressed.
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13 Comments: I enjoy reading this paper as it explores the effect of acculturation process on
14 consumers' culture determined attitudes towards e-commerce acceptance. It shows that the effect
15 of acculturation process on consumers' attitudes towards e-commerce exists, in the case of UK
16 Poles. It flows nicely, but there are several questions that need to be addressed to make it better.
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No	Comments from the Reviewer 2	Authors' Reply
	Introduction Looking at the title, and the abstract, I assumed earlier that this paper would somehow inform me on the importance of acculturation process. Yes, it is indeed true, (only after completing reading the paper, but not earlier on). So perhaps your introduction need some re-focus here	<i>We note your concerns about the title, the introduction and how both may not necessarily be aligned. Taking into account your comments, we have rewritten the introduction and positioned the argument along the lines of acculturation and why it is important to study the phenomenon (see p.3)</i>
	You started nicely to introduce the context of EU28 and ecommerce, but somehow, it feels like the discussion on context take precedence here; a lot of statistics to showcase its relevance, but little is being discussed in relation to why acculturation should be of focus, supported by literature. In fact, the author assumed that the reader would understand what acculturation means. Perhaps it is better to reflect the title: acculturation process on e-commerce acceptance; and provide some foundation to initiate the discussion around the topic.	<i>We have now reduced the discussion on the context and refocused our attention on the acculturation process. As we mentioned above, we have rewritten the introduction to reflect these changes (see p.3)</i>
	The definition of acculturation only appears is in page 12, but the word is being mentioned first time in page 3 line 54. Pg 3 line 12 - perhaps to include several examples of literature here to showcase the significant research attention claimed.	<i>As per your advice, we now define the term "acculturation" in the introduction (p.3). We have also added more literature to explain some aspects of acculturation research which are relevant to our arguments.</i>

No	Comments from the Reviewer 2	Authors' Reply
	<p>Background</p> <p>The background literature seems generic in nature. It is unclear of what and how it relates to the focus of the paper. Yes, culture is important, but since the author did not define what is acculturation means for this paper early enough, and which perspectives it holds, it allows reader to wonder what is the focus of this paper.</p>	<p><i>Similar to the above comments, we have removed significant portions of the “culture” literature and instead focused more on explaining the effect of culture on e-commerce acceptance, and acculturation process, which we agree should be the focus point of the discussion. (see Section 2)</i></p>
	<p>The introduction and the background section should be used to guide reader to the focus of the paper. Some discussion of the foundational literature is important, but the authors need to also go beyond that to reflect its importance and implication. I would suggest you to guide the reader to follow your logic. At the moment, there is a lot of assumption that the reader has to make in order to make sense of the paper. Sometimes, it feels that there is no focus, with various discussions on Hofstede across the paper. Perhaps to make it clearer on why it is important to know this? and why does it matter?</p>	<p><i>We agree with your comments on making the paper explain better the understanding of research on the effect of culture and why is it important to study acculturation. In that respect, we have restructured the literature review completely. Additionally, we have combined both the “e-commerce acceptance” and “acculturation” literature together and significantly removed the “culture” literature.</i></p> <p><i>At the end of the literature review, we have included a paragraph to detail the importance of the research and why it is important that this research is done.</i></p> <p><i>The discussion of Hofstede has been merged with section on “e-commerce acceptance” to improve flow of the paper. We felt it was important to discuss Hofstede’s framework as it was used to show the effect of culture on e-commerce acceptance and it provided guidance for the sample selection. We have not removed the review of the framework itself, and focused on the discussion how individual dimensions effect e-commerce acceptance. (see section 2)</i></p>
	<p>Section 2 requires a much more focus literature background. That means some connection to the focus of the research (e.g: what is the link between culture and acculturation process?) why does it matter to know about culture. So what? Figure 1 of the conceptual framework requires some explanation on what the arrow means.</p>	<p><i>Our literature now focuses more on the acculturation process and we have explained better the link between culture and its possible influence on the acculturation process.</i></p> <p><i>The Figure 1 has been revised to ensure that the hypotheses are marked. The explanation for arrows has been provided in Table 1. Since the models used in this study are well established we did not repeat the process of hypotheses development, instead to address reviewer’s comment we stated that the hypotheses have been adopted from Venkatesh et al (2003) (see p. 10)</i></p>

No	Comments from the Reviewer 2	Authors' Reply
	<p>Methodology: Need to have more references to justify why SEM? Which other authors that have used similar way of doing the analysis? You did make reference to various literature that have engage in a similar topic areas, and theories, but fail to make clear on the similarities /differences on the methods of choice. Interestingly, you only mentioned on the significant differences in exposed national cultural values as identified by Hofstedes' framework between UK and Poles only in the limitation section of the paper (page 27 line 26). This is the first time the author mentioned about the differences, although the discussion on Hofstede's has been done quite a lot earlier on. Perhaps to reflect this better in the methods section on the choice of focus?</p>	<p><i>We have provided justification for SEM use, and we provided examples of previous studies examining the effect of culture on e-commerce adoption which also employed this data analysis method (see p. 15)</i></p> <p><i>On p. 11 we have provided references to Hofstede's framework while justifying sample selection.</i></p>
	<p>Discussion and implication The first paragraph could lead better into bringing your conclusions together, for example you could say ...as outlined below, as it will help you outline your contribution better. I am unclear what the knowledge gaps are on p25 line 9 onwards - is this is what is now described? Line 11 should include other previous literature to help you make clear of what is your claim, and what is already out there to reflect the gap clearer.</p>	<p><i>The discussion and conclusion sections have been merged. We ensured that the research gap is exposed early on (see p. 18)</i></p>
	<p>The managerial and policy implications section needs to be developed. What should managers and policy makers do in the light of these findings</p>	<p><i>Discussion explaining the implication to practice and policy have been provided (see p. 19-20)</i></p>

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