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## Don't believe the hype: a grounded exploratory six country wine purchasing study

Jean-Éric Pelet<sup>a</sup>, Benoît Lecat<sup>b</sup>, Jashim Khan<sup>c</sup>, Sharyn Rundle-Thiele<sup>d</sup>, Linda W. Lee<sup>e</sup>, Debbie Ellis<sup>f</sup>, Marianne M. C. Garry Wolf<sup>b</sup>, Anne Lena Wegmann<sup>g</sup>, Niki Kavoura<sup>h</sup> and Vicky Katsoni<sup>h</sup>

<sup>a</sup>ESCE International Business School, Paris, France; <sup>b</sup>Wine and Viticulture Department, California Polytechnic State University, San Luis Obispo, CA, USA; <sup>c</sup>Department of Marketing, University of Surrey, Guildford, UK; <sup>d</sup>Social Marketing @ Griffith, Griffith University, Nathan, Australia; <sup>e</sup>KTH Royal Institute of Technology, Stockholm, Sweden; <sup>f</sup>Department of Marketing, University of KwaZulu-Natal, Pietermaritzburg, South Africa; <sup>g</sup>DLR Rheinpfalz, Breitenweg, Germany; <sup>h</sup>Technological Educational Institute (T.E.I.) of Athens, Athens, Greece

### ABSTRACT

The purpose of this exploratory study was to understand the extent that consumers report purchasing wine on mobile devices and to empirically examine potential drivers of m-wine purchasing across six countries to guide theoretical research enquiry moving forward. Purposive sampling was employed. An online survey involving 2853 respondents from France, Germany, Greece, Canada, US and South Africa forms the basis for the current study. The results of the study indicate that though mobile phone usage, wine consumption and purchasing rates are high, mobile-wine purchasing prevalence is low within all six countries. While technology hype has us believe an online presence is essential for business revenue growth and performance; the current study indicates wineries should carefully consider consumer readiness towards mobile-wine purchasing. Limitations and recommendations for future research are identified.

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Wine; e-commerce; mobile commerce; cross-cultural; m-wine purchasing; consumer behaviour

## Background

Industry reports lead strategists, researchers and the like to believe that consumers are increasingly turning to mobile devices to access the Internet and consequently purchase consumable and collectable products (Agnoli, Begalli, & Capitello, 2011; Crescimanno & Galati, 2014; Dvorak, Ritsma, Lai, Strohmenger, & Pappafotopoulos, 2015; Emarketer, 2013; Gartner, 2011). O'Toole (2014) reported that the use of mobile devices doubled compared to laptop/desktop online access in 2014, with two out of three shoppers using smartphones to research, interact and purchase. Mobile transactions are increasing exponentially, with reports indicating that the worldwide mobile payment volume in 2015 was 450 billion US dollars and is expected to surpass 1 trillion US dollars in 2019 (Statista, 2016). Country differences are apparent. For example, in the United States, consumers have about equal access to mobile phones and personal computers. In the BRIC countries (Brazil, Russia, India, and China), there are almost four times as many mobile phone

**CONTACT** Jean-Éric Pelet  [jean-eric.pelet@esce.fr](mailto:jean-eric.pelet@esce.fr)  ESCE International Business School, 10 Rue Sextius Michel, 75015 Paris, France

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subscriptions as there are personal computers while in countries such as Italy and Germany, penetration rates of mobile phones nearly exceed 100%, with some consumers owning more than one mobile phone (Kaplan, 2012). Given mobile penetration rates vary across countries differences in consumer behaviour are expected.

Digital devices are taking an increasingly prominent place in the lives of consumers across the world and the continued growth of smartphones is enabling the surge of mobile commerce (m-commerce). M-commerce is experiencing exponential growth worldwide, with 356% growth rates for sales via smartphones and tablets (Hall, 2012). As Berthon, Mac Hulbert, and Leyland (2005, p. 37) highlight, 'technology and society are reciprocally linked, such that the trajectory of each is co-dependent and emergent'. Technology changes and consequent consumer use are therefore likely to change indicating that all aspects of consumer behaviour need to be monitored. Importantly, technological disruption in the wine industry may have a profound impact on wine consumption in the future (Higgins, Wolf, Bitter, & Amspacher, 2015).

Wine is an experiential good (Higgins et al., 2015) that offers a 'social experience' when shared with others personally or via technology-enabled medium (technology-enabled social interaction) (Shaw, Dibeehi, & Walden, 2010). The mobile Internet in smartphones has created a new paradigm of consumer inclusion in information sharing and decision making (Qualman, 2009). Though Thach (2009) suggests that wineries lagged behind other industries in adopting web 2.0 technologies, recent research has shown that most wineries in the US have adopted a social media presence (Bouquet, 2012) with varying degrees of quality evident. The US market drives social media marketing in wineries with technology-enabled apps in iPhones/iPads and Android devices.

As more consumers access the Internet and other social media using mobile devices, changes in information search and buying behaviours would be expected. For example, buying a product and sharing information in real time are two inherent aspects of the new consumption experience (Pelet & Papadopoulou, 2014), which has implications for wine purchasing. Higgins et al. (2015) demonstrate that there have been efforts from wineries to integrate mobile and social media in their marketing strategies but their research indicates that wine consumers are slow to adopt the new marketing reality. Pelet, Lecat, Taieb, Terbkanche, and Wayes (2016) suggest wineries consider marketing factors to entice customers to engage in mobile-wine purchasing.

Our grounded exploratory study addresses a call for further research by Lockshin and Corsi (2012) and Pelet et al. (2017): m-wine purchasing. The purpose of our study is three-fold: comparing wine purchasing behaviour across six countries; investigating if there is a relationship between m-wine purchasing and spending; examining factors that predict m-wine purchase and empirically assessing the extent (or not) of m-wine purchasing.

### ***Wine consumption, purchasing and marketing***

On a per capita basis, among the countries examined in this study, French wine consumers consumed the most wine in 2011 (see Table 1). Wine consumption by country as a proportion of world consumption in 2011 indicates that consumers in the United States consumed more wine in total than the other countries examined in this study.

Differences in wine consumption in general have been found by gender (Atkin & Johnson, 2010; Atkin, Nowak, & Garcia, 2007; Bruwer, Saliba, & Miller, 2011; Thach,

**Table 1.** Wine consumption by country in 2014 (Wine Institute, 2014).

| Country       | Litres per capita in 2014 | World Consumption in 2014 (%) |
|---------------|---------------------------|-------------------------------|
| France        | 42.51                     | 11.29                         |
| Greece        | 27.86                     | 1.21                          |
| Germany       | 24.84                     | 8.18                          |
| Canada        | 14.75                     | 2.05                          |
| United States | 10.25                     | 13.03                         |
| South Africa  | 7.38                      | 1.46                          |

2012), generation (Barber, Dodd, & Ghiselli, 2008; Bruwer et al., 2011; Olsen, Thach, & Nowak, 2007; Teagle, Mueller, & Lockshin, 2010; Thach & Olsen, 2006), lifestyle (Bruwer & Li, 2007), extent of knowledge of and experience with wine (Barber, Ismail, & Dodd, 2007), choice criteria used in wine purchases (Forbes, 2012; Lockshin & Cohen, 2011) and country (De Magistris, Groot, Gracia, & Albusu, 2011; Goodman et al., 2008; Mueller, Remaud, & Chabin, 2011).

There are differences between online and in-store wine purchasing habits. Online wine purchases tend to be larger, likely due to shipping charges (Stening & Lockshin, 2001) and trust has been found to be a major influencer of online wine purchases (Quinton & Harridge-March, 2003), with reassurance from images, pre-existing reputation and overall impression of the wine seller being particularly important. Recommendations by family and friends enhance trust more than media recommendations (Quinton & Harridge-March, 2008). High price was also found to influence trust particularly of unknown wine providers (Quinton & Harridge-March, 2008). Also in relation to the influence of price, Lynch and Ariely's (2000, p. 100) experiment found that 'making it easy for consumers to compare across stores need not intensify price competition'. Experience with and high usage of the Internet have also been found to be positively related to online wine purchasing (Bruwer & Wood, 2005; Quinton & Harridge-March, 2008).

On the negative side, concerns about financial security (Bruwer & Wood, 2005; Quinton & Harridge-March, 2008; Thach, 2009), slow navigability of the website, insufficient product information (Bruwer & Wood, 2005) and lack of order fulfilment (Bruwer & Wood, 2005; Quinton & Harridge-March, 2008) have all been found to deter online wine purchasing. Time and effort costs can also negatively affect online wine purchasing as reflected in this interview transcript from Pelet and Lecat (2014, p. 11).

Personally I have stopped buying wine on the Internet (from California) and sometimes the Internet offers were great, but the logistics are too cumbersome, such as the winery does not want to ship when the weather gets too hot or too cold (too cold when we lived in New England and now too hot in Florida ...), so you have to wait, sometimes several months ... and if you do not want to wait, you have to pay such a high premium for air shipment that it defeats the purpose ... . In addition there are state laws that prohibit the selling of wine on the Internet, (which is not the case in Europe).

Gebauer and Ginsburg (2003) also state that the time horizon for online wine delivery is problematic as they state that in the USA, wine purchases are mostly impulse purchases with consumption occurring within an hour of purchase. Another deterrent to online wine purchases, particularly of wines unfamiliar to the consumer, is that consumers often want to taste wines before purchase (Goodman et al., 2008). Wine is an experiential product, thus wine sellers are advised to use both online and offline approaches to

facilitate trial but also provide opportunities for consumers to read and share reviews (Thach, 2009).

Berglund and Tinney (2008) report that online wine sales are increasing. However, a 2011 study amongst students in France found limited evidence of online wine purchasing (Pelet & Lecat, 2014). Only 7.4% of respondents were members of a wine group or community. Most of the respondents 'never' used the Internet to look for information on wine (82.1%). When asked what would be important for purchasing wine via their mobile phone, 72.6% named on-time delivery to develop their trust. The fact that the wine is delivered in good condition was important to 76% of respondents. Similarly, an Australian study found that only 12% of respondents had purchased wine from a website and the primary use of the Internet was for information searches and price comparisons (Bruwer & Wood, 2005). Thus literature on online purchasing of wine seems to indicate that differences in behaviour exist across different country markets and further research may be needed to assist researchers to understand factors that drive m-wine purchasing and wine marketers in developing marketing strategies for these different markets.

While consumer involvement in online wine purchasing may be unclear, the wine industry appears to be embracing e-commerce technologies and tools. E-commerce is becoming more widespread in the wine industry with a variety of tools available to provide customer interaction and influence, such as social networks, blogs, vlogs, podcasts and, online virtual communities (Thach, 2009). Although adoption of these tools in the United States has been moderate, Thach (2009) found that the most commonly used tool was wine vlogs or wineries featuring videos on their websites. More recently, Wine.com launched its customised pages featuring personalised product recommendations for individual customers. Customers who log into the site receive unique recommendations based on their recent purchases, product searches and purchases made by customers deemed similar to them. Another recent site addition made to enhance the customer shopping experience is the 'Wine.com Tasting Room', an educational resource to help customers learn about and explore new wines (Wine.com, 2012).

Quinton and Harridge-March (2008) recommend that online wine retailers add avatars to their websites to improve the customer's interactive experience. Many of the tools also facilitate the development of online wine communities and interaction amongst wine consumers (Horowitz, 2012). Recent studies on social media recommend that wine companies need to be involved with and manage interaction with consumers through social networks (Reyneke, Berthon, Pitt, & Parent, 2011; Thach, 2010). E-commerce channels are being used, even by small wineries and wine retailers. They use them to target new online market segments and to communicate directly with customers and side-step the main wine distributors who have traditionally blocked access (Louvrieris, Van Westering, & Driver, 2003).

This research thus sought to determine and compare wine purchase and consumption drawing on data from six nations; to investigate relationship between m-wine purchasing and consumer spending on wine; and to investigate factors that may predict m-wine purchasing. More precisely and based on literature we propose that (1) wine purchase will differ across six countries, (2) wine consumption will differ across six countries and (3) there is a positive relationship between m-wine purchase and consumer spending on wine.

## Exploring additional factors that may predict m-wine purchasing

While m-commerce is feasible, it does not mean all consumers will adopt it globally. Consistent with the Technology Acceptance Model, mobile commerce for a product or service needs to have perceived usefulness and ease-of-use in order to be embraced (Davis, 1989). As reported earlier, issues such as weather impacting service delivery may deter m-wine purchasing suggesting there is a critical role of e-service delivery for online purchases. Pelet, Lecat, et al. (2016) suggested that sales promotion, consumer attitudes towards buying wine on mobile and service delivery attributes of the wine website may explain m-wine purchasing. In this study we have adopted those marketing factors to initially explore m-wine purchasing. Pelet, Ettis, and Cowart (2016) outline the validity and reliability of the scale items applied in this study and the Cronbach alpha and factor analysis for the current study are reported in [Appendix](#). Key study constructs are detailed next in turn.

### Online sales promotion

Online wine sales currently represent less than 5% of total wine sales in developed countries (Higgins et al., 2015), although growth in online sales is expected. The most frequently used online advertising methods are email ads, social media and webpages in a study across numerous industries (Leefflang, Verhoef, Dahlstrom, & Freundt, 2014). Of the various promotional tools, online ads have been found to have a significant positive effect on sales (Peng, Zhang, Zhang, Dai, & Li, 2014). In the US wine industry specifically, Thach, Olsen, and Lease (2014) found that online newsletters, social media and electronic word-of-mouth were the most important online sales promotions. Online sales promotion offers practical advantages (temporal and spatial), financial advantages (through comparing prices) and hedonic ways of consuming (Eroglu, Machleit, & Davis, 2001).

### Positive attitudes towards mobile-wine purchasing

When people are feeling positive, they tend to have more favourable expectations for the future (Masters & Wyndol, 1976). We expect that if consumers have positive attitudes about buying wine using mobile (*i.e.* mobile-wine buying) then they are more likely to make purchases from a wine firm or from a seller's website. This is consistent with Wu, Cheng, and Yen's (2008) study suggesting that attitudes are a significant predictor of purchase intention, which in turn has been empirically shown to explain buying behaviour.

### Service attributes of wine website

Wine is heavy, fragile and difficult to deliver, requiring special care from transportation companies. It is important for e-commerce orders to deliver on time to maintain customer trust and satisfaction (Pelet et al. 2017). Bressolles and Durrieu (2011) suggest that the main components of e-service quality are information, ease-of-use, and the design, reliability and security of the website. Consistent with these components, we conceptualise that service delivery attributes of m-wine purchasing may include follow up communication, on-time delivery, tracking service and low delivery charges and together these are expected to explain m-wine purchasing.

Based on the above discussion, we therefore hypothesise that:

- H1. Online sales promotion positively influences purchase of wine via mobile
- H2. Consumer's positive feelings towards m-wine purchase influences m-wine purchasing
- H3. The service delivery attributes of websites influences m-wine purchases.

## Research methods and analytical techniques

Our quantitative study examined wine purchasing and consumption, and wine purchasing via mobile phones across six countries. The literature review indicated that each country varied in terms of wine consumption levels (Wine Institute, 2014). This research involved 2853 respondents from six countries, including France, Germany, Greece, South Africa, the US and, Canada. Data were collected between the months of October and December using both personal and online questionnaires. The online survey resided on a landing page designed using responsive web design (i.e. adaptable to all screen sizes and devices). The questionnaire was structured into three sections: (1) wine purchasing and consumption, (2) m-wine purchasing and (3) personal information

Since the study objectives were to examine wine purchasing and mobile phone usage, only respondents who were above the legal drinking age in their country were included in analysis. Non-probability criterion-based purposive sampling was used because it allowed the researchers to intentionally select participants who have experience with the central phenomenon or the key concept being explored (Hair, Bush, & Ortinau, 2009). The sample included a large number of students as they are active Internet and mobile users amounting to 42.7% of total respondents. Though our sample is heavily weighted towards younger subjects, it is argued that they are an important group of online consumers (Delafrooz, Paim, & Khatibi, 2010) and are useful as a sample for empirical studies in m-commerce, in line with previous research (e.g. Kim, Ferrin, & Rao, 2008).

To address our research propositions, we asked respondents to answer closed-ended questions about purchase of goods/services via mobile and the type of purchase. Dichotomous categorical data were transformed where 1 represented 'Yes' and 0 represented 'No'. Wine consumption was examined by asking participants about bottles of wine purchased and consumed per month, wine purchase channels, price paid per bottle, and glasses of wine consumed in a typical week. The respondents also provided answers to attitudes towards buying wine through mobiles, specifically about feelings, delivery attributes, sales promotion and website loyalty. Data analysis involved descriptive statistics, cross-tabs and validity tests, one-way analysis of variance (ANOVA) with Tukey post-hoc test for metric data and Kruskal-Wallis test for non-parametric data. To investigate the relationship between m-wine purchasing and consumer spending, we applied point-biserial correlation. To assess our third objective (whether three factors predict purchasing wine via mobile phone or not), logistic regression was utilised where the dependent measure was m-wine purchasing a dichotomous variable (Yes = 1, No = 0) and feelings towards buying m-wine, sales promotion, and service delivery acted as independent measures in the logistic regression model.

## ***Participant characteristics***

The initial sample size was 3317. Screening for legal drinking age and ownership of a smartphone for online access resulted in 464 unusable responses. The final sample was 2853 responses. There were 870 participants from France, 645 from Greece, 502 from Germany, 306 from Canada, 296 from South Africa and 234 from the United States. The sample comprised 61% females and 39% males. Fifty-one per cent of participants were aged under 25 and 19% were aged between 25 and 34 years. Eighty-one per cent were Caucasian. The second largest ethnic group was Middle Eastern and Latin American (MELA), comprising 8%, followed by Asian and African at 6% and 4%, respectively. Seventy-one per cent of respondents live in Western Europe, 19% in North America and 10% in Africa.

## **Results**

### ***Wine purchase and consumption***

When asked how many bottles of wine were purchased in a typical month, statistically significant differences were found between countries. More than one-third (38%) of French respondents reported buying no wine (though they do consume wine) while 62% reported buying one bottle of wine a month. Sixty per cent of respondents in Germany mentioned buying one bottle of wine and the remaining 40% bought two bottles of wine per month. Greek respondents varied in wine purchases per month: 37% bought two bottles, whereas 58% reported buying three to four bottles of wine per month. South African respondents bought more wine compared to the other six countries with 35% reporting purchasing four bottles; 48% purchasing five bottles; and 17.2% purchasing six bottles of wine per month. 10% of respondents from the U.S.A. mentioned purchasing more than seven bottles of wine per month.

When participants were asked about the glasses of wine consumed during a week, 80% said they drank 0–5 glasses, 14% drank 6–10 glasses, 3% drank 11–15 glasses, 2% drank 16–20 glasses and another 2% drank more than 20 glasses of wine.<sup>1</sup> In terms of consumption, South African respondents reported drinking significantly more wine than respondents from France, Germany and Greece.

### ***Wine purchasing channels***

Wine was purchased most frequently (more than 90%) using physical channels, with 56% from supermarkets, 21% from hypermarkets, 12% from wine shops and less than 1% from each of wine fairs, convenience stores and wineries. Wine was purchased less than 5% of the time using online channels, with 3% using laptop/desktop–Internet, and less than 2% using mobile apps (see [Table 2](#)).

### ***Mobile-wine purchase across six countries***

Given the low prevalence of wine purchase via Internet and mobile apps, we sought to investigate the countries that have higher prevalence of online and mobile-wine purchase. We selected responses that represent Internet and mobile apps as wine purchase

**Table 2.** Modes of wine purchase.

| N = 2853          | Frequency (%) |
|-------------------|---------------|
| Supermarket       | 55.9          |
| Hypermarket       | 21.0          |
| Wine Shop         | 11.9          |
| Internet          | 3.0           |
| Mobile Apps       | 1.6           |
| Wine Fair         | .5            |
| Convenience Store | .4            |
| Winery            | .4            |
| Others            | 5.3           |

channels. Data were coded to create categories as follows: 1 = Mobile/online, 0 = Other outlets (see Tables 2 and 3). In order to investigate whether m-wine purchasing varied across six countries, we ran a cross tab by nationality and the newly created dichotomous variable.

Statistically significant differences were observed indicating m-wine and online purchasing prevalence differed by country ( $p = .01$ ). The results indicated m-wine and online purchasing prevalence was highest in South Africa (11.8%), France (7.2%) and the US (6.4), with lower m-wine and online purchasing prevalence observed in Greece (2.3%). Both m-wine and online purchasing were not reported in Canada or Germany.

### **Mobile-wine purchase and spending**

The amount spent on wine per bottle was next examined to understand whether variations were evident between countries using a Kruskal–Wallis Test (see Table 4(a) and (b)).

A statistical difference was found in the most recent price paid for a bottle of wine. Germany and South Africa represented the highest proportion of consumers in the under \$5 category ( $p = .000$ ). Consumers from South African and Germany also represented the half of consumers of wine consumers in the \$5–10 range. Consumers from Canada and the USA presented the highest proportion of consumers in the over \$10 price ranges. Taking all countries together, we selected our data for those respondents who reported buying wine using Internet and mobile app-enabled smartphones ( $N = 131$ ). We found a significant relationship between purchase of bottles of wine per week through smartphones or tablets and the amount in the US \$ spent per bottle per month where  $r = .67$ ,  $p < .001$ .

### **Factors influencing m-wine purchase**

Finally, factors (feelings, service delivery attributes and sales promotion) potentially contributing to m-wine purchase were explored to understand whether drivers of m-wine purchasing are evident. The predictor variables were statistically significant distinguishing

**Table 3.** M-wine purchase by nationality cross-tabulation.

| (in %)            | France | Germany | Greece | S. Africa | The US | Canada |
|-------------------|--------|---------|--------|-----------|--------|--------|
| All outlets       | 92.8   | 100     | 97.7   | 88.2      | 93.6   | 100.0  |
| Mobile and online | 7.2    | 0.0     | 2.3    | 11.8      | 6.4    | 0.0    |

**Table 4.** (a) Wine purchasing in US dollars and (b) wine purchasing by country.

|  | Mean  | Std. deviation |
|--|-------|----------------|
| (a) US \$ spent on wine /bottle <sup>a</sup> | 16.79 | 12.743         |
| Nationality                                  | 2.80  | 1.660          |

  

|  | Nationality              | N    | Mean rank |
|--|--------------------------|------|-----------|
| (b) US \$ spent on wine /bottle <sup>b</sup> | France                   | 870  | 1261.80   |
|  | Germany                  | 502  | 2101.78   |
|  | Greece                   | 645  | 1778.98   |
|  | South Africa             | 296  | 1065.00   |
|  | United states of America | 234  | 1513.88   |
|  | Canada                   | 306  | 331.50    |
|  | Total                    | 2853 |           |

US \$ spent on wine /bottle

|             |          |
|-------------|----------|
| Chi square  | 1167.164 |
| df          | 5        |
| Asymp. sig. | .000     |

<sup>a</sup>Kruskal–Wallis Test.<sup>b</sup>Grouping variable: nationality.

m-wine purchase drivers from all other channels (chi square = 6.24,  $p < .01$  with  $df = 1$ ). Nagelkerke's  $R^2$  of .10 indicated a weak relationship between prediction and grouping. Prediction success overall was 95.5%. The Wald criterion demonstrated that service delivery significantly predicted m-wine purchase ( $p = .01$ ). The results indicate that when people purchase wine via mobile, the service delivery attribute of the winery website is an important criterion for purchase decision. This result is consistent with the reliability dimension of the revised SERVQUAL scale for e-service quality, which is the ability of the website to deliver orders promptly and correctly while keeping personal information safe (Janda, Trocchia, & Gwinner, 2002; Kim & Lee, 2002; Lee & Lin, 2005; Parasuraman, Zeithaml, & Berry, 1988).

## Conclusion, limitations and future research directions

Higgins et al. (2015) noted technological disruption in the wine industry may have a profound impact on wine consumption in the future. The current study responded to a call for empirical research in m-wine purchasing (see Lockshin & Corsi, 2012) using data from six countries: France, Germany, Greece, South Africa, United States and Canada. This empirical examination established that although mobile phone penetration and wine consumption is relatively high, the prevalence of m-wine purchasing is low.

The results of our study may reflect the sample obtained and respondents may have limited knowledge about, and budget for wine (Pelet & Lecat, 2014). Entering a store allows consumers to get a better idea of wine assortment and wine selection guidance. In addition, irrespective of age, wine is an experiential good and therefore, asking for advice is much easier in store. However, consumers have been found to use social media search engines to seek expert advice on wine purchase (Thach & Chang, 2015). Another possible reason for the low prevalence of m-wine purchasing in our sample may be that in some countries (e.g. North America) it may be difficult to buy online due

to the age limit (18–21 years). Online purchase might be more desired for consumers who know what they are looking for in terms of the type of wine they seek, the price they are prepared to pay, or for the quantity of wine they are willing to purchase. In store, the consumer does not need to buy a huge quantity since one bottle only can be bought, whereas online, the cost of shipment might be a barrier since a minimum is often requested to ship the wine in containers. In order to deliver wine, an appropriate number of bottles are required in a box containing 3, 6 or 12 bottles. Based on the responses of 918 wine consumers, Higgins et al. (2015) demonstrated that the online wine buyer is an older, married man, with a high income. Thus it seems the online wine buyer is more likely to be a wine connoisseur. Despite access and comfort with technology, millennials are unlikely online buyers.

The results of the current study provide support for Higgins et al. (2015) who identified that online wine sales represented less than 5% of total wine sales in developed countries, and Thach and Chang (2015) who report that only 6% of the sample of wine consumers reporting they sometimes purchase wine online. Taken together, research indicates that mobile-wine purchasing remains in its infancy. Even if firms incorporate m-wine purchasing into their distribution portfolio, this does not guarantee m-purchasing will be used by consumers. From the results of this study, while mobile usage may be high, wine purchasing through such devices is not yet common and as such decisions to build m-wine purchasing platforms must be carefully weighed against current purchasing patterns. These figures are reinforced thanks a deeper knowledge of who the consumers are. From this research, online retailers and wineries gain positioning knowledge for appealing to individuals interested in online purchases. This research also identifies expansion opportunities through untapped consumer markets.

Future research could include analyses of comments and advice given by consumers on websites, twitter feeds, social media pages or forums in relation to a wine, wine makers, brands or anything related to the wine, and could serve as the next step to understand with more precision what is shared by customers or connoisseurs of wine. This may also help to understand what inhibits mobile purchasing. Active m-commerce users browse and purchase a few items on the mobile web but many brands still do not have the proper interface and many consumers still prefer a bigger screen (Pelet, Ettis et al., 2016). As a result, it is not easy to link user comments from social media, or advice from peers to their browsing and purchasing history. Nevertheless, as claimed by Thach and Chang (2015), wine growers or wine marketers should adopt social media platforms to interact with their consumers, and make sure their wine/winery is accessible via mobile phone websites and wine apps.

Our research was limited to six countries and was not theoretically grounded. Interesting additions for future research could be China and Russia, both with growing wine consumption but also Internet access. Research drawing on communication and/or consumer behaviour models is recommended to gain insights to assist the uptake of m-wine purchasing. Further, this examination was restricted to understanding device use and wine purchasing behaviours. Future research is recommended to examine attitudes towards m-wine purchasing to identify the benefits and barriers of m-wine purchasing. Inhibitors of mobile purchasing behaviour of wine, but also other products need further investigation. For example, a comparison between mobile purchasers and non-purchasers is recommended to understand how barriers can be overcome to further extend uptake of

mobile purchasing behaviour. For each country, there may be differences among different regions and our study did not address regional differences. This study also has not examined mobile social media thoroughly. It may be useful to examine different types of social media and their respective suitability for wine and other product marketing and selling in future research. Finally, application of theory is recommended in future research to extend understanding.

While this study has focused on m-wine purchasing, valuable lessons may apply equally to other products. While mobile technology acceptance by consumers appears to be on the increase and organisations are increasingly adopting new technologies to enhance their customer engagement and commitment, the road is not an easy one and consumers may have a variety of reasons for adopting technology for one type of product purchase but not another. Organisations need to constantly find ways to better understand their consumers and their motives and behaviours so as to tailor organisational strategies to meet customers' specific needs.

## Note

1. The percentages add up to more than 100% due to rounding.

## Disclosure statement

No potential conflict of interest was reported by the authors.

## ORCID

Jean-Éric Pelet  <http://orcid.org/0000-0001-7069-8131>

Debbie Ellis  <http://orcid.org/0000-0002-8464-6022>

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## Appendix 1

### Factor analysis

|   | Positive attitudes toward mobile-wine purchasing | Service attributes of wine website | Online sales promotion | Cronbach (a) |
|---|--|------------------------------------|------------------------|--------------|
| Unpleasant  | .840   |                                    |                        | .89          |
| Bad   | .831   |                                    |                        |              |
| Unenjoyable                                       | .804   |                                    |                        |              |
| Worthless   | .789   |                                    |                        |              |
| Harmful   | .719   |                                    |                        |              |
| On time delivery                                  |  | .657                               |                        | .71          |
| Quality of the wine                               |  | .620                               |                        |              |
| Low delivery charges                              |  | .607                               |                        |              |
| Tracking your online purchase                     |  | .469                               |                        |              |
| Belonging to an online group of wine connoisseurs |  |                                    | .676                   | .69          |
| Sales promotions                                  |  |                                    | .477                   |              |