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Triggering effects of mobile video marketing in nature tourism: Media richness perspective

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ABSTRACT

The aim of this study was to investigate videos as potential triggers of behavior. Therefore, we applied the theories of triggers and media richness to learn about the triggering efficiency of mobile marketing videos on participants' behavioral intentions. The experiment involved three distinct test groups, each comprising 41 student participants. From the perspective of media richness theory, we observed that the different kinds of videos had quite similar effects in terms of triggering behavioral changes. However, the mechanisms explaining why triggers were present differed for each video. Further, the results reveal that the consumer's position in the information search process was the most significant reason for the triggering of any kind of effect. In addition, the instructionally designed videos were able to exert an affective triggering effect: the more participants liked the video, the more it affected their participation intention and recall scores. This study extends the media richness research by demonstrating that the effects of media richness can vary within technically similar videos, as they form different logical connections among non-verbal visual cues related to a video's storyline.

1. Introduction

The extent to which marketing and digital communication affect behavioral intention is an interesting topic to investigate. Marketers around the world endeavor to aim the correct message at the correct people at the right time in order to trigger a response—preferably a purchase or action. Traditionally, the firm–customer exchange process was viewed as a series of interactions between service providers and consumers (Gupta & Zeithaml, 2006). Lately, digital marketing communication has gained increased attention, and every company is facing the question of how it can maximize the potential gains from digital marketing channels (Karjaluoto, Mustonen, & Ulkuniemi, 2015). This has increased the importance of effective marketing communication for defining which firms succeed and which ones do not (Cornelissen, 2004). However, effective marketing communication can be difficult to develop, especially in service marketing, such as tourism (Pesonen & Pasanen, 2017). The information search and consumption process in the tourism field is extremely complex, and there is a need for more research on the topic, especially concerning how media and marketing messages affect tourists' choices (Pesonen & Pasanen, 2017).

Online videos have become a focal point for marketers. For example, on YouTube alone, users watch more than one billion hours of video material every day (Google, 2017). No matter the source, the statistics show a rapid increase in the amount of video material being consumed online throughout the world. Furthermore, this consumption is being done increasingly on mobile devices, which have become significant end terminals for online content consumption (Chen et al., 2017). Despite the importance of mobile videos in

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marketing, research on their influence on consumer behavioral intention is scant.

The present study was based on the service marketing literature and investigated how different kinds of marketing messages, promoted through videos, would trigger changes in consumer behavior in nature tourism. From the marketers' perspective, it is important to know how to develop video content according to the potential consumers and what factors trigger media effects. Digital content, such as social media posts, blog posts, webinars, or videos, is usually produced by either other consumers or firms, and brand owners exert little control over the consumers' content consumption and sharing (Hennig-Thurau et al., 2010; Lamberton & Stephen, 2016). The primary focus of firm-generated digital content is to advise or assist consumers with their decision-making (Kumar, Bezawada, Rishika, Janakiraman, & Kannan, 2016).

However, it remains unclear what kinds of videos affect information search and purchasing behavior and why. Earlier literature suggests that attitudes affect intention, which affects behavior (Sheeran & Webb, 2016). There are also gaps between these concepts, meaning that even if people intend to do something, they do not necessarily do it (Sheeran & Webb, 2016). Although a few studies have been conducted on this topic (e.g., Huertas, 2018; Puccinelli, Wilcox, & Grewal, 2015), it remains surprisingly under-researched when we consider its importance to marketers. Marketers need to think about the kind of message that they are conveying as well as how different kinds of people will process the information. The same message can have different outcomes depending on who is receiving it (Watzlawick, Beavin, & Jackson, 1967). Media richness theory (Daft & Lengel, 1986; Sun & Cheng, 2007) explains how different levels of media richness differently affect receivers' understanding, as the capacity of the media to transmit information varies.

This study examined how watching a service marketing video would trigger a consumer's behavioral intention and what kinds of consumers would be affected most strongly by different kinds of marketing videos. We examined recall rate, satisfaction, and behavioral intention regarding the service, and how instructive, seductive, and decorative types of video content (Sung & Mayer, 2012) differed in their effects. We compared which was more important for triggering behavior in marketing communication: who the customer is or the kind of message with which he or she interacts

Thus, this study contributes to filling the aforementioned research gap concerning the relationship between consumers and marketing video content. This research gap is especially relevant in the field of digital and social media marketing, where the consumption and sharing of videos is becoming increasingly important. For example, Mark Zuckerberg, the founder of Facebook, stated in 2014 that video would be the most important type of media on Facebook in the near future (Miners, 2014).

This paper is organized into six sections, the first being this introduction. The next section provides a review of the related literature. The third section describes the methodology and research settings. The fourth section presents the results. The fifth section identifies the contribution, theoretical and managerial implications, and the final section provides the conclusions, limitations and future research.

2. Related work

2.1. Developments in service marketing

In service marketing, service providers make promises about the value that consumers can expect—that is, they offer value propositions (Grönroos & Ravald, 2011). Value propositions, such as those found in mobile marketing videos, are promises, suggestions, and projections of practices relating to how consumers can co-create value with service providers in integrating resources (Skålén, Gummerus, von Koskull, & Magnusson, 2015). Advancements in information processing and management are constantly creating new possibilities for enriching consumer interaction (e.g., Del Vecchio, Mele, Ndou, & Secundo, 2017; Kim, Jung, & Park, 2018). Thus, service businesses are increasingly seeking new ways to improve their marketing and sales activities using online channels. Such channels have also allowed consumers to become active subjects (Rust & Huang, 2014), who influence the means of service marketing. Although service marketing has developed owing to the rapid expansion of digital tools and channels, it has also made consumer behavior more complex and powerful (Nguyen & Le Nguyen, 2018; Verhoef, Kannan, & Inman, 2015). In turn, this has increased the importance of reputation management for companies (Peetz, de Rijke, & Kaptein, 2016). Furthermore, the boundaries between traditional and digital service marketing are blurring (Brynjolfsson, Hu, & Rahman, 2013), and consumers are creating their own unique customer journeys through a mixture of traditional and digital channels (Lemon & Verhoef, 2016). Therefore, it is important for service companies to respond to changing consumer behavior by recognizing new digital triggers that affect the consideration or selection of a favorable service provider.

2.2. Triggers and service provider selection

The main goal of digital service marketing is to trigger behavior in consumers that will foster a positive relationship with the service provider at each phase of the customer journey (e.g., Lemon & Verhoef, 2016). In this context, a trigger is a factor that influences a change in consumer behavior by establishing a reason to begin to consider switching to or selecting a certain service (Roos, Edvardsson, & Gustafsson, 2004). A situational trigger affects a consumer's personal life or environment, whereas a reactional trigger occurs when a consumer is considering, purchasing, or using a service (Gustafsson, Johnson, & Roos, 2006). Instrumental triggers include time-, cost-, and frequency-related factors, unlike affective triggers, which are related to feelings, such as stress, safety, and autonomy (Skarin, Olsson, Roos, & Friman, 2017). Thus, some triggers are created by a service provider's intentional or unintentional actions that are focused on cognitive, emotional, and behavior-based processes (Edvardsson & Strandvik, 2000). Other triggers occur in a consumer's life through their environment. However, all triggers, whether they are intentional or unintentional,

influence consumers' perceptions and buying behavior. Marketing videos, as means of digital marketing, can trigger consumers instrumentally by communicating service content, price information, benefits, schedule, and other service details. They can also communicate affective triggers, such as joy, safety, security, health, and emotional experience.

To understand the triggering process in consumer behavior in the digital service marketing context, it is essential to distinguish between the marketing message and the consumer receiving it. Thus, it is important to examine the attributes that define the effectiveness of mobile video content and consumer-related cognitive, emotional, and behavior-based factors.

2.3. Individual characteristics and effectiveness of marketing information

According to previous literature, individuals exhibit many different behavioral patterns in digital environments, and individual characteristics influence consumer behavior (Hallikainen, Alamäki, & Laukkanen, 2018). Thus, the attributes of marketing messages are insufficient for explaining the effectiveness of marketing; consumers' characteristics must also be understood. As Watzlawick et al. (1967) stated, "every communication has a content and a relationship aspect such that the latter classifies the former and is therefore a metacommunication" (p. 54). In other words, individuals can have different relationships to the same information content.

Different values drive the consumption of products and purchase of services by creating different relationships to consumers. Sheth, Newman, and Gross (1991) clarified that in the theory of consumption values, functional, conditional, social, emotional, and epistemic values drive consumer buying behavior, and individuals differ from each other with respect to those values. Similarly, the learning psychology literature (Piaget, 1985; Vygotsky, 1978) emphasizes the constructive concept of learning, which shows that humans process new information on the basis of their prior understanding and experiences. In other words, the consumer's mind is not an empty receptacle into which marketers can simply pour their marketing messages. In addition to individual value preferences and cognitive capabilities, many other factors contribute to marketing effectiveness. They can be, for example, demographics (Grant & O'Donohoe, 2007), psychological benefits, desires, novelty seeking (Lin & Huang, 2012), or prior experiences (Vakratsas & Ambler, 1999).

2.4. Interrelationship of cognitive and emotional information

It is difficult to identify a relationship between recalling marketing information and sales effectiveness (Lodish et al., 1995). This means that if a consumer remembers marketing information, it will not necessarily directly trigger his or her behavior. Additionally, an advertisement may influence consumer behavior even if the consumer does not recall the content or details of the advertisement when making a purchase decision (Heath, Brandt, & Nairn, 2006). However, this finding does not negate the importance of cognitive processes in video marketing or any marketing method. Consumers need to recall and understand things related to the details of services when they make decisions. Several studies have shown that the emotional design facilitates cognitive learning and user experience (e.g., Dirin, Laine, & Alamäki, 2018; Mayer & Estrella, 2014; Plass, Heidig, Hayward, Homer, & Um, 2014). The research of Lazarus (1991) evinced a strong interrelationship between rational appraisals (cognitive dimension) and emotional reactions (emotional dimension) in human behavior. It is important to note that cognitive processing is not necessarily conscious; in fact, most human actions are directed by subconscious mechanisms (see Sweller, Ayres, & Kalyuga, 2011). In addition, cognitive load theory (Bannert, 2002; Mayer, 2009; Sweller et al., 2011) explains how humans' limited cognitive capacity for processing novel information might slow down remembering.

Several studies have shown that emotional information creates more effective results than rational, cognitive information (e.g., Heath et al., 2006; Song, Dai, & Wang, 2016; Vakratsas & Ambler, 1999). Berger and Milkman (2012) studied the sharing of online content to understand which factors make content go viral. They determined that having an emotional reaction while reading an article caused consumers to want to share the content with others. In general, they found that positive content went more viral than negative content, and content that evoked high-arousal emotions went more viral among consumers. However, Young (2004) stressed that emotion is not a property or concrete object in the marketing content that just flows out to the minds of consumers. Cognitive experiences play a crucial role in stimulating an emotional reaction or flow, which makes consumer behavior a complicated process (Lazarus, 1991). One factor affecting cognitive experiences is media richness, as richer media potentially convey richer information, such as both verbal and non-verbal messages (Daft & Lengel, 1986; Salomon, 1979).

2.5. The role of media richness in generating media effects

A video is a multimedia presentation (Mayer, 2009). According to Lim and Benbasat (2000), multimedia is a rich presentation that conveys semantically rich information by using a wide range of symbolic systems. Their research showed that multimedia conveys non-verbal messages and facilitates understanding, making information less ambiguous. Unlike multimedia, text, audio, and pictures alone do not make logical connections between symbolic systems and cannot convey the meanings of conditional events or causes (Lim & Benbasat, 2000; Salomon, 1979). Thus, a multimedia presentation can convey and communicate both factual and equivocal information (Liu, Liao, & Pratt, 2009).

The concept of media richness (Daft & Lengel, 1983, 1986) provides a theoretical framework for understanding the potential benefits that consumers gain from different types of media and how much a specific medium is able to deliver in terms of information and emotional cues. Media richness as an objective property of media indicates the extent to which a medium can facilitate shared understanding within a time interval (Sun & Cheng, 2007). Although media richness may improve communication, it does not

necessarily have a causal connection to the actual performance of communication (Dennis & Kinney, 1998), as contextual and situational variables also affect the demands of communication. Mayer (2009) showed that the processing of spoken words in connection with animated presentations yielded more effective recall scores than processing printed words on animated graphics. Dennis and Kinney (1998) concluded that when using media to improve communication performance, the goals and tasks affect the selection of proper media more than media richness does. The media content can make a difference within the same richness of media (e.g., Fiorella & Mayer 2016; Ho, Chiu, Chen, & Papazafeiropoulou, 2015; Sundar, 2000). Additionally, the media selection can affect users in different ways in the long run (e.g., Tan, Tan, & Teo, 2012). Furthermore, there is no causal connection between the media platform and changing customer behavior, similar to instructional media, which does not directly cause learning, as the learning content and instructional methods are what affect the learners (e.g., Clark, 1994; Fiorella & Mayer, 2016). Hence, YouTube, Facebook, Instagram, and other digital platforms that deliver content do not create media effects; rather, they provide infrastructure for consuming content and collaborating. It is the content that is consumed that creates the effects.

2.6. Summary of the literature review and research questions

The literature review showed that in the context of digital channels, consumer behavior has become more complex, interactive, and powerful due to the latest advancements in information technology (e.g., Nguyen & Le Nguyen, 2018; Rust & Huang 2014). Additionally, videos have a crucial role in digital marketing communication, but minimal research exists on digital videos and their effects on consumer behavior (Huertas, 2018). Earlier literature suggested that individual characteristics, emotional reactions, and media richness influence the media effect (e.g., Song et al., 2016; Sun & Cheng, 2007; Watzlawick et al., 1967). Although several studies have been conducted on the adoption and use of digital media (Verhoef et al., 2015), few studies have actually compared different kinds of digital marketing messages and how they trigger consumer behavior. This is something that digital tools and channels have made considerably easier during the past few years, and this has created new opportunities for marketers and researchers.

The present study was aimed at filling the research gap concerning the relationship that consumers have to marketing video content. In digital service marketing, it is essential to understand which attributes affect service provider selection and how they trigger consumer behavior. Thus, it is essential to first understand how the consumption of video material triggers consumers' behavioral intention and the consumers who are affected the most. Thus, the main goal of this study was to examine which is more important: having the right message or the right audience. The findings of the literature review led to the development of the following research questions:

1) How do variations in media richness in video content trigger changes in tourist behavior?
2) What triggers behavioral changes in different types of videos?
3) How do consumers' individual characteristics and the phase of their information search process compare with respect to video types in triggering changes in behavioral intention?

3. Research methods and data

3.1. Three approaches to digital video content design

We studied the relationship between consumers and marketing videos and the differences among three visual modifications. According to media richness theory (Daft & Lengel, 1986; Sun & Cheng, 2007), richer media can convey multiple cues and facilitate understanding. As a form of multimedia, video can convey both verbal and non-verbal cues (see e.g., Lim & Benbasat, 2000; Liu et al., 2009). We modified the visual cues and logical connections of video attributes by changing 30% of the video clips in the same storyline. To modify the videos, we adopted the approach in Sung and Mayer's (2012) research on the effects of graphics in learning on online lessons. First, the instructive graphics had to match the intended instructional goal for easing the learning process. The instructive video content provided the service details; it presented the actual details of a canoeing trip, such as a guide briefing customers, canoeing on the lake, sitting around a campfire, and visiting a vantage point. Second, the seductive graphics and clips were aimed at eliciting users' emotions, as the nature of outdoor activities, such as canoeing, evokes similar emotions. Thus, the seductive video content included wild animals, such as a duck swimming and seeking food in a lake, geese and swans swimming, and geese flying or landing on the water at a bay. Third, the decorative graphics included cognitively and emotionally neutral visual content. Nature was the main focus of our video clips and experiment, and it was not considered a value proposition. In the experiment, the decorative videos presented only trees and a blue sky, zoomed and recorded upwards. Their visual message was neutral, and they neither instructed nor elicited an emotional response.

3.2. Participants and design

The participants were 123 undergraduate students enrolled in a business information technology degree program in Finland. The selection criterion was that participants should represent, as much as possible, potential real-life customers of outdoor tourism services. The participants' socio-demographics represented the tourism segment of activity enthusiasts, who are young males and females who prefer outdoor activities and experiencing peacefulness in nature (Nepa, 2017). Over 43% of the participants represented nationalities other than Finnish. Although the research goal was to understand videos and consumer behavior as a

Table 1
Participants' socio-demographic data.

Gender	%
Female	30.9
Male	69.1
Age	%
Below 20	8.1
21–30	83.7
Over 30	8.1
Nationality	%
Finnish	56.1
Other European	11.4
Asian	20.3
American	2.4
African	2.4
Other	7.3
How often do you do outdoor activities (hiking, kayaking, canoeing, mountain biking, or related)?	
Never	13.8
Once a year	20.3
Every 6 months	27.6
Monthly	25.2
Weekly	13.0
Note: N = 123	

phenomenon, not to generalize the findings to outdoor tourists, the selection of participants among potential consumers increases the trustworthiness of the findings. The instructive, seductive, and decorative videos were each shown to groups of 41 participants, resulting in a total of 123 participants. The group size was in line with similar multimedia studies that had 30–60 participants, on average, per group (e.g., Fiorella & Mayer, 2016; Mayer & Estrella, 2014; Sung & Mayer, 2012). The participants' socio-demographic profiles are presented in Table 1.

Student samples are often used in academic research in various fields, including psychology, social psychology (Payne & Chappell, 2008), business research (James & Cohen, 2004), political science (Druckman & Kam, 2011), and marketing (Yavas, 1994). Yavas (1994) suggested that the use of students is appropriate for both scale development and modelling attitude–behavior relationships. We wanted to control as many factors as possible to ensure that changes in behavioral intention were mostly because of who the participants were and the kind of video that they watched. A classroom experiment allowed us to reach this goal. Moreover, the sample of 123 students was well in line with the sample sizes used in earlier research (James & Cohen, 2004; Sung & Mayer, 2012). The goal of this research was not to generalize the findings but to determine how various concepts are connected and what kinds of relationships exist between factors. A student sample was well-suited to this kind of research (Yavas, 1994), and the sample size was adequate for the analysis methods used, despite the limited explanatory power of the models used in this study (Green, 1991).

3.3. Design and modification of marketing videos

We employed a variety of instructive, seductive, and decorative video content. First, we created one marketing video according to instructive principles, and it formed the basis for the two other modified videos (Fig. 1). The primary goal of these videos was to inform users about service content and encourage them to purchase a one-day canoeing trip in a Finnish national park. All videos and related video materials had the same context (outdoor tourism activities and nature) from the beginning to the end.

All videos were 2 minutes and 19 seconds long, and they included 15 different video clips in the same order. The text or caption (Appendix A), which was the same in all videos, was displayed in the same place in all modified video clips. In total, 5 out of 15 video clips were modified, and the materials were captioned. Thus, we modified 30% of the 15 video clips, which means that all test groups saw 5 different and 10 common video clips. The modified videos covered 85 seconds (61%) of the total 139-second length of the video presentation; hence, 39% of the total time comprised common video content presented to all participants.

The videos were recorded during a real canoeing trip with a tourism company that provides and markets similar canoeing trip services on its e-commerce site. The seductive and decorative video clips were recorded elsewhere, but they represented nature-related topics and had the same context. All video clips represented an authentic, natural environment (context), but they differed from each other in terms of their relevance for illustrating a canoeing service. We had to consider carefully the end-user perspective while planning and designing the marketing videos. For users to take the videos seriously in the test situation, each video had to feel like a real marketing video. Our initial plan was to create videos that were purely instructive, seductive, and decorative, as in Sung and Mayer's (2012) study, where the graphics only changed in connection to the same text. However, from the user perspective, the seductive and decorative videos did not work, as the caption described the service details of canoeing; thus, the videos presented "wrong" graphics from the beginning to the end. For enhanced trustworthiness, we decided to change the experimental design; although the results of the videos would probably have differed significantly from each other, especially in terms of satisfaction, the user experience would have been artificial or false. Thus, instead of showing the three groups completely different videos, we decided

Fig. 1. Examples of instructive (A), seductive (B), and decorative (C) video clips with the same caption.

to modify 30% of the graphics in the same video, creating three videos: one with 30% instructive content, one with 30% seductive content, and one with 30% decorative content. The videos did not contain music or sound. The final test videos were uploaded to YouTube, and the researchers created a TinyURL and QR code. The test users either typed the TinyURL or scanned the QR code to access the videos in the experiment.

3.4. Measures

Pre- and posttest questionnaires were administered. The pretest questionnaire was handed out to the participants on paper, and they filled it out before they watched the video. It comprised 10 multiple-choice questions. The first three questions concerned age, gender, and nationality. The remainder of the questionnaire consisted of multiple-choice items concerning their participation in outdoor activities (hiking, kayaking, canoeing, mountain biking, or related), how they viewed themselves as travelers, and whether they had purchased tourism services online (other than flight tickets).

The pretest also contained three multiple-choice questions measuring transactional intention to participate in or purchase a canoeing trip in Nuuksio National Park, which was the target canoeing service presented in the videos. We adapted Pavlou and Gefe's (2004) transaction intention measures for this study. Those three questions were also asked in the posttest questionnaire to measure the videos' effects relating to the behavioral change of transaction intention. The questionnaire included the following transaction intention questions rated on a 5-point Likert scale (5 = strongly agree to 1 = strongly disagree): "At this moment, I am interested in buying a canoeing trip in Nuuksio National Park"; "If I had the chance, I would like to participate in the guided canoeing trip in Nuuksio National Park"; and "It is likely that I will go canoeing in Nuuksio National Park in the next two years."

We adapted Sung and Mayer's (2012) measures in designing the recall and satisfaction tests. The following open-ended question was used to test recall: "Please write down all service details and facts presented in the video. You can write down key words, but if you don't remember the key words, you can write down sentences explaining the meaning of the service details and facts. You have 5 min. to record your answer." The purpose of the recall test was to measure how many of the service details presented in textual format (caption) in the videos the participants remembered (Appendix A) and if different video content presented simultaneously influenced their recollection. The caption in the videos included 25 key points, such as the length of the total canoeing trip, canoeing time, price, departure details, size of the group, free lunch and its details, and other service content. Thus, one could earn a maximum of 25 points, and a participant would receive a point if he or she provided a verbatim answer or a synonymous term in his or her written answer. The recall test did not measure understanding—only the memorization of information relating to the service.

The satisfaction test measured participants' emotional orientation toward the videos. We adapted Sung and Mayer's (2012) measures to suit the context of this study, and the satisfaction rate was measured on a 5-point Likert scale (5 = strongly agree to 1 = strongly disagree). The questionnaire included the following four questions: "I felt that the video material impacted my feelings positively"; "I felt good when I viewed this video material"; "I think the visual content of this video material was interesting"; and "I enjoyed learning about the canoeing trip details from this video material." We also measured the quality of the video material using four variables: "I enjoyed learning about the canoeing trip details from this video material" (Learning); "I think the visual content of this video material was interesting" (Visual Content); "I felt good when I viewed this video material" (Feeling Good); and "I felt that the video material impacted positively my feelings" (Emotional).

3.5. Procedure

The test videos were designed for smartphones. For example, the font size of the text was optimized for mobile usage. The experiment took place in classrooms, where each participant watched one of the three videos on their own mobile device. The researchers were prepared to provide a smartphone to any participant who did not have one or who could not use their own device. The use of mobile devices is rapidly growing, and most potential consumers will view marketing videos on their mobile devices. Thus, selecting a mobile device as the end terminal simulated a real usage situation. It was also easy to arrange this because all participants had smartphones and the university where the experiment took place provides free Wi-Fi access. There were 20–25 participants at one time in the classroom where the experiment was taking place. They were informed about the experiment in advance.

The participants were randomly assigned to different groups by handing different video addresses to them in pre-selected order. The video addresses (TinyURL and QR code) were printed on the posttest paper sheet. At the beginning of the experiment, the researcher explained the test procedure and verified that everyone present wanted to participate and had a smartphone to use. Then the researcher distributed the test material, and the participants first answered the research items of the pretest. Subsequently, they were allowed to continue by turning over the paper, thereby revealing their special video address. Then they accessed the YouTube video address and watched the video, which did not have audio. The participants answered the research items of the posttest right after watching the video. The researcher supervised the procedure of the experiment, which lasted for 30 minutes including the briefing, pretest, watching of videos, and posttest.

3.6. Data analysis

The data set consisted of 123 fully completed questionnaires. The data analysis was conducted with SPSS 21. First, the student groups were compared to determine if there were any differences between them that might affect the results.

A paired samples *t*-test was conducted on interest in purchasing a canoeing trip, interest in participating in a canoeing trip, and likelihood of going canoeing in Nuuksio National Park to analyze how watching the videos affected these variables for each

participant. A paired samples *t*-test computes the differences between the values of two variables for each case in the data and tests whether the average differs from 0. The three aforementioned dependent variables, together with the recall scores, were used as dependent variables in further analyses.

Subsequently, the videos were compared to assess the four dependent variables and examine if different videos had different effects on the recall score and interest in the tourism services. This analysis was conducted using one-way analysis of variance (ANOVA). In addition, post-hoc Tukey tests were conducted for each pair-wise comparison with alpha set at 0.05. We also ran a correlation analysis to understand the connectons between video quality, recall score, and change in consumer preferences. We then examined how the videos differed in their quality and how video quality affected consumer behavior.

In the last phase of the data analysis, regression models were used to analyze the most influential factors in explaining changes in consumers' behavioral intention. Ordinal regression was used because the predictor variable was measured as successive categories. Ordinal logistic regression is the best tool for predicting the probability of an interesting outcome when the outcome is measured on an ordinal scale (Andereck & Nyaupane, 2011; O'Connell, 2006).

4. Results

4.1. Group differences in demographic characteristics and interest variables

The groups were based on student classes; thus, they were selected randomly. Nevertheless, it was crucial to analyze possible differences among the groups that might affect the results. Based on the ANOVA of variables connected to interest in canoeing in Nuuksio National Park and chi-square tests with $p < 0.05$ on demographic variables, no statistical differences were found among the three groups. They had similar background and other variables irrespective of the video they watched. Thus, we could focus on the video as the change agent.

4.2. Effects of watching videos

In the first part of the data analysis, we compared the whole sample to see how watching the video changed the watchers' behavior. The paired samples *t*-test results (Table 2) indicated that watching the videos increased participants' interest in the canoeing service because all means after watching the video were greater than those before. The only statistically significant change in behavioral intention ($p = 0.036$) concerned interest in purchasing a canoeing trip in Nuuksio National Park. That is, after watching the videos, the participants were generally more interested in purchasing the canoeing trip.

We also wanted to see how personal attributes affected interest in the service before watching the video. Using chi-square tests, we learned that women were more interested than men in buying a canoeing trip ($p = 0.023$), that participants from other backgrounds were more likely than Finnish participants to go on the guided canoeing trip and to go canoeing in Nuuksio National Park ($p = 0.005$), and that the more often a person does outdoor activities, the more likely they would be to go canoeing in Nuuksio National Park within the next two years. We also looked at correlations between behavioral intention scores before the videos and how the responses changed after watching the videos. We identified statistically significant negative correlations in interest ($r = -0.459$, $p < 0.01$), participation ($r = -0.374$, $p < 0.01$), and likelihood of going canoeing ($r = -0.411$, $p < 0.01$). In other words, the less interested a person was before watching the video, the more likely it was that their interest grew because of the video. At the same time, the more interested a person was in canoeing in Nuuksio National Park before the video, the less likely they were to be more interested after watching the video.

4.3. Effects of videos on recall test scores and interest in the tourism service

In the second part of the analysis, we examined how watching instructive, seductive, and decorative videos affected the participants' interest in canoeing and how well they remembered details from the video (Table 3). At the 0.05 level, there were no statistical differences among the three videos in how they changed consumers' opinions or how well participants could recall details from the videos. When looking at effect sizes computed (Table 4) with Cohen's *d* (Cohen, 1988), we noticed that there was a medium-sized effect between the instructive and seductive videos in creating interest in a canoeing trip in Nuuksio National Park. Medium-

Table 2
Paired samples t-tests on before and after watching the videos.

	Mean before video (M1)	Mean after video (M2)	Paired Differences (M2 − M1) (SD)
At this moment, I am interested in purchasing a canoeing trip in Nuuksio National Park. (Purchase Intention)	2.37	2.56	0.20 (1.02)*
If I had the chance, I would like to participate in the guided canoeing trip in Nuuksio National Park. (Participation intention)	3.15	3.25	0.10 (0.76)
It is likely that I will go canoeing in Nuuksio National Park in the next two years. (Likelihood to act)	2.64	2.76	0.12 (0.83)

Note: N = 123, *$p < 0.05$, **$p < 0.001$.

Table 3
Mean recall test scores and interest in the tourism service (before and after).

Measure	Type of graphics						Sig.
	Instructive		Seductive		Decorative		
	Mean	SD	Mean	SD	Mean	SD	
Recall score	6.15	3.41	5.63	2.60	5.78	3.16	0.74
Purchase intention	0.73	1.17	0.15	0.76	0.37	1.09	0.41
Participation intention	0.15	0.69	0.12	0.84	0.24	0.76	0.75
Likelihood to act	0.24	0.92	0.24	0.73	−0.12	0.78	0.07

Note: N = 123.

Table 4
Effect sizes between videos, Cohen's *d* values.

Measure	Type of graphics		
	Instructive − Seductive effect size	Seductive − Decorative effect size	Decorative − Instructive effect size
Recall score	0.17	−0.05	−0.11
Purchase intention	0.59	−0.23	−0.32
Participation intention	0.04	−0.15	0.12
Likelihood to act	0	0.48	−0.42

Note: N = 123.

sized effects were also evident between the seductive and decorative videos in increasing participants' likelihood of going to Nuuksio National Park in the next two years and between the decorative and instructive videos in the likelihood of going canoeing in the future. Therefore, these three differences were especially worth investigating further.

In the third part of the analysis, we focused on how the feelings that participants had when they watched the video affected a change in their intention. We compared the three videos in terms of visual content, learning possibilities, good feeling, and emotions. To determine how video quality attributes affected consumer behavior and preferences among the three videos, we ran a correlation analysis. As we can see from Table 5, there were clear differences among the videos. In the seductive or decorative video, regarding recall score, it did not matter whether a person enjoyed learning the details, thought the visual content was interesting, felt good while watching the material, or if the video material impacted emotions positively. However, this was not the case with the instructive video, in which all of these attributes affected the recall score. The results show a significant correlation in the instructive video between the change in participating in the guided canoeing trip and enjoying learning the details of the video and positive impact on emotions. These two factors, as well as visual content, all increased the likelihood of canoeing in the future in relation to the instructive video. Regarding the seductive and decorative videos, only one statistically significant correlation was identified. The more interesting a person thought the visual content of the decorative video was, the more likely that person was to participate in the guided canoeing trip in Nuuksio National Park.

4.4. Comparing the effects of video content and video watcher attributes on behavior

In the last part of the data analysis, we wanted to explore how participants' personal characteristics affected the change in customer behavior. We analyzed how age, gender, nationality, and frequency of doing outdoor activities affected behavioral intention. Furthermore, as behavioral intention statements had been identified as significant in the earlier results, we included them before the video. The only statistically significant difference was in gender: men increased their interest in canoeing significantly more than women did ($F = 4.056$, $p = 0.046$).

We also conducted several ordinal regression analyses to measure how well our independent factors explained changes in behavioral intention. We found that we could explain, even in the best case, 35% of the change in behavioral intention with our background factors and differences in videos. The strongest factor in explaining the change was always the behavioral intention score before watching the video. Some factors, like how often a person does outdoor activities and nationality, seemed to have a small effect, but with such a small data set, this only provided a hint for future research. The statistically significant effects in Table 6 indicate that the higher the behavioral intention score was before watching the video, the less likely the participant was to score high after watching the video. Finnish and other Europeans were less likely to show an increased purchase intention than others. Moreover, the instructive video was more likely than the decorative video to be associated with an increased likelihood of going canoeing, and those who do outdoor activities less than once a year were the least likely to express an increased likelihood of canoeing after watching the video. The R-square statistics were significant, but mostly for the results from the behavioral intention score before watching the video. The Wald test is used to determine if the explanatory variables in a model are significant (Agresti, 1990). The more a Wald test score differs from 0, the more significant the variables are.

Table 5
Correlation between video quality, recall score, and change in consumer preference among the video types.

	Recall score			Change in purchase intention			Change in participation intention			Change in likelihood to act		
	Inst.	Sed.	Dec.	Inst.	Sed.	Dec.	Inst.	Sed.	Dec.	Inst.	Sed.	Dec.
I enjoyed learning the details of the canoeing trip from this video material.	0.343*	−0.137	−0.055	0.308	0.165	0.166	0.434**	0.227	0.221	0.385*	0.061	−0.150
I think the visual content of this video material was interesting.	0.352*	0.090	0.271	0.233	0.044	0.256	0.244	0.260	0.442**	0.366*	0.163	0.130
I felt good when I viewed this video material.	0.394*	0.094	−0.243	0.169	0.027	0.175	0.130	0.261	0.027	0.300	0.259	0.062
I felt that the video material impacted positivelymy emotions.	0.345*	0.148	−0.146	0.148	0.110	0.264	0.449**	0.282	0.235	0.434**	0.204	0.028

* $p < 0.05$
** $p < 0.001$

Table 6
Ordinal regression analysis of how individual characteristics and phase of the information search process trigger a change in behavioral intention.

	Change in purchase intention			Change in participation intention			Change in likelihood to act		
	Estimate	Wald	Sig.	Estimate	Wald	Sig.	Estimate	Wald	Sig.
Intention score before watching the video	**−1.177**	**32.394**	**.000**	**−.687**	**11.878**	**.001**	**−1.013**	**19.971**	**.000**
Gender = Female	−.759	3.245	.072	−.192	.200	.655	.069	.024	.877
Gender = Male	0[a]			0[a]			0[a]		
Nationality = Finnish	**−1.827**	**9.479**	**.002**	.137	.049	.825	−.848	1.673	.196
Nationality = Other European	**−2.202**	**8.167**	**.004**	−.314	.160	.689	−.909	1.185	.276
Nationality = Asian	−.420	.397	.529	−.104	.022	.883	−.075	.011	.918
Nationality = Other	0[a]			0[a]			0[a]		
Age = Under 20	1.726	3.572	.059	1.049	1.290	.256	1.662	2.900	.089
Age = 21–30	1.093	2.587	.108	.431	.375	.540	.842	1.253	.263
Age = More than 30	0[a]			0[a]			0[a]		
Video = Instructive	−.336	.591	.442	.063	.019	.891	**1.071**	**4.568**	**.033**
Video = Seductive	−.219	.250	.617	−.035	.006	.938	.901	3.301	.069
Video = Decorative	0[a]			0[a]			0[a]		
Outdoor Activities = Never	−.271	.148	.701	.137	.035	.852	−.777	1.076	.300
Outdoor Activities = Once a year	−.875	1.793	.181	−1.038	2.294	.130	**−1.547**	**4.643**	**.031**
Outdoor Activities = Every 6 months	.616	.994	.319	.033	.003	.959	−.704	1.046	.306
Outdoor Activities = Monthly	.775	1.526	.217	.213	.103	.749	−.575	.687	.407
Outdoor Activities = Weekly	0[a]			0[a]			0[a]		
Nagelkerke R^2	0.382	0.210	0.279						

5. Discussion and implications

There is an ongoing discussion in the academic research on marketing effectiveness, especially in service marketing. Many scholars are interested in what triggers changes in consumer behavior and why (Roos et al., 2004). The present study examined this topic from the perspective of media richness theory, according to which verbal and non-verbal cues in media can trigger changes in behavior, especially in learning (Fiorella & Mayer, 2016; Lim & Benbasat, 2000). Learning is also important for marketers, who aim to communicate with consumers to ensure that they obtain more knowledge about the products and services that they are selling. As consumers are spending more and more time on their mobile devices, and especially to consume increasing amounts of mobile video content (Chen et al., 2017; Google, 2017), it has become paramount to understand how and why mobile marketing videos work.

5.1. The role of media richness in triggering consumer behavior

The first research question in this study concerned how media richness differences in video content trigger changes in tourist behavior. We designed three different mobile marketing videos: one with 30% instructive content, one with 30% decorative content, and one with 30% seductive content. All three videos were rich in media, as videos typically are, but nonetheless differed in the kind of message that they conveyed and how. When looking at the results in Table 2, we can see that all three videos had a positive impact on intentions and likelihood to act. The effect was especially significant for purchase intention. When comparing the different types of videos, we can see that the instructive video was better than the seductive video at triggering an increase in purchase intention (see Tables 3 and 4). In addition, the seductive video was better than the decorative video at triggering an increase in the likelihood to act, and the decorative video was worse than the instructive video at triggering changes in the likelihood to act. In addition, participants remembered the details of the videos in a similar way no matter which video they watched.

Prior research has shown that richer media does not directly improve the media effects (Dennis & Kinney, 1998), but less studied are the effects of cues and their logical connections in similar media. To the best of our knowledge, only a few studies on this topic have been carried out in the educational context (e.g., Fiorella & Mayer, 2016). The videos differed from each other in their capacity to transmit multiple cues and increase personal focus to trigger behavioral intention. We arrived at this conclusion (see Table 5) because the more participants enjoyed and felt that the video impacted them emotionally, the more their participation intention and recall score improved in watching the instructional video. In this video, visual cues were connected to the storyline, thus establishing the strongest logical connections between the visual cues in the video clips, captions, and storyline. Our results extend the previous media richness research (e.g., Lim & Benbasat, 2000; Liu et al., 2009) by showing that media richness can vary within technically similar videos because media richness is higher if all attributes (e.g., video clips, captions) have a logical connection to the storyline and its digital content. In addition, we conclude that the media richness of instructionally designed videos relates to their ability to trigger behavioral intention, as the visual cues and their better logical connection in the storyline seem to improve the media effects. The video as a digital medium is more complex than images or text.

5.2. The videos as instrumental and affective triggers

The second research question concerned what influences the triggering of behavioral changes among different types of mobile videos. This question was aimed at determining why different types of videos have different kinds of effects on consumers. It is

interesting to note that the video quality items that we included did not explain changes in purchase intention for any of the three videos (Table 5). Participation intention increased if participants perceived the instructive video as providing details in an enjoyable way or as impacting their emotions positively. In response to the decorative video, participation intention increased the more participants perceived the visual content as interesting. For the instructive video, likelihood to act increased the more participants enjoyed learning the details, the more interesting the visual content of the video was, and the more positively the video material impacted their emotions.

The results of this study indicate that affective issues, participation intention, and recall score are interrelated. This is in line with prior research on cognitive appraisals in emotions (e.g., Lazarus, 1991). Cognitive information processing evokes emotions that affect behavioral intention. Aligned with Skarin et al. (2017), we found that the videos triggered participants instrumentally, but also affectively. As previously stated, the more participants enjoyed and felt that the video impacted them emotionally, the more their participation intention and recall score improved in watching the instructionally designed video. The results of this study show that mobile videos, as growing means of delivering digital service marketing, can trigger consumers instrumentally by communicating service content, price information, benefits, schedule, and other service details. They can also deliver affective triggers, such as emotional experiences. This aligns with previous research (Heath et al., 2006; Vakratsas & Ambler, 1999) that showed that emotions play a significant role in marketing communication.

The findings emphasize the importance of the storyline in generating a media effect. The storyline determines the logical connections among video attributes, which affect the media richness (cf. Daft & Lengel, 1986; Sun & Cheng, 2007). The storyline is an audio-visual narrative of the message that is communicated by combining different video attributes. We found that changing 30% of the visual cues (video clips) in the same storyline did not make a significant difference in general, as all three videos had positive impact (Table 2). All test groups saw 5 different and 10 similar video clips. In other words, 67% of similar video content occupying 39% of the time slot is sufficient for creating a similar marketing message. However, as mentioned before, we found that the mechanisms that caused triggers to happen were different for each video. This means that better media richness improved the effect of a similar storyline. This finding strengthens our conclusion that a stronger logical connection between video attributes, such as visual cues and storyline, improves the media effect.

In terms of attributes, the findings differ from those of Sung and Mayer (2012), who identified a more significant difference between relevant and irrelevant graphics in cognitive measures. However, they studied text and graphics, whereas we researched video material with differences in media richness. This difference highlights that video material differs from visualized textual material in creating media effects.

5.3. Videos trigger potential consumers to move forward on the customer journey

The third research question concerned how consumers' individual characteristics and the phase of their information search process compare with respect to video types in triggering changes in behavioral intention. From the ordinal regression analysis in Table 6, we can see that the most significant factor that constantly explains changes in intention and likelihood to act is the intention score before watching the video. This means that the lower the intention score was before watching the video, the likelier the score was to increase. Finnish and other European respondents were less likely to demonstrate an increase in purchase intention than other respondents. The instructive video was more likely than the decorative video to increase the likelihood to act, and respondents doing outdoor activities once a year were less likely than those who do outdoor activities weekly to increase their likelihood to act. These results support the research of Vakratsas and Ambler (1999), who stated that experience is the third significant construct in analyzing the effects of advertisements. In our study, experience decreased the media effect.

The findings in Table 6 indicate that the videos were able to trigger non-prospective customers to become prospective customers, and thus propel them forward on their customer journey. This is something that earlier studies did not account for, and it shows the importance of understanding the complete information search process for each tourist. We call this the transition of their position on the customer journey, as the videos were able to move less interested participants from one phase to another. This finding contributes to the literature on the customer journey (e.g., Lemon & Verhoef, 2016; Venkatraman et al., 2015), which indicates that recognizing a consumer's position on the journey is important for videos to trigger the consumer's behavioral intention. These findings also contribute to the literature on AIDA (attention, interest, desire, action) theory (e.g., Fiore, Kim, & Lee, 2005; Yeh, Wang, Li, & Lin, 2017) showing that videos can trigger behavioral intention toward an interest in marketed services. We conclude that the media effect occurs when a video is able to create a relationship between the consumer and the video content. This is an essential finding for marketing video design, as similar video content resonates differently in different consumers depending on the phase of the consumer journey. This is in line with the communication research of Watzlawick et al. (1967), which emphasized the importance of the relationship between the receiver and the content in effective communication.

Triggering constitutes an endeavor to change the orientation of consumers toward selected services. A consumer's orientation will change if he or she feels that the triggering video content provides additional value or creates an emotional experience. Thus, triggering can construct the existing mental models of consumers and move them forward (or probably sometimes backwards) on the customer journey. The results of this study reveal that the service demonstration videos influenced less interested consumers to become interested, but they did not necessarily transfer already interested consumers to the next phase. We conclude that those consumers require different value propositions (see e.g., Skålén et al., 2015), risk reductions (see e.g., Hautamäki & Alamäki, 2017), or other types of messages in a trigger, and thus different storylines with relevant video graphics, audio, and possibly text in the videos.

5.4. Practical implications

For practitioners, our findings show the importance of recognizing how the relationship between consumers and video content is created. The results also show that different kinds of videos should be used in different parts of the customer information search process depending on how close the customer is to making a purchase. Our findings suggest that videos affectively trigger consumer behavior if the visual cues (e.g., video clips) create logical and strong connections to the storyline and its content. This improves their media richness in conveying non-verbal messages, such as the service experience. In addition, our findings suggest that a video's storyline is more important for creating media effects than the single attributes of a video.

Some of these results can be used to more effectively design mobile video marketing. If the goal of a video is to increase the consumer's likelihood to act, the video should contain instructive content, have a positive impact on emotions, and educate about the details of the product or service in an enjoyable way. If the goal is to increase purchase intention, the best approach would be to use instructive content with real customer experiences from value co-creation. For triggering participation intention changes, decorative content with interesting visual material, instructive content with enjoyable information about the details, or a positive impact on emotions would be the best starting point.

6. Conclusions, limitations and future research

This study, which included real experiments with test groups, has extended existing media richness and trigger theories. In the study, we identified and clarified that service demonstration videos can be effective for participants who are less interested in, and have less experience of, the marketed service. Thus, they are effective during the early phases of the information search process on the customer journey. In addition, we found that the instructionally designed videos created a correlation between positive emotions, a stronger participation intention, and better recall of content. In other words, the more participants liked the video, the more it influenced their intention and recall. In our study, the video was considered to be an instrumental and affective triggering medium for those participants who had some uncertainty regarding their selections. This indicates that a stronger logical connection between the visual cues, storyline, and service content improved the media effect. Hence, we found that richer media affected the behavioral intention positively in our case. For practitioners, it is more important to reach the right audience with the right storyline than just to design high-quality but generic video content. In particular, understanding the phase of the purchasing process for each consumer is important.

The limitation of this study is that we did not modify the storyline; we only modified 30% of the visual cues. Thus, it is a function of method. Although it did not cause a clear effect between video designs, it provided us with a deeper understanding of the role of media richness within the similar storylines of videos. However, the results of this study show that the media effect of videos is a complex phenomenon that requires extensive investigation. This issue necessitates further study into the relationship between visual cues and the storyline, and their logical connections with a stronger modification of the storyline. In addition, 360 videos and virtual reality video applications bring interactivity, which is a new attribute of the media richness debate. The results of this study show that individual marketing videos typically have a limited impact on consumer behavior. Even if there is an impact, it is dependent on the video content and who is receiving it. We suggest that researchers study what kinds of digital triggers are needed to attract new customers at different touchpoints of their information search process on the customer journey. Hence, we need more research into how triggers actually lead to intentions and, consequently, actions.

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Appendix A. Caption in the video clips (the total length of each video is 2 minutes and 19 seconds)

1 This video presents the canoeing trip service. [Front part of canoe moving-video clip, shared to all three videos].
2 (no text) [Front part of canoe moving-video clip, shared].
3 This relaxed wilderness canoeing trip takes you to scenic wilderness lakes and peaceful forests in Nuuksio National Park. [The decorative/instructive/seductive video clip].
4 (no text) [Front part of canoe moving-video clip, shared].
5 (no text) [Canoe on shore-video clip, shared].
6 The trip is suitable for beginners. The overall program duration including transportation time is 6 hours, of which 4 hours are spent canoeing. Departure is normally at 10.00 am from Helsinki. [The decorative/instructive/seductive video clip].
7 (no text) [Canoe on shore-video clip, shared].
8 (no text) [Autumn landscape-video clip, shared].
9 A tour group consists of 5–11 persons, and trip cost is 75 € per person. An experienced guide briefs the group on canoeing safety procedures and the basic paddling technique before starting the canoeing trip. [The decorative/instructive/seductive video clip].
10 (no text) [People canoeing-video clip, shared].
11 In the middle of our excursion, we'll have a light lunch (coffee/tea, bread and sausage) beside a fireplace. Lunch is included in the trip price. [The decorative/instructive/seductive video clip].

12 (no text) [People canoeing-video clip, shared].
13 (no text) [Autumn landscape-video clip, shared].
14 During the trip, we learn and experience canoeing in addition to enjoying Finnish nature. You can experience and enjoy beautiful scenery and take a short hike in the forest between two lakes. [The decorative/instructive/seductive video clip].
15 Thanks! [Autumn landscape-video clip, shared].

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