



DO DEMOGRAPHIC TRAITS MATTER? BACKPACKERS' INFORMATION TECHNOLOGY AND DESTINATION-RELATED RISK CONCERNS TOWARDS SMARTPHONE USAGE

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Abstract

A number of risks are associated with the use of mobile phones. However, there is still a paucity of evidence on the extent to which demographics influence risk perceptions of smartphone usage. This paper examines backpackers' perceived risk of smartphone usage and the extent to which demographic attributes influence risk perceptions. A survey involving 567 backpackers was conducted in Ghana. The CFA, ANOVA and independent samples t-test were used to analyse the data. The study showed the relevance of coalescing information technology and destination risks factors in measuring perceived risks towards smartphone usage before assessing the effects of demographics on perceived risk. Importantly, backpackers' risk perceptions are a function of their demographic traits, such as sex, age, education, income, occupation, continent of origin and travel experience. The theoretical and managerial implications of the study are discussed.

Key words: Backpackers, demographics, risk perception, smartphone, Ghana

INTRODUCTION

The mobile phone (especially the smartphone) has become a pivotal travel 'buddy' in enhancing the travel experiences of backpackers (Hannam & Diekmann, 2010). Smartphones have the qualities of portability, mobility, immediacy, intelligence, simultaneity and incessant connectivity (Okazaki, 2012) that make travellers more innovative – taking spontaneous decisions on-the-go than before. For backpackers, the mobile phone facilitates co-present interaction between home and away (Mascheroni, 2007). Thus, the last three decades have witnessed the virtualisation and medialisation of backpacker culture – resulting in the coinage of the catchword: flashpacker (Paris, 2012a; Cohen, 2017).

Despite the importance of the smartphone in mediating travel experiences, it is also suggested in the extant literature that the use of ICT such as mobile phones subject users to various degrees of risk that could affect their intentions to use or reuse them to support travel (Luo, Li, Zhang, & Shim, 2010; Park & Tussyadiah, 2016). Mobile devices induce not only issues of privacy and security risks but also difficulties in appraising services

and products online in advance of purchasing them – leading to risk perceptions (Park & Tussyadiah, 2016). Hence, it is as important to establish if backpackers have risk concerns towards using their smartphones during travel and more significantly, explore the extent to which their demographic traits affect their risk concerns. Though several studies exist on the risk associated with ICT usage (see Khan, Abass, & Al-Muhtadi, 2015; Luo et al., 2010; Park & Tussyadiah, 2016), these studies have ignored the need to understand the influence of demographic attributes on risk perceptions from both information technology and destination-related risks perspectives.

Furthermore, axiomatic in the tourism literature are studies on perceived risk (PR) towards ICTs (e.g. Kim, Qu, & Kim, 2009; Luo et al., 2010; Park & Tussyadiah, 2016). However, these studies have failed to consider destination related factors in investigating such PR, concentrating only on technology risk issues (e.g. financial, security, social, performance, time, device, and psychological risks etc). For instance, a poor-quality technology infrastructure relative to open wireless and download speeds (Pasquinucci, 2009),



as well as the propensity to lose a smartphone, which can also lead to the loss of classified personal data or money (Khan, Abass, & Al-Muhtadi, 2015). These concerns induce other types of risks that are yet to be considered in the study of PR of ICT usages. Therefore, this study aims to integrate both information technology and destination-related risk factors to understand backpackers' PR towards smartphone usage and more importantly, to determine the extent to which their demographic attributes influence their PR.

Essentially, this study will not only be theoretically relevant in terms of demonstrating the relevance of integrating both technology and destination-related factors in the comprehension of backpackers' PR of smartphone usage but will also offer useful practical implications by demographically disaggregating backpackers based on their risk perceptions of smartphone usage in Ghana. It is expected that the findings will provide cues for market segmentation in terms of how to deal with tourists' risk concerns towards smartphone usage among consumers especially in Ghana. Ghana's unique characteristics as a travel destination, makes it ideal for such a study as this. The country has been flagged as one of the destinations in the West African sub-region that is bedevilled with ICT infrastructure challenges (Ministry of Communication, [Ghana] 2014; US Federal Bureau of Investigation, 2015) but also general travel security concerns in the last decade (Adongo & Adam, 2016). The rest of the paper is sectioned into the literature review, methods, results and discussion and conclusions and implications.

LITERATURE REVIEW

The Theory of Perceived Risk and Tourism Consumption

The theory of perceived risk in the consumer behaviour literature was axiomatised by Bauer (1960) following his observation that consumers' purchase decisions involve risks, which they cannot easily pre-empt hence the need to take precautions against such risks. The uncertain consequences embedded in purchase decisions result in risk perceptions, which if uncontrollable, may lead to the consideration of

safer surrogates or termination of the intention entirely. A study by Bauer (1960) stimulated several consumer risk perception studies in many fields (Lepp & Gibson, 2003; Roehl & Fesenmaier, 1992; Reisinger & Mavondo, 2005) including tourism. PR accordingly, refers to the subjective assessment of negativity in a course of action based on negative outcomes and the chances that those outcomes will occur (Bauer, 1960). Cunningham (1967) classified six main types of PR: physical, financial, performance, psychological, social, privacy, time and overall risks. Roehl and Fesenmaier's (1992) study marked the introduction of the PR theory in the travel and tourism literature. It is more imperative to investigate consumer PR in the tourism industry due to the fact that the service product is intangible, non-standardised, sold without warranties and not stockpiled for future use (Parasuraman, Zeithaml, & Berry, 1985).

Besides, other incidences of terrorism, natural disasters, as well as the outbreaks of contagious diseases have increasingly evoked research on risk perceptions in the travel industry. Notably, the 9/11 terrorist attack on the World Trade Centre in the US and other fatal terror attacks the world over, raise safety concerns among travellers. These occurrences have also inspired the concomitant crises management and prevention strategies by state governments and tourism facilities (Reisinger & Mavondo, 2005). Obviously, tourists tend to avoid areas that can predispose them to greater risks (Lepp & Gibson, 2003). Consequently, several risk concerns have been noted among various travel segments in the tourism literature, such as physical, social, psychological, financial, political, health, equipment and expectation risks (Dolnicar, 2005; Roehl & Fesenmaier, 1992). For example, Reichel, Fuchs and Uriely (2007) found that Israeli ex-backpackers were more apprehensive about socio-psychological, expectational, site-related physical and socio-political risks. In other related studies, Hunter-Jones, Jeffs and Smith (2008) and Adam (2015) also found out that backpackers were conscious about terrorism, health, financial, political and environmental risks, which resulted in the use of various risk reduction strategies.



In an earlier study, Reichel, Fuchs and Urieli (2009) noted similar risk concerns but added that different destinations affect backpackers' risk perceptions differently. Backpackers are now becoming worried about risk during travel as opposed to earlier studies that projected them as risk tolerant travellers (Elsrud, 2001). Notably, the risk concerns observed by previous backpacker studies were quite general in nature – without the consideration of a specific product or situation, such as a smartphone. Therefore, these earlier studies failed to back the notion that the measurement of perceived risk, ideally, should be situation specific (Slovic, 2009).

Backpacking, Mobile Technology and Risk Perceptions

The impact of smartphones is greatly being felt within the travel and tourism industry in that tourists have become more innovative and spontaneous in their decision-making than before (Kim, Chang, Wong, & Park, 2013). The travel experiences of backpackers are being enhanced by mobile technology through the reconstruction of their ideology and sociality – bringing about co-presencing and virtual nearness (Iaquinto, 2012; Cohen, 2017). O'Regan (2008), in his study, envisioned that the use of Internet Cafés and personal computers by backpackers will be ousted by smartphones due to their high-speed Internet connectivity and mobile applications. Indeed, the 'virtualisation' of backpacker culture through mobile phones has been reported in the tourism literature – resulting in the buzzword 'flashpacker' (Paris, 2012a). The qualities of simultaneity and continuity embedded in smartphones, enable them to perform multiple functions at the same time. O'Regan (2008) and Paris (2010) contend that advances in mobile technology support the expansion and adaptations in the social systems of most travellers, especially present-day backpackers. Paris (2010, p. 1) labels this recent trend as the 'virtualisation of backpacker culture', typified by the advent of 'flashpackers' – the digitally savvy backpackers. The digital economy is reforming backpacking as epitomised by 'digital nomads'. This is obvious in the increasing range of Internet users, computers and mobile phones

with video and still cameras, GPS and MP3s used to access and transfer information much quicker than before (O'Regan, 2008). However, the use of personal computers among backpackers is becoming threatened, if not non-existent because of the proliferation of smartphones that have similar computational functions and more unique features targeted to meet the needs of such travellers. O'Regan (2008) predicted that it may become unnecessary to check emails on PCs when smartphones can be used to connect to high-speed WiFi while on the move.

Yet, mobile phones by their nature predispose users to different risks precipitated by unconscious processing, unpermitted access, smaller screens and low battery capacities that characterise the device, as well as other destination-infrastructure related risk issues (Park & Tussyadiah, 2016). Moreover, Park and Nicolau (2015) insist that electronic commerce prevents the physical inspection of products and services, resulting in uncertainties and risk perceptions. The limited interaction with service providers online also creates uncertainty among users because they take full responsibility for any errors committed in the process of using their devices. Research has also demonstrated that mobile phones, unlike personal computers, are more vulnerable to threats including malware, botnets, drive-by-downloads, sniffing, automatic data transmission and device theft (Markeji & Bernik, 2015) which raise risk concerns among users.

Perceived Risk Factors of Information Technology

Evidence about risk concerns (expressed by consumers) have been captured both in the e-commerce and travel and tourism literature. A study by Jacoby and Kaplan (1972), found out that consumers were more concerned about performance risk, that is the likelihood of disappointment emanating from poor product quality; financial risks; the probability of unexpected financial loss resulting from the use of a smartphone, such as a mobile Internet fee; psychological risk, the likelihood that using a smartphone will negatively affect a user's peace of mind and self-image – resulting in frustration



and stress; social risks, the probability that using a smartphone service will make one look untrendy or foolish before peers or reference groups and time risk, the likelihood of a smartphone user losing, or wasting time due to navigation challenges (Featherman & Pavlou, 2003). Furthermore, studies regarding online buying (see McCorkle, 1990) also found risk and security risks specifically the likelihood of a smartphone user getting his/her credit card information compromised due to the use of a smartphone resulting in money loss or fraud as salient risk concerns in addition to the earlier ones reported (Crespo, del Bosque & de los Salmones, 1990). Much later, Featherman and Pavlou (2003) proposed a comprehensive second-order model of PR in electronic commerce comprising financial, time, social, performance, privacy and physical risks (Yang & Zhang, 2009). Not only did they argue against the presence of physical risks in the measurement of PR in online buying but also, they indicated that social risk was trivial a risk concern to consumers.

Destination-related risk factors

Furthermore, since tourism consumption occurs within a specific destination, specific attributes of that destination can also affect consumers' PR towards smartphone usage. Khan et al (2015) also maintained that mobile users' physical locations have a direct effect on the degree and types of risks they encounter. For instance, the unreliability of the technology infrastructure including open wireless technology and slow download speeds pose different risk to users (Pasquinucci, 2009; Luo et al., 2010) such as destination-infrastructure risk, the risk associated with the malfunctioning of internet infrastructure or exposure to fraud/cybercrime (Markelj & Bernik, 2015).

Linked to this, is the concern that losing a mobile device (through stealing or snatching), will not only deprive the owner of the device but could also result in the loss of vital and sensitive information or money (Markelj & Bernik, 2015). The issues noted here generate different risk concerns that need to be studied together with technology risks (as discussed earlier) to offer a comprehensive understanding of backpackers'

PR of smartphone usage. Therefore, this study proposes an integrative model of PR involving technology risks and destination related risks to understand backpackers' perceptions of risk associated with smartphone usage in Ghana.

H₁: Backpackers' PR of smartphone usage is a function of both information technology and destination related risk factors.

Demographic characteristics and perceived risk towards ICTs

Demographic variables have been used as a basis for segmentation and as predictors of consumer behaviour. Extant literature gives evidence about the importance of demographic variables (such as sex, age, occupation, income and experience) in understanding consumer risk perceptions of online buying and ICT usage (See Figure 1). For example, gender difference play a key role in the way consumers assess the risks associated with online purchasing (White & Truly, 1989; Weber & Roehl, 1999; Garbarino & Strahilevitz, 2004). Past studies had shown that women perceive greater risks in different areas, such as medical, financial and environmental risks as well as online transactions (Gwartney-Gibbs & Lach, 1991; Steger & Witt, 1989;). More specifically, Garbarino and Strahilevitz (2004) discovered that females perceived higher risk on psychological, security, and performance risks higher than males regarding online ticket purchasing. Gender differences have been noted by experts regarding the likelihood of a negative outcome in a situation (Gardner & Gould, 1989; Slovic, Malmfors, Mertz, & Neil, 1997).

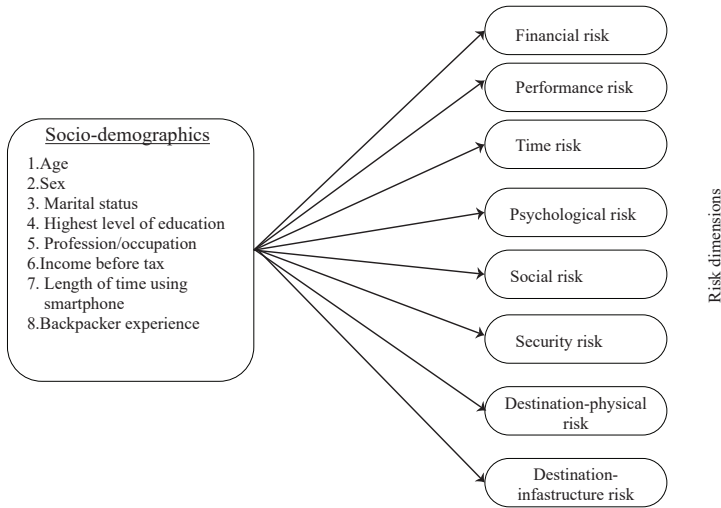
Furthermore, Garbarino and Strahilevitz (2004) found that singles were more concerned about performance risk than their married counterparts while married consumers were more worried about physical risks than those who were single. They also found out that occupation had a significant influence on consumers' PR relative to financial, performance, social and physical risks. In terms of age, Miller (1996) argue that age is a relevant variable in segmenting internet users noting that youngsters in their 30s and 40s constitute a greater proportion of internet users.



For instance, Garbarino and Strahilevitz (2004) noticed that age had a statistically significant impact on consumers concerns about financial, performance, social, and physical risks in e-ticket reservation. In addition, past studies (Fram & Grady, 1995; Weber & Roehl, 1999) indicate that Internet users earn higher incomes, which give them more discretionary income than traditional shoppers. Garbarino and Strahilevitz (2004) again realised that PR differed based on income levels, as well as the experience of using the Internet. Weber and Hsee (1998) also argue that cross-cultural

differences also have an influence on consumers' risk perceptions. Even though, no theoretical basis exists on the relationship between level of education and risk perceptions, this current study explores the impact of education on backpackers PR. Thus, this study proposes that:

H₂: Backpackers' risk perceptions of smartphone usage differ by demographic characteristics such as sex, age marital status, occupation, income, experience, level of education and continent of origin (used here as a proxy for culture) (See Figure 1).



METHODOLOGY

Research Milieu

Ghana has become one of the fastest growing tourism destinations in the West African sub-region that attract various types of travellers especially backpackers (Adam, 2015; Dayour, Adongo, & Taale, 2016). However, the country is currently burdened with ICT security concerns and other physical-safety issues that could negatively affect the appeal of the destination to potential visitors. Particularly, the unreliability and inaccessibility to internet in some parts of the country, as well as the activities of cyber fraudsters commonly known as 'sakawa', have become a major concern in the country (Ministry of Communication, 2014). The US Federal Bureau of Investigation [FBI] (2015) and the

United Kingdom Foreign and Commonwealth Office Travel Advisory (2015) have warned their citizens who wish to travel to Ghana to be vigilant and careful when using their mobile phones and free Wi-Fi. Adam and Adongo (2016) empirically found that the backpackers suffered from fraud and larceny (especially mobile phones) in Ghana. This makes Ghana a suitable setting for this study.

Research Instrument

A structured questionnaire was used to collect data on backpackers' risk perceptions. The items were generated based on existing literature (see Featherman & Pavlou, 2003; Jacoby and Kaplan, 1972; Khan, Abass, & Al-Muhtadi, 2015; Park & Tussyadiah, 2016; Pasquinucci, 2009) and modified to fit the context of the current study. All items were measured on a five-point Likert scale



ranging from strongly disagree to strongly agree. The questionnaire was sectioned into three parts. Part one measured their risk perceptions based on financial, performance, time, psychological, social, security, destination-physical and destination-infrastructure risks. Part 2 looked at the travel characteristics of respondents (such as type of accommodation used, backpacking experience, experiences with the smartphone, mode of transport in Ghana, number of repeat visits to Ghana and group size among others) and Part 3, their demographic attributes (such as sex, age, marital status, highest level of education, profession/occupation, religion, continent of origin and income before tax per year).

Data Collection and Procedure

Following Chen and Huang (2017), face validity and content validity checks were done on the instrument by using academic experts to determine whether questions and measurement items made sense. Furthermore, a pilot survey involving 60 backpackers was conducted to improve on the instrument for the main data collection. Particularly, Greater Accra, Central, Northern and Ashanti regions were used as the major locations for data collection because they collectively hold a greater chunk of Ghana's tourism attractions and receptive facilities such as hotels and restaurants (Adam & Adongo, 2016). The study was conducted (in English) among inbound backpackers who visited Ghana between September 2016 and February 2017. Backpackers were identified in this study using the criteria proposed by Hunter-Jones, Jeffs and Smith (2008), Adam (2015), Dayour et al. (2016) and Dayour, Kimbu and Park (2017). Thus, to qualify for inclusion, the potential respondents needed to identify themselves as backpackers and use a smartphone during the trip. Surveys were conducted in locations, such as budget accommodation facilities and major attractions that were popular for hosting backpackers in Ghana (Dayour, 2013). The convenience sampling technique was used in selecting backpackers at reception areas during checkouts at those facilities (Adam, 2015). A total of 800 questionnaires were collected out of which 567 were found useful

for analysis after removing largely uncompleted questionnaires.

Data Analysis

Descriptive statistics were performed to provide an overview of the sample characteristics and distribution of the data. The Confirmatory Factor Analysis (CFA) involving the maximum likelihood technique in Amos 22 was used to examine how well the measurements fitted the dataset. This technique was also used in modelling the second-order construct of PR because of its goodness-fit capacity and ability to extend theories. Furthermore, the independent-samples t-test and one-way analysis variance (ANOVA) were used to explore the differences in risk perceptions across demographic variables, which served as independent variables.

RESULTS AND DISCUSSION

Backpackers' Profile

Table 1 suggests that more female backpackers (68.8%) participated in the study than their male counterparts (31.2%). This finding corroborates that of Dayour (2013) and Adam (2015) who found nearly two-thirds of backpackers being female in their studies. With an average age of about 24 years, more than half (59.8%) were between the ages of 20-29 while 20.5% were below 20 years. Regarding marital status, 87.5% were married in comparison 12.5% unmarried ones, supporting Dayour et al. (2016) who realised more than 80.0% of backpackers in Ghana were single. Moreover, more than half (55.0%) had obtained their university/college education while nearly 26.8% were high school educated in the findings of Adam (2015) and Adongo, Badu-Baiden and Boakye (2017). Besides, quite a significant number (18.2%) have had their postgraduate qualifications. Relative to occupation, 59.3% were still students while about 20.3% were into managerial or professional positions. Furthermore, validating Badu-Baiden, Boakye and Otoo (2016), the majority who visited Ghana were from Europe (53.3%), followed by those from Asia (21.5%) and America (20.1%). As to their annual gross income, about one-third (35.8%) earned below US\$ 10,000 while nearly 27.9% earned between

**Table 1: Demographic Characteristics of Backpackers**

Variables	Frequency	Percentage (%)	Mean
Sex			
Male	177	31.2	
Female	390	68.8	
Age			
< 20	116	20.5	
20-29	339	59.8	
30-39	91	16.0	24.0
40-49	11	1.9	
50+	10	1.8	
Marital status			
Married	71	12.5	
Unmarried	496	87.5	
Highest level of education			
High school	152	26.8	
University/College	312	55.0	
Postgraduate	103	18.2	
Profession/occupation			
Student	336	59.3	
High level manager	30	5.2	
Intermediate level manager	35	6.2	
Supervisor	19	3.4	
Skilled manual labour	30	5.2	
Managerial/professional occupation	115	20.3	
Unemployed	2	0.4	
Continent of origin			
Europe	305	53.3	
America	114	20.1	
Asia	122	21.5	
Australia	10	1.8	
Africa	16	2.8	
Income before Tax in year (US\$)			
0-10000	73	35.8	
10,000-19,000	35	17.2	
20,000-39,000	57	27.9	
40,000-59,000	20	9.8	23,189.40
60,000-79,000	11	5.4	
80,000+	8	3.9	
Length of time using smartphone (in years)			
<5	218	72.9	
5-10	78	26.1	
11+	3	1.0	
Backpacking experience (in years)			
<5	76	63.9	
5-10	33	27.7	
11-15	6	5.1	
16+	4	3.3	

US\$ 20,000-39,000. On the average, backpackers made about US\$ 23,189.40 per year. The study also showed that most backpackers (72.9%) had been using their smartphones for less than 5 years whereas about a quarter (26.1%) had used

it for about 5-10 years. Likewise, regarding the experiences of backpacking, 6 out of every 10 respondents had backpacked for less than 5 years and about 27.7% between 5-10 years.



Risk Dimensions

The study used CFA technique to assess the how well the proposed first-order model of PR fitted the dataset. Specifically, the maximum likelihood estimation method in Amos 22 was used to perform this analysis. As shown in Table 2 [using a cut-off point of 0.5] (Pallant, 2005), all factor loadings loaded significantly between 0.50 and 0.93, establishing unidimensionality among all constructs. However, one item each for financial risk (FR3), performance risk (PR1) were removed for not meeting the cut-off point as specified.

In ensuring the internal consistency of measurements used, the Cronbach's alpha and composite reliability were inspected based on the cut-off point of 0.7 (Bagozzi & Yi, 1988) of which all measurement exhibited adequate internal consistency. Besides, convergent validity or communality of measurement items was established using the Average Variance Extracted (AVE) at > 0.5 (Fornell & Larcker, 1981). The CFA results also confirmed discriminant validity (through the Fornell-Larcker criterion) in the model, which indicated that all constructs were different from each other (see Table 3).

Table 2: Confirmatory Factor Analysis

Constructs	Indicators	Factor Loadings	t-statistic	Cronbach's Alpha	AVE
Financial Risk (FR)	FR1	0.77	10.73	0.75	0.600
	FR2	0.78	-		
Performance Risk (PR)	PR1	0.75	17.44	0.78	0.564
	PR2	0.89	-		
	PR3	0.58	13.39		
Time Risk (TR)	TR1	0.83	17.29	0.76	0.570
	TR2	0.50	11.45		
	TR3	0.88	-		
Psychological Risk (PSYR)	PSYR1	0.86	25.86	0.90	0.758
	PSYR2	0.89	27.29		
	PSYR3	0.86	-		
Social Risk (SOR)	SOR1	0.76	18.98	0.86	0.674
	SOR2	0.90	22.03		
	SOR3	0.79	-		
Security Risk (SECR)	SECR1	0.87	25.55	0.89	0.743
	SECR2	0.87	25.24		
	SECR3	0.85	-		
Destination-physical Risk (DPHR)	DPHR1	0.77	19.033	0.85	0.646
	DPHR2	0.80	19.74		
	DPHR3	0.84	-		
Destination-infrastructure Risk (DINFR)	DINFR1	0.55	13.67	0.81	0.629
	DINFR2	0.93	25.94		
	DINFR3	0.86	-		



Additionally, the global fitness of the measurement model was assessed based on model fit indices such as the χ^2/df (< 3), goodness-of-fit index [GFI] (≥ 0.90), adjusted goodness-of-fit index [AGFI] (> 0.90), comparative fit index [CFI] (≥ 0.90), Tucker-Lewis index [TLI] (> 0.95), standardised root mean square error residual [SRMR] (< 0.08), and root mean square error of approximation [RMSEA] (< 0.08) (Hu & Bentler, 1999; Kline, 2011; Hair, Hult, Ringle, & Sarstedt, 2017). The results from this study clearly demonstrate that the proposed model had a tolerable global fitness based on the χ^2/df (1.81), GFI (0.90), AGFI (0.90), CFI (0.96), TLI (0.95), SRMR (0.06) and RMSEA (0.03) values returned by the CFA test. Therefore, all eight factors as shown in Table 4 are indeed salient

when thinking about backpackers' perceived risk towards smartphone usage thus, hypothesis 1 was supported by the study.

Second-order hierarchical latent construct of PR

In a bid to deepen the theoretical importance of this study, a second-order (molecular model) hierarchical latent construct of PR was further validated using CB-SEM. From Figure 2, the combination of technology and destination-related factors in this study was supported by the model. This means that all eight constructs as discussed before are indeed valid measures of backpackers' PR risk towards smartphone usage. All fit indices as shown in Figure 2 appear tolerable

Table 3: Correlation Matrix

Construct	CR	1	2	3	4	5	6	7	8
1. Financial	0.750	0.775							
2. Performance Risk	0.790	0.404	0.751						
3. Time Risk	0.791	0.354	0.255	0.755					
4. Psychological Risk	0.904	0.330	0.269	0.394	0.871				
5. Social Risk	0.860	0.274	0.251	0.418	0.643	0.821			
6. Security Risk	0.897	0.387	0.547	0.219	0.417	0.360	0.862		
7. Destination -physical Risk	0.845	0.146	0.273	0.186	0.470	0.332	0.425	0.804	
8. Destination -infrastructure Risk	0.829	0.336	0.543	0.207	0.385	0.353	0.723	0.517	0.793

Note: Square root of AVE scores show diagonally (in boldface).
Composite/Construct reliability (CR) > 0.7

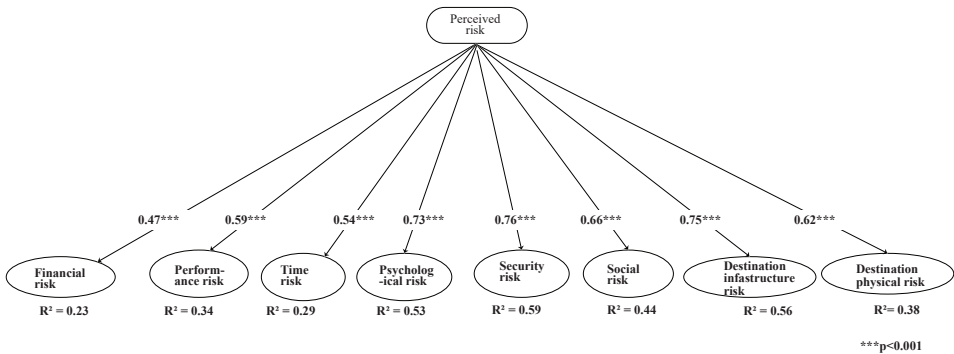
based on the cut-off points used earlier. All paths linking to the eight lower order constructs (indicators) were significant at $P < 0.001$. The results showed that security ($\beta = 0.76$), destination-infrastructure ($\beta = 0.75$), psychological ($\beta = 0.73$), social ($\beta = 0.66$), destination-physical ($\beta = 0.62$) and performance ($\beta = 0.59$) risks had a relatively high influence on backpackers' PR regarding the use of smartphones than time ($\beta = 0.54$) and financial ($\beta = 0.47$) risks. Kim, Qu and Kim (2009) and Park and Tussyadiah (2016) realised that online purchasers showed their trepidations about security, performance, psychological, social, financial and time risks.

The study further supported the relevance of destination-related factors, such as destination-physical and destination-infrastructure risks in assessing risk perceptions (see Hanafizadeh & Khedmatgozar, 2012; Khan et al., 2015). It is quite not surprising that destination-related factors surfaced as risk concerns for backpackers because Ghana's Internet coverage and the required security are still evolving. In fact, Ghana, together with other countries in the West African sub-region made the news because of poor cyber security (Ministry of Communications [Ghana], 2014) in 2015. Apart from this, originating countries, such as the United Kingdom and United States



of America incessantly issue travel warning and advice (concerning cybercrime) to their citizens travelling to Ghana. This could have raised trepidations about destination-related risk among backpackers. Having validated the suitability of

combining technology risk and destination related risk factors to understand PR using a second-order model, the study went on to ascertain the extent to which risk perceptions vary by demographic attributes – which is the focus of this study.



$P < 0.001^{***}$; $\chi^2/df = 2.94^{***}$; GFI = 0.90, AGFI = 0.88, CFI = 0.94, TLI = 0.93, SRMR = 0.09, RMSEA = 0.05

Figure 2: Second-Order CFA Model of PR

Risk perceptions by demographic attributes

The study also sought to examine the differences in backpackers' risk perceptions relative to their demographic characteristics. In so doing, the independent samples t-test and ANOVA tests were conducted to explore such differences in risk perceptions using alpha levels of $P < 0.05$; $P < 0.01$; and $P < 0.001$. The t-test was used in cases where the independent variable had two categories and ANOVA for tests involving an explanatory variable with more than two groups. Furthermore, the Turkey's Honestly Significant Difference (HSD*) post hoc test was performed to determine which group(s) accounted for the difference (if any). Consequently, respondents' sex, age, marital status, highest level of education, profession/occupation, continent of origin, gross income per year, length of time using a smartphone and backpacking experience served as covariates while risk facets including financial, performance, time, psychological, social, security, destination-physical and destination infrastructure risks served as the response variables.

Table 4 shows that there was a significant difference in perceived financial risk relative to male and female backpackers ($t=5.03$; $p=0.02$). The study revealed that female backpackers were more apprehensive about financial risk in using their smartphones than their male counterparts.

In parallel, there were differences in perceived psychological risk ($t=4.01$; $p=0.03$), security risk ($t=2.61$; $p=0.04$), destination-physical risk ($t=3.11$; $p=0.00$) and destination-infrastructure risk ($t=4.10$; $p=0.02$) among men and women. Female backpackers were more concerned about these risks in Ghana than their male counterparts. This corroborates Kim, Qu and Kim's (2009) observation that females are more worried about the risk associated with online purchasing than males. This is also consistent with the argument that women are generally more risk averse than men (Gwartney-Gibbs & Lach, 1991; Maltby, Chudry, & Wedande, 2003).

The study also discovered that age had an influence on backpackers' PR towards smartphone usage. Particularly, there was a statistically significant difference in perceived financial risk ($f=3.10$; $p=0.04$), time risk ($f=11.21$; $p=0.00$), social risk ($f=4.25$; $p=0.02$), destination-physical risk ($f=3.21$; $p=0.05$) and destination-infrastructure risk ($f=2.51$; $p=0.02$) across different age cohorts. More specifically, the results showed that backpackers who were less than 40 years were less concerned about financial risk in comparison to those who were 40 years or more. Regarding perceived time risk, those who were aged 40 years or more appeared more worried than those who were less than or equal 40. It is likely that those aged 40



years or more years had jobs or families, which meant they had to efficiently use their time in most cases. Contrarily, respondents who were 29 years or lesser were more concerned about social risks than their older counterparts. This may have been so because, generally, young people get concerned about how their reference groups would judge their actions or inactions. In terms of destination-physical risk, backpackers who were 29 years or lesser perceived more risk than those who were 30 years or more. It was also interesting to observe that respondents aged between 30-39 and 40-49 were more troubled about destination-infrastructure risk than other age cohorts in the study. These results support Garbarino and Strahilevitz (2004) who reported that age had an impact on consumers concerns about financial, performance, social, and physical risks in e-ticket reservation.

Also, the level of education obtained by backpackers had an impact on perceived security risk of smartphone usage ($f=3.11$; $p=0.04$). Those who had university/college education and those who were postgraduates showed much trepidation towards security risk than those with high school education. This could be attributed to the fact that these groups of backpackers (by their education and experience) were more conscious about the likely security implications of using their smartphones while travelling in Ghana.

There were also statistically significant differences realised in perceived time risk ($f=3.46$; $p=0.01$), social risk ($f=4.11$; $p=0.00$), security risk ($f=3.51$; $p=0.00$) and destination-infrastructure risk ($f=2.91$; $p=0.00$) among different work status. Respondents who were intermediate level managers and those in some kinds of professional activities were more averse about time risk than students and those who were unemployed. This finding is not surprising because unlike students and the unemployed who are often 'time-rich' but 'cash-poor', people who are employed often have less time at their disposal hence need to manage their time more efficiently. Conversely, backpackers who were still students and those unemployed were concerned about the social risks associated with of using smartphones than other groups. This may have been so because most young travellers (most likely

to be schooling and employed for that matter) were concerned about 'peer-judgments' relative to using their smartphones for travel. Garbarino and Strahilevitz (2004) stated that occupation had a statistically significant influence on consumers' perceived social risk in particular. Intermediate level managers and supervisors appeared to be more worried about destination-infrastructure risks in comparison to other groups, such as students and skilled manual labourers.

Weber and Hsee (1998) also argue that cross-cultural differences have an influence on consumers' risk perceptions. The study similarly revealed that there was a statistically significant difference in perceived social risk ($f=5.32$; $p=0.00$), security risk ($f=2.55$; $p=0.03$) and destination-infrastructure risk ($f=3.69$; $p=0.00$) relative to the continents of origin. Especially those from Asia were a bit worried about the fact that their peers may perceive them as being extravagant for using their smartphones during travel in comparison to other cultures such as Africans. It could be argued that most Asians (especially Chinese) are a bit shy than Europeans hence would be more concerned about the social risk of using their smartphones for travel. Studies have shown that in Western societies, expressiveness, assertiveness, and competitiveness are strongly supported (Oyserman, Coon, & Kimmelmeier, 2002). On the other hand, wariness and behavioural control are more positively viewed and encouraged in a traditional Chinese society and are thought to mirror mastery, maturity and understanding (Ho, 1986). In terms of security risk, those from Europe and Africa appeared more concerned than other cultures such as Asians and Americans. Im, Hong and Kang (2011) indicated that Americans and Koreans showed more readiness to adopt a new technology than other nationalities. This may have made them less troubled about the security risk of using their smartphones relative to other continents. However, backpackers who originated from Africa were also less worried about destination-infrastructure risk than all others possibly because they were familiar with similar infrastructure risk issues in their home countries. Furthermore, the income earned before tax in a year also impacted backpackers perceived



financial risk ($f=3.22$; $p=0.00$) and security risk ($f=3.22$; $p=0.00$) vis-à-vis the use of their smartphones during travel. This gives credence to Garbarino and Strahilevitz (2004) assertion that PR differs based on income levels. Those who earned higher than US\$ 19,000 were more distressed about financial risk than those who

earned lower amounts. Similarly, respondents who received between US\$ 20,000-39,000 and US\$ 60,000-79,000 were more concerned about security risk than those who earned lower amounts. Inferably, earning more money would result in anxiety about possible financial losses and the need to guard against it.

Table 4: Risk Perceptions by Demographic Attributes

Demographic attributes	Financial risk	Performance risk	Time risk	Psychological risk	Social risk	Security risk	Destination-physical risk	Destination-infrastructure risk
Sex								
Male	2.89	2.82	2.29	3.19	3.15	2.82	2.47	2.65
Female	3.91	2.72	2.19	3.95	3.05	3.51	3.91	3.92
<i>t value</i>	($t=5.03$; $p=0.02$)	($t=1.11$; $p=0.26$)	($t=1.69$; $p=0.15$)	($t=4.01$; $p=0.03$)	($t=0.56$; $p=0.57$)	($t=2.61$; $p=0.04$)	($t=3.11$; $p=0.00$)	($t=4.10$; $p=0.02$)
Age								
<20	2.13	2.86	2.37	2.15	3.93*	2.80	3.95*	2.96*
20-29	2.30	2.72	2.51*	2.15	3.50	2.82	3.53*	3.07
30-39	2.60*	2.67	3.22	1.99	2.89*	2.60	3.17	3.65*
40-49	3.56*	2.88	3.92*	1.39	2.33*	3.21	2.48	3.97*
50-59	3.63*	3.12	3.55	2.16	2.93	2.20	3.10*	3.43
50+	3.61	3.11	3.50	2.11	2.88	2.20	3.21	3.44
<i>F value</i>	($f=3.10$; $p=0.04$)	($f=1.24$; $p=0.29$)	($f=11.21$; $p=0.00$)	($f=1.16$; $p=0.15$)	($f=4.25$; $p=0.02$)	($f=1.65$; $p=0.16$)	($f=3.21$; $p=0.05$)	($f=2.51$; $p=0.02$)
Marital status								
Married	2.37	2.67	2.17	2.95	1.91	2.65	3.14	3.08
Unmarried	2.53	2.77	2.16	2.13	2.11	2.80	3.21	3.02
<i>t value</i>	($t=-1.36$; $p=0.18$)	($t=-0.88$; $p=0.38$)	($t=0.09$; $p=0.93$)	($t=-1.35$; $p=0.18$)	($t=-1.59$; $p=0.11$)	($t=-1.03$; $p=0.30$)	($t=-0.44$; $p=0.66$)	($t=-0.43$; $p=0.66$)
Highest education								
High school	2.46	2.85	2.24	2.10	2.19	2.62*	3.14	2.88
University/college	2.52	2.71	2.14	2.08	2.07	3.79	3.21	3.06
Postgraduate	2.55	2.73	2.10	2.24	1.97	3.88*	3.24	3.16
<i>F value</i>	($f=0.38$; $p=0.68$)	($f=1.34$; $p=0.26$)	($f=0.74$; $p=0.47$)	($f=0.80$; $p=0.45$)	($f=1.65$; $p=0.19$)	($f=3.11$; $p=0.04$)	($f=$; $p=$)	($f=2.65$; $p=0.07$)
Profession/occupation								
Student	2.46	2.75	2.92	2.15	3.55*	2.75	3.25	2.99
High level manager	2.48	2.95	3.11	2.08	3.10	3.93*	2.85	3.07
Intermediate level manager	2.67	3.04	3.68*	2.53	3.07	3.49	3.40	3.68*
Supervisor	3.08	3.03	3.37*	2.10	3.01	3.52	3.40	3.62*
Skilled manual labour	2.48	2.70	3.38	2.10	3.08*	2.54	2.96	2.87*
	2.53	2.58	3.94*	1.88	1.88*	2.58	3.09	2.93
Managerial/professional								
Unemployed	2.50	2.50	2.33*	2.83	3.50	3.60*	3.33	3.17*
<i>F value</i>	($f=1.47$; $p=0.18$)	($f=1.91$; $p=0.07$)	($f=3.46$; $p=0.01$)	($f=1.96$; $p=0.06$)	($f=4.11$; $p=0.00$)	($f=3.51$; $p=0.00$)	($f=1.51$; $p=0.51$)	($f=2.91$; $p=0.00$)



Table 4 continues

Continent of origin								
Europe	2.47	2.77	2.14	2.07	3.03	3.59	3.13	3.65*
America	2.60	2.71	2.17	2.14	3.26	3.04*	3.38	3.56
Asia	2.72	2.97	2.53	2.75	3.59*	3.03*	3.48	3.52
Australia	2.70	2.72	2.06	2.20	3.20	3.17	3.16	3.90
Africa	2.50	2.29	1.93	2.02	2.68*	3.57*	3.16	2.95*
<i>F value</i>	(<i>f</i> =0.81; <i>p</i> =0.52)	(<i>f</i> =1.48; <i>p</i> =0.21)	(<i>f</i> =1.02; <i>p</i> =0.39)	(<i>f</i> =2.17; <i>p</i> =0.07)	(<i>f</i> =5.32; <i>p</i> =0.00)	(<i>f</i> =2.55; <i>p</i> =0.03)	(<i>f</i> =1.80; <i>p</i> =0.13)	(<i>f</i> =3.69; <i>p</i> =0.00)
Income before Tax in year (US\$)								
0-10000	2.53	2.68	2.29	2.15	2.07	2.84	3.28	3.08
10,000-19,000	2.57	2.67	2.03	1.81	2.15	2.93	3.18	2.80
20,000-39,000	3.55	2.76	2.03	2.16	1.80	3.44	3.28	3.04
40,000-59,000	3.57*	2.58	2.10	2.08	1.66	3.56	2.96	3.57
60,000-79,000	3.72*	2.45	1.84	1.63	1.81	3.66*	3.03	2.64
80,000+	3.58*	2.65	1.95	1.58	1.79	3.42*	2.87	3.75
<i>F value</i>	(<i>f</i> =3.22; <i>p</i> =0.00)	(<i>f</i> =0.28; <i>p</i> =0.92)	(<i>f</i> =0.76; <i>p</i> =0.58)	(<i>f</i> =1.17; <i>p</i> =0.32)	(<i>f</i> =1.38; <i>p</i> =0.23)	(<i>f</i> =2.89; <i>p</i> =0.03)	(<i>f</i> =0.55; <i>p</i> =0.73)	(<i>f</i> =1.41; <i>p</i> =0.22)
Length of time using smartphone (in years)								
<5	2.49*	2.73	2.03	2.06	1.98	2.79	3.17	3.57*
5-10	2.70	2.86	2.29	2.16	2.03	2.84	3.16	3.01*
11+	3.77*	3.50	2.66	3.11	2.55	3.66	3.66	3.33*
<i>F value</i>	(<i>f</i> =3.92; <i>p</i> =0.02)	(<i>f</i> =1.85; <i>p</i> =0.16)	(<i>f</i> =2.74; <i>p</i> =0.06)	(<i>f</i> =1.48; <i>p</i> =0.23)	(<i>f</i> =0.62; <i>p</i> =0.53)	(<i>f</i> =1.16; <i>p</i> =0.43)	(<i>f</i> =0.35; <i>p</i> =0.69)	(<i>f</i> =3.14; <i>p</i> =0.04)
Backpacking experience (in years)								
<5	2.67	2.03	1.81	2.06	1.98	3.68*	3.02	3.04
5-10	3.12	2.02	1.62	3.11	2.03	3.45	3.11	3.37
11-15	2.32	1.92	1.66	2.10	2.10	3.01*	2.92	2.90
16-20	3.19	1.94	1.88	1.86	2.28	3.25*	3.26	3.11
<i>F value</i>	(<i>f</i> =0.25; <i>p</i> =0.41)	(<i>f</i> =0.85; <i>p</i> =0.16)	(<i>f</i> =1.18; <i>p</i> =0.11)	(<i>f</i> =0.10; <i>p</i> =0.15)	(<i>f</i> =0.92; <i>p</i> =0.41)	(<i>f</i> =3.11; <i>p</i> =0.00)	(<i>f</i> =1.63; <i>p</i> =0.10)	(<i>f</i> =0.45; <i>p</i> =0.08)

Alpha level: $P < 0.05$; $P < 0.01$; $P < 0.001$; Turkey's HSD*

Moreover, there was a significant difference in perceived financial risk ($f=3.92$; $p=0.02$) and destination-infrastructure risk ($f=3.14$; $p=0.04$) across the number of years backpackers had been using in using smartphones. Garbarino and Strahilevitz (2004) showed that experience in using the Internet influenced risk perceptions. In this study, backpackers who had been using smartphones for 11 years or more expressed more aversion towards financial risks than those who used it for 10 years or less. For destination-infrastructure risk, respondents who had used their smartphones for less than 5 years were more apprehensive about it than those who used the device for a much longer period. This must have arisen because they were inexperienced or less familiar with issues of destination-infrastructure risk.

Finally, years of backpacking influenced perceived security risk. The results clearly showed that those who had backpacked for less than 5 years

were more affected by security risk than those who had backpacked for more years, especially 11 years or more. Those who spent fewer years in backpacking probably lacked the experience to deal with security risks hence their apprehension. Thus, except for marital status, the study supported hypothesis 2.

CONCLUSIONS AND IMPLICATIONS

This study sought to examine backpackers' PR of smartphone usage through a combination of technology and destination-related risks issues and to determine the extent to which their demographic traits impact on their risk perceptions. The study demonstrated theoretically that both technology risks (i.e. security, financial, performance, time, psychological and social risks) and destination-related risks (i.e. destination-physical and destination-infrastructure risks) were salient in understanding backpackers' perceptions of risk of smartphone usage. More uniquely, the study also

found that demographic attributes, such as sex, age, education, income, occupation, continent of origin and experience affect their risk perceptions. This study significantly contributes to the literature since previous studies (see Chang & Chen, 2008; Park & Tussyadiah, 2016) did not only focus on technology risks but also overlooked the need to consider demographic characteristics in the measurement of PR of information technology more so among backpackers.

Security and financial risks were found to be important concerns of backpackers in using mobile phones. Thus, mobile service marketers could use online security symbols, third-party assurance seals and firewalls to reassure backpackers who use mobile services during travel. While perceived psychological risks may also be reduced through free trials of mobile travel services and technical support by service providers, perceived social risk could be diminished through advertisements that show how smartphones could enhance travel experiences. Furthermore, relative to Ghana as a destination, perceived destination-infrastructure risk and destination-physical risk could also be lessened by ensuring the availability and reliability of Internet (especially in tourism facilities) and police visibility respectively to discourage potential offenders.

More specifically, it is important for service and mobile marketers to focus more on how to assuage female backpackers' apprehensions towards smartphone usage than their male counterparts. For instance, more educational campaigns and free trails targeting female backpackers in this regard could be beneficial. To deal with time risk concerns among intermediate level managers and other professionals, there is the need for mobile marketers to offer more user-friendly support services for those who use mobile travel services to prevent time wastage in the process. In addition, mobile service marketers could moderate the anxieties about social risk among Asian backpackers through advertisements that will promote the usefulness of smartphone travel services and thereby, reduce the social burden linked with using them during travel.

Limitations and Further Research

One of the limitations of this study was its exploratory nature due to the dearth of literature around some demographic variables, therefore, future researchers could use the findings of this current study as a basis to further test the impact of demographic variables on consumer risk perceptions of ICTs – to offer more robust implications for marketing. Furthermore, it would be important not to consider Ghana as an undifferentiated space but rather, assess PR based on specific tourism facilities and/or services at the destination to offer more focussed implications. Moreover, future researchers may examine the impact of backpackers' travel characteristics on their risk perception of smartphone usage.

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