Understanding Restaurant Clients' Intention to Use Mobile Applications: A Comparative Study of France and Russia

Galina Kondrateva, EDC Paris Business School, France

Chantal Ammi, Institut Mines-Télécom Business School, France

<https://orcid.org/0000-0001-7942-2633>

Patricia Baudier, EM Normandie Business School, France

<https://orcid.org/0000-0001-9881-4560>

ABSTRACT

Smartphones have changed consumer behavior by providing new mobile technology applications. In order to understand the intention to use mobile applications, this study highlights the factors of usability, loyalty, and trust based on technology acceptance models and relationship marketing by using mobile restaurant guides. This research fills a gap regarding the comparison of mobile application users' behavior in France and Russia. The authors tested the model by a total sample of 244 respondents (123 from Paris and 121 from Moscow) and analysed it with SmartPLS. The comparison of subgroups indicates that Russian users are sensitive toward the variable of trust, while French users are more impacted by mobile application usability. This study can be relevant for practitioners who work internationally, developers of mobile applications, and restaurant managers.

KEYWORDS

Intention to Use, Loyalty, Mobile Application, Restaurant Industry, Trust, Usability

INTRODUCTION

Smartphones and their applications have invaded people's life. Mobile banking, gaming, booking, shopping, are available through mobile applications (MAs), installed directly on users' devices. Mobile food/restaurant guides, including the function of table booking, are part of tourist city guides, such as *TripAdvisor* or independent services, such as *Just eat* or *Tablein*. Nevertheless, independent services are often better known and used by local users rather than by tourists. Several studies have attempted to investigate technology acceptance in developed countries (Al-Otaibi, Aljohani, Hoque, & Alotaibi, 2018; Bansal, Zahedi, & Gefen, 2016; Belanche, Casaló, & Guinalíu, 2012; Davis, 1993; Venkatesh, Morris, Davis, & Davis, 2003). At the same time, the growth regarding the use of technology has aroused interest toward developing and emerging countries (Al-Otaibi et al., 2018; Li & Yeh, 2010).

DOI: 10.4018/JGIM.2020070101

This article, originally published under IGI Global's copyright on March 20, 2020 will proceed with publication as an Open Access article starting on January 13, 2021 in the gold Open Access journal, Journal of Global Information Management (converted to gold Open Access January 1, 2021), and will be distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>) which permits unrestricted use, distribution, and production in any medium, provided the author of the original work and original publication source are properly credited.

The digitalization of people's life brought issues to practitioners of all industries, including restaurant managers. The relationship between a restaurant and a client has been personal for long time. Word-of-mouth is one of the most powerful marketing tools to acquire new clients, to make and to keep them loyal (Balasubramanian & Mahajan, 2001; Trusov, Bucklin, & Pauwels, 2009). Today, the restaurant should use new technologies. One of the ways is to participate in the digital mobile restaurants' guides, where the user can find information (menus and contacts details). In addition, restaurants can use social media tools to provide users with the capability to review, comment, rate, and book a table without personal contacts. MAs propose useful functionalities that can drastically influence the consumer's choice, as they are considered as independent. The aim of this research is mainly (1) to identify the reasons why users could decide to use MAs and (2) to measure the cultural impact on users' behavior. The study focusses on two popular MAs in France and Russia with similar functionalities and developed to cover the local users' needs or expectations. Both countries were impacted by the recession in the restaurant industry. Affected by the decline linked to the terrorist attacks, the French restaurant industry showed a loss in turnover between 3% and 4.5% in 2015. Paris and the Côte d'Azur are the most affected areas. In quarterly economic reports, the "Groupement National des Indépendants de l'Hôtellerie" reported a decrease of around 4.5% in restaurateurs' turnover in 2016, as well, with a stabilization beginning of 2017. By the end of 2014, the total Russian foodservice decreased by 8%. One of the main reasons was the weak consumer purchasing power of the population. With a falling economy and depreciation ruble, consumers rather preferred to save money. Moscow restaurateurs noticed a drop of average check by 20-25%. Midrange restaurants with average price at 2,000 rubles (€27) are the ones having the biggest drop in clientele, while lower cost restaurants (i.e., fast food) were reporting good sales (Rosstat, 2017). The number of restaurants in Paris and Moscow areas is quite similar, with 16,683 in Paris (Key figures, 2018) and 11,087 in Moscow (Rosstat, 2018).

The paper is organized as follows. The first section introduces a literature review on all the constructs of the research model. The second section illustrates the methodology the authors selected. Then, the third section presents and discusses the results. Finally, the last section includes the conclusion and future research.

BACKGROUND

Intention to Use a Mobile Application

The central concept of this study is the "intention to use," which is a determinant of technology adoption (Davis, 1993; Im, Hong, & Kang, 2011). Several frameworks and models were developed to explain the behavioral intention to use technology, such as the technology acceptance model (TAM) (Davis, 1985), its extension TAM2 (Venkatesh & Davis, 2000), the unified theory of acceptance and use of technology (UTAUT) (Venkatesh et al., 2003), and the extended UTAUT2 (Venkatesh, Thong, & Xu, 2012). Behavioral intention is defined as the individual's decision about the use of technology. Strong intention to use can be developed based on: (1) The financial and nonfinancial benefits or price value (Hsu & Lin, 2015; Venkatesh et al., 2012); (2) the use of trusted brands of MAs (Li & Yeh, 2010); (3) the technical support or facilitating conditions (Venkatesh et al., 2012); (4) the appropriate functionality and design or MA usability (Hoehle & Venkatesh, 2015); (5) the loyalty programs (Balakrishnan & Griffiths, 2018). For the purpose of this research, three variables were mobilized to measure their impact on intention to use: usability, trust, and loyalty.

Usability

MAs can influence customers' experiences by providing them with information to answer their needs. System/information quality and interface design are shown to influence the intention to use a MA (Hoehle & Venkatesh, 2015). Thus, usability impacts user behavior both in technology adoption

and context of use by providing the basis for standardization, which might eliminate boundaries between countries. MA usability is defined as “the extent to which a mobile application can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use” (Hoehle & Venkatesh, 2015, p.437). This research focuses on MAs users in Paris and Moscow (specified users), using the application to search a restaurant and/or to book a table (specified goals) in restaurants (specified context). Restaurant guides on MAs are task-oriented (table booking) and can be considered as utilitarian. Therefore, usability might be key for the user, such as easy start, automatic registration with email or social network account, and location-based technology. Users can evaluate these design elements within two seconds; longer usage is needed to evaluate the structure of information, and perceived usability impacts users’ preference for one MA compared to another one, or other booking or searching tools, such as Web site and phone (Ryan & Gonsalves, 2005; Venkatesh & Ramesh, 2006).

If the users develop positive attitude toward the technology, its usability is a strong predictor of loyalty (Hoehle & Venkatesh, 2015). Features such as a localization, data storage or instant start not only impact the intention to use, but also induce the intention to use it again by developing loyalty. MA loyalty is key for practitioners, especially in a competitive industry, if the MA is free of charge (Wang, Lai, & Lin, 2016). The authors postulate that:

H1: Usability impacts positively the intention to use the MA.

H2: Usability impacts positively loyalty.

Trust

As the use of mobile technology often involves the disclosure of personal data, many researchers have investigated trust as a relevant construct for technology adoption models (Bansal et al., 2016; Venkatesh, Thong, Chan, Hu, & Brown, 2011). The conceptualization of trust on the Internet emerged in studies of e-commerce, when the user is obliged to disclose private information (credit card numbers). Nevertheless, the importance of trust depends on context; for example, trust is key for the acceptance of mobile banking applications. In mobile restaurant guides, the importance of trust is directly linked to the level of the required information, such as name, e-mail address, and phone number, and to the localization application which is used. Therefore, the user can perceive risks that his/her data could be used in an inappropriate way (e.g., spam and rent of email list to third party), or his/her account hacked. This paper considers trust in the context of the commitment-trust theory in relationship to marketing (Sirdeshmukh Singh, & Sabol, 2002; Vivek, Beatty, & Morgan, 2012), in which trust is defined as “confidence in an exchange partner’s reliability and integrity” (Morgan & Hunt, 1994, p.23). The use of a MA in the restaurant industry for table booking involves multilevel relationships (Palmatier, 2008): interfirm, individual-to-firm, and interpersonal. The user addresses four different levels of trust, trust in: the smartphone, service providers, other clients, and restaurant marketers (Yadav, Sharma, & Tarhini, 2016). Trust about the MA will usually expand to all the restaurants which are listed in the application (i.e., the users believe that the reviews are fair, and the ratings are independent). Conversely, users can lose trust in the restaurant, if false information is published, or if the service received is poor. Gefen (2000) pointed out the importance of trust and its influence on behavioral intention as users will select an application on which they rely. Loyalty as an attitudinal concept depends on users’ trust in a product or service (Cossío-Silva, Revilla-Camacho, Vega-Vázquez, & Palacios-Florencio, 2016). Many studies have focused on the relationship between trust and loyalty (Baloglu et al., 2014), two significant predictors of intention to use. Trust is a direct antecedent of loyalty behavior (Baloglu et al., 2014) and a significant predictor of intentions to revisit and spread positive word-of-mouth messages (about users’ experience in a restaurant) (Han & Jeong, 2013). Thus, the authors postulate:

H3: Trust impacts positively the behavioral intention to use the MA.

H4: Trust impacts positively on loyalty.

Loyalty

Loyalty is a complex concept. It involves relationships between a user and a technology, between a user and a specific brand, and even between a user and restaurant establishments. Loyalty is conceptualized as behavioral or attitudinal, or as a combination of both (Almeida-Santana & Moreno-Gil, 2018). Behavioral loyalty is found in repeated purchases and recommendations. As to new technologies, researchers consider e-loyalty as key to drive revisits to a Web site/MA or repurchases from e- or m-vendors (Ozturk, Nusair, Okumus, & Singh, 2017). The context of MA usage can also influence behavioral loyalty (Balakrishnan & Griffiths, 2018; Gupta, Pansari, & Kumar, 2018). Hoehle and Venkatesh (2015) define loyalty as the degree to which a user has a deeply held commitment to repatronize a MA. In the situation of booking a table in a restaurant, a user has several ways to do it by going to the restaurant, phone, using search engine on mobile devices, or using a MA. If the user has developed loyalty toward one tool, his/her intention to use this tool will be higher. As Hoehle and Venkatesh (2015) recommend, the research will focus on the intention to use a MA, and not to measure the brand impact of a MA. The authors postulate that:

H5: Loyalty impacts positively the behavioral intention to use the MA.

Moderating Effect of Culture

Cultural backgrounds are relevant when determining how consumers meet their needs and their expectations (Ko, Seo, & Jung, 2015; Monga & John, 2008). Traditionally, researchers compare Western and Asian cultures. Russia sits in the middle of the two major streams of world history—the East and the West (Berdyayev & Bamford, 1992). Therefore, Russian society is often characterized by a combination of the values of both Western and Asian cultures. However, a philosophy which is known as the “special way,” a particularly Russian national idea (Belyaev, 2012), has emerged to replace perceptions of the country as backward, both economically and politically (Miller, 2012). As a tourist destination, the image and reputation of the country are key, particularly when it comes to destinations such as Russia, which is in crisis or recovering from crisis, with limited official information made available to potential visitors (Andrades & Dimanche, 2017).

As to cultural differences in technology acceptance, Gefen (2000) discussed different perceptions of Web site quality. In the domain of tourism, Web sites from various sectors have been analyzed in depth, particularly in the restaurant industry (Johnson & Vanetti, 2005; Moreo et al., 2007). Daries, Cristobal-Fransi, Ferrer-Rosell, and Marine-Roig (2018) found few differences between restaurant Web sites in Italy, Spain, and France. In their study, Italian restaurants stood out more for services, such as the announcement of news and events, whereas Spanish restaurants provided more information (e.g., location and parking). French establishments focused on prices and tourist information for the local area (Daries et al., 2018). Culture impacts MA usability, as it has an influence on users' expectations about MA structure and design.

Hypothesis One of Moderating Effect: Culture impacts the relationship between trust (Hm1), usability (Hm2), and loyalty (Hm3) on the intention to use.

Hypothesis Two of Moderating Effect: Culture impacts the relationship between trust (Hm4) and usability (Hm5) on loyalty.

Figure 1 illustrates all the hypotheses.

Figure 1. Global research model

Moderating effect of culture on relationships impacting intention to use (Hm1, Hm2, Hm3) and loyalty (Hm4 and Hm5)

METHODOLOGY

The authors collected data in two capitals: Paris (France) and Moscow (Russia). The choice of survey destinations was based on the context analysis of restaurant industry in these two areas. The authors found some similarities and differences that can help understand the users' behavior.

Sample

For the sampling strategy, the authors used a nonprobability convenience sample. The researchers collected data in cooperation with MA providers in Paris, for France, and in Moscow, for Russia. In order to reach the users of the MA, the authors included a self-administered online survey in the newsletters of both companies and published it on Facebook and VK (a Russian social network). In Spring 2017, the authors collected a sample of 244 responses from MA users (123 from Paris/Paris area and 121 from Moscow and its suburbs) for analysis. Table 1 details the social characteristics of the sample. Most respondents (around 55%) were digital natives, born after 1980 and employed (close to 70%). The researchers conducted a quantitative research with the partial least squares structural equation modeling approach (Hair, Ringle, & Sarstedt, 2011), to analyze the relationships of the model, using the SmartPLS3 software (Ringle, Wende, & Becker, 2014). The SmartPLS3 software enables analysis of the global model and of subgroups, even in case of small sample sizes, using the multigroup analysis. Two subgroups were identified by country (France and Russia).

Measurement Items

The authors adopted measurement items from prior research to build the model (Table 5). The researchers mobilized Venkatesh et al.'s (2012) scale to measure intention to use, Hoehle and Venkatesh's (2015) scale for usability, and Morgan and Hunt's (1994) and Venkatesh et al.'s (2011) studies for trust. The measurement items were adapted to the context of the MA use in the restaurant

Table 1. Professional occupation and age of the responders

Social Characteristics	Type	France	%	Russia	%	Total	%
Age	18-24	20	16	21	17	41	17
	25-34	46	38	50	41	96	39
	35-49	28	23	48	40	76	31
	> 50	29	23	2	2	31	13
	Total	123	100	121	100	244	100
Occupation	Manager/ Entrepreneur	21	17	69	57	90	37
	Employee	67	54	14	11	81	33
	Student	21	17	23	19	44	18
	No activity	2	2	6	5	8	3
	Other	10	8	11	8	21	9
	Total	123	100	121	100	244	100

business. The items were translated into Russian and French. The questionnaire used two types of scales: (i) A five-point Likert agreement scale (strongly agree-strongly disagree); (ii) a five-point Likert frequency scale. Griffin, Babin, and Christensen (2004) indicated that the important issue of measurement items in cross-cultural studies is in the translation equivalence. Questions were checked by bilingual researchers specialized in marketing for each country: English/French and English/Russian. In addition, academic researchers prechecked the measurement items.

RESULTS AND FINDINGS

Reliability

The authors checked the reliability of the outer model by verifying that the Cronbach's alpha is above the recommended threshold of 0.7 and, as Fornell and Larcker (1981) recommended, that the composite reliability values are all above 0.5 (Table 2).

Table 2. Reliability

	Cronbach's Alpha			Composite Reliability		
	Global Model	France	Russia	Global Model	France	Russia
Intention to Use	0.790	0.806	0.762	0.904	0.912	0.888
Loyalty	0.909	0.898	0.908	0.933	0.925	0.932
Trust	0.870	0.830	0.896	0.939	0.919	0.951
Usability	0.902	0.849	0.940	0.953	0.929	0.971

Validity

The average values extracted coefficient, all above the threshold of 0.5, confirmed the convergent validity of the outer model (Table 6). As Hair, Sarstedt, Ringle, and Mena (2012) recommended, the authors-controlled discriminant validity by verifying that no indicators are loading higher on an opposite variable and by using the Fornell-Larcker criterion (1981) (Table 7). Results confirm the validity and reliability of the outer model.

Inner Model

In order to test the inner model, the R^2 , f^2 , and Q^2 values of the variables are controlled. The relationship between the variables are estimated by analyzing that the path coefficients (β) are above 0.200, t-values are $>$ at 1.96, and p-values below 0.05 (Figure 2). The model explains that 55.1% of intention to use

Figure 2. Results of the global model

is determined by loyalty ($\beta=0.660$, $t=9.895$, $p=0.000$), but not by trust ($\beta=0.038$, $t=0.569$, $p=0.570$) and usability ($\beta=0.086$, $t=1.193$, $p=0.234$). The size effect value f^2 at 0.502 confirms the huge impact of loyalty on intention to use. Therefore, H5 is validated, and H1 and H3 are rejected (Table 3).

The R^2 (0.483) indicates that the model explains a significant amount of the variance of loyalty which is determined by trust ($\beta=0.502$, $t=7.744$, $p=0.000$) and usability constructs ($\beta=0.242$, $t=3.438$, $p=0.001$). Nevertheless, the impact of trust is higher ($f^2=0.245$) than that of usability ($f^2=0.057$). H4 and H2 are both validated. The values of Q^2 , all above 0 (Henseler, Ringle, & Sinkovics, 2009), confirm the good predictive relevance of the model intention to use (0.426) and loyalty (0.330). The quality of the hypothetical model is both confirmed by the standardized root mean square residual at 0.056, below the recommended threshold of 0.1 (Henseler, Hubona, & Ray, 2016) and by the goodness of fit at 0.66 (Latan & Ghazali, 2012).

On the five hypotheses, three are validated and two are rejected. The hypotheses regarding the moderating effect are discussed below.

Table 3. Test of the hypotheses (O = rejected, X = validated)

Construct	Predictor	R ²	f ²	β	t-Value	p-Value	Q ²	H
Intention to use		0.551					0.426	
	Loyalty		0.502	0.660	9.895	0.000		X
	Trust		0.001	0.038	0.569	0.570		O
	Usability		0.008	0.086	1.193	0.234		O
Loyalty		0.483					0.330	
	Trust		0.245	0.502	7.744	0.000		X
	Usability		0.057	0.242	3.438	0.001		X

Moderating Effect of Country

The authors used the bootstrapping procedure to measure the impact of a country on all the relationships of the model. Table 4 summarizes the results. The impact of loyalty on intention to use is positive, direct, and significant, even if the β is higher in France (0.856) than in Russia (0.319). Therefore, Hm3 is rejected. The impact of usability on intention to use is rejected by

Table 4. Moderating effect of country

	France				Russia			
	Path Coefficient	t-Values	p-Values	H	Path Coefficient	t-Values	p-Values	H
Loyalty->Intention to Use	0.856	17.829	0.000	X	0.319	2.343	0.019	X
Trust->Intention to Use	(-0.044)	0.687	0.492	O	0.425	2.961	0.003	X
Trust->Loyalty	0.327	3.677	0.000	X	0.682	5.703	0.000	X
Usability->Intention to Use	0.042	0.791	0.429	O	0.015	0.115	0.909	O
Usability->Loyalty	0.362	3.608	0.000	X	0.083	0.640	0.523	O

both countries, as the β and the t-values are below the recommended thresholds, and the p-values are above 0.05 (France: $\beta = 0.042$, $t = 0.791$, $p = 0.429$; Russia: $\beta = 0.015$, $t = 0.115$, $p = 0.909$). Thus, Hm2 is rejected. Trust has a positive, significant, and direct impact on loyalty for France ($\beta = 0.327$, $t = 3.677$, $p = 0.000$) and Russia ($\beta = 0.682$, $t = 5.703$, $p = 0.000$), therefore the hypothesis Hm4 is rejected. The β in Russia (0.682) is higher than in France (0.327). The researchers identified differences in results: (1) The impact of trust on intention to use is positive, direct, and significant in Russia ($\beta = 0.425$, $t = 2.961$, $p = 0.003$), but has been rejected in France ($\beta = -0.044$, $t = 0.687$, $p = 0.492$); thus, Hm1 is validated; (2) the impact of usability on loyalty is positive, direct, and significant in France ($\beta = 0.362$, $t = 3.608$, $p = 0.000$), but not in Russia, where the β (0.083) is below 0.200, the t-value (0.640) below 1.96, and the p-value (0.523) is above 0.05. Therefore, Hm5 is validated.

On the five hypotheses measuring moderating effect of culture on all relationships of the model, three are rejected, as no difference has been identified (Hm2, Hm3, and Hm4), and two validated (Hm1 and Hm5).

DISCUSSION

This paper addresses the theoretical background of a MA in the restaurant industry, mainly related to users' intention to use. Few studies have examined the adoption of mobile technology in different contexts (Kim, Kim, & Wachter, 2013; Silic & Back, 2016). One of the predictors of the intention to use the authors discussed is usability, considered key for the success of a MA (Shitkova, Holler, Heide, Clever & Becker, 2015). Usability allows individuals to use products and services more easily. Poor usability reduces the user's productivity and enjoyment (Shitkova et al., 2015). Even the most loyal user will stop using a MA in the case of poor usability or design issues (Hoehle & Venkatesh, 2015). Hoehle and Venkatesh (2015) found the positive effect of usability on continued intention to use. Some authors found that usability will not necessarily result in a positive impact on intention to use (Chen & Yen, 2004), depending on complexity and design. This paper confirms that usability does not influence intention to use a MA for the global sample. Applications are simple to use and obvious. Nevertheless, the authors found a direct link between usability and loyalty, confirming Hoehle and Venkatesh's (2015) study. A nonsignificant relationship, between usability and intention to use implies that intention to use a MA, might depend on other factors than usability (Belanche et al., 2012).

Many researchers in different contexts (i.e., m-banking and m-commerce) tested and confirmed the impact of trust on technology adoption and use (Bansal et al., 2016; Venkatesh et al., 2011). The development of mobile technology has resulted in privacy concerns about the disclosure of personal data (Bansal et al., 2016). However, the booking of a table using mobile devices requires a minimum of personal data. Therefore, the impact of trust on the intention to use is not significant; indeed, users perceive little risk when using the MA, as no financial transaction is required (Hillman & Neustaedter, 2017). On the other hand, this study confirms the impact of trust on loyalty, in accordance with previous studies (Hong & Cho, 2011; Hong, 2018). Furthermore, the positive effect of loyalty on intention to use is confirmed, thus, as the authors expected, loyal users intend to use a product or service more likely (Balakrishnan & Griffiths, 2018). Researchers, who have empirically examined the relationship between trust and loyalty, found that trust is a key determinant of brand loyalty (Chaudhuri & Holbrook, 2001; Flavián, Guinalíu, & Gurrea, 2006; Lin & Wang, 2006). In line with m-commerce studies, prior research in m-booking suggested that users will not become involved in the use of MAs, if they do not trust them, and that trust plays a major role in users' attitudes and loyalty (Ozturk et al., 2017). This paper also presents an analysis of the moderating role of culture. Indeed, the originality of this research lies in the cross-cultural comparison of French and Russian users. The two countries are different by their economic development, purchasing power of population, number of smartphone users, and number of restaurants, but the applications propose similar features.

Few researches discuss the acceptance of technology in Russia (Ivanov, Webster, & Garenko, 2018), despite the ability of local developers to create different low-cost MAs. In terms of technology, Russia represents specific markets by having its own searching engine and social networks (Gokhberg & Sokolov, 2017). Only two relationships of the model are impacted by culture: (1) Trust and intention to use (validated in Russia, rejected in France), and (2) usability and loyalty (validated in France and rejected in Russia). Culture is viewed from several different perspectives in technology use and adoption research (Hofstede, 2001; Hofstede & Minkov, 2010). The impact of trust on intention to use is closely connected with attitudes to privacy that differ from country to country (Lee & Rha, 2016; Wu, Huang, Yen, & Popova, 2012). Smith, Milberg, and Burke (1996), by investigating cultural influences on attitudes to privacy, found that it depends on country's privacy regulation. As a result, in countries with no privacy regulation, but with high government involvement, concerns about privacy are at a low level. Thus, no trust is involved in the disclosure of personal data. When privacy regulation increases, privacy concerns also increase, up to the point where privacy regulation is at the highest level. Privacy regulation in the European Union (Hodges, 2018) and France (Gauzente, 2003) confirms the results regarding the relationship between trust and intention to use. On the other hand, Russian privacy regulation (Gudkov, Dedkova, & Dudina, 2018) leaves a certain amount of

room for interpretation, meaning that a high level of trust is needed to reduce privacy concerns, even if the use of a MA does not involve a financial transaction. In this research, the authors used two MAs. The difference in design, functionality, and branding (Stoll, Pina, Gary, & Amresh, 2017) significantly influenced attitudes toward MA usability and, consequently, the relation between usability and m-loyalty (Hoehle & Venkatesh, 2015; Shitkova et al., 2015). The strong effect identified in the French group might depend on the greater usability of the MA (Malik, Suresh, & Sharma, 2017). Nevertheless, a cultural moderating effect lies in the different level of the importance of usability—high in France and low in Russia—in relation to MA loyalty. French users' loyalty correlates with level of satisfaction with an application and is in line with prior studies (Belanche et al., 2012; Kim & Eom, 2002). The authors found that no effect of usability on loyalty in the Russian group correlates with trust transfer (Yadav et al., 2016). In other words, attitudes toward a MA were positive because of generally positive attitudes toward the brand of the MA as a well-known brand for restaurant services.

CONCLUSION

The important approach of this research is a cross-cultural comparison between France and Russia in the restaurant industry. Indeed, this is the first study comparing Russia with a Western country. The purpose of the research was mainly to analyze if cultural differences could affect the relationship between the variables of the model. Findings are useful for both theory development and practice. The study investigated: (1) Trust as an important variable for technology adoption; (2) loyalty, that is a desired marketing outcome; (3) usability, which is a major element of a MA. Each result was expressed for three groups: Global sample, and Russian and French groups to explore possible differences. From a theoretical point of view, the authors highlighted key roles, such as economic development, purchasing power, politic stability or the respondent's profile (older in Russia and with management position). Results confirm that trust impacts intention to use (Bansal et al., 2016; Hillman & Neustaedter, 2017), but only for the Russian group, and not for the global sample and for the French group. Thus, stronger legal regulation in France decreased the concerns and significance of trust, on the other hand less clear legislation in Russia requires trust in technology. On the opposite, usability impacts loyalty, as other researches confirmed (Belanche et al., 2012; Kim & Eom, 2002) for the global sample and the French group, but not the Russian one. From a managerial point of view, the understanding of usability constructs could help developers to improve MA. Cultural comparison showed the similarities and differences of intention to use a MA, which might be interesting for international MA providers. However, this research has some limitations. First, in order to be consistent, the authors decided to submit the questionnaire to users from two major MAs (one in France and one in Russia) with identical functionalities, to guarantee that respondents would use the similar tool in their local country. Nevertheless, some specific design, characteristics, and promotions of each MA can influence the user's perception of the MA. Second, respondents are representatives of the middle and upper-middle classes in both countries the authors surveyed, and they are therefore not representative of the global population. Finally, the study focused on only two countries and the two capitals, so results could differ in other countries with different cultures or in smaller cities.

FUTURE RESEARCH

It would be useful to test the model in other domains, such as tourism (e.g., museums booking), hospitality industry (e.g., hotels booking), or accompanying services (e.g., taxi). Other research could also replicate the model using other MA for restaurants. In addition, the model should be tested in countries with a different culture, such as the Asian culture (China/Japan/South Korea) or the Anglo-Saxon culture (United States of America/United Kingdom).

REFERENCES

- Al-Otaibi, S., Aljohani, N. R., Hoque, M. R., & Alotaibi, F. S. (2018). The satisfaction of Saudi customers toward mobile banking in Saudi Arabia and the United Kingdom. *Journal of Global Information Management*, 26(1), 85–103. doi:10.4018/JGIM.2018010105
- Almeida-Santana, A., & Moreno-Gil, S. (2018). Understanding tourism loyalty: Horizontal vs. destination loyalty. *Tourism Management*, 65, 245–255. doi:10.1016/j.tourman.2017.10.011
- Andrades, L., & Dimanche, F. (2017). Destination competitiveness and tourism development in Russia: Issues and challenges. *Tourism Management*, 62, 360–376. doi:10.1016/j.tourman.2017.05.008
- Balakrishnan, J., & Griffiths, M. D. (2018). Loyalty towards online games, gaming addiction, and purchase intention towards online mobile in-game features. *Computers in Human Behavior*, 87, 238–246. doi:10.1016/j.chb.2018.06.002
- Balasubramanian, S., & Mahajan, V. (2001). The economic leverage of the virtual community. *International Journal of Electronic Commerce*, 5(3), 103–138. doi:10.1080/10864415.2001.11044212
- Bansal, G., Zahedi, F. M., & Gefen, D. (2016). Do context and personality matter? Trust and privacy concerns in disclosing private information online. *Information & Management*, 53(1), 1–21. doi:10.1016/j.im.2015.08.001
- Belanche, D., Casaló, L. V., & Guinalíu, M. (2012). Website usability, consumer satisfaction, and the intention to use a website: The moderating effect of perceived risk. *Journal of Retailing and Consumer Services*, 19(1), 124–132. doi:10.1016/j.jretconser.2011.11.001
- Belyaev, A. (2012). The problem of Russia's "special way". *Gramota. Problems of Theory and Practice*, 1(3-2), 30–32.
- Berdyayev, N., & Bamford, C. (1992). *The Russian idea*. New York, NY: Lindisfarne Press.
- Chaudhuri, A., & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affect to brand performance: The role of brand loyalty. *Journal of Marketing*, 65(2), 81–93. doi:10.1509/jmkg.65.2.81.18255
- Chen, K., & Yen, D. C. (2004). Improving the quality of online presence through interactivity. *Information & Management*, 42(1), 217–226. doi:10.1016/j.im.2004.01.005
- Cossío-Silva, F. J., Revilla-Camacho, M. Á., Vega-Vázquez, M., & Palacios-Florencio, B. (2016). Value co-creation and customer loyalty. *Journal of Business Research*, 69(5), 1621–1625. doi:10.1016/j.jbusres.2015.10.028
- Daries, N., Cristobal-Fransi, E., Ferrer-Rosell, B., & Marine-Roig, E. (2018). Maturity and development of high-quality restaurant websites: A comparison of Michelin-starred restaurants in France, Italy, and Spain. *International Journal of Hospitality Management*, 73, 125–137. doi:10.1016/j.ijhm.2018.02.007
- Davis, F. D. (1985). *A technology acceptance model for empirically testing new end-user information systems: Theory and results* [Doctoral dissertation]. MIT, Cambridge, MA.
- Davis, F. D. (1993). User acceptance of information technology: System characteristics, user perceptions, and behavioral impacts. *International Journal of Man-Machine Studies*, 38(3), 475–487. doi:10.1006/imms.1993.1022
- Flavián, C., Guinalíu, M., & Gurrea, R. (2006). The role played by perceived usability, satisfaction, and consumer trust on website loyalty. *Information & Management*, 43(1), 1–14. doi:10.1016/j.im.2005.01.002
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *JMR, Journal of Marketing Research*, 18(3), 382–388. doi:10.1177/002224378101800313
- Gauzente, C. (2003). Vie privée et Internet: La pratique des sites français. *Décisions Marketing*, 30, 7–17.
- Gefen, D. (2000). E-commerce: The role of familiarity and trust. *Omega*, 28(6), 725–737. doi:10.1016/S0305-0483(00)00021-9
- Gokhberg, L., & Sokolov, A. (2017). Technology foresight in Russia in historical evolutionary perspective. *Technological Forecasting and Social Change*, 119, 256–267. doi:10.1016/j.techfore.2016.06.031

Griffin, M., Babin, B. J., & Christensen, F. (2004). A cross-cultural investigation of the materialism construct: Assessing the Richins and Dawson's materialism scale in Denmark, France, and Russia. *Journal of Business Research*, 57(8), 893–900. doi:10.1016/S0148-2963(02)00290-4

Groupeement National des Indépendants de l'Hôtellerie Restauration. (n.d.). Retrieved from <https://gni-region-sud.fr/>

Gudkov, A., Dedkova, E., & Dudina, K. (2018). The main trends in the Russian tourism and hospitality market from the point of view of Russian travel agencies. *Worldwide Hospitality and Tourism Themes*, 10(4), 412–420. doi:10.1108/WHATT-03-2018-0017

Gupta, S., Pansari, A., & Kumar, V. (2018). Global customer engagement. *Journal of International Marketing*, 26(1), 4–29. doi:10.1509/jim.17.0091

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–152. doi:10.2753/MTP1069-6679190202

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414–433. doi:10.1007/s11747-011-0261-6

Han, H., & Jeong, C. (2013). Multi-dimensions of patrons' emotional experiences in upscale restaurants and their role in loyalty formation: Emotion scale improvement. *International Journal of Hospitality Management*, 32, 59–70. doi:10.1016/j.ijhm.2012.04.004

Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: Updated guidelines. *Industrial Management & Data Systems*, 116(1), 2–20. doi:10.1108/IMDS-09-2015-0382

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In G. Sinkovics (Ed.), *New challenges to international marketing* (pp. 277–319). Bingley, UK: Emerald Group Publishing Limited. doi:10.1108/S1474-7979(2009)0000020014

Hillman, S., & Neustaedter, C. (2017). Trust and mobile commerce in North America. *Computers in Human Behavior*, 70, 10–21. doi:10.1016/j.chb.2016.12.061

Hodges, C. J. S. (2018). Delivering data protection: Trust and ethical culture. *European Data Protection Law Review*, 4(1), 65–79. doi:10.21552/edpl/2018/1/9

Hoehle, H., & Venkatesh, V. (2015). Mobile application usability: Conceptualization and instrument development. *Management Information Systems Quarterly*, 39(2), 435–472. doi:10.25300/MISQ/2015/39.2.08

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations*. Thousand Oaks, CA: Sage Publications.

Hofstede, G., & Minkov, M. (2010). Long-versus short-term orientation: New perspectives. *Asia Pacific Business Review*, 16(4), 493–504. doi:10.1080/13602381003637609

Hong, I. B. (2018). Building initial trust in an intermediary in B2C online marketplaces: The Korean evidence from Interpark.com. *Journal of Global Information Management*, 26(2), 27–47. doi:10.4018/JGIM.2018040102

Hong, I. B., & Cho, H. (2011). The impact of consumer trust on attitudinal loyalty and purchase intentions in B2C e-marketplaces: Intermediary trust vs. seller trust. *International Journal of Information Management*, 31(5), 469–479. doi:10.1016/j.ijinfomgt.2011.02.001

Hsu, C. L., & Lin, J. C. C. (2015). What drives purchase intention for paid mobile apps? An expectation confirmation model with perceived value. *Electronic Commerce Research and Applications*, 14(1), 46–57. doi:10.1016/j.elerap.2014.11.003

IAU île-de-France, Paris Ile-de-France Regional Chamber of Commerce and Industry, Paris Region Entreprises. (2018). *Key figures*. Paris, France: Vincent Gollain, Christine Tarquis, Yves Burfin, Isabelle Savelli, Isaac Marcos Behmaras, Florence Humbert

Im, I., Hong, S., & Kang, M. S. (2011). An international comparison of technology adoption: Testing the UTAUT model. *Information & Management*, 48(1), 1–8. doi:10.1016/j.im.2010.09.001

- Ivanov, S., Webster, C., & Garenko, A. (2018). Young Russian adults' attitudes towards the potential use of robots in hotels. *Technology in Society*, 55, 24–32. doi:10.1016/j.techsoc.2018.06.004
- Johnson, C., & Vanetti, M. (2005). Locational strategies of international hotel chains. *Annals of Tourism Research*, 32(4), 1077–1099. doi:10.1016/j.annals.2005.03.003
- Kim, E. B., & Eom, S. B. (2002). Designing effective cyber store user interface. *Industrial Management & Data Systems*, 102(5), 241–251. doi:10.1108/02635570210428276
- Kim, Y. H., Kim, D. J., & Wachter, K. (2013). A study of mobile user engagement: Engagement motivations, perceived value, satisfaction, and continued engagement intention.
- Kim, Y. H., Kim, D. J., & Wachter, K. (2013, December). A study of mobile user engagement (MoEN): Engagement motivations, perceived value, satisfaction, and continued engagement intention. *Decision Support Systems*, 56, 361–370. doi:10.1016/j.dss.2013.07.002
- Ko, D., Seo, Y., & Jung, S. U. (2015). Examining the effect of cultural congruence, processing fluency, and uncertainty avoidance in online purchase decisions in the U.S. and Korea. *Marketing Letters*, 26(3), 377–390. doi:10.1007/s11002-015-9351-4
- Latan, H., & Ghazali, I. (2012). *Partial least Squares: Concept and application path modeling using program XLSTAT-PLS for empirical research*. Indonesia: Badan Penerbit Universitas Diponegoro.
- Lee, J. M., & Rha, J. Y. (2016). Personalization–privacy paradox and consumer conflict with the use of location-based mobile commerce. *Computers in Human Behavior*, 63, 453–462. doi:10.1016/j.chb.2016.05.056
- Li, Y. M., & Yeh, Y. S. (2010). Increasing trust in mobile commerce through design aesthetics. *Computers in Human Behavior*, 26(4), 673–684. doi:10.1016/j.chb.2010.01.004
- Lin, H. H., & Wang, Y. S. (2006). An examination of the determinants of customer loyalty in mobile commerce contexts. *Information & Management*, 43(3), 271–282. doi:10.1016/j.im.2005.08.001
- Malik, A., Suresh, S., & Sharma, S. (2017). Factors influencing consumers' attitude towards adoption and continuous use of mobile applications: A conceptual model. *Procedia Computer Science*, 122, 106–113. doi:10.1016/j.procs.2017.11.348
- Miller, A. I. (2012). History of the concept of a nation in Russia. Миллер, А. И. История понятия нация в России. *Отечественные записки*, 1, 46.
- Monga, A. B., & John, D. R. (2008). When does negative brand publicity hurt? The moderating influence of analytic versus holistic thinking. *Journal of Consumer Psychology*, 18(4), 320–332. doi:10.1016/j.jcps.2008.09.009
- Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3), 20–38. doi:10.1177/002224299405800302
- Ozturk, A. B., Nusair, K., Okumus, F., & Singh, D. (2017). Understanding mobile hotel booking loyalty: An integration of privacy calculus theory and trust-risk framework. *Information Systems Frontiers*, 19(4), 753–767. doi:10.1007/s10796-017-9736-4
- Palmatier, R. W. (2008). *Relationship marketing*. Cambridge: Marketing Science Institute.
- Ringle, C. M., Wende, S., & Becker, J. M. (2014). SmartPLS 3. Hamburg: SmartPLS. *Academy of Management Review*, 9, 419–445.
- Rosstat. (2018). Retrieved from http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/en/main/
- Ryan, C., & Gonsalves, A. (2005, January). The effect of context and application type on mobile usability: an empirical study. In *Proceedings of the Twenty-eighth Australasian conference on Computer Science-Volume 38* (pp. 115-124). Australian Computer Society, Inc
- Shitkova, M., Holler, J., Heide, T., Clever, N., & Becker, J. (2015). Towards usability guidelines for mobile websites and applications. In *Wirtschaftsinformatik (1603-1617)*. Germany: Springer Fachmedien Wiesbaden.
- Silic, M., & Back, A. (2016). What are the keys to a successful mobile payment system? Case of Cytizi: Mobile Payment System. *Journal of Global Information Management*, 24(3), 1–20. doi:10.4018/JGIM.2016070101

- Sirdeshmukh, D., Singh, J., & Sabol, B. (2002). Consumer trust, value, and loyalty in relational exchanges. *Journal of Marketing*, 66(1), 15–37. doi:10.1509/jmkg.66.1.15.18449
- Smith, H. J., Milberg, S. J., & Burke, S. J. (1996). Information privacy: Measuring individuals' concerns about organizational practices. *Management Information Systems Quarterly*, 20(2), 167–196. doi:10.2307/249477
- Stoll, R. D., Pina, A. A., Gary, K., & Amresh, A. (2017). Usability of a smartphone application to support the prevention and early intervention of anxiety in youth. *Cognitive and Behavioral Practice*, 24(4), 393–404. doi:10.1016/j.cbpra.2016.11.002 PMID:29056845
- Trusov, M., Bucklin, R. E., & Pauwels, K. (2009). Effects of word-of-mouth vs. traditional marketing: Findings from an Internet social networking site. *Journal of Marketing*, 73(5), 90–102. doi:10.1509/jmkg.73.5.90
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186–204. doi:10.1287/mnsc.46.2.186.11926
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *Management Information Systems Quarterly*, 27(3), 425–478. doi:10.2307/30036540
- Venkatesh, V., & Ramesh, V. (2006). Web and wireless site usability: Understanding differences and modeling use. *Management Information Systems Quarterly*, 30(1), 181–206. doi:10.2307/25148723
- Venkatesh, V., Thong, J. Y., Chan, F. K., Hu, P. J. H., & Brown, S. A. (2011). Extending the two-stage information systems continuance model: Incorporating UTAUT predictors and the role of context. *Information Systems Journal*, 21(6), 527–555. doi:10.1111/j.1365-2575.2011.00373.x
- Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *Management Information Systems Quarterly*, 36(1), 157–178. doi:10.2307/41410412
- Vivek, S. D., Beatty, S. E., & Morgan, R. M. (2012). Customer engagement: Exploring customer relationships beyond purchase. *Journal of Marketing Theory and Practice*, 20(2), 122–146. doi:10.2753/MTP1069-6679200201
- Wang, C. S., Lai, C. Y., & Lin, S. L. (2016). What make people getting charged apps instead of free one? *Journal of Global Information Management*, 24(2), 57–74. doi:10.4018/JGIM.2016040104
- Wu, K. W., Huang, S. Y., Yen, D. C., & Popova, I. (2012). The effect of online privacy policy on consumer privacy concern and trust. *Computers in Human Behavior*, 28(3), 889–897. doi:10.1016/j.chb.2011.12.008
- Yadav, R., Sharma, S. K., & Tarhini, A. (2016). A multi-analytical approach to understand and predict the mobile commerce adoption. *Journal of Enterprise Information Management*, 29(2), 222–237. doi:10.1108/JEIM-04-2015-0034

APPENDIX

Table 5. Measurement items

Construct	Item	Question	Theoretical Justification
Intention to use	ITU1	1. I will always try to use a mobile application in my daily life.	Venkatesh, Thong, and Xu (2012)
	ITU2	2. I plan to continue to use a mobile application frequently.	
Usability	USABILITY1	1. Overall, I think the mobile application is designed well.	Hoehle and Venkatesh (2015); Venkatesh and Ramesh (2006)
	USABILITY2	2. Overall, I think the mobile application structures information effectively.	
Trust	TRUST1	1. The information a mobile application provides is always honest.	Palmatier (2008)
	TRUST2	2. The mobile application is trustworthy.	
Loyalty	LOYALTY 1	1. I make more than 50% of my restaurant reservations using a mobile application.	Hoehle and Venkatesh (2015); Sirdeshmukh et al. (2002).
	LOYALTY 2	2. I use a mobile application the very next time to choose a restaurant.	
	LOYALTY 3	3. I encourage friends and relatives to be customers of the mobile application.	
	LOYALTY 4	4. I will use more services the mobile application offers in the next few months/years.	
	LOYALTY 5	5. I consider the mobile application to be my first choice.	

Table 6. Average value extracted

	Average Value
Intention to Use	0.825
Loyalty	0.735
Trust	0.884
Usability	0.910

Table 7. Fornell-Larcker criterion

	Intention to Use	Loyalty	Trust	Usability
Intention to Use	0.908			
Loyalty	0.737	0.857		
Trust	0.543	0.673	0.940	
Usability	0.507	0.596	0.705	0.954

Galina Kondrateva is an assistant professor in EDC Paris Business School in Paris (France). Her research interests are in the marketing and the adoption of technologies, with big part of cross-cultural comparison. The topic of her doctoral thesis comprises comparison of consumer behavior in usage of mobile applications across cultures. Before starting her academical career, she has been working for ten years as an executive director in marketing agency in Russia.

Chantal Ammi is a full professor in marketing at Institute Mines-Telecoms, Telecom Business School in France. Her researches focus on the acceptance of new technologies, innovations, consumer's behavior and Information Systems. She has authored several papers in leading journals of innovation and information systems. She's responsible on editorial activities (2015- Ongoing) in ISTE- Wiley "Innovation and Technologies".

Patricia Baudier is an associate professor of Marketing at Ecole de Management de Normandie in Paris (France). Her research focuses on new technologies acceptance (smart home, IoT's, smart health, etc.), consumers behavior and digital marketing. She spent 28 years within major American companies such as Apple and Kodak, mainly at marketing positions. She has authored several papers in leading journals of innovation, management and marketing. She co-authored a glossary on digital. She is a program chair of the 2019 FEMIB of Heraklion, an international conference (INSTICC).