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Obtaining a better understanding about travel-related purchase intentions among senior users of mobile social network sites

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ABSTRACT

Although a majority of seniors continue to express interest in using mobile social network sites (MSNSs), research has yet to provide sufficient understanding of this very large market's motivations related to MSNS usage. As a viable consumer business segment, seniors are attractive enough to warrant potential MSNSs to invest necessary capital for developing tourism related MSNS designed to assist with this market's decision making and ultimately with their purchasing behavior. To address this gap, a research model was developed for this study using seniors having used MSNSs for purposes directly related to tourism and travel. Findings revealed intrinsic motivations had stronger effects on flow experience than did extrinsic motivations. Flow experience was found to have the greatest effect on subjective well-being, which in turn highly influenced purchase intention. Results documented that senior MSNS users differed significantly according to levels of anxiety attachment. Findings provide theoretical and practical contributions for tourism research, products, and services regarding senior MSNS consumers.

1. Introduction

Seniors continue to represent an important and rapidly growing segment of the population in many developed countries that can potentially assume a more dominant position within the travel and tourism industry given their affluence and purchasing power (Chen & Shoemaker, 2014; Kim, Lee, & Bonn, 2016; Kim, Lee, & Preis, 2016). In line with prior tourism research, this study defines individuals 50 years of age and older as seniors (e.g., Anderson & Langmeyer, 1982; Kim, Lee, & Bonn, 2016; Kim, Lee, & Preis, 2016). Currently, 55% of senior smartphone owners in America use mobile social network sites (Smith, 2015) and 61% of senior consumers use mobile social network sites (MSNSs) in Korea (Korea Internet Security Agency, 2016). In 2010, adults 50 years of age and older represented round up 30% of South Korea's (hereafter referred to as Korea) total population which is projected to expand to over 43% by 2020 (Korean Statistical Information Service, 2016). A continuous and innovative series of valuable insights on how MSNSs can be used to market products, services, and activities for businesses success through marketing communications, sales enhancement, and relationships with customers and mobile devices (e.g., smartphones, tablets) has given birth to a plethora of MSNSs (Yadav, Joshi, & Rahman, 2015). Moreover, in many travel-dependent nations such as Turkey, the tourism industry is noted as being merely a rising sector in adapting these new MSNS channels for technological communication and marketing purposes (Gulbahar & Yildirim, 2015).

Seniors frequently use social media, regardless of their geographical location or time zone, to seek support, often resulting in positive consequences that overcome loneliness, relieve stress, raise control, and improve self-efficacy (Leist, 2013). Seniors using social network sites (SNSs) enter into communication with family members so that SNSs have the potential to support seniors' relationships among family members (Nef, Ganea, Müri, & Mosimann, 2013). Seniors' usage of SNSs is directly correlated with their reduced loneliness and increased satisfaction in the social role (Hutto et al., 2015). Through the use of SNSs, seniors can maintain smaller groups that comprise a greater proportion of actual friends and a higher proportion of active friends leading to lower levels of social isolation and loneliness (Chang, Choi, Bazarova, & Löckenhoff, 2015). Flow experience generates a positive emotional state for seniors, which can manifest enjoyment, satisfaction, and meaningful life, and enables flexible and creative thinking leading to a feeling of psychological resilience (Iida & Oguma, 2014). Seniors normally experience the flow state when they are engaged in activities having appropriate levels of challenges and skills (Hirao & Kobayashi, 2013). Seniors' leisure activities are positively related to flow experience and retirement is negatively related to their flow experience (Heo,

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Lee, McCormick, & Pedersen, 2010; Heo, Lee, Pedersen, & McCormick, 2010). Seniors with higher levels of flow experience are associated with a higher arousal emotional state, which is associated with positive effects, such as, being peppier, more enthusiastic, having happier feelings, and being satisfied with life (Collins, Sarkisian, & Winner, 2009). Drawing on the literature review above, this study projects that both MSNS usage and flow experience are highly associated with seniors.

As well, flow experience, or the feeling of being totally immersed, involved, and energized through an activity (Csikszentmihaiyi, 1997), has been found to have a significant influence on individuals through the attractiveness and interactivity when placed within the context of online (website) shopping for travel (Wu, Li, & Chiu, 2014). Adding to this is the fact that flow experience has also been found to stimulate behavioral experiences that positively motivate shopping as an activity for tourists (Chang, 2014). Flow experience is a popular theoretical framework for understanding the motivations of the prolonged use of social media (Kaur, Dhir, Chen, & Rajala, 2016). Despite the growing significance of flow experience in the MSNS consumer segment, a lack of research exists pertaining to our understanding about the use of MSNSs for tourism products, services, and activities when specifically placed within the context of seniors. Based upon earlier behavioral research and conclusions drawn from findings pertaining to seniors' flow experience on video gaming (Hwang, Hong, Hao, & Jong, 2011; Hwang, Hong, Jong, Lee, & Chang, 2009), and also due to the current dearth of knowledge about MSNSs and seniors in today's academic tourism literature, this research specifically focuses on seniors' flow experience in MSNSs for tourism purposes.

Flow experience has also been identified as a significant factor for increasing MSNS user loyalty (Zhou, Li, & Liu, 2010). Flow experience research has been explored in various social science research settings over the past decade or so, and has been applied to numerous contexts related to motivations. In SNSs, users' behaviors are positively changed when flow experience is incorporated with intrinsic and extrinsic motivations (Kwak, Choi, & Lee, 2014). Intrinsic and extrinsic motivations play key roles in coupon-sharing on MSNSs (Tang, Zhao, & Liu, 2016). Moreover, flow experience has been significantly influenced by intrinsic motivations of enjoyment (e.g., Keller, Ringelhan, & Blomann, 2011; Sharafi, Hedman, & Montgomery, 2006) and self-efficacy (e.g., Hosseini & Fattahi, 2014; Mesurado et al., 2016). In addition, extrinsic motivations of usefulness (e.g., Lee, 2005; Sharafi et al., 2006) and social interaction (e.g., Huang, Chiu, Sung, & Farn, 2011; Faiola, Newlon, Pfaff, & Smyslova, 2013) have been found to positively influence flow experience. As a result, this study aims to investigate the relationships between intrinsic/extrinsic motivations and flow experience within the context of seniors using MSNSs for activities related to tourism.

Studies on flow experience have also performed outcomes of subjective well-being (e.g., Carpentier, Mageau, & Vallerand, 2012; Vittersø, 2004) and purchase intention (e.g., Hausman & Siekpe, 2009; Zhou et al., 2010). Particularly, Valenzuela, Park, and Kee (2009) assert that people's flow experience generates subjective well-being in SNSs. Koufaris (2002) insists the importance of flow experience on purchase behavior in online sites. In addition, Kim, Chung, and Ahn (2014) found that SNS users' subjective well-being had positive impacts on their behavioral intentions. Furthermore, earlier research conducted by Sharafi et al. (2006) attempted to specify dimensions of motivations and personality orientations with respect to flow experience. However, the differentiations between intrinsic and extrinsic motivations on flow experience which leads to the subjective well-being and purchase intention for senior MSNS users remains in question.

Another interesting behavioral topic affecting seniors and SNSs is that of anxiety attachment. It is suggested from previous research that adults with various levels (high and low) of anxiety attachment are quite different from each other in SNSs (Lee, 2013; Marshall, Bejanyan, Di Castro, & Lee, 2013; Oldmeadow, Quinn, & Kowert, 2013) and on online gaming (Hong, Chiu, Shih, & Lin, 2012). Moreover, Liu, Shi, Liu, and Sheng (2013) and Reed, Tolman, Ward, and Safyer (2016) found anxiety attachment played a significant moderating role within the context of SNSs. In addition, Laguna and Babcock (1997) and Chu and Mastel-Smith (2010) suggest that seniors have higher anxiety with information and communication technology than their counter parts. However, previous studies addressing anxiety attachment in SNSs have never focused upon differences between intrinsic and extrinsic motivations related to flow experience with respect to senior consumers of MSNSs. In order to compare multiple consumer behavior issues regarding senior use of MSNSs in the context of tourism-related activities, this study attempts to develop a research model that examines the moderating role of anxiety attachment between intrinsic/extrinsic motivations and flow experience.

The existing research on senior MSNS users' intrinsic/extrinsic motivations, flow experience, subjective well-being, and purchase intention lacks critical information necessary to guide MSNS tourism product developers with proper direction to ultimately assist senior MSNS users, who represent one of the tourism industry's most important segment. Taking this into consideration, the purpose of this study is to examine the impact of intrinsic and extrinsic motivations on flow experience, which in turn influences subjective well-being and purchase intention in the context of senior MSNS users for tourism products, services, and activities. This study also investigates the moderating role of anxiety attachment between intrinsic/extrinsic motivations and flow experience. Specifically, this study seeks to answer the following research questions. First, "how do intrinsic (enjoyment and self-efficacy) and extrinsic motivations (usefulness and social interaction) influence flow experience of senior MSNS users for tourism-related purposes?" Second, "how does flow experience influence subjective well-being and purchase intention?" Third, "how does anxiety attachment moderate between intrinsic/extrinsic motivations and flow experience?" The conceptual framework is presented in Fig. 1.

2. Literature review

2.1. Theoretical background

2.1.1. Mobile social network sites for seniors

MSNSs are defined as "mobile marketing applications that allow creation and exchange of user-generated content" (Kaplan, 2012, p. 131). In the context of tourism businesses, the most significant promotional tool is word of mouth from friends, and MSNSs are extensions of these human networks (Verma, Stock, & McCarthy, 2012). MSNSs are likely to be further integrated into smart tourism to communicate with the users and offer a wide range of information to promote tourism (Park, Lee, Yoo, & Nam, 2016).The smart cultural tourism service delivers smart interactions between the visitors of smart

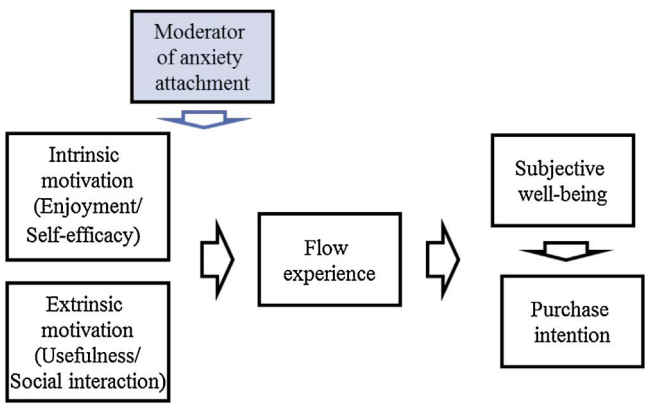

Fig. 1. Conceptual framework.

tourism environments by collecting and analyzing geotagged MSNS data (e.g., photos, tags, and comments) (Nguyen, Camacho, & Jung, 2016). The tourism industry is an emerging sector in adapting these new MSNS channels as technological communication and marketing tools (Gulbahar & Yildirim, 2015).

In Korea, senior MSNS usage rapidly increased to more than half of all mobile Internet users during 2015, up from just one-third only two years ago (Korea Internet Security Agency, 2016). Senior MSNS usage in America during 2015 represented over half of all smartphone owners (Smith, 2015). Family related content and activities are vital for senior users of MSNSs, which have the potential to reduce social isolation problems felt by seniors worldwide (Gomes, Duarte, Coelho, & Matos, 2014). Smartphone usage potentially plays a significant role in assisting seniors in terms of maintaining social relationship, providing a sense of safety, and accessibility via MSNSs (Pee, Maksom, & Norizan, 2014). Individuals' use of smartphone communication apps is helpful for increasing social capital that implies the notable role of MSNSs in reducing social isolation and improving the personal lives of seniors (Cho, 2015). For tourism-related activities, social capital and altruism, along with attachments of common bond and identity, are important to senior SNS users (Kim, Lee, & Bonn, 2016). Based on the literature review above, this study considers MSNSs to be a type of marketing channel for seniors used for planning tourism activities. Thus, this study aims to explore senior MSNS users by applying motivation theory to the context of tourism related products and services.

2.1.2. Motivation theory

An act has more than one motivation so that a drive, desire, wish, need, and goal are all defined as motivations (Maslow, 1943). Motivations are classified as intrinsic and extrinsic in nature (Chantal, Vallerand, & Vallières, 1995; Ryan & Deci, 2000; Teo, Lim, & Lai, 1999). Intrinsic motivation is defined as "the performance of an activity for no apparent reinforcement other than the process of performing the activity per se," whereas extrinsic motivation refers to "the performance of an activity because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself" (Teo et al., 1999, p. 26). Intrinsic motivation has an inherent tendency for searching internal values of novelty, capacity, exploration, and learning (Ryan & Deci, 2000). On the other hand, extrinsic motivation has a tendency to get rewards and to avoid punishments or penalties (Chantal et al., 1995).

SNS users take chances to satisfy their motivations and also adapt their communication behaviors since SNSs develop self-broadcasting skills as well as making individual connections with others (Bazarova & Choi, 2014). Travelers' motivations have been found to reveal significant relationships with their involvement on SNS pages (i.e., Facebook and Twitter), and travelers' SNS involvement positively influences their intention to visit the hotel where they ultimately purchased a stay (Leung & Bai, 2013). SNSs are related to tourism practices due to the influence SNSs have upon consumers' motivations to travel through information sharing of user-generated (Munar & Jacobsen, 2014). Based upon this review of literature, our study considers intrinsic and extrinsic motivations as important antecedents in the effect on flow experience of MSNSs.

2.1.3. Flow experience

Flow experience is defined as an optimal experience when persons are engaged in an activity, such as an affective state that is intrinsically pleasurable (Csikszentmihaiyi, 1997). Flow theory is used for a subjective psychological state that characterizes individual computer interactions to be often representing enjoyable and exploratory states (Agarwal & Karahanna, 2000). Flow as a cognitively experienced state is focused on attention, interactivity, and telepresence in websites (Novak, Hoffman, & Yung, 2000). Koufaris (2002) finds that flow is an important factor to website and e-commerce success since it is related to visitors' pleasure, perceived usefulness, possible future revisit, and purchase.

Attractiveness and interactivity of travel websites have a positive effect on flow experience, which is positively associated with utilitarian value and consumer attitude towards the travel website (Wu et al., 2014). In the embodied interactive video system, seniors' concentration on the achievement of goals and gaining control over the situations has been found to increase the occurrence of flow experiences (Hwang et al., 2011). Another study documented that the complexity of cognitive process and the prerequisite of prior knowledge and cultural experience increases the challenge to seniors that augment flow experiences (Hwang et al., 2009). Further SNS research benchmarked that six components of flow experience are developed: skill, machine interaction, social interaction, playfulness, concentration, and enjoyment (Kaur et al., 2016). Moreover, research by Zhou et al. (2010), confirmed that flow experience represents the optimal experience and is a significant mediator between motivations and users' loyalty of MSNSs. Based on the literature, this current study adopts flow experience as a mediator between intrinsic/extrinsic motivations and subjective well-being/purchase intention in senior MSNS users for tourism products and services.

2.1.4. Anxiety attachment

Attachment is defined as "the tendency of people to make secure affectional bonds to particular individuals and objects" (Bowlby, 1977; p. 201). According to Ainsworth's (1989) research on attachment theory, people who perceived their primary caregivers as consistently nurturing, are likely to develop secure attachment (e.g., low anxiety), whereas people whom experienced caregivers as inconsistent or unavailable may be at risk for insecure attachment (e.g., high anxiety). Seminal research conducted by Bartholomew and Horowitz (1991) identified that persons with high anxiety attachment have strong desire for closeness due to fear of abandonment compared to persons with low anxiety attachment. Groupings with high or low anxiety attachment are associated with negative or positive views of one's self (Lee, 2013).

SNS users with lower anxiety attachment have stronger relationships between intensity of social network site use and social capital than those with higher anxiety attachment (Liu et al., 2013). SNS users with higher levels of anxiety attachment are associated with more frequent perpetration of electronic intrusion (e.g., the use of social media to intrude into the privacy of a dating partner, monitoring a partner's whereabouts and activities, and pressuring a partner for constant contact) (Reed et al., 2016). Moreover, seniors have significantly higher computer anxiety than younger adults (Laguna & Babcock, 1997). Also, when seniors believe they cannot manage the challenges of information technology, they experience high anxiety with information and communication technology (Chu & Mastel-Smith, 2010). Drawing on the literature review above, this study examines anxiety attachment as a moderator between motivations and flow experience within the context of senior MSNS users.

2.2. Hypothesis development

2.2.1. Relationship between enjoyment and flow experience

As an intrinsic motivation, enjoyment is defined as a positive affect derived from the material objects or action opportunities of which a person wishes to own or to experience (Waterman, Schwartz, & Conti, 2008). Enjoyment specifies the extent to which a person derives fun from using the hedonic information system (Van Der Heijden, 2004). In SNS environments, enjoyment is a highly significant antecedent for the adoption of technology with network externalities (Dickinger, Arami, & Meyer, 2008). There is the relationship between enjoyment and flow experience of an individual experience with peak performance (Seifert & Hedderson, 2010). Enjoyment with an activity that needs a challenging skill and task results in a flow experience of an accelerated passage of time and deep involvement in the activity (Keller et al.,

2011). Flow experience in work is predicted by enjoyment of the interaction of personality trait (Moneta, 2012). Based on these previous studies cited above, this study posits the following hypothesis specific to the context of senior MSNS users for tourism-related purposes.

H_1: Enjoyment has a positive effect on flow experience.

2.2.2. Relationship between self-efficacy and flow experience

In seeking a motivational explanation of exploratory and manipulative behavior, self-efficacy is conceptualized as an intrinsic drive for transactions with the environment (Bandura, 1977). Self-efficacy theory assigns conceptual analysis within the framework of intrinsic interest and intrinsic motivation theory (Bandura & Schunk, 1981). Ryan and Deci (2000) assert that self-efficacy is a kind of intrinsic motivation while engaging in a game. As intrinsic motivations, the relationship between self-efficacy and flow state is significantly positive in an online game (Hong et al., 2012). Thus, this study considers self-efficacy being an intrinsic motivation.

Self-efficacy as an intrinsic motivation is defined as one's judgment of his or her ability to perform a behavior (Bandura, 1977). Self-efficacy also refers to a person's confidence on performance with using contemporary technologies, for example, computers and Internet (Compeau & Higgins, 1995). Individuals with "higher SNS self-efficacy find information shared via SNSs to be more trustworthy than those lower in SNS self-efficacy so the self-efficacious SNS users are more prone to seek out and be influenced by input from others" (Hocevar, Flanagin, & Metzger, 2014, p. 254). Flow state is significantly and positively influenced by computer self-efficacy as well as game competitive anxiety (Hong et al., 2012). Self-efficacy has a positive impact on flow and engagement from the theoretical model which is invariant across cultures (Mesurado et al., 2016). For scientific behavior improvement, self-efficacy significantly influences flow experience (Hosseini & Fattahi, 2014). In line with the literature, we formulate the following hypothesis regarding senior MSNS users for tourism products and services.

H_2: Self-efficacy has a positive effect on flow experience.

2.2.3. Relationship between usefulness and flow experience

Usefulness is defined "as the degree to which an individual believes that using a particular technology will enhance his or her performance" as an extrinsic motivation (Teo et al., 1999; p. 25). Based on Davis (1989), people tend to use new technologies when users think the new technologies support them to perform their tasks better. If online reviews are perceived as reasonably useful, the review influences attitudes toward online practice (Purnawirawan, De Pelsmacker, & Dens, 2012). According to Martin and Cutler (2002), flow experience of actors is motivated by praise or good grades according to acting by external regulation with usefulness. Lee (2005) finds significant and positive relationship between usefulness and flow experience if the extrinsic motivations are self-determined. Flow experience occurs when the subject is possible to master efficiency and productivity to be useful (Sharafi et al., 2006). Based on the literature review, a hypothesis is proposed in the context of senior MSNS users for tourism products and services.

H_3: Usefulness has a positive effect on flow experience.

2.2.4. Relationship between social interaction and flow experience

As an extrinsic motivation, social interaction is defined as an individual's behavior "to get acquainted, to become familiar with one another, and to build trust" (Ren, Kraut, & Kiesler, 2007, p. 387). One way to support social interactions over time is to make members' virtual actions visible to each other (Fiedler & Sarstedt, 2010). Social interaction leads to positive emotions about themselves and others, which might increase their attachment, which in turn makes people get involved in online communities (Fiedler & Sarstedt, 2010). In website environments, social interaction is significant to focused attention that increases users' immersion of flow experience (Huang et al., 2011). Interaction of telepresence leads to flow experience in virtual game play and learning (Faiola et al., 2013). Instructor-learner and learner-learner interactions have significant effect on flow experience in e-learning environments (Cheng, 2013). From the prior research referenced above, we posit the following hypothesis for senior MSNS users for tourism products and services.

H_4: Social interaction has a positive effect on flow experience.

2.2.5. Relationship between flow experience and subjective well-being

Subjective well-being is defined as "one's inner state of emotions like life satisfaction, self-esteem, and happiness; an individual may use SNS in order to express subjective well-being" (Yoon, 2014; p. 297). Individuals in healthy relationships feel a certain degree of subjective well-being so this results in solid behavior in assembly online SNSs (Valenzuela et al., 2009). The more individuals get a harmonious passion, the more the individuals tend to experience flow in a preferred activity, which expects better subjective well-being (Carpentier et al., 2012). If surfers have a high degree of flow experience from surfing activities, they feel a high level of subjective well-being (Cheng & Lu, 2015). Among Norwegian students, flow experience is closely and positively associated with their subjective well-being (Vittersø, 2004). Csikszentmihaiyi (1997) has suggested that the optimal flow state of fully engaged experience is a way to achieve an individual's good life, implying that flow experience is closely related to subjective well-being. People who experience flow state more often in their daily lives are more likely to show higher well-being than their counter counterparts (Asakawa, 2010), implying that flow experience influences subjective well-being. Drawing on the literature, we posit the following hypothesis in senior MSNS users for tourism products and services.

H_5: Flow experience has a positive effect on subjective well-being.

2.2.6. Relationship between flow experience and purchase intention

Purchase intention is defined as "a mental stage in the decision making process where consumers have developed an actual willingness to act toward an object or brand" (Dodds, Monroe, & Grewal, 1991, p. 307). Consumers' demographic features impact a target consumer's purchase intention if the attendance of supporters is appeared in SNSs (e.g., mere virtual presence) (Naylor, Lamberton, & West, 2012). Users who have better flow experiences are more likely to have continuance intentions of using games in SNSs (Chang, 2014). Flow experience of MSNS users also enhances users' loyalty of MSNSs (Zhou et al., 2010). Flow experience affects an online shopper's intention to revisit a site in shopping environments (Koufaris, 2002). Flow experience that is composed of challenges, concentration, control, and enjoyment influences an online consumer's repurchase intention (Hausman & Siekpe, 2009). Since flow experience has been shown to increase purchase intention, this study suggests the following hypothesis in senior MSNS users for tourism products and services.

H_6: Flow experience has a positive effect on purchase intention.

2.2.7. Relationship between subjective well-being and purchase intention

When surfers feel a high degree of subjective well-being, they have a high degree of life satisfaction and positive affect as well as lower level of negative affect, which, in turn, influence intention to surfing activities (Cheng & Lu, 2015). Subjective well-being is significantly related to life satisfaction as well as positive affect, but negatively related to negative affect to stimulate subjective quality of life (Vittersø, 2004). SNS users with higher subjective well-being are more likely to have better intention to use SNSs continuously (Kim, Chung et al., 2014). Moreover, SNS users' subjective well-being is significantly related to the qualitative use of SNSs (Yoon, 2014). Based on the literature above, this study posits the following hypothesis in the context of senior MSNS users of tourism products and services.

H_7: Subjective well-being has a positive effect on purchase intention.

2.2.8. Moderating role of anxiety attachment

Due to the depth and complexities associated with anxiety attachment as a moderator, and also because recent research has identified anxiety attachment as playing a significant role in SNS environments, this paper focuses upon the moderating role of anxiety attachment in MSNSs. Anxious persons tend to be hyperactivating, or clingy, interfering, angry, and controlling to get proximity, consideration, and reassurance (Mikulincer & Shaver, 2007). Anxiety is positively related to SNS jealousy and surveillance; the link of anxiety with SNS jealousy is mediated in part with lower trust (Marshall et al., 2013). Adults with high anxiety attachment use SNSs more frequently, are more likely to use SNSs when feeling negative moods, and are more concerned on how others appreciate them on SNSs than low anxiety attachment (Oldmeadow et al., 2013). Furthermore, anxiety has significant effects on intrinsic motivation and flow state (Hong et al., 2012), implying that anxiety has a moderating effect between enjoyment and computer self-efficacy and flow experience, as has been demonstrated in the online game, '*Escaping from Firing*.' Also, attachment is significantly associated with members' extrinsic motivation and involvement in a virtual environment (Ren et al., 2007), suggesting that attachment has a moderating effect between usefulness and social interaction and flow experience. Drawing on the literature review, we propose the following four hypotheses related to the moderating role of anxiety attachment in senior MSNS users for tourism purposes.

H_{1a}: The effect of enjoyment on flow experience is significantly different between high and low anxiety attachment groups.

H_{2a}: The effect of self-efficacy on flow experience is significantly different between high and low anxiety attachment groups.

H_{3a}: The effect of usefulness on flow experience is significantly different between high and low anxiety attachment groups.

H_{4a}: The effect of social interaction on flow experience is significantly different between high and low anxiety attachment groups.

Based on the hypotheses, we propose a research model shown in Fig. 2, which explains the structural relationships among intrinsic (enjoyment and self-efficacy) and extrinsic motivations (usefulness and social interaction), flow experience, subjective well-being, and purchase intention with the moderator of anxiety attachment between motivations and flow experience for senior MSNS users related tourism.

3. Methods

3.1. Measurements

This study's survey questionnaire initially consisted of 32 items. Eight constructs were used, including enjoyment, self-efficacy, usefulness, social interaction, flow experience, subjective well-being, purchase intention, and anxiety attachment in the context of MSNSs. All constructs were measured by applying multiple-item perceptual scales with pre-validated instruments from previous research and reworded to fit to the context of senior usage for MSNSs. Enjoyment was assessed by using four items adapted from Dickinger et al. (2008) and Van Der Heijden (2004). To assess self-efficacy, four items were adapted from research conducted by Compeau and Higgins (1995) and Hocevar et al. (2014). Four items were adapted from prior research (Davis, 1989; Purnawirawan et al., 2012) to measure usefulness. Four items of social interaction were adapted from research conducted by Fiedler and Sarstedt (2010) and Ren et al. (2007). To measure flow experience, four items were adapted from prior research (Koufaris, 2002; Novak et al., 2000). To measure subjective well-being, four items were adopted from previous research on subjective well-being by Valenzuela et al. (2009) and Yoon (2014). To measure purchase intention, three items were adapted from Dodds et al. (1991) and Naylor et al. (2012). To measure anxiety attachment, five items were adapted from prior research (Lee, 2013; Oldmeadow et al., 2013).

All items were measured on a 7-point Likert scale that ranged from strongly disagree (1) to strongly agree (7). Seven items representing general questions related to MSNSs (length of experience, time spent, devices used, primary motivation, place for accessing, purchasing or reserving tourism products and services, and frequently accessed MSNSs) were developed based on existing literature (Kim, Lee, Chung, & Kim, 2014b). Six items pertaining to socio-demographics (i.e., gender, age, educational level, marital status, monthly household income, and occupation) were included in this study.

To verify the content validity, three academic experts in social networks involving seniors and tourism products, services, and activities were asked to evaluate whether the items were appropriate to assess senior MSNS usage. The MSNS experts were also asked to evaluate the survey items to determine whether the measurement items

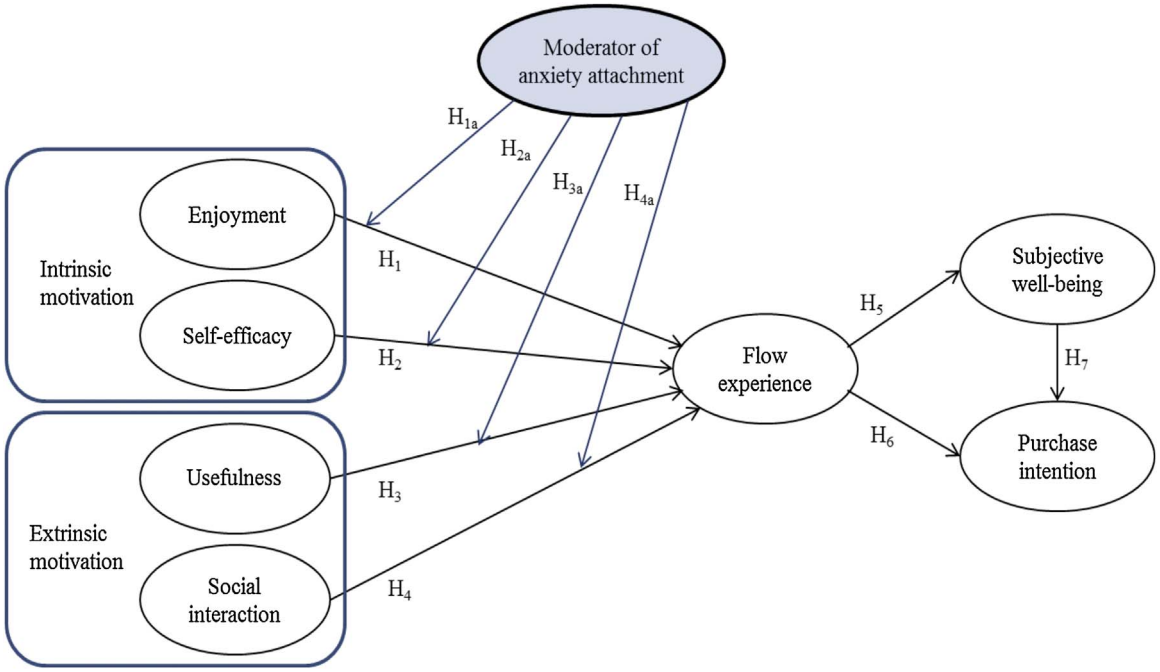

Fig. 2. Proposed research model.

needed to be deleted or reworded and to suggest items that should be added, if necessary. A pretest was administered to 50 seniors who were 50 years of age or older and were identified as having used MSNSs for tourism-related purposes within the past 6 months. These procedures resulted in the deletion of one item from anxiety attachment because of overlapping meaning (i.e., being left by friends) and the addition of one item for purchase intention (i.e., I intend to shop directly for tourism products using this MSNS) for the final survey. In addition, some ambiguous items of flow experience and subjective well-being were reworded to ensure clarity, including several items addressing enjoyment, self-efficacy, usefulness, and social interaction.

3.2. Data collection

In order to efficiently reach consumers, tourism researchers have employed online surveys because of rapid and cost-effective responses from today's online consumers (Kim, Chung, & Lee, 2011). Since this study examined consumer behavior specific to MSNSs, an online survey was deemed particularly appropriate for the data collection technique. The subjects in this study were seniors who were 50 years old or over and having experienced MSNSs for tourism products and services. Based on data provided by the Korea Internet Security Agency (2016) and the Korean Statistical Information Service (2016) regarding MSNS users and the population, a quota sampling method was employed based upon MSNS user's gender and age in this study. A highly ranked online survey firm of Embrain (2016) was employed to generate the study's sample. This online survey firm was selected primarily because of the rigorous procedures when selecting their study samples in order to obtain quality data. Specifically, panel registration numbers were used to compare personal information to verify the identity of respondents. Each respondent then was double checked by using their legal names and membership identification. If respondents completed surveys too quickly or in recurring patterns to receive incentives, the survey system identified and then eliminated those individuals.

Collected data were cleaned based on correlations, outliers, and time taken to answer the survey. Responses deviating from these criteria were removed and not included in the final data set. In order to reduce response bias, a rotational function was employed for multiple choice items, resulting in each respondent having a different sequence of questions. In addition, each respondent was required to present the name of a MSNS from which they had most frequently accessed regarding tourism products and/or services. For every subsequent question, the MSNS name mentioned by each respondent was appeared on their particular survey screen.

Data collection using the online survey was conducted for a two week period from February 16 to 29, 2016. According to the American Association for Public Opinion Research (2015), an online survey expects a 5% response rate in general. In addition, this study required approximately 400 samples to evaluate multi-group analysis based on Hair, Black, Babin, and Anderson (2010). Accordingly, invitations to participate in the survey, which also included information regarding the study's purpose, were sent via email to 7,100 seniors (i.e., 50 years old or over), selected at random, from the survey company's national consumer database of 1,140,055 panel members. Of those who received the email, 1,014 seniors connected to the survey invitation. A screening question purposely designed for this survey asked the seniors to indicate if they had used a MSNS for tourism products or services within the past 6 months (e.g., "In the past 6 months, have you used any MSNS to get or post information, to engage in social activities, or to make reservations or purchases related to tourism-related purposes?"). From only eligible seniors of 605 respondents responding 'yes' to this question, 549 respondents actually completed the survey, generating the response rate of 90.7%. After checking outliers, inappropriate answers, or missing data (Hair et al., 2010), 500 respondents were used for the final analysis.

3.3. Data analysis

A component-based approach using partial least squares (PLS)-structural equation modeling (SEM) was used in order to analyze the data. PLS-SEM has been widely used for theory testing and confirmation. PLS-SEM is also appropriate for exploring whether relationships between latent variables exist or not (Chin, Marcolin, & Newsted, 2003). In particular, PLS-SEM has been suggested to be more appropriate for complicated models or multi-group analysis than traditional SEMs (Hair, Sarstedt, Ringle, & Mena, 2012). Specifically, this study needed a multi-group approach for high and low groups of anxiety attachment so SmartPLS 3.2.6 was applied to analyze the measurement and structural models (Ringle, Wende, & Becker, 2015). Furthermore, a bootstrap re-sampling process using the PLS approach was performed because the data did not meet the standards of multivariate normality (Chin et al., 2003; Hair et al., 2012).

In recent years, by comparing the biases between composite-based PLS-SEM and common factor-based covariance-based SEM, use of PLS-SEM is preferable, particularly when it is unknown whether the data's nature is common factor- or composite-based (Sarstedt, Hair, Ringle, Thiele, & Gudergan, 2016). Henseler et al. (2014) conclude from a philosophical standpoint, there is no need for modeling constructs as common factors and reducing SEM to common factor models is unnecessarily restrictive. Since the nature of our data is more likely composite-based rather than common factor-based, this study applied the composite-based PLS-SEM. In addition, PLS path modeling is not a flawed analytical method, which is the same as the factor-based approach to SEM, or any other sophisticated data analysis technique (Rigdon, 2016). PLS-SEM is a variance-based method to estimate composite-based path models, which is commonly used in various business disciplines, such as accounting, management information systems, marketing, operations and strategic management, and tourism (Cepeda Carrión, Henseler, Ringle, & Roldán, 2016). In particular, PLS-SEM has well explained the measure of causality regarding the tourism and travel industry (Ahrholdt, Gudergan, & Ringle, 2017), seniors' behaviors in technology use (Diño & De Guzman, 2015), and consumers' adoption of mobile payment (Teo, Tan, Ooi, & Lin, 2015).

On the other hand, according to Rönkkö and Evermann (2013), despite the popularity of PLS-SEM, it is very difficult to justify its use for theory testing over traditional SEM in many statistical claims so PLS-SEM may be useful for purely predictive analyses. However, Henseler et al. (2014) and Hair et al. (2012) insist that PLS-SEM should continue to be used as an important statistical tool for social science disciplines since the alleged shortcomings of PLS-SEM are not due to problems with the technique. Moreover, PLS should not be adopted as a tool for psychological research (Rönkkö, McIntosh, & Antonakis, 2015; Rönkkö, McIntosh, Antonakis, & Edwards, 2016) and such an acrimony towards PLS climaxes in an editorial from the editors (Guide & Ketokivi, 2015). The extreme positions that result in prejudiced boycott calls, are not good research practice and do not help to truly advance understanding of methods and any other research subject (Sarstedt et al., 2016) because of neglecting the beneficial features of PLS (Richter, Cepeda, Roldán, & Ringle, 2015). Furthermore, based on Lowry and Gaskin (2014), PLS-SEM can provide much value for causal inquiry in communication-related and behavioral research fields because of the wide availability of technical information on PLS-SEM approach.

To compare the differences between the high and low groups, a multi-group analysis was used, as suggested by Chin (2004), Chin et al. (2003), and Keil et al. (2000):

$$t_{ij} = \frac{p_1 - p_2}{\sqrt{\frac{(n_1-1)\times SE_1^2 + (n_2-1)\times SE_2^2}{n_1+n_2-2}} \times \sqrt{\frac{1}{n_1}+\frac{1}{n_2}}},$$

where p_i is the path coefficient in the structural model of *anxiety attachment*$_i$, n_i is the sample size of the data set for *anxiety attachment*$_i$, SE_i is the standard error of the path in the structural model for *anxiety*

$attachment_i$, t_{ij} is the t statistic with $n_1 + n_2 - 2$ degrees of freedom, i is for the high anxiety attachment group, and j is for the low anxiety attachment group.

3.4. Common method bias

Because the measures in this study come from the same source, common method variance might influence some postulated relations in the PLS path model. In this respect, we took precautions using several procedural remedies to minimize common method bias that counterbalance or offset each of these specific effects (Podsakoff & Organ, 1986; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). First of all, at the beginning of the survey, we presented a statement that assures respondents of anonymity and a description of the general objective of the study was provided. Second, the survey provided mixed orders so that the questions about the same dimension would not be given adjacent to each other. Third, we stated that the survey has no right or wrong answers to the questions in order to decrease the respondents' apprehension. Fourth, the definitions of tourism products and MSNSs were provided at the beginning of the survey questionnaire to ensure response validity. Fifth, the survey is divided into three parts: general information is on the first section, measurement items related to the research model are on the second section, and personal questions on demographic characters are on the third section. Sixth, to prevent finishing the survey too fast, we notified every respondent before starting the survey that "it may take approximately 15 min or so to read and answer all questions." Finally, to reduce response bias, the survey firm rotated the sequence of the survey items so that every respondent got the survey items in different sequences.

To identify common method bias, Harman's single factor test was performed to confirm whether the data had common method variance or not (Harman, 1976; Ranganathan, Teo, & Dhaliwal, 2011). In this procedure, all of the self-reported items were entered into an exploratory factor analysis (EFA). The basic assumption of this technique is that common method variance is present if a single factor emerges or one factor accounts for more than 50% of the variance in the variables. The EFA results show that seven factors appeared, with the major factor accounting for 42.9% of the variance, followed by 9.3%, 7.5%, 5.9%, 4.7%, 4.0%, and 3.3%. Since this test suffers some limitations, we further employed the marker variable approach (Podsakoff & Organ, 1986). PLS algorithm was applied in this procedure. We used a marker variable to estimate the correlations on every theoretical construct in the PLS path model. The corrections between the marker variable and all the constructs in the PLS path model were small and insignificant, such as enjoyment (0.11), self-efficacy (0.08), usefulness (0.15), social interaction (0.07), flow experience (0.04), subjective well-being (0.12), and purchase intention (0.08). As the common method variance, the average of squared multiple corrections was 0.01 for the seven theoretical constructs. Therefore, neither the traditional single-factor test nor the marker variable approach suggests a threat of common method bias (Podsakoff et al., 2003).

4. Results

4.1. Respondents' profile

Respondents were primarily married (87.8%), males (54.8%), mostly 50–59 years of age (85.4%), with university degrees (52.4%) who were primarily office workers (30%), earning 4.00–5.99 million Korean won of monthly household income (36.2%) (US $1.00 is equivalent to 1,141 Korean won), and having between one and a half years to three years of experience with MSNSs (43.0%). Less than one half of all respondents (46.4%) spent between 10 minutes to 29 minutes using MSNSs per day, and a majority of the sample (91.6%) used smartphones for accessing MSNSs. A majority of the respondents (80.4%) used MSNSs for searching or posting information, and more than one half of all respondents (64.0%) used MSNSs at home. Slightly less than one half of all respondents (48.8%) purchased tourism products through MSNSs. Facebook (17.8%) was the most frequently accessed search engine, followed by Kakao (17.0%) and Naver (10.4%).

4.2. Grouping check

The anxiety attachment construct was measured using the following four items (Cronbach's $\alpha = 0.869$): "I often worry that my partner(s) who is special to me (e.g., spouse, lover, close friends) doesn't really like me" [factor loading (FL) = 0.836; mean (M) = 2.944; standard deviation (SD) = 1.380]; "I often worry that my partner(s) who is special to me (e.g., spouse, lover, close friends) will leave me" (FL = 0.855; M = 3.000; SD = 1.410); "I usually want more closeness with others than others want with me" (FL = 0.832; M = 4.040; SD = 1.283); and "The thought of being left by others often enters my mind" (FL = 0.793; M = 2.974; SD = 1.369). The four anxiety attachment items were summed, and respondents were split into two groups using a cut-off point set at the median score of 3.25. The high anxiety attachment group (n = 230) had a mean value for anxiety attachment of 4.259 with an SD of 0.756, whereas the low anxiety attachment group (n = 241) had a mean value for anxiety attachment of 2.266 with an SD of 0.584. To more accurately classify the two groups, we excluded the subjects at the median (n = 26; score = 3.25) (Kim, Lee et al., 2014; Yi & La, 2004).

4.3. Measurement model

The convergent and discriminant validity was examined for each of the 28 indicators (Bhattacherjee & Sanford, 2006). As presented in Table 1, since all factor loadings exceeded 0.5 and no items of each construct shared high degrees of residual variance in other items of other constructs, the convergent and discriminant validities were confirmed.

To validate the reliability, convergent validity, and discriminant validity of the constructs, the measurement model for the entire group was assessed. As shown in Table 2, all seven constructs exceeded the required minimum level of criteria in terms of Cronbach's Alpha, composite reliability, average variance extracted (AVE), and square root of the AVE. Because all of the reported Cronbach's Alphas were greater than 0.70 and the composite reliability scores were greater than 0.70, this indicated that all constructs were satisfactory with reliability (Campbell & Fiske, 1959; Hair et al., 2012). AVE for each construct was greater than 0.50, indicating convergent validity was also deemed acceptable (Hair et al., 2012). The square root of the AVE for each construct was found to be greater than each inter-construct correlation coefficient, indicating discriminant validity was confirmed (Bhattacherjee & Sanford, 2006).

4.4. Structural model

Using PLS-SEM, this study assessed three separate groups of the entire group, high group, and low group of anxiety attachment. With regard to the high and low group models, differences were then tested. From the entire group, R^2 of explained variance for flow experience (45.1%), subjective well-being (32.0%), and purchase intention (37.4%) were calculated to estimate the predictive accuracy of the structural model (Hair et al., 2010). For the relationships, bootstrapping was employed to calculate the path assessments and t-statistics (Stevens, 2009). Bootstrapping is a non-parametric method that includes large numbers of re-samplings to assess the shape of a statistic's sampling distribution (Chin et al., 2003). In this study, a bootstrap re-sampling process was performed to evaluate whether the main and moderating effects were significant since the data did not meet the standards of multivariate normality (Hair et al., 2012).

As for the total model, Fig. 3 illustrates the results of PLS. All of the

Table 1
Confirmatory factor analysis of measurement model (entire group).

Constructs	Factor loading	Mean	SD[a]
Enjoyment			
1. Using this MSNS for tourism-related activities is enjoyable for me.	0.909	4.848	0.900
2. Using this MSNS for tourism-related activities is pleasurable for me.	0.935	4.758	0.911
3. Using this MSNS for tourism-related activities is fun for me.	0.899	4.842	0.925
4. Using this MSNS for tourism-related activities keeps me happy.	0.891	4.568	1.016
Self-efficacy			
1. I am much better on this MSNS skill for tourism-related activities than other users.	0.894	4.224	1.049
2. I am much better on the ability to successfully find information in this MSNS for tourism-related activities than other users.	0.915	4.332	1.096
3. I am much better on this MSNS content production for tourism-related activities than other users.	0.881	3.706	1.199
4. I am much better on this MSNS to use content for tourism-related activities than other users.	0.922	4.100	1.086
Usefulness			
1. Using this MSNS for tourism-related activities enhances my effectiveness in relationships with my friends.	0.874	4.540	1.089
2. Using this MSNS for tourism-related activities improves the quality of communication with friends.	0.878	4.504	1.117
3. I find using this MSNS for tourism-related activities to be advantageous in my life.	0.888	4.778	0.999
4. Overall, using this MSNS for tourism-related activities benefits me.	0.852	4.852	0.936
Social interaction			
1. Using this MSNS for tourism-related activities enables me to create interpersonal relationships with other members.	0.889	4.484	1.062
2. Using this MSNS for tourism-related activities helps me maintain social relationships with other members.	0.932	4.428	1.086
3. Using this MSNS for tourism-related activities helps me make new friends.	0.917	4.364	1.134
4. Using this MSNS for tourism-related activities enhances my social relationships with others.	0.934	4.426	1.117
Flow experience			
1. When I am browsing this MSNS for tourism-related activities, I feel totally captivated.	0.875	3.878	1.174
2. When I am navigating this MSNS for tourism-related activities, time seems to pass very quickly.	0.851	4.406	1.176
3. When I visit this MSNS for tourism-related activities, I can forget all concerns.	0.897	4.082	1.206
4. Using this MSNS for tourism-related activities often makes me forget where I am.	0.816	3.526	1.309
Subjective well-being			
1. In most ways my life at MSNS SNS for tourism-related activities is close to my ideal.	0.853	4.092	1.023
2. The conditions of my life at this MSNS for tourism-related activities are excellent.	0.887	4.486	0.940
3. I am satisfied with my life by this MSNS for tourism-related activities.	0.907	4.524	1.016
4. So far I have gotten the important things I want at this MSNS for tourism-related activities.	0.859	4.642	0.986
Purchase intention			
1. I will make a reservation for tourism products using this MSNS.	0.888	4.428	1.117
2. I would purchase tourism products using this MSNS in the future.	0.925	4.684	1.065
3. I will buy tourism products soon using this MSNS.	0.910	4.438	1.114
4. I intend to shop directly for tourism products using this MSNS.	0.922	4.682	1.082

Note: All items were measured on 7-point Likert scales of the range from strongly disagree (1) to strongly agree (7).
[a] Standard deviation.

six hypotheses were supported except for the relationship between usefulness and flow experience (H_3). For example, enjoyment (H_1: $\gamma = 0.364$, t-value = 7.007, $p < 0.001$), self-efficacy (H_2: $\gamma = 0.235$, t-value = 5.475, $p < 0.001$), and social interaction (H_4: $\gamma = 0.130$, t-value = 2.899, $p < 0.001$) were found to significantly influence flow experience. Also, flow experience was found to significantly affect subjective well-being (H_5: $\beta = 0.566$, t-value = 14.671, $p < 0.001$) and purchase intention (H_6: $\beta = 0.248$, t-value = 4.945, $p < 0.001$). Lastly, purchase intention is influenced by subjective well-being (H_7: $\beta = 0.437$, t-value = 8.237, $p < 0.001$).

To examine the moderating role of anxiety attachment, H_{1a}, H_{2a}, H_{3a}, and H_{4a} were also tested (Table 3). Comparing models' explained variance (R^2) from the associated regression results identified differences between two groups (Hair et al., 2010; Kim, Lee et al., 2014). The structural model of this study predicted a greater variance for flow experience (16.1%), subjective well-being (6.4%), and purchase intention (27.2%) in the high anxiety attachment group than in the low anxiety attachment group. In addition, a simple comparison of the standardized path coefficients indicated that enjoyment and self-efficacy had a significant effect on flow experience in the high and low group. Usefulness had a significant impact on flow experience in the high group, but the relationship was not significant in the low

Table 2
Reliability and discriminant validity.

Model	Construct	Cronbach's α	Composite reliability	AVE	Correlation of the constructs						
					(1)	(2)	(3)	(4)	(5)	(6)	(7)
Entire group	(1) Enjoyment	0.930	0.950	0.826	**0.909**						
	(2) Self-efficacy	0.925	0.947	0.816	0.453	**0.903**					
	(3) Usefulness	0.896	0.928	0.762	0.677	0.459	**0.873**				
	(4) Social interaction	0.938	0.956	0.843	0.539	0.387	0.641	**0.918**			
	(5) Flow experience	0.883	0.919	0.740	0.606	0.495	0.535	0.480	**0.860**		
	(6) Subjective well-being	0.900	0.930	0.769	0.684	0.543	0.632	0.529	0.566	**0.877**	
	(7) Purchase intention	0.932	0.951	0.831	0.550	0.496	0.544	0.393	0.495	0.577	**0.911**

Note: The square roots of AVEs represent the diagonal elements in boldface in the correlation of constructs matrix indicate. According to Bhattacherjee and Sanford (2006), "for adequate discriminant validity, diagonal elements should be greater than their corresponding off-diagonal elements" p. 815.

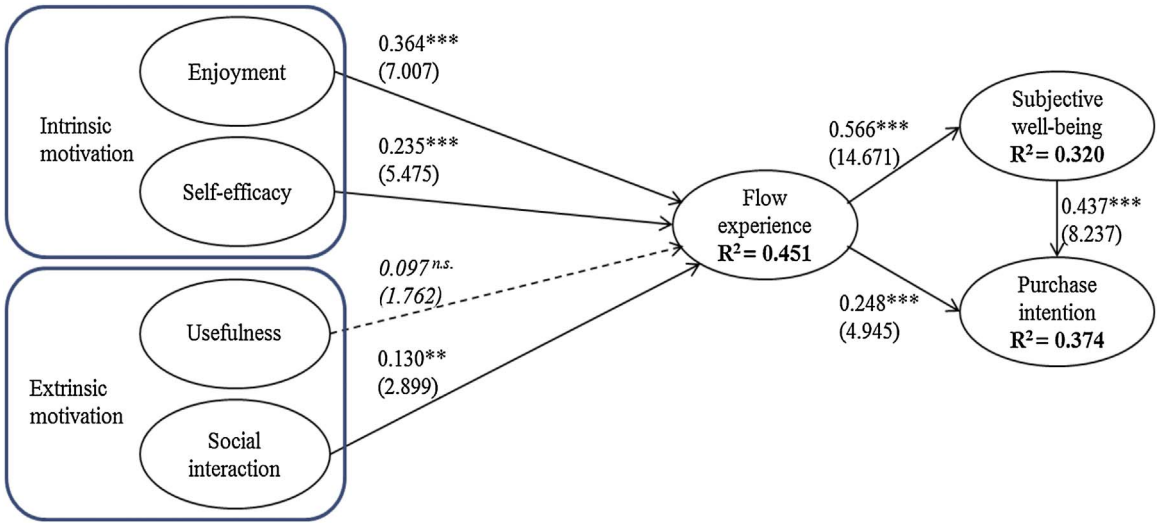

Fig. 3. Results of the research model for the entire group.
Note: ***p < 0.001. **p < 0.01. n.s. = non-significant. The figures in the parentheses represent t-values.

Table 3
Comparison of path coefficients between high and low attachment groups.

Hypothesis	Path	High group (A)	Low group (B)	t-value (A-B)	p value (A-B)	Test of hypothesis
H_{1a}	Enjoyment → Flow experience	0.361***	0.402***	−6.278	< 0.001	Supported
H_{2a}	Self-efficacy → Flow experience	0.322***	0.188***	25.964	< 0.001	Supported
H_{3a}	Usefulness → Flow experience	0.166*	0.052$^{n.s.}$	15.624	< 0.001	Supported
H_{4a}	Social interaction → Flow experience	0.052$^{n.s.}$	0.141$^{n.s.}$	−13.912	< 0.001	Supported
R^2: Coefficient of determination (variance explained).						
The high group: Flow experience (56.4%).						
The low group: Flow experience (40.3%).						

Note: ***p < 0.001; *p < 0.05; n.s. = non-significant.

group. In the meantime, the relationship between social interaction and flow experience was not significant in both the high and low groups.

For comparing the research model across the high and low anxiety attachment groups, we applied PLS-SEM to perform a multi-group analysis for two proposed models. As presented in Table 3, the coefficients of the four paths across the high and low anxiety attachment groups were significantly different. The magnitudes of the coefficient between self-efficacy and flow experience (high attachment group = 0.322 > low attachment group = 0.188) as well as usefulness and flow experience (high attachment group = 0.166 > low attachment group = 0.052) were significantly greater in the high group than in the low attachment group. Therefore, the result supported H_{2a} and H_{3a}. On the other hand, the coefficients between enjoyment and flow experience (high attachment group = 0.361 < low attachment group = 0.402) as well as social interaction and flow experience (high attachment group = 0.052 < low attachment group = 0.141) were greater in the low group than in the high group. Thus, H_{1a} and H_{4a} were supported.

4.5. Inclusion of control variables

We controlled variables of gender, age, educational level, and monthly household income to identify a precise evaluation of the proposed research model. To do this, this study assessed whether inclusion of the variables affects a more or less precise interpretation of the results (Spector & Brannick, 2011). Based on the PLS analysis using 500 bootstraps, Fig. 4 demonstrates the path coefficients of the research model with control variables. We inserted the four control variables between flow experience and purchase intention to investigate whether the relationships were supported with the influence of the control variables. Fig. 4 reveals that the analytical statistics still supported the six hypotheses when including the four control variables. Consequently, the findings indicate that gender, age, educational level, and monthly household income did not have bias toward the current results.

5. Conclusion and implications

More than two-thirds of seniors are now smartphone owners (Gallup Korea, 2015), and more than one half of senior smartphone users are MSNS users (Korea Internet Security Agency, 2016). Although a majority of seniors have been increasingly interested in using MSNSs, research has overlooked senior MSNS consumers as a potential topic of interest within the context of tourism-related products, services, and activities. To address these gaps, this study developed and tested a research model addressing relationships involving intrinsic/extrinsic motivations, flow experience, subjective well-being, and purchase intention, along with the moderator of anxiety attachment. As a result, this study provides theoretical and managerial contributions specific to the context of senior MSNS users for tourism products, services, and activities in the following sections.

5.1. Theoretical implications

Despite the fact that the senior travel market represents an immense, rapidly growing business segment, little research has been initiated on this audience based on a theoretical framework designed for tourism-related activities specifically with MSNS applications. Thus, this research provides several important implications related to the structure of motivation theory and flow experience with respect to

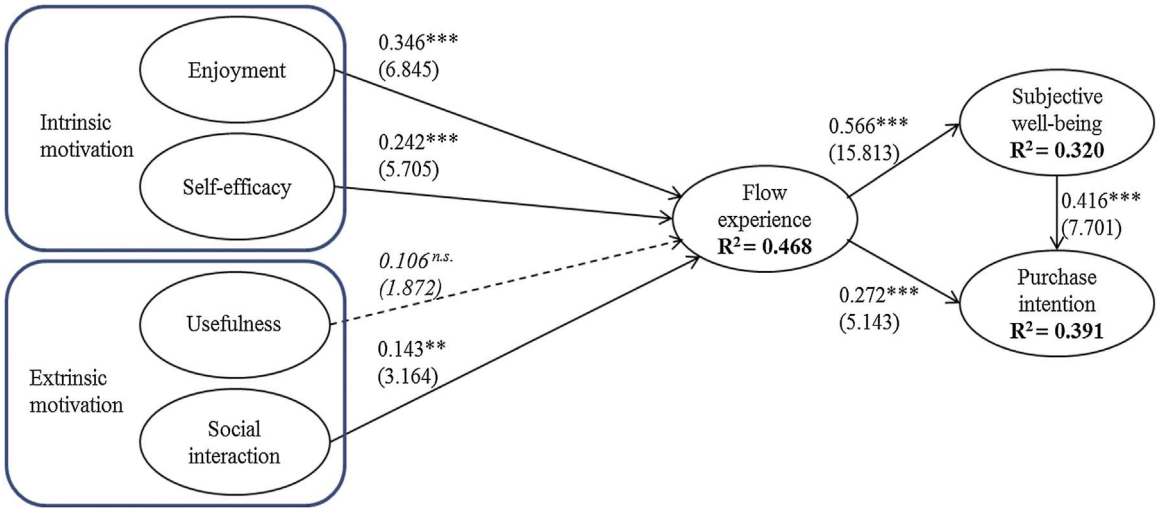

Fig. 4. Entire model considering four control variables.
Note: ***p < 0.001. **p < 0.01. n.s. = non-significant. The figures in the parentheses represent t-values.

anxiety attachment, and how this influences subjective well-being and purchase intention upon senior users of MSNSs. For example, this study introduces new opportunities for academics to explore more creative and innovative pathways for how the seniors may best interact with MSNSs in order to maximize experiences related to tourism products, services, and activities.

This study findings have identified that enjoyment and self-efficacy indeed have stronger effects on flow experience than those of usefulness and social interaction. These results imply that intrinsic motivations are better predictors in flow experience, extending prior literature on the relationships between enjoyment and flow experience (Moneta, 2012) and self-efficacy and flow experience (Hosseini & Fattahi, 2014). Contrary to our expectations and to those of previous research, findings of this research recognize that usefulness does not have a significant impact on seniors' flow experience (Sharafi et al., 2006). Results imply that usefulness may not be important to senior MSNS users for tourism because seniors use MSNSs due to intrinsic motivations, and not because of factors associated with extrinsic motivations.

This research explored the three relationships among flow experience, subjective well-being, and purchase intention. Results showed that the linkage between flow experience and subjective well-being was the highest significance with respect to senior MSNS users, supporting the previous research on flow experience and subjective well-being (Vittersø, 2004). Results also revealed that subjective well-being was a highly significant predictor for purchase intention, building on previous research (e.g., Yoon, 2014). Flow experience on MSNSs was found to have a significant effect on purchase intention, which was found to be consistent with prior studies (e.g., Hausman & Siekpe, 2009), documenting that flow experience is a strong predictor for heightening purchase intention.

Another theoretical contribution this study has provided relates to identifying the moderating role of anxiety attachment between motivations and flow experience of senior MSNS users. Results indicated that enjoyment had a significantly greater effect on flow experience in seniors having low levels of anxiety than it did for seniors having high levels of anxiety. This theoretical contribution extends the previous body of knowledge in the existing tourism literature with regard to the relationships between enjoyment and flow experience (Hong et al., 2012). On the other hand, these results revealed that self-efficacy had a significant effect on flow experience with respect to seniors having high levels of anxiety compared with those having low anxiety levels, which supports previous research (e.g., Oldmeadow et al., 2013).

5.2. Practical implications

Due to the continuously growing size of the senior market segment, research addressing this population's use of MSNSs for tourism purposes is extremely valuable information for producers, distributors, retailers, destinations, and hundreds of millions of senior consumers. In consideration of these issues, findings from this research provide MSNS producers and operators with significant managerial implications related to intrinsic and extrinsic motivations and their effects on flow experience upon the end user, which in this case represents senior consumers.

The intrinsic motivations of enjoyment and self-efficacy were proven to have greater effects on flow experience than did those extrinsic motivations related to usefulness and social interaction. Accordingly, MSNS companies should focus on attracting and keeping seniors by highlighting seniors' intrinsic motivations. One possibility could be for MSNS practitioners to concentrate on attracting and maintaining senior members by emphasizing aspects of the online experience associated with the intrinsic motivation of enjoyment such as in the situation when individuals may be chatting with friends and family members, or perhaps when they are emerged in playing mobile games. Regarding intrinsic motivation of self-efficacy, MSNS practitioners should focus on the confidence or feeling of seniors with ability to complete tasks and reach goals. These experiences should be taken into consideration by MSNS developers of tourism products and services specific to attracting seniors. Perhaps MSNS stakeholders allow seniors to plan their individual itineraries when taking cruise vacations, or selecting various types of activities from a list of opportunities at a destination ranging from passive to more active in design.

This study also provides MSNS marketers the opportunity for making more informed decisions about their marketing efforts in order to increase senior users' subjective well-being and purchase intention through the flow experience. Because seniors' flow experience was found to highly influence their subjective well-being and purchase intention, MSNS stakeholders should stimulate seniors' flow experience by guaranteeing intrinsic motivations are being identified and make seniors feel totally captivated throughout the experience. In addition, results of this study offer suggestions to MSNS marketers on new possibilities for increasing senior users' purchase intention of tourism products and services by focusing on elements specifically associated with the subjective well-being of seniors. A practical implication is that mobile social media firms (e.g., Facebook, Kakao, Naver) can use information in shaping a creative media strategy that is designed for senior MSNS members' sense of life-satisfaction. One example would be

to provide senior members with instructions on how to participate in satisfying programs that help increase seniors' sense of psychological well-being. Furthermore, MSNSs marketers may find they could attract seniors in order to purchase intention if seniors' satisfaction with applications of MSNSs increases through the development of new products or services such as mobile payment systems. The findings also provide MSNS managers with valuable insights into how flow experience can lead to positively affecting the subjective well-being and purchase intention of senior MSNS users, which would ultimately enable the MSNSs to better compete in today's rapidly changing and highly competitive MSNS environment.

These research findings confirm and provide validation that the moderating role of anxiety attachment indeed plays a legitimate part within the context of the tourism industry. That is, the theory not only provides executive implications for MSNS application through marketing strategies based upon knowledge obtained from the high and low anxiety groups, but these insights could also be applied to many other market segments in a similar fashion. Specifically, MSNS marketers should develop strategies for market segments based upon whether senior consumers exhibit low or high levels of anxiety attachment by appealing to those different user segments' various motivations, rather than as a single homogenous market. For example, if MSNS businesses target low anxiety senior user groups, they should encourage those seeking the motive 'enjoyment' from their MSNS experiences. Conversely, if MSNS companies desire to target high anxiety senior users, they should inspire seniors seeking experiences focusing upon self-efficacy with their MSNSs. Consequently, findings from this study provide a number of practical implications for MSNS practitioners based upon anxiety attachment theory applied to the tourism industry and senior MSNS use for which related products and services may be best designed for seniors according to their anxiety levels.

5.3. Limitations and future research directions

This study has limitations which must be noted in light of future research. First, the study was conducted in just one country, so results are not generalizable to other countries, and caution must be taken with respect to interpreting these results due to this. It is therefore recommended that researchers conduct similar studies in different geographical regions throughout the world in order to test these findings. This study's sample included seniors having purchased tourism products or services from MSNSs (48.8%) as well as those whom had not purchased (51.2%). Future studies should only include those seniors having purchased tourism-related products or services from MSNSs in order to offer insightful implications to MSNS industries to be successful and thrive in extremely competitive environments. Furthermore, future research should consider using big data analytics, such as text analytics in MSNSs to accurately predict future senior MSNS user behavior.

Research reveals that the global information gap is likely to widen the digital divide (Norris, 2001). For example, the digital divide between seniors and young people exists. This indicates that age is significantly associated with access and a pattern of connecting to the Internet, while seniors evaluate the Internet as central to their lives as younger people do (Loges & Jung, 2001). On the other hand, seniors have embraced the opportunities by information and communication technologies to enhance their lives in general (Abbey & Hyde, 2009). In this respect, future research should focus on smart tourism and MSNSs by age-gap in terms of the digital divide that can suggest insights for seniors as compared to non-seniors.

6. Concluding remarks

Overall, the findings from this study contribute to senior MSNS users for tourism by verifying the relationships among intrinsic/extrinsic motivations, flow experience, subjective well-being, purchase intention, and anxiety attachment. Furthermore, the results of this research provide direction and guidance to suggest meaningful implications to MSNS practitioners to attract and retain senior users for their products and services. Finally, this study provides baseline knowledge for academics to use as a benchmark for future research that focuses on seniors and MSNS use.

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