

Fachbereich Wirtschaftswissenschaften
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“Essays on Consumers’ Attitudes toward Digital Communication”

Dissertation
zur Erlangung der Doktorwürde
durch den
Promotionsausschuss Dr. rer. pol.
der Universität Bremen

vorgelegt von
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Datum des Kolloquiums: 07.08.2019

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List of Abbreviations

CTR	Click-through rate
eWOM	Electronic word-of-mouth
IMC	Integrated marketing communication
SMS	Short-message-service

Synopsis

1 Field of Research

Marketing communication coordinates all forms of communication across different marketing channels and media between firms and its stakeholders on all levels through tools like advertising, personal selling, public relations, or sales promotions (Kimmel 2005; Pickton and Broderick 2005). Thereby, the greatest impact of marketing communication is achieved through the systematic integration of all communication activities (Pickton and Broderick 2005).

This process is summarized under the term integrated marketing communication (IMC) and helps marketers managing and integrating all transmitted messages and information to achieve high clarity and consistency of communication activities (Batra and Keller 2016; Valos et al. 2017). IMC *“involves the development, implementation, and evaluation of marketing communication programs using multiple communication options where the design and execution of any communication option reflects the nature and content of other communication options that also makes up the communication program”* (Keller 2001, p. 825). The optimal combination, integration, and sequence of marketing channels and formats enhance efforts of guiding consumers more effectively through their purchase decision-making process, also known as consumer decision journey (Batra and Keller 2016; Court et al. 2009).

The consumer decision journey divides purchase decisions of consumers into three related stages. The first stage prepurchase considers all aspects of consumers' interactions with the brand, experiences, or behaviors before any purchase transactions, e.g., problem recognition, search for relevant information, and evaluation of alternatives. Purchase constitutes the second stage and encompasses all relevant interactions, experiences, or behaviors during the purchase event itself, such as choice, ordering, and payment. The last

stage postpurchase covers all interactions, experiences, or behaviors of the actual purchase such as usage, consumption, evaluation, or service requests (Lemon and Verhoef 2016). During these stages, consumers interact and communicate with firms through touchpoints¹ (Neslin et al. 2006). Thereby, touchpoints can vary in strength and importance at each stage and can appear in various forms such as traditional or digital advertising, loyalty programs, direct mail, or product reviews (Lemon and Verhoef 2016). The integration of the various touchpoints across channel aims at generating positive and promising consumer experiences within the consumer decision journey (Lemon and Verhoef 2016).

In the course of the digitalization in the 1990s and early 2000s, the appearance of new and innovative communication channels, namely the Internet, social media, and mobile devices, and its touchpoints had radically influenced the IMC and consumer decision journeys (Troung and Simmons 2010). Consumers spent heavily more time on digital media during the last years (Stephen 2016). In 2018, the daily average consumption of digital media by US adults accounted for 6 hours and 19 minutes, exceeding the daily consumption of traditional media such as TV, radio, or print for the first time (eMarketer 2018).

The commonly called digital revolution changed how firms and companies interact with each other (Langan et al. 2019). The shift towards digital channels influences when, where, and how consumers choose products or brands, resulting in essential changes during their purchase decision-making processes (Batra and Keller 2016; Keller 2016). Consumers are no longer passive; instead, they actively decide which marketing messages or content they want to view and interact with (Smith 2011). Thus, it becomes inevitable for marketers to consider and integrate the emerged online, social media, and mobile communications options.

¹ Communication touchpoints, options, and formats are used interchangeably during the synopsis.

Since the 1990s, the Internet has become one of the most promising digital communication channels as user numbers are continually rising worldwide. In 2005, about 1.024 million people worldwide used the Internet, while the number of users enormously increased up to 3.650 million people in 2017 (ITU 2018), characterizing the Internet as a mass medium. It offers a wide range of different online communication options for firms to address consumers (Dahlen and Rosengren 2016) like display banners, search engine advertising, e-mail newsletter, websites, or commercial videos. In contrast to traditional touchpoints, online touchpoints enable direct and personalized relationships between firms and consumers. For example, marketers can send personalized messages based on consumers' behaviors, demographics, preferences, and interests (Smith 2011; Tran 2017). Beyond, they allow consumers to respond to messages and activities of firms directly and immediately. They change the marketing communication from one-way to interactive two-way processes (Stewart and Pavlou 2002). Not surprisingly, marketers have shifted their marketing budgets towards online communication formats (Breitenbach and van Doren 1998). It is forecasted that marketers worldwide will increase their investments in Internet advertising up to 302.35 million U.S. dollar in 2021 (Zenith 2018a), deriving that online communication options will occupy a central part in future IMC.

Almost simultaneously, social media platforms and sites, summarized as social media, entrenched as a central communication channel in the mid-2000s. Strictly speaking, social media is an online communication option; however, social media occupies an outstanding role among research and marketers (Lamberton and Stephen 2016). Currently, more than 2.62 billion people worldwide used social media per month in 2018 but these user numbers are estimated up to 3.02 billion by 2021 (eMarketer 2017). Consumers primarily use social media to communicate and exchange with others, create their own content, access relevant information and news, or for gaming purposes (GlobalWebIndex 2018). Over the years, social

media developed as an essential communication channel. For example, marketers can create their own fan pages or accounts and use advertising formats within social media for intensifying personalized communication or providing extraordinary information (Schivinski and Dabrowski 2016). Therefore, marketers worldwide have continuously shifted their market budget spending explicitly toward social media. Nowadays, investments in social media account for about 58.912 U.S. dollars in 2018 (Zenith 2018b), highlighting the outstanding relevance of social media.

The rise of mobile devices and smartphones is often described as a second revolution within the digitalization having the highest user numbers compared to the Internet or social media (We Are Social 2018a). The number of mobile phone users is predicted to reach almost 5 billion in 2020 (eMarketer 2016). Most mobile devices enable consumers access to relevant information anytime, anywhere via the Internet or social media. They function in specific ways as hubs for other digital communication channels. New mobile technologies such as location-based services facilitate marketers, e.g., to send timely and highly personalized messages based on consumers' current positions (Lamberton and Stephen 2016). Thereby, marketers can choose among different mobile communication formats such as text messages or in-app advertising. Marketers around the world spent about 138.147 million U.S. dollars for mobile advertising in 2018; however, it is expected that these spending will increase up to 212.454 million U.S. dollars in 2021 (Zenith 2018c).

In sum, the digitalization yielded in new and promising digital channels and touchpoints for marketers. Thereby, the Internet, social media, and mobile devices received high attention among marketers and academic research due to their outstanding user numbers, wide range of communication options and benefits for marketers and consumers.

However, digital communication channels increase the complexity of IMC due to higher fragmentation and segmentation of consumers and touchpoints. Not all digital

communication options contribute in the same manners to consumer decision journeys, with the result, that marketers are struggling with effective IMC decisions (Keller 2016). In-depth knowledge about the effectiveness of new digital touchpoints and especially, what central determinants influence the effectiveness in positive or negative ways is missing. Due to functionality, structural design, or position within consumer decision journeys of digital communication options (Burns and Lutz 2006; Tutaj and van Reijmersdal 2012), determinants might have different effects on the effectiveness. Insights about how the effectiveness of digital communication options influences further consumer responses are scarce as well. Thereby, measuring the effectiveness and comparing the effects of determinants and consequences on the effectiveness of digital marketing communication options emerged as a relevant field of research, which received high attention among academic research and marketers (Brettel and Spilker-Attig 2010; Roscheck et al. 2013).

2 Research Issues

Still, not all digital communication touchpoints contribute equally to positive consumer decision journeys and, thus, unnecessarily might complicate the process and array of touchpoints within consumers' decision journeys (Keller 2016). Beyond, decisions need to be made whether ineffective touchpoints should be re-designed or excluded.

These decisions require firms to gain a profound understanding of the effectiveness of digital communication options (Rosenkrans 2009) and how central determinants and consequences influence this effectiveness. Those insights might further help, e.g., reducing excessive budget allocations, understanding how each digital communication option contributes to financial or non-financial outcomes, or designing and creating digital communication options along with consumers' perceptions and preferences (Leeflang et al. 2014). However, finding appropriate metrics, which measure and beyond, allow the

comparison of the effectiveness of digital communication formats, proves difficult (Leeflang et al. 2014).

In contrast to traditional, digital communication options offer myriad opportunities for the measurability of their effectiveness (Brettel and Spilker-Attig 2010; Ghose and Todri-Adamopoulos 2016). The technological and interactive advances enable marketers to access and track consumer paths and data and thus, consumers' direct reactions toward digital communication formats as well (Johnson et al. 2017), e.g., clicking online display banner ads, sharing social media ads, or time spent on mobile website. Direct observable metrics and measures provide marketers with significant advantages like high transparency of consumer behavior or the provision of real-time data. Most marketers rely on these metrics as they are easy and fast to compute and inexpensive to survey (Fulgoni 2016), thus, delivering short-term information for quick decisions.

However, direct observable metrics and measures are not always reliable and appropriate indicators of digital communication effectiveness due to several reasons (Martín-Santana and Beerli-Palacio 2012; Manchanda et al. 2006). They become less informative and reliable. For example, average click-through rates (CTR) of online display banners have reached about three or more percent in the early days of the Internet; however, nowadays, average CTRs fall under 0.1 % or even less (Fulgoni 2016). Beyond, although average CTRs were higher for mobile communication formats compared to online or social media in 2015 (Chaffey 2018); however, almost 60% of clicks on mobile banner ads are accidental (Frederick 2016). CTRs of social media advertising worldwide were up to 2.9% in the first quarter of 2018; however, they have already fallen to 2.4% in the fourth quarter of 2018 (Kenshoo 2019).² It is assumed that CTRs of social media advertising will further decline, as, e.g., numbers of active users of Facebook are constantly diminishing, meaning that passive

² Average CTRs for online, mobile, or social communications options may differ across firms, industries, formats, and survey research institutes.

consumers mostly browse Facebook without commenting, liking, or sharing firm-generated posts or ads (McGrath 2015). In addition, according to a survey of 777 marketing executives around the globe conducted by Leeflang et al. (2014), marketers have difficulties with digital metrics. For example, they struggle to understand what digital metrics matter the most, what they measure, and how they are comparable with traditional metrics.

In sum, direct observable metrics are thus not able to fully capture the effectiveness of digital communication options because consumers might not immediately react to them (Dréze and Hussherr 2003; Srinivasan et al. 2010). They usually ignore consumers' minds and hearts; instead, they treat them as a "black box" (Srinivasan et al. 2010). Conclusively, these metrics fail to depict how consumers perceive digital communications options or why they would interact with them. In this context, Fulgoni and Mörn (2009) showed that online display advertising campaigns with low levels of clicks can still have delayed positive effects like increased visitations of websites or purchase likelihoods. Although consumers might not directly interact with digital communication options, their results reveal that they still influence consumers' perceptions and later behaviors. Focusing explicitly on direct observable metrics entails the risk of deceptive and imprecise decisions and comparisons of digital communication options.

Due to these developments and challenges, marketers, as well as academic research, began advocating the usage of effectiveness metrics and measures, which are not directly observable, e.g., recall, awareness, brand or advertising attitudes, or consumer perceptions (Breuer et al. 2011; Nisar and Yeung 2017). These traditional measures of effectiveness are described as mind-set metrics. They open the "black box" by revealing valuable insights about consumers' minds, perceptions, preferences, or intended behaviors. The usage of mind-set metrics helps to verify that marketing moves consumers in the right directions of their purchase decision processes. Mind-set metrics might diagnose declined interests among

consumers and offer chances for remedial actions before consumers completely avert from firms or brands. They can act as early evaluation signals (Srinivasan et al. 2010).

Mind-set metrics became popular among marketers and academic researchers because they can be utilized as dependent variables to test myriad determinants of these metrics, are collected easily through surveys, and allow the comparison across different marketing communication options (Gupta and Zeithaml 2006; Leeflang et al. 2014). In this context, Leeflang et al. (2010) mention that about 50% of the 777 surveyed marketers demand a standard metric to evaluate and compare the effectiveness of digital (and traditional communication options). This call can be achieved through mind-set metrics.

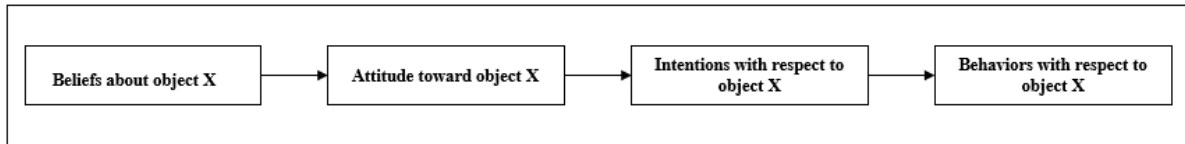
Based on this background, Fulgoni (2009) and Kim (2008) emphasize the relevance and usefulness of attitudinal metrics when evaluating the effectiveness and its determinants and consequences of digital communication options. Thereby, the basic concept of attitude toward an object X is often used, which was preliminary developed and discussed by Fishbein and Ajzen (1975). It is defined as “*a learned disposition to respond in a favourable or unfavourable manner with respect to a given object*” (Fishbein and Ajzen 1975, p. 6). Although attitude toward an object X is characterized as being stable and consistent over time, it is either positively or negatively influenced by different belief factors about the object X. Beliefs represent certain information either received from external sources, direct observations, or ways of different inference processes and are linked to different attributes about the object X. Further, attitude toward the object X has effects on specific intentions to perform behaviors concerning the object X. These intended behaviors finally result in actual behaviors referring to the object X (see Figure 1) (Fishbein and Ajzen 1975).

The concept of attitude was transferred to an advertising context and aimed to measure the effectiveness of various advertising formats through evaluations of consumers.³ Academic

³ Attitude(s) is used as a short form of *consumers' attitude(s)* hereafter within the synopsis.

literature differentiates between the abstract construct attitude toward advertising and the more concrete construct attitude toward the ad.

Figure 1. Framework linking beliefs, attitudes, intentions, and behaviors to an object X



Source: Own figure based on Fishbein and Ajzen (1975)

General advertising attitudes are defined “*as a learned predisposition to respond in a consistently favorable or unfavorable manner toward advertising in general*” (MacKenzie and Lutz 1989, p. 53-54), whereas attitude toward the ad is defined as “*a pre-disposition to respond in a favorable or unfavorable manner to a particular advertising stimulus particular exposure occasion*” (Lutz 1985, p. 46).

Thereby, advertising in general or the ad are not directed at concrete advertised product attributes or the brand itself. Instead, the focus lies on creating favorable attitudes toward advertising in general, advertising formats, or specific ads. Attitudes toward advertising help marketers to understand how consumers evaluate individual touchpoints and can select, design, and structure touchpoints independently from product- or brand-related content (Shimp 1981). Beyond, academic research revealed that advertising attitudes have significant effects on further relevant consumer responses such as brand evaluations and purchase intentions (e.g., MacKenzie and Lutz 1989), which are given a high priority among firms and marketers as well.

The attitude toward advertising became a widely used and applied approach for the measurement effectiveness of all kinds of advertising formats within academic literature, which also allows comparisons of advertising formats from different communication channels (Alsamydai and Khasawneh 2013; Tutaj and van Reijmersdal 2012).

A substantial body of academic research developed over the last decades investigating and determining attitude toward online, social media, and mobile advertising formats. Various studies adapted basic ideas of the conceptual framework of Fishbein and Ajzen (1975). Moreover, they tested myriad determinants, whether having positive or negative effects on attitudes toward different digital advertising formats and further, how these attitudes influence consumer responses in either positive or negative ways.

However, the high interest among research led to high fragmentations and complexities of research studies for each digital communication channel with the result of broad inconsistencies within research findings. Findings vary along with significance levels, directions, and strengths of relations between determinants and consequences with attitudes toward digital advertising due to different research designs and emphases within the studies. The diversity, fragmentation, and inconsistencies constitute major issues and obstruct profound knowledge about the effectiveness of digital advertising and its determinants and consequences needed for the IMC.

3 Research Objectives and Methodological Approaches

As stated above, a substantial body of research examined digital advertising effectiveness through consumers' attitudes toward advertising; however, with major inconsistencies and high fragmentation of research findings. Researcher tested myriad determinants and consequences of attitudes toward digital advertising, thereby, increasing the complexity of linking and comparing research findings across studies. Simultaneously, the clarity of relevant and influencing determinants and consequences is diminishing.

The current issue guides to the general research objectives I address with the cumulative dissertation. I aim at the identification and examination of central determinants and consequences of attitudes toward different forms of digital advertising, namely, online touchpoints, mobile advertising, and social media advertising. Beyond, I apply moderator

analyses to assess how the effects of the determinants and consequences with attitude differ under certain circumstances. For example, I investigate how the effects of determinants on attitudes differ across different formats of digital advertising, e.g., between search engine advertising and e-mail advertising or between short message service (SMS) advertising and in-app advertising. Thereby, I address with my research objectives current needs about extending knowledge about digital communication (Breuer et al. 2011; Hanssens 2018).

When the body of academic research is growing as I described, there is an essential need for a structured and effective research synthesis to keep a comprehensive overview of all relevant information within a field of research (Eisend 2017). This need is especially relevant in times of expanding breadth of marketing fields and enhancing velocity in the accumulation of marketing knowledge (Palmatier et al. 2018). In order to address the research objective in appropriate and value-adding ways, the underlying methodological approaches are different forms of systematic integration processes and reviews of the relevant body of research.

Reviews are generally described as “*critical evaluations of material that has already been published*” (Bem 1995, p. 172). They generate a firm foundation for advancing current knowledge such as facilitating theory development, closing research areas where a substantial amount of research exists, or providing new directions of research (Webster and Watson 2002). Reviews synthesize research findings across different studies and conclusively, deriving generalizations of the research fields or topics (Palmatier et al. 2018). They offer benefits such as the identification and potential explanation of inconsistencies, developing conceptual frameworks to integrate and extend past research, classifying research topics and trends, or describing existing research gaps and future research directions (Palmatier et al. 2018). Basically, two types of reviews can be differentiated, where some include quantitative estimations (e.g., meta-analyses) and some remain on describing, qualitative levels (e.g., systematic or integrative literature reviews) (Palmatier et al. 2018).

Most qualitative reviews apply methods of a systematic or integrative literature review, which “*is a form of research that reviews, critiques, and synthesizes representative literature on a topic in an integrated way such that new frameworks and perspectives on the topic are generated*” (Torraco 2005, p. 356). Systematic or integrative literature reviews aim to identify all relevant articles through the application of six organized, transparent, and replicable steps (Littell et al. 2008). In the first step, researchers formulate the topic and set out clear research objectives and questions. In the next step, researchers specify related problems, constructs, and settings of interest and define criteria for inclusion and exclusion of particular studies. Within the third step, authors apply different search strategies to identify potential studies. Next, relevant data are coded and collected from studies, which met the criteria. In a fifth step, derived data is described, examined, and analyzed. Lastly, results from data analyses need to be presented and discussed to provide an in-depth understanding of the research field. Although all six major steps are essential components of the process, the emphasis of each step can vary across papers (Palmatier et al. 2018). As stated above, systematic or integrative literature reviews can benefit marketers and academic research in various ways. However, their findings base to certain degrees only on interpretative explanations due to the lack of quantitative approaches and methods (Eisend 2017). They are not able, e.g., to systematically account for moderators or to quantify the size of empirical effects of variables (Littell et al. 2008).

To enhance the validity of the research findings, systematic or integrative literature reviews can be combined with quasi-quantitative approaches such as vote-counting techniques. They function as an orientation when counting and comparing empirical results (Paré et al. 2015). In general, vote-counting is a quantitative approach, which allows the integration of research findings across studies by classifying the strength and direction of same relations between two variables as either significant positive, significant negative, or

non-significant (Hedges and Olkin 1980). Statistics such as p- or t-values are used as references for the allocation in one of three categories (Paré et al. 2015). If a majority of relations falls into one of the three categories, then this category represents the best estimator of the relation between two variables (Light and Smith 1971). The application of vote-counting techniques is straightforward and easily interpreted, however, they are not able to consider underlying sample sizes of the relations, account for potential moderators, or report effect sizes like meta-analyses (Bushman 1994; Lipsey and Wilson 2001; Paré et al. 2015).

As part of quantitative reviews, meta-analyses are often described as a “*way of combining the numerical results of multiple studies by means of statistical tests*” (Eisend 2017). The quantitative orientation and application of statistical methods constitute the main advantage over qualitative reviews (Grewal et al. 2018). As they synthesize empirical results, they cannot be applied to theoretical or conceptual papers (Lipsey and Wilson 2001).

They primarily focus on the combination and comparison of research studies and findings to find consistencies within inconsistencies (Eisend 2017). Thereby, the combination of studies “*refers to summarizing and describing the already existing results of research in terms of central tendency*” (Hall and Rosenthal 1995, p. 396). In other words, meta-analyses combine the findings of research studies to examine the magnitude and significance of different measures of effect sizes, such as correlation coefficients or standardized mean differences (Eisend 2017). The comparison of studies “*refers to additional analyses that shed light on variability across studies by examining factors that are associated with the studies’ results*” (Hall and Rosenthal 1995, p. 396). Meta-analyses compare studies to identify moderators of the derived effect sizes, which may not have been tested within the individual studies (Eisend 2017). The conduction of meta-analyses consists of five major steps, each containing further underlying steps. In a first step, relevant variables need to be specified in regard to the research problem and questions. Second, different search strategies and inclusion

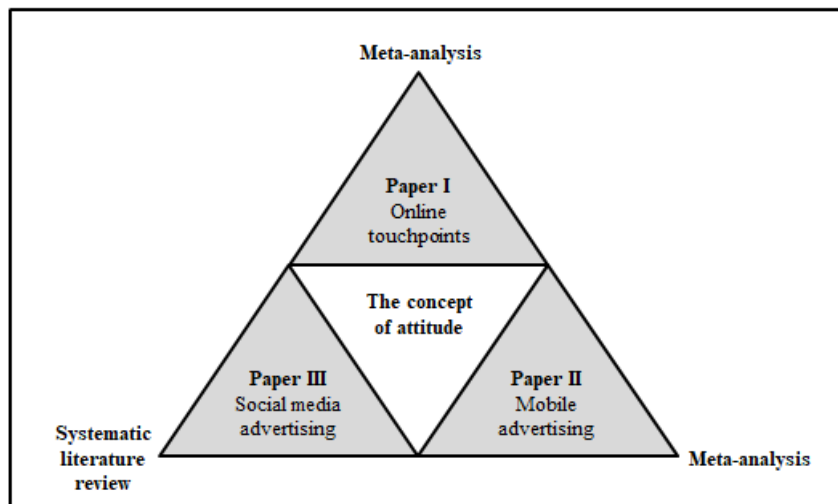
criteria are applied to identify relevant studies. Third, the identified studies are coded based on statistical information, e.g., sample or effect sizes and moderator information, e.g., type of sample or publication year. Fourth, meta-analytic data analyses are conducted such as effect size correction, effect-size integration, or meta-regression. In a last step, the findings of the previous steps are presented and interpreted (Eisend 2017). The conduction of meta-analyses is similar to systematic or integrative literature reviews; however, underlying decisions address more statistical approaches and methods.

In sum, the methodological application of systematic or integrative literature reviews and meta-analyses are appropriate and most promising to address the stated comprehensive research issues and the derived research objective. Both approaches provide valuable contributions and insights for the proposed research fields and marketers.

4 Overview of Research Paper

The outlined research field, issues, objectives, and methodological approaches set the framework for the cumulative dissertation. The cumulative dissertation consists of three individual paper, each reflecting and addressing key aspects and objectives of the previous sections. Overall, they all aim to give a detailed overview and analysis of the effectiveness of digital communication options with attitudes toward advertising as the central measure of effectiveness. Moreover, they show how different determinants influence these attitudes and in turn, these attitudes influence further consumer responses. The concept of attitude constitutes the starting point for each paper (see Figure 2).

The first paper, titled “*What Drives Online Touchpoint Effectiveness? A Meta-Analytic Comparison of Different Touchpoint Types*”, is co-authored by Maik Eisenbeiss. The main objective of this paper is the identification of central drivers of the effectiveness of various online touchpoints through the conduction of a meta-analysis. We identify four drivers of effectiveness, each having significant effects on attitudes toward online touchpoints.

Figure 2. Coherence of research paper

In a second step, we applied moderator analyses to test predominantly how these effects differ across different types of online touchpoints. Finally, implications suggest that marketers should not treat each online touchpoint equally when planning and integrating online marketing campaigns.

The second paper, titled “*Determinants and Consequences of Consumers’ Attitudes toward Mobile Advertising: A Meta-Analysis*”, investigates which determinants influence attitudes within a mobile advertising context. I emphasize the effects of 14 different determinants on consumers’ mobile advertising and beyond, reveal how these attitudes further influence consumers’ purchase intentions and acceptance behaviors of mobile advertising. Through meta-analytic techniques, I test how the effects differ across mobile advertising formats, country-of-origin, type of sample, and quality of study. The findings help marketers and academic research to improve and deepen their knowledge about the effectiveness of mobile advertising through mind-set metrics.

The third paper, titled “*Consumers’ Attitudes toward Social Media Advertising – A Systematic Literature Review and Framework*”, chooses the qualitative approach of a systematic literature review to develop a conceptual framework including all tested determinants and consequences of attitudes toward social media advertising within academic

literature. I enhance the findings through quasi-quantitative approaches of vote-counting techniques, which reveal significance and direction of cause-and-effects relations with attitudes toward social media advertising. Beyond, I provide research trends and patterns, e.g., about social media platform and sites. I conclude with substantial implications for marketers and theory and suggest various directions for future research.

Table 1 provides an overview of the research paper of this cumulative dissertation and summarizes key findings, while Table 2 highlights the main differences. The next sections provide a more detailed overview of each research paper.

Table 1. Overview of research paper

Paper	Title	Author(s)	Research objectives	Method	Key findings	Status of the paper
I	What Drives Online Touchpoint Effectiveness? A Meta-Analytic Comparison of Different Touchpoint Types	Henk Lütjens and Maik Eisenbeiss	Identification and comparison of central determinants across different online touchpoints	Meta-analysis	<p>Informativeness is the strongest driver of online touchpoint effectiveness</p> <p>The effects of informativeness and entertainment are stronger for e-mail advertising. The effect of irritation is less negative for corporate websites</p>	Planned to submit to the <i>Journal of Retailing</i>
	Determinants and Consequences of Consumers' Attitudes toward Mobile Advertising: A Meta-Analysis	Henk Lütjens	Identification of central determinants and consequences of attitudes toward mobile advertising and how they differ across different moderators	Meta-analysis	<p>Ad value and subjective norms have the strongest effects on attitudes toward mobile advertising within their categories</p> <p>Subgroup analyses reveal significant differences for format of mobile advertising and type of sample</p>	Not submitted so far
	Consumers' Attitudes toward Social Media Advertising – A Systematic Literature Review and Framework	Henk Lütjens	Development of a conceptual framework summarizing all tested determinants and consequences of attitudes toward social media advertising	Systematic literature review	<p>The developed framework includes 80 different determinants and 13 consequences.</p> <p>Directions and significance of all constructs are mostly consistent across studies, except for few constructs</p> <p>Facebook is mainly used when examining attitudes toward social media advertising</p>	Not submitted so far

Notes: Being the lead author of all paper, Henk Lütjens made major contributions to each one of them.

Table 2. Major differences between research paper

Paper	Digital communication	Type of review	Concept of attitude	No. of included articles	Main focus	Conceptual framework
I	Online touchpoints: Corporate websites, eWOM communication, e-mail advertising, search engine advertising, social media advertising, web display banner	Quantitative approach: Meta-analysis with the conduction of meta-regressions	Attitude toward online touchpoints	N = 76	Main effects and moderator analyses	Determinants = 4
II	Mobile advertising: In-app advertising, location-based advertising, mobile advertising in general, mobile Internet advertising, Short-message-service (SMS) advertising	Quantitative approach: Meta-analysis with the conduction of subgroup analyses	Attitude toward mobile advertising	N = 91	Main effects and moderator analyses	Determinants = 14 Consequences = 2
III	Social media advertising: paid and owned forms of social media advertising (e.g., brand posts, corporate blogs, display banner, social ads, social media accounts on Facebook or Twitter)	Qualitative approach: Systematic literature review with the conduction of quasi-quantitative vote-counting analysis	Attitude toward social media advertising	N = 56	Main effects	Determinants = 80 Consequences = 13

4.1 Paper I: What Drives Online Touchpoint Effectiveness? A Meta-Analytic Comparison of Different Touchpoint Types

The Internet provides a variety of different online touchpoints, which companies can utilize to interact and communicate with established and new consumers (Danaher and Rossiter 2011; Morris et al. 2003), constituting new and innovative amendments within consumers' decision journeys. However, companies lack knowledge about the optimal configuration of online touchpoints and thus about their effectiveness, which further depends on various determinants. Beyond, online touchpoints differ in terms of their function in consumer decision journeys (Burns and Lutz 2006; Tutaj and van Reijmersdal 2012), suggesting that particular determinants do not contribute in the same ways to the effectiveness across online touchpoints.

The examination of determinants influencing the effectiveness of online touchpoints has led to intense interest among academic researchers; however, their studies differ in terms of different investigated determinants, applied measures of effectiveness, or online touchpoints. To derive comprehensive generalizations of the academic literature, we integrate heterogeneous results from previous research through the application of a meta-analysis. Thereby, we use the concept of attitude as the measure of effectiveness of online touchpoints.

Conclusively, the objective of this study is to provide an integrative meta-analysis on the determinants on the effectiveness of major online touchpoints, namely corporate websites, electronic word-of-mouth (eWOM) communication, e-mail, search engine advertising, social media advertising, and web display banner. Marketers and researchers gain a more profound knowledge about (1) the key determinants of attitude toward online touchpoints, (2) differences in their respective effects among different online touchpoints, and (3) further important moderators in this specific context, which additionally explain the variability of individual study results beyond the type of the underlying touchpoint. To the best of our

knowledge, our study is the first meta-analytic summary integrating individual study results across multiple online touchpoints.

The development of the conceptual framework orientates among the belief–attitude–intention–behavior model by Fishbein and Ajzen (1975). We formulated two criteria for the inclusion of a determinant into the framework. First, we included a determinant only if we identified at least 15 pairwise effects between the construct and attitude toward any of the selected online touchpoints in total. Second, the determinant provided at least one pairwise effect with attitude, within the specific context of each of the six mentioned online touchpoints. During the exhaustive literature review, we encountered a lot of constructs with related definitions that operated under names and constructs with related names but under different operationalizations. We formulated broader single construct definitions to aggregate similar constructs after completion of the search process, similarly done by Palmatier et al. (2006). In sum, informativeness, entertainment, irritation, and credibility met the selection criteria of the framework.

Informativeness refers to the ability of touchpoints to supply consumers with knowledgeable, helpful, and high-quality information about products and services, while entertainment refers to the ability of touchpoints of providing entertaining and fun content to consumers enhancing experiences with them. Perceptions of irritation occur when touchpoints employ techniques that annoy, manipulate, or obtrude (Ducoffe 1996). Credibility refers to the extent of consumers assessing touchpoints as being believable and trustworthy (MacKenzie and Lutz 1989).

To explain possible variations of the relations, we derived potential moderators following basic and commonly applied methodological and source related considerations as well as specific substantial and theoretical reflections (Eisend 2017). We test whether type of

online touchpoint, type of sample, country, publication year, or quality of study might explain variances in effect sizes.

We applied multiple search strategies to ensure the representativeness and comprehensiveness of the meta-analytic database. As a starting point, we checked literature reviews about relevant touchpoints, followed by an exhaustive keyword search in electronic databases such as ABI/Inform, Business Source Premier, Google Scholar, ProQuest Dissertation and Theses, PsycINFO, PSYINDEX, Science Direct, Social Science Research Network, and Web of Science. Beyond, we conducted an issue-by-issue search of major journals and checked the references lists of all included paper to obtain further articles. As a last step, we contacted researchers within the field to ask for unpublished work.

We included preliminary a study when the attitude toward a relevant online touchpoint was measured somehow empirically and a relational effect with one of the four determinants could be obtained somehow. We excluded studies measuring attitude towards internet advertising in general respectively unless they explicitly focused on a specific online touchpoint within the research design. We excluded studies whose results based on the exact same data set of already included studies.

The effect-size metric for this meta-analysis is the correlation coefficient, a common approach for meta-analyses in the advertising and marketing literature (De Matos and Rossi 2008). Few of the identified studies report results for more than one effect size for a particular relationship. In cases, where the effect sizes based on different samples (e.g., different country samples) or multiple effect sizes for the same relationship were reported on the same sample, we included them as independent effect sizes. Overall, we obtained 210 effect sizes from 82 independent samples, reported in 76 different studies.

The integration process follows the random effects model allowing effect sizes to vary across studies (Borenstein et al. 2009). We corrected each effect size for measurement error

(Hunter and Schmidt 2004). After correction, we transformed the reliability-corrected correlation coefficients into Fisher's z-coefficients. We integrated the z-coefficients and weighted them by the inverse of their variance to account for the varying sample sizes of the identified studies (sampling error). Homogeneity tests assessed whether the variation among the effect sizes is only due to sampling error. If homogeneity exists, the testing of moderators is not appropriate (Eisend 2017). We tested all moderators at once through the application of meta-regressions for each pairwise relationship. We use the effect sizes as dependent variables, while the moderators are independent dummy-coded variables.

The results of the integration process show that informativeness and entertainment have the largest effect on attitude toward online touchpoints, showing that consumers use mass media like the Internet and its touchpoints to satisfy primarily informational and entertaining needs (Ko et al. 2005; Ruggiero 2000). Credibility has a slightly weaker effect compared to informativeness and entertainment; nevertheless, consumers still seek for credible and reliable online touchpoints in times of immense amounts of information and touchpoints on the Internet. Although irritation has a negative effect on attitude toward online touchpoint, the effect is weaker compared to the other ones. Consumers might blend out irritating or intrusive elements of online touchpoints due to higher experience levels with online touchpoints as they are getting in touch with them on a regular daily basis (We Are Social 2018b).

In alignment with the second research objective, we looked for possible differences in the respective effect sizes, depending on the type of online touchpoint. For example, the effects of informativeness and entertainment on attitude are significantly larger for e-mail advertising than for most remaining touchpoints. A possible explanation is that consumers, who explicitly agreed to receive newsletters usually do this because they expect to get exclusive access to informative and entertaining content. Hence, consumers probably are

much more involved with this touchpoint and have higher expectations regarding the information and entertainment quality of the provided content compared to another touchpoint that has not been explicitly subscribed for. Beyond, the effect of irritation on attitude is significantly weaker for corporate websites compared to social media advertising, web display banner, and e-mail advertising. Irritation might play a minor role in corporate websites since corporate websites serve as a central hub for all online activities of a firm (Voorveld et al. 2009). Thus, websites might already be arranged with the prior aim of providing a high user experience and quality of the website being free of irritating elements.

Concerning the third research objective, other moderators such as country, type of sample, publication year, and quality of study explain some variance between the pairwise relationships. For example, the effect of irritation on attitude toward online touchpoints mitigates over the years. Consumers might be nowadays mostly familiar with irritating functions and characteristics of online touchpoints. As a result, irritating or intrusive elements might be largely ignored.

Moderator analyses reveal valuable differences between online touchpoints, which have been barely addressed within literature. Similar accounts for country-specific comparisons between different continents, which provide substantial learnings for international advertising research. In terms of managerial implications, marketers should not treat and assess online touchpoints equally; instead, they should consider the identified differences to create optimal experiences within the consumer decision journey. For example, marketers should find ways to reduce irritation with web display banners by choosing less intrusive formats.

4.2 Paper II: Determinants and Consequences of Consumers' Attitudes toward Mobile Advertising: A Meta-Analysis

In the course of the digitalization, consumers' media habits are shifting towards mobile devices and smartphones. Mobile devices have the advantages of being highly personalized and allowing consumers accessing relevant information anytime, anywhere (Grewal et al. 2016, Liu et al. 2012). Mobile devices became innovative advertising opportunities to address consumers during their purchase decision journeys more individualized. However, many global marketers are not satisfied with their current mobile advertising activities, thereby, facing challenges such as creating qualitative content or appropriate consumer experiences (AOL 2016; CMO Council 2012).

A comprehensive understanding of the effectiveness of mobile advertising becomes inevitable for marketers and moreover, which determinants significantly influence effectiveness (Bart et al. 2014; Grewal et al. 2016). A substantial body of research assessed the effectiveness of mobile advertising with the concept of attitude, but they differ in applied research design, format of mobile advertising, significance level, and direction of influencing determinants and corresponding consequences of attitudes toward mobile advertising.

The main objective of my study is to integrate and structure various empirical research findings through meta-analytic procedures aiming to give valuable insights to the following research objectives: (1) What are central a) determinants and b) consequences of attitudes toward mobile advertising? (2) How do the identified a) determinants and b) consequences differ in terms of their effects, respectively? (3) Which moderators are most effective in influencing the relationship between a) determinants and b) consequences with attitudes toward mobile advertising, respectively?

The developed conceptual framework involves underlying assumptions of the proposed belief-attitude-intention-behavior model by Fishbein and Ajzen (1975). To generate

a broad overview of potential determinants and consequences, I required them having at least ten or more than ten effect sizes with attitudes toward mobile advertising (Palmatier et al. 2006). In sum, twelve different determinants met the above-described criteria, which I further grouped into two categories.

The first category, titled ad/message-related determinants, includes perceptions of ads or messages, which enable marketers to attract consumers and increase consumer interactions (Jung 2009). I allocate advertising value, control, credibility, entertainment, incentives, informativeness, irritation, personalization, and usefulness to this category. The value of advertising is described as consumers' subjective perceived value of the relative worth of advertising and its activities (Ducoffe 1996). Control comprises perceptions that external constraints influence certain behaviors and beyond, having control about advertising in terms of timing, frequency, and content (Noor et al. 2013; Özçam et al. 2015). Advertising is mainly evaluated as credible and trustworthy through delivered content such as ad claims (Liu et al. 2012; MacKenzie and Lutz 1989). Entertainment is the extent to which advertising is entertaining or enjoyable and creates relaxation (Ducoffe 1996; Tseng and Teng 2016). Incentives can be described as perceptions of providing financial or non-financial rewards or benefits to consumers (Tsang et al. 2004). Informativeness refers to perceptions of advertising being helpful by providing relevant information (Ducoffe 1996). Irritation occurs when advertising employs techniques or comprises contents that annoy, irritate, manipulate, or invade someone's privacy (Ducoffe 1996; Liu et al. 2012). Personalization refers to perceptions that advertising is personalized based on consumers' preferences (Xu 2006). Usefulness is the extent to which consumers perceive that using or receiving mobile advertising will benefit them somehow in their performances (Soroa-Koury and Yang 2010).

The second category, namely consumer-related determinants, comprises personal, psychological, behavioral, and social characteristics, influences, or abilities that might have

an effect on attitudes (Jung 2009; Mirbagheri and Hejazinia 2010). I allocated innovativeness, subjective norms, and privacy concerns to the second category. Innovativeness is the extent to which consumers perceive themselves as early adopters of or being more open to new technologies, services, or practices (Feng et al. 2016). Subjective norms describe how other people determine or influence someone's behavior (Martínez-Ruiz et al. 2017). Privacy concerns refer to consumers' anxiety related to personal information disclosure and dissemination through ads or companies (Lee 2016). Also, two consequences met the criteria. Purchase intention refers to intention or possibilities of (re-) buying advertised products or services (Lee et al. 2017). Intention to accept is defined as consumers' willingness to accept, adopt, receive, or use mobile advertising (Izquierdo-Yusta et al. 2015).

I applied moderators to control for potential differences of the relations between the constructs of the framework. I test whether format of mobile advertising, country-of-origin, type or sample, or quality of study can explain heterogeneity among the effect sizes.

I applied five search strategies to identify relevant studies for the meta-analysis. First, I checked reference lists of literature reviews within the context of mobile advertising. Second, I conducted an exhaustive keyword search in major electronic databases, followed by the third step of an issue-by-issue search of major journals. Fourth, I screened the reference lists of all relevant articles. The last step involved contacting researchers within the field of mobile advertising, asking for their unpublished research.

I included studies when they empirically measured somehow attitudes toward mobile advertising in general or formats and revealed a relational context with one of the above-mentioned determinants or consequences. I excluded studies measuring mobile marketing attitudes as well as studies whose results based on the same data set. I chose correlation coefficients as the effect size metric of this meta-analysis since they are easy to interpret and reported in most of the studies (De Matos and Rossi 2008). In some cases, where reported

effect sizes based on different samples (e.g., male vs. female samples) or multiple effect sizes for the same relationship were reported on the same sample, I treated them as independent effect sizes in the integration and moderator analyses. In sum, I obtained 412 effect sizes from 98 independent samples in 91 published and unpublished studies.

The integration process for each pairwise relationship follows a random effects model (Borenstein et al. 2009). Commonly in meta-analyses, I corrected each effect size for measurement error (Hunter and Schmidt 2004). Subsequently, I transformed each corrected effect size into Fisher's z-coefficients. I integrated the z-coefficients and weighted them by the inverse of their variance to account for varying sample sizes across research studies. I conducted homogeneity tests to examine whether the variance among the effect sizes is only due to sampling error. If heterogeneity exists, moderator analyses are adequate (Eisend 2017). Due to relatively small numbers of effect sizes for the pairwise relationships, I tested each moderator individually through subgroup analyses, which also follow a random effects model. I tested the differences with Wald-type tests.

Regarding the first and second research question, advertising value has the strongest effect of all ad/message-related determinants, followed by entertainment, informativeness, usefulness, credibility, personalization, incentives, control, and irritation. Consumers might expect high value from mobile ads since they are directly received within their immediate environment. Subjective norms have the strongest effect on attitudes toward mobile advertising among the consumer-related determinants, followed by innovativeness and privacy concerns. Consumers might adjust their norms and thinking about mobile devices and advertising to enhance their social status and social interactions with their peer groups (Jung 2009). Attitudes have a strong effect on consumers' intention to accept mobile advertising.

In accordance with the third research question, the moderator format of mobile advertising reveals certain significant differences. For example, the effect of entertainment on

attitude is significantly higher for location-based advertising compared to other formats of mobile advertising. Academic research indicates that consumers mostly use novel location-based technologies because they just enjoy doing so (Ho 2012). Beyond, control of mobile advertising has more relevance for location-based advertising as well. Consumers might not wish to receive constantly location-based ads when on the move, instead, they might seek to control when and where they receive them (Bhave et al. 2013). Moderators such as country-of-origin or quality of study also explained variance among the pairwise relationships. For example, the effect of irritation on attitude is significantly higher in developed countries than in developing countries.

I confirm existing and add new knowledge to the growing literature about mobile advertising through the combination and comparison of different research findings across studies. The findings reveal that almost all identified determinants have significant but slightly different effects on attitudes toward mobile advertising except for privacy concerns having no significant effect. The application of different moderators through subgroup analyses reveal valuable insights for academic research, as these moderators have been barely addressed so far.

Ad/message-related determinants reveal higher significant effects with attitude compared to consumer-related determinants. To increase the effectiveness of their mobile advertising efforts, marketers should primarily address these determinants. For example, marketers could increase the value and utility of mobile ads by sending information, which is exclusively sent via mobile devices such as incentives. Beyond, findings of the moderator analyses show that marketers should integrate more entertaining elements within location-based advertising, such as sending short, enjoyable videos of nearby stores.

4.3 Paper III: Consumers' Attitudes toward Social Media Advertising – A Systematic Literature Review and Framework

Nowadays, people around the world use daily a variety of social media sites and platforms, predominantly for communication and interaction with others or the consumption of relevant information and news (GlobalWebIndex 2018). About 3.02 billion people around the world will use social media by 2021 (eMarketer 2017); thus, becoming a promising advertising channel for marketers. Social media enables marketers a more precise communication with and targeting of consumers through various ad formats like display banner or video ads or firm-created brand pages or posts (Johnston et al. 2018; Kumar et al. 2017; Ngai et al. 2015).

However, measuring the effectiveness of social media advertising constitutes a central challenge for marketers (Leeflang et al. 2014; Social Media Examiner 2018). The reliability of direct observable metrics, e.g., number of likes or comments, diminishes since most consumers limit their social media activities to reading and observing (Bolton et al. 2013; Tuten and Solomon 2015), leading to risks of false decisions about social media advertising.

Therefore, a broad literature stream investigates the effectiveness of social media advertising with the concept of attitude toward advertising. However, the relevant literature is highly fragmented and heterogeneous. They examined myriad determinants and consequences, which either have positive or negative effects on attitudes toward social media advertising. Beyond, studies differ in type of sample or social media site and platform. A comprehensive overview of the relevant literature is missing, which could help to enhance current and derive new insights about social media advertising effectiveness.

With the application of a systematic literature review, I aim to identify (1) occurrence and frequencies patterns of published academic research, (2) identify and categorize

antecedents and consequences of attitudes toward social media advertising, and (3) derivation of managerial implications and directions for future research.

I focus on all firm-generated advertising formats delivered through social media platforms and sites (Johnston et al. 2018; Taylor et al. 2011), thus, excluding all advertising formats of earned media, e.g., consumer posts, user-generated advertising, or eWOM.

The conduction of the systematic literature review follows standard guidelines and recommendations (e.g., Palmatier et al. 2018 or Webster and Watson 2002). I adopt a concept-driven approach for this review, meaning studies from all authors are considered instead of including only studies from specific authors (Webster and Watson 2002).

I conducted an extensive and thorough search process to identify relevant articles. I considered only articles from peer-reviewed journals, which further had to be listed in either the Web of Science or the SCImago journal citation database to include only high-quality articles. Further, studies had to empirically measure attitudes toward social media advertising with at least one or more determinants or consequences. I did not restrict the search by any time frames. Thus, the search covers all published articles up to February 2019. I used different keywords to search in different electronic databases such as Google Scholar or Web of Science. Further, I checked references lists from each identified article. In sum, I obtained 56 different articles.

In the next step, I coded and analyzed the articles according to the research objectives of this study. To disclose common patterns, I coded the articles according to name of journal, year of publication, type of sample, country, and social media platform or site. Beyond, I developed a causal chain framework to depict and examine the relations between the antecedents and consequences and attitudes toward social media advertising. The development of the framework is mainly guided by the belief-attitude-intention-behavior model proposed by Fishbein and Ajzen (1975). The placement of each construct based on

given information within each study, such as hypotheses, framework, or conducted analyses. The framework depicts only main effects and no interaction effects.

In addition, I apply basic aspects of vote-counting analyses to integrate and analyze the effects of antecedents and consequences. Thereby, I coded the causal relations as either significant positive, significant negative, non-significant, or significant differences. I used corresponding p- or t-values as references. In sum, I identified 80 different antecedents and 13 consequences within 56 articles.

Referring to frequency patterns, primarily marketing, management and business, tourism, advertising, and information systems disciplines concentrated on attitudes as a measure of effectiveness. However, only a minority of journals published three or more than three articles, while the majority published not more than one. All identified articles were published between 2011 and February 2019, while most articles were published in 2018. Beyond, most articles used student samples in their research designs, followed by non-student samples. Almost half of the studies relied on U.S. American samples. Most articles investigated attitudes in the context of Facebook, while another half did not specify the social media platform or site and just investigated attitudes toward social media advertising in general.

I grouped the identified antecedents and consequences in broader categories, which share common characteristics or focus on similar aspects of social media advertising. Beyond, I considered already existing categorizations of previous literature reviews as well. In sum, I derived eight categories, namely, demographics and personality factors, societal and interaction factors, social media experiences and usage motivations, structural and platform attributes, brand-related factors, ad-related socioeconomic factors and perceptions, ad-related utility factors and perceptions, and lastly, ad-related reluctance and concerns. I grouped consequences in similar ways. In sum, I developed five main categories, namely, brand-

related attitudes and intentions, purchase intentions, eWOM intentions, general behaviors and intentions, and ad-related reluctance and concerns.

The findings of the cause-and-effect relationships in the framework are almost all congruent across research studies. For example, informativeness, entertainment, personalization, and incentives have all significant positive effects on attitudes toward social media advertising. The same accounts for interactivity and social media experience, each having significant positive effects on attitudes. In contrast, irritation, intrusiveness, and privacy concerns have all significant negative effects on attitudes. Only for a few relations, the findings are mixed. For example, the effect of materialism on attitude was shown to be significant negative within two studies; however, two other studies showed that the same relation is not significant. Further, studies found conflictive results for the effect of advertising avoidance on attitude. While one study found a significant negative effect, the other two found a significant positive and no significant effect, respectively. The findings of the framework and vote-count analysis reveal that especially ad-related antecedents received high attention among researchers, while, e.g., structural or platform attributes received less according to the number of frequencies. In sum, the findings provide multiple implications of practice and theory and new directions for future research.

I provide relevant implications for theory and practice. To my best knowledge, this study is the first systematic literature review addressing the effectiveness of social media advertising through the concept of advertising attitudes. I offer in-depth knowledge and insights about antecedents and consequences of attitudes toward social media advertising. Beyond, the proposed findings help marketers to derive competitive advantages. Based on the framework, marketers should primarily consider those antecedents, which have significant positive effects on attitudes toward social media advertising. For example, they should include informative and entertaining elements within social media ads, as those determinants

have significantly positive effects on attitude. Further, there is no need to target consumers based on gender as no significant differences were identified between males and females. Instead, they could target more professionals as they have more favorable attitudes than students.

Future studies could apply more heterogeneous samples. College student samples are not as representative of social media users anymore as in the beginning. Nowadays, older generations make more use of social media as well (Pew Research Center 2018; We Are Social 2018a). Research could adopt this shift and apply more non-student samples. Further, they could investigate attitudes toward social media advertising more from different countries. The application of different country samples could enhance the understanding of social media as a worldwide phenomenon and the effectiveness of social media advertising. In this context, future research could focus on less studied social media platforms and sites such as Instagram, Twitter, or YouTube. Due to differences in structure, design, and purposes of social media, antecedents might have different influences on the effectiveness of social media advertising on various platforms and sites. In this context, future research could investigate how variables of the framework differ across paid and owned advertising formats as these differences were less considered so far.

Further, the effectiveness of mobile social media advertising is hardly addressed in the studies but could reveal interesting findings as well. The framework reveals various directions for future research by addressing antecedents, whose effects are contractive within the studies. Research could address these issues by re-analyzing the effects to provide precise results about direction and significance level. Another approach would be to address less studied antecedents or categories, which might offer more detailed information about the effectiveness of social media advertising such as structural and platform attributes or demographics and personality factors.

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Paper I: What Drives Online Touchpoint Effectiveness? A Meta-analytic Comparison of Different Touchpoints Types

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Abstract

Attitude offers a commonly used measure of the effectiveness of various online touchpoints, yet consumers' attitudes depend on various determinants. With a meta-analytic approach that spans 76 studies, this research investigates the most frequently studied determinants of consumers' attitudes toward online touchpoints (i.e., informativeness, entertainment, irritation, credibility). The results illustrate that all the identified determinants have significant effects on attitude. The authors go a step further and test whether these effects vary across different types of online touchpoints (i.e., corporate websites, web display banners, electronic word-of-mouth communication, e-mail, search engine advertising, and social media advertising), using moderator analyses. The findings reveal significant differences among the online touchpoints, suggesting that marketers cannot treat such touchpoints in the same manner when planning and managing their online marketing campaigns.

Keywords

Online touchpoints, meta-analysis, advertising, consumers' attitude, effectiveness

1 Introduction

The Internet offers a vast range of online touchpoints that companies can use to interact and communicate with consumers (Danaher and Rossiter 2011; Morris et al. 2003). These touchpoints guide users through the consumer decision journey, so depending on their configuration, online touchpoints may be more or less effective. For example, valuable, informative content might enhance their effectiveness by enabling consumers to learn more about products; intrusive content instead might diminish their effectiveness by interrupting consumers' journeys. In general, the effectiveness of online touchpoints thus depends on many factors, and marketers must gain insights into the central determinants to understand how they influence effectiveness and thus, firm performance.

Substantial research accordingly examines the determinants of effective online touchpoints (e.g., Ducoffe 1996; Ko et al. 2005; Skiera et al. 2010; Yang and Ghose 2010). However, comprehensive generalizations of these findings are difficult to derive, because this research stream features a broad range of determinants (Bleier and Eisenbeiss 2015a; Lin and Kim 2016), different measures of effectiveness (Bleier and Eisenbeiss 2015b; Celebi 2015; Spilker-Attig and Brettel 2010), and various touchpoints, such as display banners, social media ads, e-mail campaigns, websites, or search engine ads (Agarwal et al. 2011; Sun et al. 2010). These online touchpoints differ in their structural design (e.g., display banners are designed differently than paid search advertising or a website) and the functions they assume within a consumer's decision journey (Burns and Lutz 2006; Tutaj and van Reijmersdal 2012). Therefore, the same determinant is unlikely to define the effectiveness of different online touchpoints in similar ways. Entertaining content might be more relevant for social media than for paid search advertising, considering the greater flexibility that the former have for providing entertaining content, compared with short, text-based, search engine messages.

Furthermore, consumers typically consider search engine advertising later in their decision journey, when they tend to be more interested in product information than in entertainment.

To derive generalizations, we integrate heterogeneous results from previous research through a meta-analysis in which we perform a systematic integration and combination of statistical results across studies (Eisend 2017). With this study, we aim to identify the determinants of the effectiveness of major online touchpoints (i.e., corporate websites, web display banners, electronic word-of-mouth [eWOM] communication, e-mail, search engine advertising, and social media advertising). We use the concept of attitude as our measure of touchpoint effectiveness. Many studies rely on consumer attitudes to establish the effectiveness of online touchpoints (e.g., attitude toward display banner ads, attitude toward search engine ads or attitude toward social media ads), which provides a solid basis for integrating and comparing the results across studies. In general, as a mind-set metric, attitude is a widely accepted measure of online touchpoint effectiveness (Srinivasan et al. 2010), particularly because it can reveal long-term effects, such as impacts on future sales (Braun and Moe 2013).

For our meta-analysis, we review research spanning almost two decades and integrate 76 different studies. Our general findings offer valuable insights for marketers and researchers pertaining to (1) key determinants of attitude toward online touchpoints, (2) differences in the respective effects across different online touchpoints, and (3) important moderators in this context, which can explain the variability of individual study results beyond the type of touchpoint. Many reviews and meta-analyses cover offline-based touchpoints (e.g., Brown and Stayman 1992; Sethuraman et al. 2011); to the best of our knowledge, this study is the first systematic (meta-analytic) summary pertaining to online touchpoint effectiveness.

In the next section, we outline our conceptual framework including the most frequently studied determinants of consumers' attitudes toward online touchpoints as well as

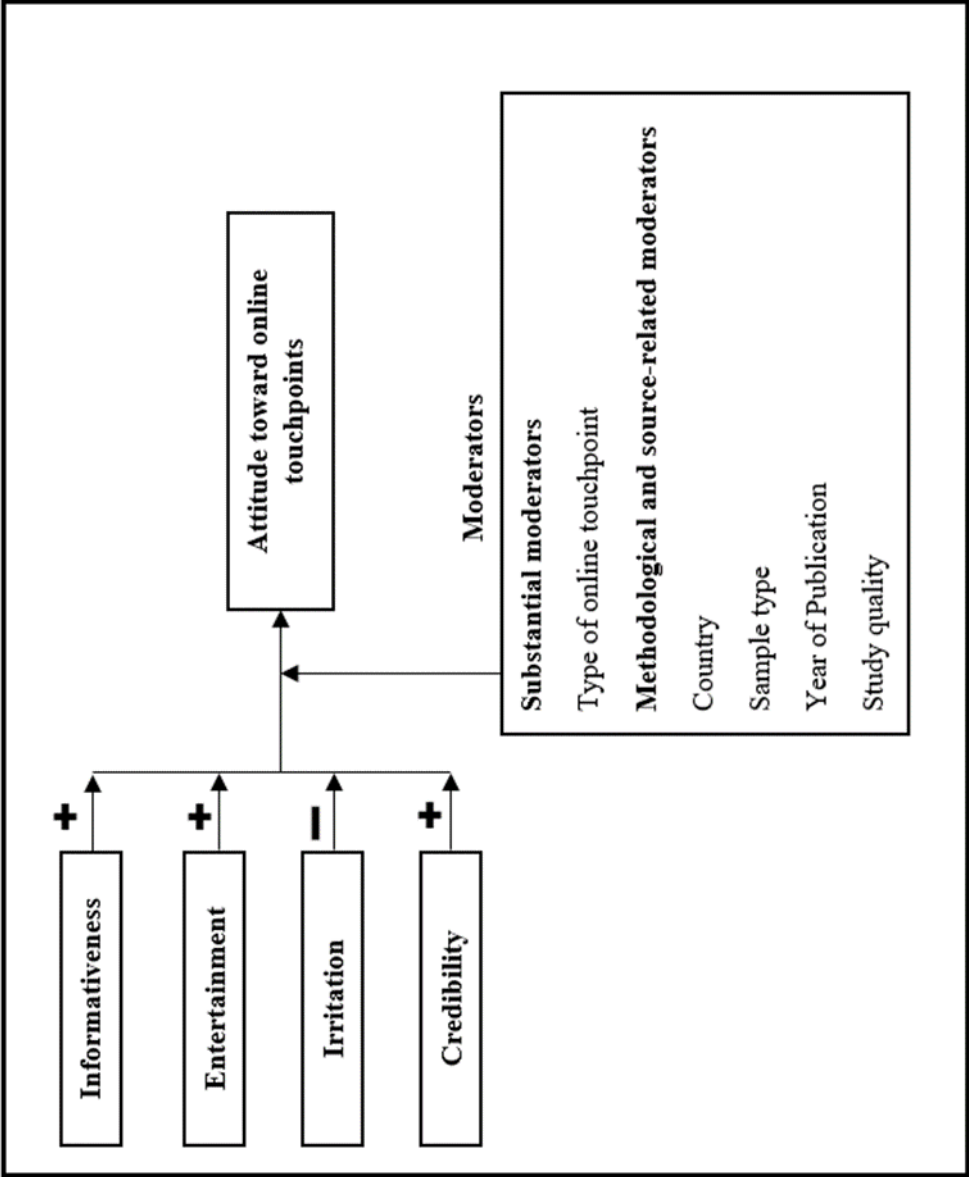
key moderators that might influence the relations within that framework. Next, we describe the data collection procedure and applied analyses. After we discuss the results, we derive key academic and practical implications. This article concludes with some limitations and starting points for further research.

2 Conceptual Framework

The conceptual framework in Figure 1 illustrates the most frequently examined determinants of consumers' attitudes toward online touchpoints (including their expected effects) as well as notable moderators. It comprises essential structural features of the belief–attitude–intention–behavior model by Fishbein and Ajzen (1975), who argue that an attitude toward an object X depends on various belief factors about that object. Attitudes toward object X then determine intentions with regard to object X, which then influence behaviors toward it. However, this framework excludes relations between attitude and intentions or intentions and behaviors; we are not interested in intentional behaviors or direct, observable consumer effects. In our framework, central determinants thus can be regarded as belief factors.

Central to this framework is consumers' attitudes toward online touchpoints. In line with Fishbein and Ajzen (1975) and Lutz (1985), we define attitude toward online touchpoints as an evaluation, tendency, or a learned predisposition to respond in a consistently favorable or unfavorable manner overall or to a specific touchpoint and its advertising through the Internet. Building on this general perspective, we exclude conceptualizations that focus explicitly on specific dimensions of the attitude construct, such as hedonic and utilitarian attitudes (Hsu et al. 2015), positive and negative attitudes (Cho and Lee 2011; Lin 2007), affective, cognitive, and conative attitudes (Bouhlef et al. 2010).

Figure 1. Conceptual framework: Central determinants and moderators of attitude toward online touchpoints



An online touchpoint refers to any contact or communication point through which consumers engage with products or services or the company itself on the Internet (Ieva and Ziliani 2017; Neslin et al. 2006), directly (e.g., web display banner) or indirectly (e.g., online reviews). We concentrate on the online touchpoints identified by Nielsen (2015): corporate websites, web display banners, online reviews, and eWOM communication in general, as well as social media, search engine, and e-mail advertising.⁴ Although we consider the underlying formats and specific ads shared through each online touchpoint, we aggregate them to higher levels. For example, we do not differentiate the branded accounts that appear in social networks, online banners, and videos in social media; instead, we combine them into an overall social media advertising category. Although mobile touchpoints share some characteristics with online touchpoints (Tsang et al. 2004), we do not include them, because not all types of mobile touchpoints depend on Internet technologies (e.g., short message services), and instead they require specific mobile technologies to function (e.g., branded apps, location-based ads). These unique characteristics suggest that mobile touchpoints should be assessed separately. Therefore, we measure attitude toward online touchpoints as an aggregate of the six online touchpoints and their corresponding subtypes, formats, and specific ads (see Table 1).

We formulated two criteria to determine if a determinant should be included in the framework. First, following previous meta-analyses (Szymanski and HERNARD 2001; Yun et al. 2014), we required at least 15 pairwise effects to be identified between the construct and attitude toward any of the selected online touchpoints, so that we ensured we included the most frequently studied determinants across selected online touchpoints.

⁴ We originally included video ads as an online touchpoint but dropped it because insufficient studies examine its effectiveness in terms of attitude outcomes.

Table 1. Aggregation of attitudes toward online touchpoints

Aggregated construct	Online touchpoints	Example disaggregated constructs
Attitude toward online touchpoints	E-mail advertising	Attitude toward e-mail ads/advertising, commercial/unsolicited e-mail spam
	Social media advertising	Attitude toward social media/social network/social networking/social network site advertising/advertisements/ads, Facebook/Twitter advertising/fan page/ads
	Search engine advertising	Attitude toward sponsored links/search advertising, ads (on search engine result pages)
	Web display banner advertising	Attitude toward banner ads/advertising, behavioral/targeted online banner/advertising, the pop-up/ads, ad format (e.g., online banner, pop-ups, skyscrapers, large rectangles, floatings, interstitials)
	eWOM communication	Attitude toward eWOM communication, bloggers recommendation, online reviews/blogs/information
	Corporate websites	Attitude toward the (sport/travel) website/site/web page

Notes: eWOM = electronic word-of-mouth

Second, we included only constructs that provided at least one pairwise effect with attitude, within the specific context of each of the six online touchpoints. With this criterion, we can perform moderator analyses at the touchpoint level and thereby identify touchpoint-specific effects of each determinant on attitude.

Similar to Palmatier et al. (2006), in the course of our exhaustive literature review, we found many constructs with related definitions that featured different names, as well as constructs with related names that indicated different operationalizations. We formulated broad single construct definitions for the independent variables (see Table 2) to aggregate similar constructs after we completed the search process, as is common in meta-analyses (Eisend 2017).

Some studies did not report any hypotheses or focused on reversed directional structures. For example, regarding the link between credibility and attitude, we found no hypotheses formulated within the conceptual framework of Hassan et al. (2013).

Table 2. Review of central constructs

Constructs	Definitions	Operationalization	Representative studies	Expected relationship with attitude
Attitude				
Attitude toward online touchpoints	Evaluation, tendency, or a learned predisposition to respond in a consistently favorable or unfavorable manner overall or to a specific type of touchpoint on the Internet (Fishbein and Ajzen 1975; Lutz 1985).	Attitude toward advertising, attitude toward the ad, attitude toward the format, attitude toward the medium*		
Determinants				
Informativeness	Individual's beliefs or perceptions of information within or of online touchpoints in general and corresponding elements as informative and helpful or as qualitative sources of information.	Informativeness, (quality of) product information, informative value, information content, (text/quality of) information, information source, site information	Wolin et al. (2002), Sun et al. (2010), Ahn et al. (2014)	Informativeness leads to a more favorable attitude toward online touchpoints
Entertainment	Individual's beliefs or perceptions of online touchpoints and corresponding elements as entertaining, exciting, enjoyable, fun to use, or pleasing.	Entertainment	Kang and Kim (2006), Burns and Lutz (2006), Hsin Chang et al. (2013)	Entertainment leads to a more favorable attitude toward online touchpoints
Irritation	Individual's beliefs or perceptions of online touchpoints and corresponding elements as annoying, intrusive, invasive, confusing, irritating, messily constructed, or organized.	Irritation, annoyance, invasiveness, website/content organization, intrusiveness (concerns), interference	Hausman and Skiepe (2009), Sun et al. (2010), Celebi (2015)	Irritation leads to a less favorable attitude toward online touchpoints
Credibility	Individual's beliefs or perceptions of online touchpoints and corresponding elements as credible or trustworthy.	Ad/information credibility, website credibility/ trust, trust in recommendation/reviews	Boateng and Okoe (2015), Gvili and Levy (2016)	Credibility leads to a more favorable attitude toward online touchpoints

* With regard to the specific online touchpoint, such as attitude toward e-mail advertising, attitude toward the website, etc.

The relation between the two constructs was predicted later, based on theory and hypothesized relationships in other studies (Palmatier et al. 2006).

Relatively few studies contain multiple attitude constructs or different online touchpoints within one framework or research design. When they did, we considered the relations between the constructs that appeared in a particular online touchpoint context. For example, Cases et al. (2010) measure attitude toward the website and attitude toward the e-mail campaign, along with website trust. We focus on the relationship between website trust and website attitude, not website trust and e-mail campaign, because the latter relates to two different online touchpoints. These choices were based on intensive discussions about each relevant paper.

Through our literature review, two types of determinants emerged: semantic and structural. Semantic determinants are consumer-related perceptions or beliefs, which require substantial cognitive effort (Sun et al. 2013). They are easily assessable through various online touchpoints by all consumers, which makes them more comparable across studies (Parasuraman et al. 2005). Structural determinants instead focus on specific characteristics of online touchpoints (e.g., color, animation, position) (Sun et al. 2013). We cannot include structural determinants in our framework because they are not comparable.

Of the many constructs we investigated, only four aggregated (semantic) determinants—informativeness, entertainment, irritation, and credibility—met our selection criteria.

Determinants of attitude toward online touchpoints

In online contexts, three of the selected determinants originally appeared in Ducoffe's (1996) model of advertising value: informativeness, entertainment, and irritation. Brackett and Carr (2001) extend that model by adding credibility, which is closely related to trust

(MacKenzie and Lutz 1989). These constructs have been widely adopted since then, resulting in their amplified presence in the conceptual framework.

Informativeness. Touchpoints can supply consumers with knowledgeable, helpful, high-quality information about products and services (Ducoffe 1996). Consumers primarily use the web to collect product-related information (A.T. Kearny, 2014), which satisfies their informational needs, in line with uses-and-gratification theory (Ruggiero 2000). Useful information can enhance the purchase decision process (Kim et al. 2010). Content on the Internet also is constantly available, free of time and space constraints (Luo 2002), which also can create an information overload (Lee et al. 2015) that prompts consumers to start to filter relevant information (Papathanassis and Knolle 2011). In line with prior literature and as stated by Ducoffe (1996), we anticipate a general positive effect of informativeness on consumers' attitudes toward online touchpoints.

Entertainment. Touchpoints also can provide entertaining, fun content to consumers that enhances their experience. According to uses-and-gratification theory, consumers use the Internet to fulfill their entertainment and enjoyment needs (Stafford et al. 2004), and online touchpoints can be designed accordingly, such as to provide video clips or appealing content. Entertaining content is more likely to be shared by consumers online (Berger and Milkman 2012), reinforcing the relevance of this perception. In line with prior literature and stated by Ducoffe (1996), we also expect entertainment to exert a positive effect on consumers' attitudes toward online touchpoints.

Irritation. A sense of irritation might arise if touchpoints employ techniques that annoy, manipulate, or obtrude on consumers. They perceive these intrusions as unwanted and unnecessary, so they form negative reactions to the touchpoints (Ducoffe 1996). Irritation can be ascribed on various causes, such as an obtrusive character (e.g., pop-up banner), structure (e.g., unorganized website content), design (e.g., animation), or general dysfunctions (e.g.,

broken links) (Gao and Koufaris 2006; Hausman and Siekpe 2009; Madhavaram and Appan 2010). It then enhances negative consumer reactions, such as avoidance or skepticism, decreasing the effectiveness of the touchpoints (Baek and Morimoto 2012). Ducoffe (1996) notes that irritation has a negative effect on attitudes, and we anticipate this effect in our conceptual framework too.

Credibility. Finally, credibility refers to the extent to which consumers assess formats, particular ads, or touchpoints as believable and trustworthy (MacKenzie and Lutz 1989). Credibility assessments generally include perceptions of source or information credibility as well, especially when centered on specific ads (MacKenzie and Lutz 1989). However, in an online context, touchpoint credibility pertains more to believable product-related information than the credibility of the advertising brand (Zha et al. 2015). According to Bracket and Carr (2001), credibility is an essential element of positive attitudes. Thus, we also expect a positive effect of credibility on consumers' attitudes toward online touchpoints.

Moderators

To explain possible variations of the relations between the relevant constructs, we consider several moderator variables. To identify these moderators, we rely on basic, commonly applied methodological and source-related considerations, as well as specific, substantial, and theoretical reflections (Eisend 2017). We thus investigate one substantial moderator and four moderators, which refer to potential methodological and source-related differences (see Table 3).

Type of online touchpoint. The primary moderator is the type of online touchpoint. Marketers can select from a vast range of touchpoints, with distinct structural and visual elements (Evans 2009; Tutaj and van Reijmersdal 2012) and potentially distinct effects on attitude (Rodgers and Thorson 2000).

Table 3. Coded moderators

No.	Moderator	Description	Coding categories
1	Type of online touchpoint	The type of online touchpoint. Coding decisions based on general references (e.g., social media advertising) or underlying formats and specific ads (e.g., Facebook account) of an online touchpoint. Display banner or online videos within a social media context are coded as social media advertising. Any eWOM communication (e.g., online reviews, blogger recommendations, general information) within a social media context is coded as eWOM communication.	(Corporate) websites E-mail advertising eWOM communication Web display banner Search engine advertising Social media advertising
2	Country	The country from which the data were collected. Australia, Canada, South, North, and Middle America were aggregated to America and Australia. Countries from Africa were aggregated with countries from Asia. If the country is not indicated, the study was coded respectively to the residence of the main author (similar to Köhler et al. 2017).	America and Australia Asia and Africa Europe
3	Sample type	The type of sample used for the data collection.	Non-students Students
4	Publication year	Publication year of the paper, conference paper, or dissertation.	Year
5	Quality of study	The quality of the study, whether the journal is ranked in the Web of Science database (similar to Eisend et al. 2017).	No ranking in Web of Science index Ranking in Web of Science index

Notes: eWOM = electronic word-of-mouth.

For example, an online banner consists of images and animations, whereas paid search engine advertising mainly consists of textual elements. Online touchpoints also differ in their primary functions, in terms of providing valuable insights for consumers during their purchase decision process. For example, online banner advertising usually attracts attention and initiates contacts with consumers (Dinner et al. 2014), while corporate websites supply further, more detailed information about products and services later in the decision process (Rodgers and Thorson 2000). Thus, entertainment might have greater relevance for online banner ads, as a means to catch consumers' attention and interest, but informativeness might be more important for corporate websites, which tend to attract visitors with higher informational needs. Likewise, irritation might have less powerful effects in the context of social media advertising, which attempts to integrate smoothly into the social media environment, whereas online banner ads on websites pop up and interrupt consumers' current activities. With a few exceptions (e.g., Yuan 2006), prior research addresses the effects of

these determinants of consumers' attitude for individual touchpoints, without assessing variations across the different online touchpoints. Yet we expect that the type of online touchpoint explains potential influences and the magnitude of the effect sizes.

Country. Prior studies span different countries, and some explicitly note country-specific differences (e.g., Mansour 2015). Countries vary in the degree of usage patterns and experiences with the Internet, and their online touchpoints also differ, depending on national-level technological developments, cultural habits, or legal regulations (Hermeking 2005; Brettel and Spilker-Attig 2010). People thus might develop different perceptions of online touchpoints, with varying effects from the determinants to attitude. We split this moderator into four levels, on the basis of continental proximity and predict that this moderator may account for significant differences in effect sizes.

Sample type. According to several meta-analyses (Brown and Stayman 1992; De Matos and Rossi 2008), sample homogeneity might influence the extent of effect sizes. In contrast with non-student samples, student samples tend to be more homogenous. Especially in Internet-related research studies, students are a prevalent sample, with the justification that students have grown up with these technologies and opportunities, so they have more Internet experience (Sun et al. 2010). The responses gathered from student samples accordingly might vary less across scale values than would those from more heterogeneous samples (De Matos and Rossi 2008). Noting these limitations, some studies explicitly seek non-student samples, in an effort to generate more generalizable results. We thus expect that the type of sample determines some variance in effect sizes.

Publication year. As already mentioned, the included studies cover academic research of almost two decades. During this time period, new online touchpoints occurred, such as social media advertising. As the Internet developed as an important communication and distribution media channel, consumers spend nowadays a lot of time online. Consumers might

become more familiar with online touchpoints over time, e.g., they might perceive online touchpoints less irritating since they are used to their irritating and intrusive functions. To control for changes over time between the determinants and attitude, we include the year of publication as another source related moderator.

Quality of study. Some studies appear in journals that apply lower quality standards for publication. To account for these possible variances, we include the quality of the study as a moderator. Similar to Eisend et al. (2017), we categorize studies as higher in quality when they appear in journals listed in the Web of Science database.

3 Method

Collection and coding of studies

To ensure the representativeness and comprehensiveness of the database for our meta-analysis, we applied various search strategies recommended by Eisend (2017) and seek both published and unpublished studies. Translation barriers limited us to studies published in English, in the years between 1994, when the first online banner appeared (Cho and Khang 2006), and April 2018. We started by identifying general reviews focused on relevant online touchpoints and checking their reference lists (e.g., Cheung and Thadani 2012; Chiou et al. 2010; Ha 2008; Jafarzadeh et al. 2015; Khang et al. 2012; Knoll 2016; Voorveld et al. 2009). Next, with an exhaustive keyword search, we searched various electronic databases such as ABI/Inform, Business Source Premier, PsycINFO, PSYINDEX, Web of Science, Science Direct, and Google Scholar. To gather conference papers and dissertations, we used the Social Science Research Network and ProQuest Dissertation and Theses databases. For these searches, we included various combinations, synonyms, and alternative terms with the key construct “attitude,” relative to each touchpoint (e.g., “attitude toward search engine advertising”, “attitude toward email ads”). In an issue-by-issue search of journals, we relied on other meta-analysis in the field, particularly those that ranked as key major sources for the

journal articles relevant for our research question (i.e., *Journal of Consumer Psychology*, *Journal of the Academy of Marketing Science*, *Psychology & Marketing*, *Journal of Consumer Research*, *Journal of Marketing*, *Journal of Marketing Research*, *Journal of Retailing*, *Marketing Science*, *Computers in Human Behavior*, *Journal of Advertising*, *Journal of Business Research*, *Journal of Interactive Advertising*, *Journal of Interactive Marketing*, *MIS Quarterly*, *International Journal of Electronic Commerce*, *Advances in Consumer Research*, *International Journal of Advertising*, *Journal of Advertising Research*, *Journal of Electronic Commerce Research*, *Journal of Current Issues and Research in Advertising*, *Journal of Marketing Communications*, *Journal of Internet Commerce*, *Journal of Research in Interactive Marketing*, *Internet Research*, and *Marketing Letters*). Once we gathered a set of papers, we checked their reference lists to find further articles. To address the file-drawer problem (Rosenthal 1979), we contacted expert academics via e-mail and asked for their unpublished works. However, we did not obtain any additional studies this way.

We entered a study into the database if its central construct was attitude toward a relevant online touchpoint, measured empirically, with a relational effect of some determinant (e.g., Judge et al. 2001; Kim and Peterson 2017). If no direct relational hypothesis was postulated, we still would include the study if the relational effects could be obtained, such as through correlation matrices (e.g., Choi and Rifon 2002; Mazaheri et al. 2012).

To measure effect sizes, we used correlation coefficients, as is common in meta-analyses in advertising and marketing literature (De Matos and Rossi 2008). Correlation coefficients are easier to interpret and free of scale restrictions (Brown and Stayman 1992). We include all studies that explicitly report correlation coefficients or standardized regression coefficients from simple linear regression models (Kirca et al. 2005). One study reports Spearman's correlation coefficients (Alsamydai and Khasawneh 2013), which we treat like

the other correlations because Spearman's rho is Pearson's r between ranks with the same sampling error variance (Hunter and Schmidt 2004).

However, we do not include results from multivariate models (e.g., multiple regression analyses, structural equations models), because even after transforming these coefficients, they represent partial correlation estimates and therefore are not directly comparable with bivariate correlations (Aloe 2014). Instead, we use coefficients from correlation matrices if they are reported; if not, we requested the matrices from the authors via e-mail. If we did not receive the necessary information, we excluded the study from our database.

We also removed studies for several other reasons, such as studies measuring attitude toward Internet advertising in general (e.g., Ducoffe 1996; Schlosser et al. 1999), unless their research designs explicitly identify a focus on a specific online touchpoint (e.g., Lee and Rha 2013; Wolin et al. 2002). Similar to other meta-analyses (e.g., Eisend 2006; Rubera and Kirca 2012), we exclude studies for which the results are based on the same data set used by already included studies. For example, studies originally published as a conference paper or dissertation and then published as a journal article were not repeated; we included the version that provided more information (e.g., Gao 2002).

Few of the identified studies report results for more than one effect size for a particular relationship. If effect sizes are based on distinct samples (e.g., different country samples), we include them as independent effect sizes in the database, similar to the meta-analysis by Pick and Eisend (2014). In the relatively few studies that report multiple effect sizes for the same relationship with the same sample, we anticipate some dependence among the effect sizes, which are the unit of analysis for our research. Bijmolt and Pieters (2001) recommend accounting for this dependence by using multilevel modeling, but doing so requires a sufficient number of studies with high effect sizes per sample to ensure robust results in the integration and moderator analyses (Eisend 2017). Moreover, no study contributes an

excessive number of correlations (maximum per sample per relationship = 6). The average number of effect sizes per sample is only 1.3 (for the informativeness-attitude relationship). These features do not allow us to ensure an appropriate application of a multilevel approach. Reducing the effect sizes to just one effect size (e.g., combining or averaging them) also is not recommended, due to the potential loss of information (Bijmolt and Pieters 2001).

Furthermore, the type of online touchpoint moderator varies on the effect size level, such that combining the effect sizes of two different online touchpoints would not be appropriate. Bijmolt and Pieters (2001) determine that a multilevel approach yields the most robust and stable results, followed by a procedure that treats each effect size as independent. An approach that weights multiple effect sizes by the number of sizes or samples performs worst. Therefore, and considering that we have relatively few multiple effect sizes per sample, we treat them as independent effect sizes in our further analysis⁵ (Hedges et al. 2010), as done by Szymanski et al. (2007) with a similar data structure.

Ultimately we obtained 210 effect sizes from 82 independent samples, reported in 76 published (journal) or unpublished (conference paper or dissertations) studies conducted during 1999–2018.⁶ Our data thus spans nearly two decades of academic research into the effectiveness of online touchpoints on consumers' attitudes, and to code them, we relied on the efforts of one of the authors and an independent coder, who was not familiar with the study objectives (Eisend 2014). The two coders reviewed all identified studies independently and coded the effect sizes of the pairwise relationships, related information about the effect sizes (e.g., total sample size, reliability coefficient), and information about the moderators of interest. We used Cohen's kappa to assess intercoder reliability, which exceeded .9 in each category, indicating excellent results. Any inconsistencies were resolved through discussion.

⁵ As robustness checks, we checked the multilevel model for each pairwise relationship. The effect sizes (first level) are nested in the independent samples (second level). The results of the integration and moderator analyses (meta-regression) reveal marginal to no differences in mean effect sizes, regression coefficients, or corresponding *p*-values.

⁶ A list of all studies used for the meta-analysis can be found in Appendix.

Integration and analysis of effect sizes

The meta-analytical integration procedures for each pairwise relationship reflect common guidelines and practices in prior literature (e.g., Lipsey and Wilson 2001). As mentioned, we use the correlation coefficient as the effect size metric; higher coefficient values indicate stronger effects of the relevant determinants on consumers' attitudes toward online touchpoints. The integration process features a random effects model that allows the effect sizes to vary across studies; it assumes in general that the variation across studies might be due to sampling error or differences in the population of the effect sizes. This assumption supports moderator analyses and generalizations to a population of potential effect sizes, which might not be observed or even could be integrated within the meta-analysis (Borenstein et al. 2009). A random perspective is more realistic, in that it allows participants and study designs to vary across studies, which can explain variances among the effect sizes.

We corrected each effect size for measurement error by dividing the correlation coefficients by the product of the square root of the reliability coefficients of the dependent and independent variables (Hunter and Schmidt 2004). We used Cronbach's alpha as the primary reliability coefficient; it was reported in most studies. If it was not, we contacted the authors to obtain the values, and if we did not receive a response, we used composite reliabilities as a substitute. The typically minor differences between Cronbach's alpha and composite reliability are inconsequential when correcting for measurement error (Peterson and Kim 2013). If neither reliability estimate was reported or studies used single-item measures, we turned to the mean reliability coefficient (Cronbach's alpha) of the specific variable as a substitute, similar to the method adopted by Purnawirawan et al. (2015) or Kim and Peterson (2017).

After correction, we transformed the reliability-corrected correlation coefficients into Fisher's z-coefficients, which have the advantage of being approximately normally

distributed, such that their corresponding variance depends only on the sample size, not the effect size (Geyskens et al. 2009). We integrated the z-coefficients and weighted them by the inverse of their variance to account for the varying sample sizes (sampling error). After computing the integrated mean values and confidence intervals for each pairwise relationship of Fisher's z-coefficients, we reconverted the integrated results back into correlation coefficients (Lipsey and Wilson 2001). We report the 95% confidence intervals as well. If an interval includes 0, the effect size is not significant (Eisend 2017). As recommended by Geyskens et al. (2009), and similar to De Matos and Rossi (2008), we present the integrated effect sizes in three stages, based on (1) the observed correlations, (2) correlations weighted by sampling error (uncorrected effect sizes), and (3) correlations corrected for measurement and sampling error (corrected effect sizes).

To test for the possibility of publication bias, we calculated the fail-safe N. Also known as the file drawer problem, this measure estimates the number of non-significant studies that would be needed to bring the integrated mean effect size to a non-significant value (Rosenthal 1979).

Finally, we applied several homogeneity tests to assess whether the variation among the effect sizes is due solely to sampling error. If the variance among the effect sizes is too large to be explained only by sampling error, heterogeneity exists, and the test of moderators is appropriate (Eisend 2017). First, we applied the homogeneity statistic Q , which follows a chi-square distribution with k (number of studies) minus 1 degree of freedom. A statistically significant Q statistic suggests that including the moderator variables can explain variability in the effect sizes. Second, we applied the I^2 test, which quantifies the percentage of total variation across effect studies due to heterogeneity, calculated with the formula $100\% \times (Q - df)/Q$, where Q is the value of the Q statistic and df is the degrees of freedom. Thus I^2 lies between 0% and 100%, and higher percentages indicate greater heterogeneity among studies

(Higgins et al. 2003). If the Q statistic is significant and I^2 is high, we perform moderator analyses for the relationship and include the previously mentioned moderators.

Moderator analysis

The moderator analyses refer to each pairwise relationship. In contrast with subgroup analyses, we test all the moderators simultaneously, using meta-regression. The effect sizes provide the dependent variables (z-coefficients corrected for measurement error); the moderators are independent dummy-coded variables (De Matos and Rossi 2008). We adopted a mixed-effects perspective and used the within-study variance of the effect sizes due to sampling error and the between-study variance after adding the moderator variables as weighting factors (Eisend 2017). The few observations and high between-study variance prompted us to adopt restricted maximum likelihood estimation, which tends to be relatively unbiased and more efficient than other estimators (Veroniki et al. 2016; Viechtbauer 2005).

For almost all pairwise relationships, we obtained at least two observations per moderator level. However, for the relation between credibility and attitude, we only have one observation for e-mail advertising. This single observation per moderator level could limit the power of the moderator analysis for the specific relation between credibility and attitude and threaten validity, but we follow previous meta-analyses (e.g., Palmatier et al. 2006; Szymanski and Hearnard 2001) and retain this relation for completeness and comparability. We address the small number of effect sizes in our interpretation of the results. We checked for multicollinearity with the variance inflation factors of the regression models, none of which were greater than 2, so multicollinearity does not appear to be a problem. For the integration and moderator analyses of each pairwise relationship, we use the *metafor* package in R (Viechtbauer 2010).

4 Results

Meta-analytic correlations

Table 4 contains the results of the meta-analytic integration process of the four central determinants of consumers' attitude toward online touchpoints. In line with our expectations, informativeness ($r = .71$), entertainment ($r = .7$), and credibility ($r = .69$) positively influence consumers' attitudes; irritation has a negative influence ($r = -.45$). According to Cohen (1988), all reported mean effect sizes can be classified as large, while the relation between irritation and attitude reveals a medium strength. All effect sizes are strongly significant, and none of the respective confidence intervals include 0. The high file drawer N offers further confidence in the significance of the reported effect sizes. For example, 49,316 studies with non-significant effect sizes would be necessary to reduce the mean effect size of the relationship between irritation and attitude to non-significance. Thus, averaged across all online touchpoints, all four determinants seem to drive consumers' attitudes toward online touchpoints. Yet the results also suggest a high degree of heterogeneity in the reported effects across studies; the Q statistic is significant for all four determinants, and the lowest I^2 is equal to 97%, thus indicating the need for a moderator analysis.

Moderator analysis

Using the results of the heterogeneity tests, we conducted a separate moderator analysis for each determinant and its influence on attitude toward online touchpoints. Each moderator analysis relies on a meta-regression that includes all moderating variables simultaneously in a single regression model. The results of the respective meta-regressions are in Table 5; Table 6 contains the subgroup means of the corrected effect sizes and number of observations for each moderator level for the respective relationships of the four determinants with attitude.

Table 4. Results of effect size integrations of central determinants of attitude toward online touchpoints

Relationship	k	O	N	Min.	Max.	Simple average r	Sample- weighed adjusted r	Sample- weighed reliability adjusted average r	S.E.	Sig.	LCI	UCI	Q-test	Sig.	I ²	File Drawer N (Rosenthal)
Determinants																
Informativeness	53	69	27,844	.12	.86	.57	.59	.71	.04	.000	.66	.75	3,380.07	.000	98%	435,632
Entertainment	40	51	20,492	.21	.9	.59	.61	.7	.05	.000	.66	.75	1,739.06	.000	97%	243,238
Irritation	37	53	17,237	-.85	.45	-.35	-.39	-.45	.06	.000	-.55	-.35	2,952.47	.000	98%	49,316
Credibility	36	37	15,811	.18	.81	.56	.58	.69	.05	.000	.63	.74	1,515.24	.000	98%	144,040

Notes: k = number of independent samples, O = number of effect sizes, N= total sample size of all effect sizes, Min. = minimum, Max. = maximum S.E. = standard error, Sig. = significance, LCI = lower confidence interval, UCI = upper confidence interval, Q-test = homogeneity test, I² = homogeneity test, File drawer N = number of studies averaging null results that would be needed to reduce results to a trivial size.

Table 5. Results of the meta-regression

Moderator variables	Informativeness (69)	Entertainment (51)	Irritation (53)	Credibility (37)
Intercept	12	-17.58	-135.16***	11.01
Type of touchpoint				
Social media advertising	-.38*	-.41**	.22	-.26
Corporate websites	-.45**	-.27	.57**	-.04
Web display banner	-.46**	-.29	.26	.47
eWOM communication	-.48**	-.5**	.32	-.18
Search engine advertising	-.5*	-.41*	.27	.14
Country				
Europe	-.02	.21	-.29	.37
Asia + Africa	-.41***	-.32**	.002	.1
Sample type	-.14	-.16*	.15	-.003
Publication year	-.01	.01	.07***	-.01
Quality of study	-.13	-.2**	-.001	-.14
R²	15.68%	41.37%	24.21%	5.57%
Q (explained)	22.19**	42.9***	25.5**	12.12
Q (unexplained)	2436.18***	777.17***	2083.65***	977.69***

*** $p < .01$; ** $p < .05$; * $p < .1$

Notes: Type of touchpoint (e-mail advertising = 0); country (America and Australia = 0); sample type (non-students = 0); quality of study (no ranking = 0). eWOM = electronic word-of-mouth

Table 6. Subgroup means and number of observations per moderator level

Moderator levels	Informativeness (69)	Entertainment (51)	Irritation (53)	Credibility (37)
Type of touchpoint				
Social media advertising	.68 (17)	.67 (15)	-.29 (16)	.62 (13)
Corporate websites	.73 (27)	.75 (19)	-.46 (13)	.7 (13)
Web display banner	.68 (12)	.67 (10)	-.56 (12)	.88 (2)
eWOM communication	.65 (7)	.49 (2)	-.15 (2)	.68 (5)
E-mail advertising	.8 (4)	.79 (3)	-.69 (4)	.76 (1)
Search engine advertising	.68 (2)	.66 (2)	-.55 (6)	.77 (3)
Country				
America + Australia	.75 (32)	.73 (25)	-.52 (29)	.73 (11)
Europe	.77 (10)	.87 (4)	-.52 (5)	.75 (6)
Asia + Africa	.62 (27)	.63 (22)	-.33 (19)	.65 (20)
Sample type				
Students	.7 (38)	.68 (28)	-.45 (33)	.66 (15)
Non-students	.72 (31)	.74 (23)	-.45 (20)	.71 (22)
Quality of study				
Ranking	.68 (33)	.63 (24)	-.45 (27)	.69 (10)
No ranking	.73 (36)	.76 (27)	-.46 (26)	.69 (27)

Notes: Numbers of observations are in parenthesis

In accordance with our second research objective, we looked for possible differences in the respective effect sizes, depending on the type of online touchpoint. To highlight differences across online touchpoints, we also report estimated effect size differences for all possible pairwise comparisons of online touchpoints in Tables 7 (informativeness–attitude relationship), 8 (entertainment–attitude relationship), 9 (irritation–attitude relationship), and 10 (credibility–attitude relationship). Each column pertains to a different touchpoint. Thus, the reported regression coefficients in each column depict the estimated effect size differences between the reference touchpoint of this column and the remaining touchpoints. For example, column 1 in Table 7 (informativeness–attitude) uses social media advertising as the reference touchpoint, and it shows that the effect size of informativeness on attitude is weaker for eWOM communication than for social media advertising ($\beta = -.11$), but the difference is not statistically significant ($p > .1$).

Informativeness. In Table 7, we find that informativeness is especially relevant for e-mail advertising. In particular, column 5 shows that the effects of informativeness on attitude toward online touchpoints are significantly weaker for social media advertising ($\beta = -.38, p < .1$), corporate websites ($\beta = -.45, p < .05$), web display banners ($\beta = -.46, p < .05$), eWOM ($\beta = -.48, p < .05$) and search engine advertising ($\beta = -.5, p < .1$) than for e-mail advertising.

Entertainment. Similarly, the effects of entertainment on attitude in Table 8 show that this determinant is also especially relevant for e-mail advertising. Column 5 reveals that the effects of entertainment on attitude are significantly weaker for social media advertising ($\beta = -.41, p < .05$), eWOM ($\beta = -.5, p < .05$), and search engine advertising ($\beta = -.41, p < .1$) than for e-mail advertising.

Irritation. The results for the relationship of irritation with consumers' attitudes, as detailed in Table 9, indicate that irritation has the lowest negative influence on attitudes when it comes to corporate websites. As shown in column 2, these effects are significantly more

Table 7. Differences in effectiveness of informativeness and attitude toward online touchpoints across types (meta-regression)

In comparison to...	Reference touchpoint					
	(1) Social media advertising	(2) Corporate websites	(3) Web display banner	(4) eWOM communication	(5) E-mail advertising	(6) Search engine advertising
Social media advertising	0	.07	.08	.11	-.38*	.13
Corporate websites	-.07	0	-.01	.03	-.45**	.05
Web display banner	-.08	.01	0	.03	-.46**	.05
eWOM communication	-.11	-.03	-.03	0	-.48**	.02
E-mail advertising	.38*	.45**	.46**	.48**	0	.5*
Search engine advertising	-.13	-.05	-.05	-.02	-.5*	0

*** $p < .01$; ** $p < .05$; * $p < .1$

Notes: For example, for column 1, with social media advertising as the reference touchpoint, the table shows that the effect of informativeness on attitude is weaker for corporate websites than for the reference touchpoint of social media advertising by $-.07$. For simplicity, the coefficients of the other moderator variables are not presented here. eWOM = electronic word-of-mouth.

Table 8. Differences in effectiveness of entertainment and attitude toward online touchpoints across types (meta-regression)

In comparison to...	Reference touchpoint					
	(1) Social media advertising	(2) Corporate websites	(3) Web display banner	(4) eWOM communication	(5) E-mail advertising	(6) Search engine advertising
Social media advertising	0	-.14	-.12	.09	-.41**	.00
Corporate websites	.14	0	.02	.23	-.27	.14
Web display banner	.12	-.02	0	.21	-.29	.12
eWOM communication	-.09	-.23	-.21	0	-.5**	-.09
E-mail advertising	.41**	.27	.29	.5**	0	.41*
Search engine advertising	-.00	-.14	-.12	.09	-.41*	0

*** $p < .01$; ** $p < .05$; * $p < .1$

Notes: For example, for column 1, with social media advertising as the reference touchpoint, the table shows that the effect of entertainment on attitude is stronger for corporate websites than for the reference touchpoint of social media advertising by .14. For simplicity, the coefficients of the other moderator variables are not presented here. eWOM = electronic word-of-mouth.

Table 9. Differences in effectiveness of irritation and attitude toward online touchpoints across types (meta-regression)

In comparison to...	Reference touchpoint					
	(1) Social media advertising	(2) Corporate websites	(3) Web display banner	(4) eWOM communication	(5) E-mail advertising	(6) Search engine advertising
Social media advertising	0	-.35*	-.04	-.1	.22	-.05
Corporate websites	.35*	0	.31*	.25	.57**	.3
Web display banner	.04	-.31*	0	-.06	.26	-.01
eWOM communication	.1	-.25	.06	0	.32	.05
E-mail advertising	-.22	-.57**	-.26	-.32	0	-.27
Search engine advertising	.05	-.3	.01	-.05	.27	0

*** $p < .01$; ** $p < .05$; * $p < .1$

Notes: For example, for column 1, with social media advertising as the reference touchpoint, the table shows that the effect of irritation on attitude is less negative for corporate websites than for the reference touchpoint of social media advertising by .35. For simplicity, the coefficients of the other moderator variables are not presented here. eWOM = electronic word-of-mouth.

Table 10. Differences in effectiveness of credibility and attitude toward online touchpoints across types (meta-regression)

In comparison to...	Reference touchpoint					
	(1) Social media advertising	(2) Corporate websites	(3) Web display banner	(4) eWOM communication	(5) E-mail advertising	(6) Search engine advertising
Social media advertising	0	-.22	-.73 *	-.08	-.26	-.4
Corporate websites	.22	0	-.51	.14	-.04	-.18
Web display banner	.73 *	.51	0	.65	.47	.33
eWOM communication	.08	-.14	-.65	0	-.18	-.32
E-mail advertising	.26	.04	-.47	.18	0	-.14
Search engine advertising	.4	.18	-.33	.32	.14	0

*** $p < .01$; ** $p < .05$; * $p < .1$

Notes: For example, for column 1, with social media advertising as the reference touchpoint, the table shows that the effect of credibility on attitude is stronger for corporate websites than for the reference touchpoint of social media advertising by .22. For simplicity, the coefficients of the other moderator variables are not presented here. eWOM = electronic word-of-mouth.

negative for social media advertising ($\beta = -.35, p < .1$), web display banner ($\beta = -.31, p < .1$) and e-mail advertising ($\beta = -.57, p < .05$), than for corporate websites.

Credibility. Table 10 highlights that credibility is especially relevant for web display banner ads (column 3), such that the effects on attitude toward online touchpoints are significantly weaker for social media advertising ($\beta = -.73, p < .1$) than for web display banner advertising.

Regarding our third research objective, we tested whether the type of sample, country, or study quality might explain further variation in the effect sizes. In Table 5, we note that the effect of informativeness on attitudes toward online touchpoints is significantly weaker for countries in Asia and Africa ($\beta = -.41, p < .01$) compared with America and Australia.

We find no other significant results for the other moderators between informativeness and attitude. Significant differences in the regression coefficients emerge for the relation between entertainment and attitude, such that the effect is significantly weaker for Asian and African countries ($\beta = -.32, p < .05$) than for American and Australian countries. Furthermore, we find that the effect of entertainment on attitudes is weaker for student than non-student samples ($\beta = -.16, p < .1$), as well as for high-quality studies compared with studies of lower quality ($\beta = -.2, p < .05$). Publication year has a moderating effect on the relationship between irritation and attitudes, as the effect becomes less negative over time ($\beta = .07, p < .01$). We do not find any significant moderating influences on the effect of credibility on attitudes. In summary, the moderator analyses explain up to 41.37% of the heterogeneity—relatively high values that confirm the appropriateness of our moderator analyses.

5 Discussion and Conclusion

This meta-analysis has identified and investigated frequently studied determinants of consumers' attitudes toward online touchpoints, spanning 210 effect sizes associated with 82

independent samples reported in 76 studies. By integrating these studies and testing for different moderators, especially the moderating effect of touchpoint type, we provide empirical generalizations and insights regarding the determinants of consumers' attitude toward online touchpoints.

Regarding our first objective, the results reveal that informativeness, entertainment, and credibility exert strong, positive influences on attitudes toward online touchpoints, while irritation has a negative influence. In relative terms, perceptions of informativeness and entertainment have the largest effects on attitude; on average, these determinants are most important from consumers' perspective. Similarly, prior studies that rely on uses-and-gratification theory have shown that people use mass media, including the Internet, primarily to satisfy their informational and entertainment needs (Ko et al. 2005; Papacharissi and Rubin 2000; Ruggiero 2000). Credibility has a slightly weaker effect on attitude, though still large enough to suggest that consumers expect online touchpoints to provide accurate, unbiased information (Shankar et al. 2002). Due to the immense amount of information and online touchpoints consumers encounter while browsing the Internet, they try to focus only on relevant and credible online touchpoints. Irritation has a negative effect on attitude, though (in absolute terms) this effect is weaker than those of the other determinants. Nowadays, consumers are experienced with online touchpoints, getting in touch with them on an almost daily basis (We Are Social 2018). As a possible result, they are used to online touchpoints might blind out irritating elements. Thus, perceptions of irritation seem to have minor effects on consumers as they form attitudes toward online touchpoints.

With moderator analyses, we also investigate whether the aggregate effects of the respective determinants differ depending on the type of touchpoint. We contrast the effects across the most frequently used online touchpoints and find that the effects of both informativeness and entertainment on attitudes are much stronger for e-mail advertising than

for most remaining touchpoints. Consumers who have agreed to receive newsletters from a company likely expect to gain access to informative or entertaining content, suggesting they already are highly involved with this touchpoint and have higher expectations about its information or entertainment quality, compared with those for other touchpoints to which they have not subscribed explicitly (e.g., banner or social media ads). The high involvement and high expectation level may make consumers more sensitive to the actual levels of these factors (Eisenbeiss et al. 2014).

We find major, significant differences among the effects of irritation on attitude—significantly weaker for corporate websites compared to social media advertising, web display banner, and e-mail advertising. Irritation might have a minor role for corporate websites, since corporate or general websites serve as a central hub for all online activities of firm on the Internet (Voorveld et al. 2009), thus content, design, and structure of a website are arranged with the prior aim of providing a high user experience and quality of the website and being free of irritating elements or poor-organized navigation structure. Irritation is more relevant in the context of e-mail advertising, web display banners, and social media advertising. The intrusive character of most online banners such as pop-up ads, which interrupt current online activities and therefore diminish the online experience, makes this result unsurprising (Edwards et al. 2002). For e-mail advertising, by signing in for newsletter, consumers agree to receive e-mails from companies and thus expect structured, relevant contents; disorganized or overwhelming contents might amplify the negative effects of irritation (ul Haq 2009). The effect of irritation on attitude for e-mail advertising might be amplified as well when consumers receive unsolicited commercial e-mails such as spam from companies, which usually contain irritating and intrusive messages or offers (Phelps et al. 2004). Lastly, irritation has a higher relevance for social media advertising compared to websites. Social networking sites such as Facebook or Instagram offer various opportunities for marketers to

address consumers based on their interests and social activities. Consumers might perceive social media ads based on their personal data entered within the social network as too intrusive and invasive (Taylor et al. 2011).

Further empirical insights refer to the positive effect of credibility on attitudes, which is stronger for web display banners, relative to social media advertising. Web display banners primarily seek to gain consumers' attention or target consumers based on their preferences and interests (Goldfarb and Tucker 2011). Especially for the latter function, the positive effects of targeted and personalized web display banners can be enhanced by source or touchpoint credibility; lower credibility instead evokes reactance and privacy concerns (Bleier and Eisenbeiss 2015b). The relevance of credibility also might be amplified by ad clutter, which forces consumers to limit their attention only to the most reliable, credible displays (Lee and Cho 2010).

With reference to our third major research objective, our results reveal several moderations beyond the type of touchpoint. In particular, the moderator country can explain variations in some relationships. One finding is that the effects of informativeness and entertainment on attitude toward online touchpoints are both weaker for Asian and African countries than American and Australian ones. As a possible explanation, we note that consumers in Asia and Africa use the Internet primarily for social interaction rather than for informational motives (Ko et al. 2006), which likely makes them less responsive to informational content elements. In terms of entertainment, a possible explanation is that entertainment is a higher-level expectation of advertising, such that it tends to be especially relevant for consumers in mature, cluttered advertising markets in which advertisers work hard to attract consumers' limited attention with interesting, exciting communications (Sun and Wang 2010). Since some Asian and Middle East countries are still developing countries with relatively weak advertising markets, entertaining elements in online touchpoints are not

as relevant for consumers in these countries, as much as they are in American and Australian nations (Sun and Wang 2010).

The type of sample exerts an effect only in the relation between entertainment and attitudes: entertainment has a weaker effect among students than among non-student samples. As an explanation, we recognize that members of younger generations have more experience with Internet technology and its touchpoints than non-students and older generations (Bevan-Dye 2013; Obal and Kunz 2013), such that they have grown accustomed to entertaining elements of online touchpoints, which might lower the relevance of entertainment.

The year of publication reveals significant influences on the relationship between irritation and attitude. The effect of irritation on attitude toward online touchpoints mitigates over the years. As already mentioned, this trend might be associated with the risen internet experience of consumers. For example, most U.S. households spent up to 6 -10 hours on the internet in an average week in 2018 (Statista 2018). Since most online touchpoints were developed and introduced with the beginning of the Internet, consumers might be nowadays mostly familiar with their functions and characteristics, such as the intrusiveness of pop-up ads or dysfunctional links on search engine page results. As a result, irritating or intrusive elements of online touchpoints might be largely blind out by consumers.

Finally, study quality exhibits only one significant influence, on the relation between entertainment and attitude. The particularly rules out possible concerns regarding the inclusion of studies from lower ranked journals into the meta-analysis.

Implications

In general, the findings of this meta-analysis confirm and generate new insights into the effectiveness of advertising touchpoints. They implicate important theoretical and practical implications. While current meta-analyses focus on brand advertising elasticities (Sethuraman et al. 2011) or eWOM elasticities (You et al. 2015), this meta-analysis examines

the effectiveness of advertising touchpoints by using psychological mind-set metrics, which occupy a central weight in advertising research as well.

We adopt central aspects of the meta-analysis of Brown and Stayman (1992) by transferring them to the online context. By doing so, this study is the first meta-analysis assessing explicitly online touchpoints by investigating how central determinants influence consumers' attitude toward online touchpoints. The integrated effect sizes confirm and enhance existing research knowledge and show that informativeness, entertainment, irritation, and credibility are significant main drivers of the effectiveness of online touchpoints (e.g., Bracket and Carr 2001, Ducoffe 1996). Moreover, the meta-analytic findings add and expand new insights and knowledge about online touchpoints and their differences. Our meta-analysis is the first attempt of comparing and examining six major online touchpoints, instead of examining each one individually. Moderator analyses reveal valuable differences between online touchpoints, e.g., between websites and e-mail advertising (see Tab. 9), as those comparisons have been barely addressed in academic research. Similar accounts for country-specific comparisons between different continents, which reveal significant learnings for international advertising research.

Our meta-analysis has several implications for marketers. In general terms, marketers should not treat and design online touchpoints equally but instead must consider the identified differences. This fact will help marketers creating optimal experiences during the consumer decision journey, reducing marketing budget allocation problems, but also designing online touchpoints along with consumers' perceptions and expectations of each online touchpoint. For example, marketers should include more informational and entertaining elements, especially for e-mail newsletters. Newsletters via e-mail allow the integration of more entertaining elements such as videos and pictures and offer more space for additional information compared to other online touchpoints. However, the additional inclusion of

elements should not be too irritating or intrusive. Beyond, marketers should enhance the credibility of web display banners, which could be achieved by using them for targeting purposes. In this context, marketers should find ways to reduce irritation with web display banners, e.g., by choosing less intrusive formats or giving consumers more control about content and delivery of web display banners. Concerns about irritation could be neglected for websites, but websites should still guarantee great user experiences.

International companies also can use our findings to inform their international campaigns; informational and entertaining elements will be less relevant in Asian and African countries. Firms also should acknowledge that younger generations generally focus less on entertaining elements within online touchpoints than older generations.

Limitations and further research

Similar to other meta-analyses of advertising research, our study is subject to several limitations that require consideration before applying the findings. First, despite our exhaustive literature search, we may have overlooked some publications; we had to exclude some studies because they offered insufficient data concerning the effect sizes. Second, the moderator analyses are based on relatively small numbers of observations, which prevents intensive conclusions. Some moderator levels include only one observation, which limits the power of the moderator analyses and poses a threat to the validity of the reported results. Third, the Q statistic of the moderator analyses indicates the presence of additional moderators, which could explain some remaining heterogeneity. However, the small number of observations prevents us from including further moderators, like the type of research design (experiment vs. survey). Such considerations would be interesting for further research; integrating other moderator variables also could influence the results by partially masking significant differences. Fourth, the framework includes only constructs for which we had sufficient primary data. Thus, the framework includes the most studied determinants of

attitude, which we do not consider an exhaustive list. For example, we could not include the probably influential determinants of usefulness or privacy concerns, due to data availability issues. Fifth, following broader aggregations of constructs and moderators (e.g., country), reported results might suffer from precision. The high heterogeneity after moderator analyses might be attributed to broader aggregations of the dependent and independent variables as during the aggregation process variables with variations on precise construct definitions and operationalization were aggregated.

In terms of directions for continued research, the relatively low number of correlations for relationships with some online touchpoints (e.g., e-mail, search engine advertising) suggests the need for ongoing studies of effectiveness that use mind-set metrics, to help consolidate and expand knowledge about consumers' attitudes and their determinants. Unique studies might address less frequently studied determinants and their effects, including privacy concerns, usefulness, perceived risk, interactivity, and personalization. The discussion part reveals first potential explanations for differences among the online touchpoints. Future studies could adapt those approaches and could investigate more detailed the underlying factors of those differences. Other research might examine different online touchpoints separately to identify variations in consumers' attitudes due to different formats of the same touchpoints. For example, by investigating social media advertising in more detail, researchers could determine whether the effects of the determinants vary across branded accounts in social media, online banners in newsfeeds, and videos on YouTube. Another research avenue might apply the proposed framework to other media channels, such as mobile ones or more traditional forms, such as television or radio, then compare the results.

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Appendix

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Paper II: Determinants and Consequences of Consumers' Attitudes toward Mobile Advertising: A Meta-Analysis

Author: Henk Lütjens

Abstract

The application of mobile devices for advertising and communication purposes constitutes a relatively new field for marketers. Not surprisingly, marketers lack knowledge about the effectiveness of mobile advertising activities and campaigns, especially which determinant influences effectiveness. This research investigates central determinants and consequences of consumers' attitudes toward mobile advertising. This is done through the application of meta-analytic procedures to help marketers as well as academic research improving with in-depth knowledge about the effectiveness of mobile advertising. Analyses of pairwise relationships derived from 91 studies illustrate that consumers' attitudes toward mobile advertising reveal significant relationships with determinants (e.g., informativeness, credibility, or personalization) and consequences (e.g., purchase intention). Moderator analyses exhibit that different formats of mobile advertising moderate the effects between determinants and consequences with consumers' attitude. Derived results are discussed, and implications for theory and practice and future research are given.

Keywords

Meta-analysis, mobile advertising, consumers' attitude, determinants, consequences

1 Introduction

Simultaneously to the ongoing digitalization, the penetration rate of mobile and smartphones continues to rise constantly worldwide. In 2015, about 4.15 billion people owned a mobile or smartphone around the world, this number will increase to almost 5 billion people by 2020 (eMarketer 2016). Consumers' media habits are shifting towards mobile devices. Nowadays, U.S. adults spend on average about 3 hours and 35 minutes per day on mobile devices, probably surpassing the TV in 2019 as the medium, which attracts the most minutes (eMarkter 2018). Mobile devices are highly individualized and function as important personal communications tools for consumers (Grewal et al. 2016). New mobile technologies, e.g., access to the Internet or location-based services, enhance the relevance of mobile devices for consumers and marketers (Liu et al. 2012). Mobile devices enable marketers to send personalized location- and time-specific messages as well as interactive messages to strengthen consumer relationships (Özçam et al. 2015; Shankar and Balusbramanian 2009). It is not surprising that marketers increased their marketing investments in mobile advertising during the last years. In 2017, marketers around the world spent about 104 billion U.S. dollars and will spend approximately 186 billion U.S. dollars in 2020 for mobile advertising (Zenith 2018).

Despite these vast expenditures, 43% of 250 surveyed global marketers are not satisfied with their efforts of mobile advertising, according to CMO Council (2012). Only 14% are satisfied with their current mobile advertising activities, while 37% are still trying to evaluate the performance of mobile advertising. In addition, marketers are facing challenges with mobile advertising, such as the creation of qualitative and creative content for mobile advertising (AOL 2016) or that consumers do not convert on mobile (AdRoll 2017).

It becomes inevitable for marketers to gain a better and comprehensible understanding of the effectiveness of mobile advertising and which determinants influence the effectiveness

in positive or negative ways respectively (Bart et al. 2014; Grewal et al. 2016). With this knowledge, marketers can create and tailor their mobile advertising activities and campaigns more effectively around consumers.

Academic research assessing the effectiveness of mobile advertising with field data or observable metrics, e.g., click-through rate or sales, is underrepresented (Billore and Sadh 2015). For example, Bart et al. (2014) investigated, which products are best suited for mobile display advertising by focusing on consumers' product attitudes and purchase intentions using field-data. Andrews et al. (2015) measured the effects of contextual targeting on consumer response to mobile ads by measuring purchase rates through field experiments, while Molitor et al. (2019) examined how geographic proximity affects the effectiveness of location-based advertising using randomized field data.

In contrast, a substantial body of literature examines the effectiveness of mobile advertising and its determinants through consumer surveys and indirect measures, namely the concept of consumers' attitudes⁷ toward advertising. During the last years, research examined various consumer- and ad/message-specific determinants of attitudes toward mobile advertising and its formats such as short message services [SMS], in-app, mobile internet, or mobile location-based advertising. Further, they investigated the influence of attitude on other consumer responses such as brand attitude or acceptance of mobile advertising. However, due to different research approaches, e.g., chosen format of mobile advertising or type of sample, findings differ across studies. This circumstance leads to inconsistencies in strength of effects and level of significance. Additionally, examining these differences could help to explain variations across research studies and provide novel insights for marketers and research.

With this study, I aim to derive and structure empirical insights about the effectiveness of mobile advertising and its corresponding determinants or consequences. I integrate

⁷ Attitude(s) is used as a short form of *consumers' attitude(s)* in this article.

individual results across various studies through the conduction of a meta-analysis. Meta-analyses allow the structured integration and combination of statistical results across different research studies (Eisend 2017). I use attitude as the central measure of mobile advertising effectiveness, which is a widely accepted measure of advertising effectiveness and allows comparisons across studies (Alsamydai and Khasawneh 2013; Tutaj and Reijmersdal 2012).

This meta-analysis aggregates more than 91 different studies within the context of mobile advertising. My findings provide valuable insights and knowledge about the effectiveness of mobile advertising for marketers and academics for the following research questions: (1) What are central a) determinants and b) consequences of attitudes toward mobile advertising? (2) How do the a) determinants and b) consequences differ in their effects, respectively? (3) Which moderators are most effective in influencing the relationship between a) determinants and b) consequences with attitudes toward mobile advertising, respectively?

I contribute in several ways to the existing literature. On the one hand, this examination enhances the growing mobile advertising literature by providing the first meta-analysis within the context of mobile advertising by statistically integrating various research findings. Thereby, I go one step further than previous literature reviews and provide empirical findings of mobile advertising effectiveness. The findings provide interesting starting points for further research. On the other hand, the results help marketers to consider and address specific determinants to increase the effectiveness of their mobile advertising activities and campaigns.

I organize the remainder of this article as follows. The next section outlines attitudes toward mobile advertising. Then, I present in the underlying conceptual framework with central determinants and consequences of attitude as well as key moderators. Next, I delineate the process of data collection and applied analyses. After the presentation and discussion of

the results, I derive academic and practical implications. This article concludes with limitations and starting points for further research.

2 Attitude toward Mobile Advertising

The key variable of this study is attitude toward mobile advertising. In alignment with Fishbein and Ajzen (1975) and Mackenzie and Lutz (1989), the attitude toward mobile advertising is defined as an evaluation, tendency, or a learned predisposition to respond in a consistently favorable or unfavorable manner to general or specific types, forms, or ads of mobile advertising.

Mobile advertising is a subset of mobile marketing (Billore and Sadh 2015). I define mobile advertising as any advertisement that is communicated or delivered to individuals via mobile devices (Billore and Sadh 2015; Mathew and Dambal 2010). This definition includes all types and forms of mobile advertising such as SMS or MMS ads, Bluetooth advertising, advertising in mobile apps (in-app advertising), mobile game ads, mobile video ads, or internet advertising received via mobile devices (mobile Internet advertising) (Leek and Christodoulides 2009; Mobile Marketing Association 2018; Tsang et al. 2004). I consider mobile location-based advertising as a form of mobile advertising. In general, location-based advertising sends consumer ads based on their current location via any type of mobile advertising like SMS (Tsang et al. 2004). My definition does not cover attitudes toward mobile services like mobile payment or mobile shopping (Siau and Shen 2003) or attitudes toward accepting or using mobile advertising since they refer to behavioral intentions.

As mentioned above, I consider attitudes toward specific formats⁸ of mobile advertising as well; however, I aggregate them to higher levels (see Table 1). Thus, the

⁸ Format is used as a short form for *types and forms* in this article.

construct attitudes toward mobile advertising aggregates attitudes toward general and specific formats of mobile advertising within the framework.⁹

Table 1. Aggregation of attitudes toward mobile advertising

Aggregated construct	Formats of mobile advertising	Example disaggregated constructs
Attitudes toward mobile advertising	Mobile advertising in general	Attitude toward mobile/smartphone advertising/ads/advertisement (via mobile devices)
	SMS advertising	Attitude toward SMS(-based) advertising/ads
	In-app advertising	Attitude toward in-app advertising/advertisements/ ads, branded apps, application ads
	Location-based advertising	Attitude toward location-based advertising/ads
	Mobile Internet advertising	Attitude toward mobile search ads, mobile social network service advertising, text banner ads, wireless banner ads

Notes: SMS = short service message.

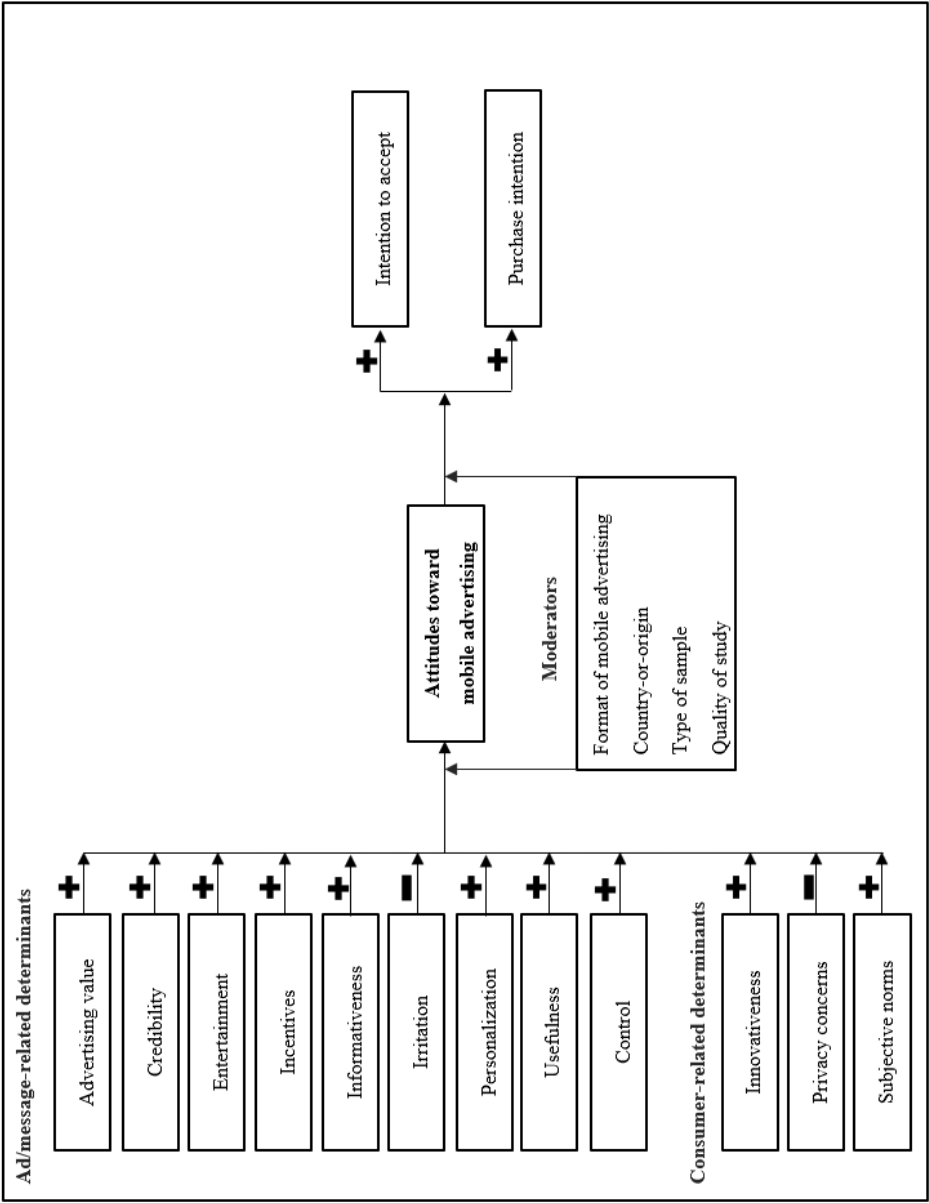
3 Conceptual Framework

The development of the conceptual framework adapts basic structures of the belief-attitude-intention-behavior model by Fishbein and Ajzen (1975). They argue that various belief factors about an object X determine the attitude toward this object X, while attitude further determines intentions with this object X and intentions cause specific behaviors. However, the relation between intentions and actual behavior will be neglected in the framework, since profound studies and data about consumers' actual behavior triggered by mobile advertising is scarce.

Figure 1 presents the conceptual framework of central determinants and consequences of attitudes toward mobile advertising, their expected effects as well as notable moderators derived from the 91 studies, which were identified through the search process. To be included within the framework, I formulated one criterion.

⁹ I did not find sufficient numbers of studies for other mobile advertising formats such as Bluetooth or MMS advertising.

Figure 1. Meta-analytic framework of central determinants and consequences of attitudes toward mobile advertising



I require constructs having at least ten or more than ten effect sizes with the central construct attitude within a mobile advertising context, similarly proposed by Palmatier et al. (2006). This criterion includes only the most frequently studied determinants as well as consequences and ensures more accurate results in the later meta-analytic analyses. The placement of each construct in the framework is driven by theory and the frequency of placement within the studies (Palmatier et al. 2006).

In reviewing the literature, I identified many constructs with related definitions but most have been labeled differently while having constructs with similar names but with varying operationalizations. Similar has been encountered by Palmatier et al. (2006). I formulated broader construct definitions to aggregate related and similar constructs (see Table 2). Despite higher heterogeneity in the aggregated effect sizes, the broader aggregation allows more encompassing generalizations of the results (Eisend 2017).

3.1 Determinants of Attitudes toward Mobile Advertising

I grouped the determinants into two broader categories. The development of the categories based on common characteristics of determinants and on existing classifications (e.g., Chowdhury et al. 2016; Jung 2009; Özçam et al. 2015).

The first category, titled *ad/message-related determinants*, comprises perceptions of ads or messages, which enable marketers to attract consumers and increase interactions with them (Jung 2009). Most constructs of this group originate from established theories and models like the uses-and-gratification theory (e.g., information or entertainment), the technology acceptance model (e.g., usefulness), or Ducoffe's (1995) model of ad value (e.g., ad value or irritation). In the end, I allocate advertising value, control, credibility, entertainment, incentives, informativeness, irritation, personalization, and usefulness to this category.

Table 2. Overview of central determinants and consequences

Construct	Description	Common aliases
Ad/message-related determinants		
Advertising value	Subjective evaluation of the perceived value of mobile advertising.	Ad/advertising value
Control	Perceptions based on external constraints (e.g., technology, resources, or external environment) to perform a particular behavior and ability to control mobile advertising, e.g., timing, frequency, or content.	Control (about mobile ads), interactivity/self-efficacy (with focus on active control), perceived behavioral control (focus on external constraints) (Consumer) Innovativeness, innovation
Credibility	Perceptions of mobile advertising as credible, trustworthy, or valid.	Credibility, trust, validity
Entertainment	Perceptions of mobile advertising as entertaining, exciting, enjoyable, fun to use, pleasing, or including entertaining elements.	Entertainment, enjoyment
Incentives	Perceptions of mobile advertising providing tangible or intangible rewards, benefits, or incentives (to agree to receive mobile advertising).	Incentives, monetary incentives, benefits offering
Informativeness	Perceptions of mobile advertising as informative and providing relevant and helpful information (about products or services).	Informativeness, being informative, information, message content
Irritation	Perceptions of mobile advertising as annoying, intrusive, invasive, confusing, or irritating.	(Non-) Irritation, intrusiveness, annoyance
Personalization	Perceptions that mobile advertising based on or customized on personal circumstances (e.g., preferences, needs, location, or demographics).	Personalization, customization
Usefulness	Perceptions of general benefits (e.g., utilitarian or functional) from mobile advertising, which enhance an individual's performances or to help achieve personal goals.	Usefulness, utility, perceived added value
Consumer-related determinants		
Innovativeness	Being more receptive and open to new ideas, products, or practices (within the context of mobile advertising).	(Consumer) Innovativeness, innovation
Privacy concerns	Anxiety or concerns of unauthorized misuse, disclosure, or dissemination of personal-related information, e.g., by companies or mobile ads.	(Information) Privacy concerns, privacy, attitude toward privacy
Subjective norms	Influence of behavior or thinking of close others (e.g., family, friends, or colleagues) on his or her conduct and how they change their conduct to conform to others' opinions or behaviors.	Subjective norms, social norms
Consequences		
Intention to accept	Willingness to accept, adopt, receive, or use mobile advertising.	(Behavioral) Intention/tendency to accept, adopt, receive or use mobile advertising, acceptance
Purchase intention	Intention to (re-) buy or the possibility of (re-) buying (the advertised products or services).	Purchase intention, consumer buyer decision, M-repurchase

* In regard to attitudes toward mobile advertising in general and its formats (e.g., attitude toward in-app advertising, attitude toward location-based advertising)

The second category, titled *consumer-related determinants*, involves personal, psychological, behavioral, and social characteristics, influences, or abilities that have an effect on consumers' mobile advertising attitudes (Jung 2009; Mirbagheri and Hejazinia 2010). Consumer-related determinants represent their involvement with mobile advertising and their self-assessment of capabilities of using mobile advertising. I group innovativeness, privacy concerns, and subjective norms into this category.

Advertising value. Overall, advertising value can be labeled as consumers' subjective perceived value of the relative worth of advertising and its activities (Ducoffe 1996; Liu et al. 2012). It serves as an indicator of consumer satisfaction (Ducoffe 1995). Perceptions of advertising value are generated through other constructs such as credibility, entertainment, informativeness, or irritation (Brackett and Carr 2001; Ducoffe 1996). For example, informative and helpful mobile ads lead to higher perceptions of ad value, which in turn has positive effects on attitudes toward mobile advertising (Xu et al. 2009). The framework assumes this causal relation as well.

Control. Control refers to consumers' perceptions based on external constraints (e.g., technology, resources, external environment) to perform a particular behavior or task (Noor et al. 2013). Further, it reflects the degree of having control about timing, frequency, and content of advertising (Özçam et al. 2015). Previous studies conclude that giving consumers more control options about mobile ads lead to favorable attitudes toward mobile advertising (Sharif 2017), which I expect to find as well.

Credibility. Credibility can be described as consumers' perception of advertising as credible and trustworthy, which is evaluated through ad content or claims (Liu et al. 2012; MacKenzie and Lutz 1989). Credibility is regarded as a central component within advertising, especially in insecure and risky situations, e.g., when information is insufficient (Yang et al. 2013). When consumers believe mobile formats are credible or trustworthy sources, they have

more favorable attitudes toward them (Drossos et al. 2013; Shaheen et al. 2017). I anticipate the positive effect of credibility on attitude within the framework.

Entertainment. Entertainment refers to the extent to which consumers perceive advertising as entertaining, enjoyable, fun to use, pleasing, or providing / creating escapism, relaxation, and positive emotionality (Ducoffe 1996; Tseng and Teng 2016). Entertaining messages or elements enable marketers to gain consumers' attention and increase interactivity and involvement with consumers (Lee 2015; Sharif 2017). Consumers form favorable attitudes toward mobile advertising formats, when they perceive them as entertaining or exciting (Martí-Parreño et al. 2013), which I also adapt for this study.

Incentives. In general, perceived incentives describe financial or non-financial rewards that benefit consumers, who agreed to receive mobile advertising (Tsang et al. 2004). Rewards are, e.g., mobile coupons, free data storage, or exclusive downloads (Gao and Zang 2016). Incentive-based mobile advertising creates value for consumers and thus, tend to influence attitudes toward mobile advertising in positive ways (Chowdhury et al. 2016; Huq et al. 2015). I adapt the positive effect of incentives on attitudes within the framework.

Informativeness. In general, informativeness refers to consumers' perceptions of advertising providing helpful and relevant information (Ducoffe 1996). Informative advertising increases consumers' understanding of products and services (Lee 2015) and raises consumers' satisfaction with advertising (Ducoffe 1996). If mobile advertising provides relevant or up-to-date information for consumers, they have more positive attitudes toward mobile advertising (Choi et al. 2008; Okazaki 2007). The framework includes this positive effect of informativeness on attitudes toward mobile advertising as well.

Irritation. Overall, irritation refers to consumers' perceptions that advertising employs techniques or comprises contents that annoy, offend, irritate, or manipulate (Ducoffe 1996; Liu et al. 2012). Causes of irritation could be, e.g., forms of disturbance, interrupting current

actions, information overload, or distracting consumers (Lee 2015; Xu 2006). Mobile ads, which contain irritating or intrusive elements, lead mostly to negative responses such as less favorable attitudes toward mobile advertising (Tsang et al. 2004; Okzaki 2004). I expect this relationship between irritation and attitude similarly within the framework.

Personalization. Personalization refers to consumers' perceptions of advertising being tailored or customized along with their preferences, demographics, needs, or cultural and geographical characteristics (Xu 2006). Personalized mobile advertising can strengthen the relationship with consumers, creating unique experiences and values for consumers (Feng et al. 2016, Lee et al. 2015), which in turn might lead to favorable attitudes toward these ads. Previous research (Lee et al. 2015; Shaheen et al. 2017) confirmed the positive effect of personalization on attitudes toward mobile advertising, which the framework includes as well.

Usefulness. The concept of usefulness of advertising describes the extent to which consumers perceive that using or receiving mobile advertising will benefit somehow their performances (Soroa-Koury and Yang 2010). Benefits are, e.g., functional or utilitarian benefits to consumers such as timely, personalized, or exclusive information or specific downloads (Moynihan et al. 2010). Consumers have more favorable attitudes toward mobile ads when they are perceived as containing useful benefits (Choi et al. 2008). Martí-Parreño et al. (2013) or Martínez-Ruiz et al. (2017) confirmed the significant positive effect of usefulness on mobile advertising, which I expect likewise.

As mentioned above, consumer-related determinants are consumers' innovativeness, subjective norms, and privacy concerns.

Innovativeness. Consumer innovativeness refers to the extent to which consumers perceive themselves as early adopters of and being more receptive to new technologies, services, or practices (Feng et al. 2016). High levels of consumers' innovativeness increase their likelihood of adopting new technologies or practices. Consumers having constant

exposures to relatively new mobile advertising technologies and practices are more likely to have favorable attitudes toward mobile advertising (Sharif 2017). Therefore, I expect the positive influence of consumers' innovativeness on attitudes toward mobile advertising as well.

Privacy concerns. In general, privacy concerns refer to consumers' anxiety related to personal information disclosure and dissemination through ads or companies (Lee 2016). New mobile technologies enable the tracking of personal and location-based information, which increase the invasion of consumers' privacy (Grewal et al. 2016; Limpf and Voorveld 2015). For example, privacy concerns are likely to rise when consumers receive too personalized mobile ads. Thus, privacy concerns have negative influences on attitudes toward mobile advertising (Lee 2015). I postulate a similar negative effect of privacy concerns as well.

Subjective norms. Overall, subjective or social norms describe how other people determine or influence someone's behavior (Martínez-Ruiz et al. 2017, Xu and Li 2014). In other words, subjective norms explain how consumers adjust their behavior or thinking to close people (e.g., friends, family, or colleagues) and what they will think or do (Izquierdo-Yusta et al. 2015). Thus, consumers might form favorable attitudes toward mobile advertising because of others' thinking or experiences. Sharif (2017) confirmed the positive effect of subjective norms on attitudes toward mobile advertising, which I propose within the framework as well.

3.2 Consequences of Attitudes toward Mobile Advertising

Intention to accept. Intention to accept comprises consumers' willingness to accept, adopt, receive, or use mobile advertising (Izquierdo-Yusta et al. 2015). If consumers have positive attitudes toward certain mobile ads, they are more likely to accept and interact with mobile ads in the future. Previous studies (e.g., Moynihan et al. 2010; Özçam et al. 2015)

showed positive effects of attitude on the acceptance of mobile advertising. I expect a similar relationship within the framework.

Purchase intention. Consumers' purchase intentions describe intended behaviors to (re-) buy or a possibility of (re-) buying products or services (Lee et al. 2017). They reflect certain degrees of future sales (Chang and Wildt 1994). Favorable advertising attitudes increase the probability of buying decisions. Xu et al. (2009) ascertained the positive effect of attitudes toward mobile advertising on purchase intentions, which the framework includes as well.

3.3 Moderators

I derived the moderators from mobile advertisings contexts (i.e., format of mobile advertising), research designs (i.e., country-of-origin and sample type), and the journal (i.e., quality of study) (see Table 3). The identified studies differ primarily along these dimensions and thus, could account for potential heterogeneity. The derivation of moderators from applied methods or source-related aspects is common for meta-analyses (Eisend 2017).

Format of mobile advertising. This moderator examines how different formats of mobile advertising influence the effects between the relevant constructs since Rodgers and Thorson (2000) state, that ad type or medium might cause different consumer responses. Except for Aydin and Karamehmet (2017), none of the identified studies compared different mobile advertising formats. Mobile devices are a relatively new medium for marketers to advertise. Nevertheless, due to the rapidly developing mobile technology, marketers can choose among newer (e.g., location-based or in-app advertising) and older formats of mobile advertising (e.g., SMS or Bluetooth advertising) (Gao and Zang 2016; Le and Nguyen 2014). The various formats differ in structural and technological characteristics. For example, SMS ads are independent of Internet technologies, while in-app or mobile Internet ads require Internet-related technologies. However, SMS ads lack containing pictures or animations,

while those can be easily integrated into in-app advertising concluding that entertainment might have greater relevance for in-app advertising.

Table 3. Overview of coded moderators

No.	Moderator	Description	Subgroups / Level
1	Format of mobile advertising	The type or form of mobile advertising. Coding decisions based on general references or underlying formats and specific ads of mobile advertising. Types like SMS ads referring to mobile location-based advertising are coded as location-based advertising. Few studies referred to SMS and MMS advertising, which are coded as SMS advertising.	SMS advertising (and MMS) In-app advertising (and branded apps) Location-based advertising Mobile Internet advertising
2	Country-of-origin	The country from which the data were collected. If the country is not indicated, the study was coded respectively to the residence of the main author (similar to Köhler et al. 2017). Countries were indicated as developed or developing countries based on the DAC List of ODA recipients.	Developed countries Developing countries
3	Sample type	The type of sample used for the data collection.	Non-students Students
4	Quality of study	The quality of the study is determined according to the Web of Science ranking (similar to Eisend et al. 2017).	High - Ranking in Web of Science index Low – No Ranking in Web of Science index

Notes: SMS = short message service

Beyond, location-based advertising needs constant access to consumers' actual position, indicating having control about this form might be more relevant compared to SMS or in-app advertising. In sum, this moderator involves four different mobile advertising formats, namely, SMS, in-app, location-based, and mobile Internet. Noteworthy for the later analyses, each format functions as a moderator level, which I compare to the other formats. Thereby, I aggregate the other formats to one level for the comparison. For example, I compare SMS advertising to non-SMS advertising formats (here: in-app, location-based, and mobile Internet advertising), while I compare in-app advertising with non-in-app-advertising (here: location-based, mobile Internet, and SMS advertising).

Country-of-origin. The identified studies were conducted in different countries across different continents. Relatively few studies explicitly assessed country-specific differences

(e.g., Haghirian and Madlberger 2006). Mobile devices are recently developed technologies, which are not present in the same magnitude across countries due to different technological developments, consumer behavior, purchasing power, and mobile penetration rates. These differences might occur due to the status of a country being developed or developing. Therefore, mobile advertising markets are different in these countries. As a result, consumers might have different experiences and attitudes toward mobile advertising. Based on the status of countries and considerations of identified studies (e.g., Sigurdsson et al. 2018), country-specific differences (developed vs. developing countries) might explain variations across effect sizes.

Sample type. Sample homogeneity might influence the extent of effect sizes. Compared to non-student samples, student samples tend to be more homogeneous. Since mobile devices are relatively new and upcoming technologies, researcher prefer younger student samples, which are more open to newer technologies (Choi et al. 2008). However, responses from students might vary less compared to non-student or panel samples. Some studies addressed these issues by explicitly surveying more heterogeneous samples such as panel data or randomly taken groups within cities. Due to different sample types, I expect that type of sample (students vs. non-students) explains some variance in effect sizes.

Quality of study. Several studies were published in journals that require lower quality standards for publication. The moderator quality of the study (high vs. low) might account for potential differences of effect sizes.

4 Method

4.1 Collection and Coding of Studies

In order to compile the database for the meta-analysis, I utilized various search strategies to identify published as well as unpublished studies as recommended by Eisend (2017). Due to translation barriers, I limited the search to studies published in English. The

search process did not have any time restrictions, thus, covering all publications up to September 2018. The exhaustive search process started by identifying general literature reviews within the context of mobile advertising and checking associated reference lists (e.g., Billore and Sath 2015; Grewal et al. 2016). To identify further relevant studies, I conducted a series of keyword searches in various electronic databases such as ABI/Inform, Business Source Premier, Google Scholar, PsycINFO, PSYINDEX, Science Direct and Web of Science. In addition, I screened the Social Science Research Network and ProQuest Dissertation and Theses databases to gather conference papers and dissertations. During these searches, I used different combinations and alternative terms with the construct “attitude”, aiming toward mobile advertising in general as well as its formats (e.g., “attitude toward mobile advertising”, “attitude toward SMS advertising”, “attitude toward mobile ads” or “attitude toward mobile internet advertising”). Then, I performed an issue-by-issue search of journals that turned out to be major sources of relevant studies and which have been searched by other meta-analyses in the advertising field (i.e., *Journal of Consumer Psychology*, *Journal of the Academy of Marketing Science*, *Psychology and Marketing*, *Journal of Consumer Research*, *Journal of Marketing*, *Journal of Marketing Research*, *Journal of Retailing*, *Marketing Science*, *Computers in Human Behavior*, *Journal of Advertising*, *Journal of Business Research*, *Journal of Interactive Advertising*, *Journal of Interactive Marketing*, *MIS Quarterly*, *International Journal of Advertising*, *Journal of Advertising Research*, *Journal of Electronic Commerce Research*, *Journal of Current Issues and Research in Advertising*, *Journal of Marketing Communications*, *Journal of Internet Commerce*, *Journal of Research in Interactive Marketing*, *Internet Research*, *Marketing Letters*, *Telematics and Informatics*, *Behavior and Information Technology*, *International Journal of Mobile Marketing and International Journal of Mobile Communications*). Once I identified relevant papers, I checked their reference lists to obtain further research articles. To consider the file-drawer

problem, as stated by Rosenthal (1979), I contacted academics within the field of mobile advertising via e-mail asking for their unpublished work. However, I did not obtain additional studies this way.

A study initially entered the meta-analytic database, when they assessed empirically general or format-specific attitudes toward mobile advertising. Further, I included studies when attitude appeared somehow in a relational context with one or more determinant or consequence, similarly done by Judge et al. (2001) or Kim and Peterson (2017). If no direct relational effect was postulated between attitude and one of its determinants or consequences, I still included them, if I could obtain relational effects through correlation matrices.

The effect size measure of this meta-analysis is the correlation coefficient, which is a common measure for meta-analyses (De Matos and Rossi 2008). Furthermore, they are easier to interpret and free of scale restrictions (Brown and Stayman 1992). Similar to Kirca et al. (2005), I included only relevant studies, when they explicitly report correlation matrices or standardized coefficients from simple linear regression models. I considered Spearman's correlation coefficients as well (e.g., van der Waldt et al. 2009). Spearman's rho is Pearson's r between ranks, which share the same sampling error variance (Hunter and Schmidt 2004).

However, I did not consider beta- or path-coefficients from multivariate models, e.g., multiple regressions analyses or structural equations models as metrics for effect sizes. They constitute partial correlation estimates, even after transforming them into effect sizes. Conclusively, they are not directly comparable with bivariate correlation coefficients and can decrease the accuracy of the research findings (Aloe 2014; Roth et al. 2018). When studies did not report correlation matrices, I requested missing matrices from the authors via e-mail. I removed those studies when I did not obtain the needed correlation matrices.

Further, I excluded studies, which measured attitude toward mobile marketing (e.g., Gao et al. 2013). Mobile marketing can also comprise services or tools of promotion or

customer support (Shankar and Balasubramanian 2009; Varnali and Toker 2010); however, they are not the focus of this study. In alignment with other meta-analyses (e.g., Eisend 2006), I omitted studies with results based on the same data sets. For example, I did not include studies twice, which were initially published as conference papers or dissertations and then published within a journal. Instead, I chose the version of the study, which provided more information (e.g., Xu 2006). However, some studies with the same samples investigated variables, which they did not test in the other study. In these few cases, I included both studies, but considered different variables in each study (e.g., Boateng et al. 2016; Okoe and Boateng 2015).¹⁰

Some of the included studies discuss results for more than one effect size for a particular relationship. In cases, where effect sizes based clearly on individual studies or samples (e.g., samples from different countries or male and female samples), I integrated them as independent effect sizes, similar to Pick and Eisend (2014). Few studies report multiple effect sizes for the same relationship for the same sample, assuming some degree of dependence among the effect sizes. To account for this dependence, Bijmolt and Pieters (2001) recommend utilizing multilevel modeling. However, this approach implies a sufficient number of studies with high effect sizes per sample to assure robust and stable results in the integration and moderator analyses (Eisend 2017). Within my database, no study provides an excessive number of effect sizes for the same relationship based on the same sample (maximum per sample per relationship = 2). Further, the average number of effect sizes per sample is only 1.06 (for the irritation-attitude relationship). Based on these preliminary considerations, multilevel modeling is not an adequate approach for analysis. Other approaches dealing with dependent effect sizes, e.g., reducing effect sizes to just one effect

¹⁰ For example, Boateng et al. (2016) and Okoe and Boateng (2015) share the same sample. Boateng et al. (2016) investigated the effects of irritation and innovativeness on attitude. However, I considered only the effect size between innovativeness and attitude from this study since I already derived the effect size between irritation and attitude from Okoe and Boateng (2015), which did not test innovativeness.

size by aggregating or averaging them, are not recommended due to the potential loss of information (Bijmolt and Pieters 2001).

Additionally, aggregating effect sizes focusing on two different formats of mobile advertising, is not appropriate. In this context, Bijmolt and Pieters (2001) state that the approach of treating each effect size as independent yields almost in the same robust and stable results as multilevel modeling. Approaches that weight multiple effect sizes by the number of effect sizes or samples perform worse. Based on the data structure and similarly done by Szymanski et al. (2007), I treated all effect sizes as independent effect sizes within the database and further analyses (Hedges et al. 2009).

In sum, I derived 412 effect sizes from 98 independent samples, reported in 91 published as well as unpublished studies conducted within the time frame from 2004 to 2018.¹¹ The data reflects more than two decades of academic research focusing on the effectiveness of mobile advertising by assessing determinants and consequences of attitudes toward mobile advertising. I and one independent coder, who was not familiar with the study objectives (Eisend 2014), coded independently the studies regarding relevant information needed for the integration and moderator analyses (e.g., total sample size, reliability coefficient, format of mobile advertising). To assess intercoder reliability, I deployed Cohen's kappa, which exceeded 0,85 in each relevant category, indicating very good results. I resolved any occurred inconsistencies through discussion with the other coder, respectively.

4.2 Integration and Analysis of Effect Sizes

The meta-analytic integration analysis for each pairwise relationship orientates among common guidelines and practices in previous meta-analyses (e.g., Lipsey and Wilson 2001). The integration process of the effect sizes adopts a random effects model, which assumes that the effect sizes vary across the research studies due to sampling error or differences in the

¹¹ A list of all studies used for the meta-analysis can be found in Appendix.

population of effect sizes. A random perspective is more realistic and allows even generalizations to a population of effect sizes, which might not be observed or could not be integrated within the meta-analysis (Borenstein et al. 2009). Further, I adopt the restricted maximum likelihood estimation, which tends to be unbiased and more efficient than other estimators (Veroniki et al. 2016; Viechtbauer 2005).

I corrected each effect size for measurement error by dividing the correlation coefficients by the product of the square root of the reliability coefficients of the dependent and independent variable (Hunter and Schmidt 2004). The primary reliability coefficient used in this context is Cronbach's Alpha since most of the research studies reported it. When they did not report Cronbach's Alpha, I used the composite reliability as a substitute since minor differences between these two are insignificant when correcting for measurement error (Peterson and Kim 2013). In cases studies did not report both reliability estimates or used single-item measures, I formed the mean coefficient of Cronbach's Alpha for that construct across all studies and used it as a substitute, similar to Purnawirawan et al. (2015).

However, due to the combination of high correlation coefficients and low-reliability coefficients, effect sizes can become larger than 1, which is one potential disadvantage of the correction procedure for the measurement error (Rosenthal 1991). In these relatively few cases, I excluded effect sizes, which turned out to be larger than 1 after correcting for measurement error, for the following integration and moderator analyses.¹²

After correction, I transformed each reliability-corrected correlation coefficient into Fisher's z-coefficients. They have the advantage of being approximately normally distributed. Their corresponding variance depends only on the sample size and not on the effect size itself (Geyskens et al. 2009). In the next step, I integrated the z-coefficients and weighted them by the inverse of their variance to account for varying samples sizes (sampling error). After

¹² Originally, I derived 422 effect sizes. Due to the elimination of effect sizes larger than 1, I reduced the final number of effect sizes to 412, which served as the basis for the analyses.

computing the integrated mean values and the corresponding 95% confidence intervals for each pairwise relationship of Fisher's z-coefficients, I transformed the results back into correlation coefficients for reporting standards (Lipsey and Wilson 2001). If the 95% confidence interval of the effect size includes 0, the effect size is not significant (Eisend 2017). I provide the integrated mean effect sizes in three stages, based on (1) the observed correlations, (2) correlations weighted by the inverse of their variance (sampling error) (uncorrected effect sizes), and (3) correlations corrected for measurement and sampling error (corrected effect sizes).

Furthermore, I reckoned the fail-safe N to test for the possibility of publication bias. This measure estimates the number of non-significant studies that would be needed to turn the integrated mean effect sizes into a non-significant value (Rosenthal 1979).

Lastly, I conducted two homogeneity tests to assess whether the variation among the effect sizes is only due to sampling error. If the variance among the effect sizes is too large to be explained only by sampling error, then heterogeneity exists, and tests of moderators are appropriate (Eisend 2017). First, I started with the homogeneity statistic Q, which follows a chi-square distribution with k (number of studies) minus 1 degree of freedom. A significant Q statistic assumes that moderator variables can explain variability among the effect sizes. Beyond, I conducted the I^2 test, which quantifies the percentage of total variation across effect studies due to heterogeneity. I^2 is computed with the formula $100\% \times (Q - df)/Q$, where Q is the value of the Q statistic and df represents the degrees of freedom. Hence, I^2 lies between 0% and 100%. Higher percentages allude greater heterogeneity among studies (Higgins et al. 2003). I only performed moderator analyses for those pairwise relationships when the Q statistics are significant, I^2 is high, and when the results of the integration process indicate significant relations.

4.3 Moderator Analysis

In order to test the potential influences of moderator variables, the obtained effect sizes (z-coefficients corrected for measurement and sampling error) function as dependent variables, while the dummy-coded moderators are the explanatory variables. Due to relatively small numbers of effect sizes for most pairwise relationships, I applied subgroup analyses, where univariate test procedures test the influence of the moderator. Subgroup analyses allow the testing of one moderator at a time. If the influence of a moderator is significant, then the variation within the subgroup is smaller compared to the variation of the overall sample of effect sizes (Eisend 2017). I formed subgroups based on the proposed moderator levels. I conducted single meta-analyses for each subgroup. Then, I tested whether the estimates of two compared subgroups differ significantly with a Wald-type test. Thereby, I allowed the heterogeneity to be different in each subgroup following a random-effect model. Due to the relatively few observations and high between-study variance for each pairwise relationship, I adopted the restricted maximum likelihood estimation for single meta-analyses for each subgroup as well.

For almost every pairwise relationship, I attained at least two observations per moderator level. However, e.g., I only have one observation for the relation of credibility and attitude for location-based advertising compared to non-location-based advertising, which has 30 observations. Although the result of the subgroup analyses is significant, the single observation could limit the power of the subgroup analysis and threaten validity. However, I follow Palmatier et al. (2006) and still performed subgroup analyses in cases of just one observation for reasons of completeness and comparability.

I used the *metafor* package in R for the integration and moderator analyses of each pairwise relationship (Viechtbauer 2010).

5 Results

5.1 Meta-Analytic Correlations

Regarding the first and second research objective, Table 4 presents the mean effect sizes for each pairwise relationship of the meta-analytic integration process. Cohen (1988) classifies effect sizes with $r = .1$ as small, $r = .3$ as medium, and $r = .5$ as large.

Of all ad/message-related determinants, advertising value ($r = .84$) has the largest positive influence on attitudes toward mobile advertising, followed by entertainment ($r = .76$), informativeness ($r = .75$), and usefulness ($r = .73$). Credibility has still a large positive influence ($r = .69$), but lower compared to the other determinants. Personalization ($r = .58$) has a large positive effect on attitudes, followed by incentives ($r = .56$) with a large positive effect as well. In contrast, control ($r = .31$) has a medium positive effect on attitudes toward mobile advertising. Irritation has a medium negative effect on attitudes ($r = -.48$).

Among the consumer-related determinants, subjective norms ($r = .81$) have the largest effect on attitudes toward mobile advertising. Innovativeness ($r = .53$) has a large effect as well. Consumers' privacy concerns ($r = -.17$) have a small negative effect on attitudes toward mobile advertising.

Attitudes toward mobile advertising have a large positive effect on intentions to accept mobile advertising ($r = .79$), as well as a large positive effect on purchase intentions ($r = .66$).

In sum, almost all determinants have a significant influence on attitudes toward mobile advertising since none of the corresponding confidence intervals include 0. However, consumers' privacy concerns have no significant effect on attitude as the confidence interval includes 0. Additionally, the high file drawer N is acceptable for each mean effect size. For example, 35,437 additional studies with non-significant effect sizes would be needed to turn the mean effect size of the relationship between personalization and attitude into non-significance. Further, the results reveal a high degree of heterogeneity for each relationship.

Table 4. Results of the effect size integration of central determinants and consequences of attitudes toward mobile advertising

Relationship	k	O	N	Min	Max.	Simple average r	Sample- weighed adjusted r	Sample- weighed reliability adjusted average r	S. E.	Sig.	LCI	UCI	Q-test	Sig.	I ²	File drawer N (Rosenthal)
Ad/message-related determinants																
Advertising value	16	16	6,698	.36	.86	.63	.65	.84	.18	.000	.7	.91	3259.13	.000	99%	54,713
Control	16	17	5,440	-.38	.63	.20	.21	.31	.12	.009	.08	.51	1288.91	.000	99%	2,897
Credibility	58	59	20,280	.22	.83	.52	.54	.69	.05	.000	.64	.73	1979.86	.000	98%	278,914
Entertainment	56	58	19,291	.24	.9	.61	.63	.76	.05	.000	.71	.8	2693.86	.000	98%	347,704
Incentives	11	11	3,882	.08	.74	.41	.43	.56	.14	.000	.34	.72	696.92	.000	99%	5,813
Informativeness	57	60	20,009	.2	.85	.59	.61	.75	.05	.000	.71	.79	2471.42	.000	98%	377,850
Irritation	63	67	21,340	-.71	.55	-.35	-.37	-.48	.06	.000	-.56	-.40	4046.54	.000	98%	126,569
Personalization	27	30	7,718	-.04	.73	.45	.46	.58	.06	.000	.49	.66	762.9	.000	97%	35,437
Usefulness	10	11	3,193	.19	.88	.53	.58	.73	.19	.000	.51	.86	1049.71	.000	99%	11,132
Consumer-related determinants																
Innovativeness	9	10	3,270	.04	.77	.35	.38	.53	.17	.000	.25	.72	695.58	.000	99%	3,079
Privacy concerns	11	13	3,090	-.52	.47	-.14	-.14	-.17	.11	.11	-.36	.04	438.89	.000	97%	253
Subjective norms	10	10	3096	.32	.88	.62	.66	.81	.19	.000	.64	.9	912.87	.000	99%	12,958
Consequences																
Intention to accept	32	33	9,599	-.28	.87	.56	.61	.79	.13	.000	.67	.87	4657.91	.000	99%	121,417
Purchase intention	17	17	6,187	.06	.71	.53	.55	.66	.08	.000	.56	.73	370.48	.000	97%	22,299

Notes: k = number of independent samples, O = number of effect sizes, N = total sample size of all effect sizes, Min. = minimum, Max. = maximum S.E. = standard error, Sig. = significance, LCI = lower confidence interval, UCI = upper confidence interval, Q-test = homogeneity test, I² = homogeneity test, File drawer N = number of studies averaging null results that would be needed to reduce results to a trivial size.

The Q statistic is significant for all determinants and consequences. The lowest I^2 is equal to 97%, indicating high heterogeneity among the effect sizes.

5.2 Subgroup Analyses

Table 5 presents the results of the subgroup analyses of the moderator format of mobile advertising.¹³ Noteworthy for this moderator, I excluded studies which did not explicitly focus on one of the four formats of mobile advertising, e.g., when they assessed attitudes toward mobile advertising in general.

Concerning ad/message-related determinants, the effect of control is significantly weaker for SMS advertising ($r = -.03$) compared to the other formats ($r = .6$, $p < .1$). In addition, the effect of control on attitudes toward mobile advertising is significantly higher for location-based advertising ($r = .84$) compared to other formats of mobile advertising ($r = .15$, $p < .05$). The effect of credibility on attitudes toward mobile advertising is significantly higher for location-based advertising ($r = .96$) compared to other formats of mobile advertising ($r = .69$, $p < .01$). The effect of entertainment on attitude is significantly greater for location-based advertising ($r = .88$) compared to non-location-based advertising ($r = .77$, $p < .01$). Further, entertainment has a significantly greater effect on attitude for non-mobile internet advertising ($r = .8$) than mobile internet advertising ($r = .69$, $p < .01$). Irritation is less relevant for SMS advertising compared to the other formats of mobile advertising. The effect of irritation is significantly less negative for SMS advertising ($r = -.51$) than for other formats ($r = -.69$, $p < .05$). Beyond, irritation has higher relevance for in-app advertising than for other formats. The effect of irritation on attitude is significantly more negative for in-app advertising ($r = -.86$) than for non-in-app advertising ($r = -.54$, $p < .01$). Beyond, personalization is more relevant for in-app advertising. The effect of personalization on attitudes is significantly greater for in-app advertising ($r = .86$) than the other formats ($r = .61$, $p < .05$).

¹³ I did not perform subgroup analyses for privacy concerns since the relation is not significant with attitude.

Table 5. Results of the subgroup analyses for the format of mobile advertising

Moderated relationships	Total number of raw effects	SMS advertising		Location-based advertising		In-app advertising		Mobile Internet advertising	
		SMS	Non-SMS	LBA	Non-LBA	In-app	Non-in-app	MIA	Non-MIA
Ad/Message-related determinants									
Advertising value → Attitude	9	.89 (6)	.9 (3)	.89 (1)	.89 (8)	-	-	.9 (2)	.89 (7)
Control → Attitude	8	-.03 (3)**	.6 (5)	.84 (2)***	.15 (6)	.16 (2)	.47 (6)	.6 (1)	.37 (7)
Credibility → Attitude	31	.68 (22)	.79 (9)	.96 (1)***	.69 (30)	.77 (6)	.70 (25)	.66 (2)	.71 (29)
Entertainment → Attitude	31	.77 (19)	.83 (12)	.88 (6)***	.77 (25)	.82 (3)	.79 (28)	.69 (3)***	.8 (28)
Incentives → Attitude	-	-	-	-	-	-	-	-	-
Informativeness → Attitude	34	.75 (20)	.79 (14)	.79 (6)	.77 (28)	.81 (5)	.76 (29)	.77 (3)	.77 (31)
Irritation → Attitude	43	-.51 (26)**	-.69 (17)	-.62 (9)	-.58 (34)	-.86 (4)***	-.54 (39)	-.59 (4)	-.59 (39)
Personalization → Attitude	15	.65 (7)	.66 (8)	.56 (6)	.71 (9)	.86 (2)**	.61 (13)	-	-
Usefulness → Attitude	4	.63 (2)	.56 (2)	.56 (2)	.63 (2)	-	-	-	-
Consumer-related determinants									
Innovativeness → Attitude	5	.29 (2)	.44 (3)	.6 (2)***	.21 (3)	-	-	.05 (1)***	.46 (4)
Privacy concerns → Attitude	9	-	-	-	-	-	-	-	-
Subjective norms → Attitude	4	.75 (2)	.79 (2)	.91 (1)**	.69 (3)	.54 (1)	.82 (3)	-	-
Consequences									
Attitude → Intention to accept	16	.54 (11)**	.85 (5)	.89 (3)**	.6 (13)	.68 (15)	.52 (1)	.93 (1)***	.64 (15)
Attitude → Purchase intention	8	.61 (4)	.52 (4)	.59 (1)	.56 (7)	.39 (2)***	.62 (6)	.67 (1)**	.55 (7)

*** $p < .01$; ** $p < .05$; * $p < .1$

Notes: The cell entries show the sample weighed reliability adjusted average effect sizes for each moderator level, with the total number of effect sizes in parenthesis. I conducted single meta-regressions for each moderator level when at least four or more than four raw effects were available to ensure the a priori probability of finding at least two effects for each moderator level. When the number of effects for one moderator level is less than one, I did not perform subgroup analyses (indicated by a dash). SMS = short message service, LBA = location-based advertising, MIA = mobile internet advertising

Referring to consumer-related determinants, consumers' innovativeness is more relevant for location-based advertising. The effect of innovativeness is significantly greater for location-based advertising ($r = .6$) than for non-location-based advertising ($r = .21$, $p < .01$). Further, the results reveal that the influence of innovativeness on attitudes is significantly weaker for mobile internet advertising ($r = .05$) than for the other formats ($r = .46$, $p < .01$). Lastly, the effect of subjective norms on attitudes toward mobile advertising is significantly larger for location-based advertising ($r = .91$) compared to non-location-based advertising ($r = .69$, $p < .05$).

Regarding the consequences, the effect of attitude on intention to accept mobile advertising is for SMS advertising less important. The effect on intention to accept is significantly lower for SMS advertising ($r = .54$) compared to non-SMS advertising ($r = .85$, $p < .05$). In contrast, effect of attitude on intention is significantly higher for location-based advertising ($r = .89$) than for non-location-based advertising ($r = .6$, $p < .05$). Lastly, the mean effect size between attitude and intention to accept is significantly weaker for non-mobile Internet advertising ($r = .64$) compared to mobile Internet advertising ($r = .93$, $p < .01$). Beyond, the effect of attitudes toward mobile advertising on purchase intentions is significantly lower for in-app advertising ($r = .39$) than for non-in-app advertising ($r = .62$, $p < .01$). Similar, the effect of attitudes on purchase intentions is significantly greater for mobile internet advertising ($r = .67$) than for the other formats ($r = .55$, $p < .05$).

Table 6 presents the findings of the subgroup analyses for country-of-origin, type of sample, and quality of study. In contrast to the moderator format of mobile advertising, I included studies assessing attitudes toward mobile advertising in general. Irritation has a significant more negative effect on attitudes toward mobile advertising in developed countries ($r = -.55$) than in developing countries ($r = -.42$, $p < .1$). The relation between incentives and

Table 6. Results of the subgroup analyses

Moderated relationships	Total number of raw effects	Country-of-origin		Type of sample		Quality of study	
		Developed	Developing	Student	Non-student	High	Low
Ad/Message-related determinants							
Advertising value → Attitude	16	.81 (9)	.86 (7)	.86 (10)	.78 (6)	.85 (8)	.82 (8)
Control → Attitude	17	.29 (9)	.33 (8)	.4 (5)	.27 (12)	.18 (9)	.44 (8)
Credibility → Attitude	59	.72 (19)	.67 (40)	.71 (24)	.67 (35)	.67 (19)	.69 (40)
Entertainment → Attitude	58	.79 (27)	.73 (31)	.77 (25)	.75 (33)	.79 (22)	.73 (36)
Incentives → Attitude	11	.66 (3)	.52 (8)	.36 (5)*	.69 (6)	.35 (3)**	.63 (8)
Informativeness → Attitude	60	.78 (28)	.73 (32)	.72 (24)	.76 (36)	.76 (22)	.75 (38)
Irritation → Attitude	67	-.55 (30)*	-.42 (37)	-.56 (29)*	-.41 (38)	-.55 (27)	-.43 (40)
Personalization → Attitude	30	.61 (12)	.57 (18)	.59 (13)	.57 (17)	.59 (12)	.57 (18)
Usefulness → Attitude	11	.84 (5)	.6 (6)	.76 (2)	.72 (9)	.8 (5)	.66 (6)
Consumer-related determinants							
Innovativeness → Attitude	10	.59 (3)	.5 (7)	.51 (3)	.53 (7)	.72 (3)	.42 (7)
Privacy concerns → Attitude	13	-	-	-	-	-	-
Subjective norms → Attitude	10	.89 (4)	.74 (6)	.82 (3)	.81 (7)	.89 (4)	.73 (6)
Consequences							
Attitude → Intention to accept	33	.81 (19)	.76 (14)	.57 (15)***	.89 (18)	.7 (13)	0.83 (20)
Attitude → Purchase intention	17	.66 (9)	.65 (8)	.59 (7)	.69 (10)	.65 (8)	.66 (9)

*** $p < .01$; ** $p < .05$; * $p < .1$

Notes: The cell entries show the sample weighted reliability adjusted average effect sizes for each moderator level with the total number of effects in parenthesis. I conducted single meta-regressions for each moderator level when at least four or more raw effects were available to ensure the a priori probability of finding at least two effects for each moderator level.

attitude is significantly weaker for student samples ($r = .36$) compared to non-student samples ($r = .69, p < .1$). In addition, the effect of irritation on attitude is significantly more negative ($r = -.56$) for student than for non-student samples ($r = -.41, p < .1$). Lastly, the effect of attitudes toward mobile advertising on intention to accept is significantly weaker for student ($r = .57$) than for non-student samples ($r = .89, p < .01$). The influence of incentives on attitudes is significantly lower within high-quality studies ($r = .35$) compared to studies of low quality ($r = .63, p < .05$).

6 Discussion

The meta-analysis provides a first statistical integration of central determinants and consequences with attitude towards mobile advertising. My results partly quantify previous literature reviews (e.g., De Silva and Yan 2017) and generate new insights and generalizations about the effectiveness of mobile advertising through the application of moderators. In total, the results based on 412 effect sizes from 98 independent samples within 91 studies.

Regarding my first and second research question, advertising value has the largest effect among all other determinants. This observation might be because consumers usually receive mobile ads in their immediate vicinity. Consumers might expect extraordinary value from mobile ads, which consider unique features of mobile devices such as localization or accessing information anytime (Varnali and Toker 2010). As direct causes of advertising value (Ducoffe 1996), entertainment and informativeness have high effects on attitudes. Both determinants are rooted in the uses-and-gratification theory, meaning consumers generally seek media for entertaining and informative needs. This theory applies for mobile devices and advertising as well (Liu et al. 2012). Usefulness is closely related to the concept of advertising value (Ducoffe 1995), having a large effect on attitude. Based on mobile devices' ubiquity, consumers might expect useful mobile ads based on consumers' situational contexts, such as providing exclusive and timely information or discounts of nearby stores (Martí-Parreño et al.

2013). Credibility has a smaller positive effect on attitude compared to other message-related determinants; nevertheless, consumers might still expect mobile advertising and claims to be credible and trustworthy. Further, personalization has a large effect. Distinct from other advertising formats, mobile devices are highly individualized (Lee 2017), thus allowing more tailored advertising based on consumers' preferences, demographics, or localization. Conclusively, consumers might perceive personalized mobile advertising as more relevant and attractive than other formats (Feng et al. 2016; Xu 2006). Incentives have a smaller effect on attitudes than personalization. As stated by Bhave et al. (2013), consumers perceive incentives offered via mobile advertising as useful and appropriate compensations for being disturbed while using their mobile devices or giving permission to receive mobile ads (Billore and Sadh 2015). Control about mobile ads has the smallest positive effect of all determinants. This finding is surprising since Tucker (2014) showed in a social media context that giving consumers more control enhances the effectiveness of ads significantly. Consumers might take it for granted that they will not receive most mobile ads without permission since marketers need consumers' consent for sending most mobile ads like SMS-based ads. Nevertheless, control still has a positive effect, concluding that consumers seek to control mobile ads and opt-in conditions to certain degrees, after giving consent (Bamba and Barnes 2007). Irritation has a medium negative effect on attitudes toward mobile advertising. Edwards et al. (2002) found that when ads provide value, consumers perceive them as less irritating. When mobile advertising generates value through location-based, timely, and exclusive information, irritation might have less relevance for consumers. If consumers previously gave their consent to receive mobile ads, they might find ads interrupting current activities on mobile devices less irritating since they are more aware of them (Tsang et al. 2004).

Subjective norms have the largest effect of the consumer-related determinants. Consumers might adjust their norms and thinking about mobile devices and advertising to enhance their social status and social interactions with their peer groups (Jung 2009). Innovativeness has a weaker effect. Mobile advertising formats are relatively new, developing technologies compared to traditional or online advertising (Grewal et al. 2016). Due to the novelty of mobile advertising formats, consumers might be more receptive and open to trying out innovative mobile advertising technologies, such as location-based ads.

Surprisingly, consumers' privacy concerns have no significant effect on attitudes. This result might be explained with the regulations and laws in most countries, which state that marketers usually need consumers' permission before sending mobile ads (Dix et al. 2017). Consumers might thus not expect to receive unsolicited ads, which invade their privacy. Further, the effect is close to being significant (see Table 4). I identified negative as well as positive estimates for the effect of privacy concerns on attitude. However, due to limited precise information within the studies, I aggregated estimates of both directions, which might explain the closely non-significant effect.

With reference to the two consequences, when consumers form positive attitudes toward mobile advertising or its formats, they are more likely to accept them in the future. Although the effect of attitude on purchase intention is lower compared to the intention to accept, attitude still plays a significant role for consumers when planning to purchase advertised products or brand. Attitudes toward mobile advertising have strong effects on consumers' intention to accept mobile advertising and purchase intentions. The results confirm previous studies, which highlight the relevance of attitudes as an important mediator on further consumer responses (MacKenzie and Lutz 1989).

Referring to the third research question, I tested the format of mobile advertising, country-of-origin, type of sample, and quality of study to explain possible variations among

the effect sizes. First, I found significant differences in the format of mobile advertising. Giving consumers more control of mobile advertising is more relevant for location-based advertising than for the other. Usually, location-based advertising requires consumers' consent, assuming that consumers might expect in return to have more control about location-based ads since mobile devices are constantly at hand of consumers. Consumers do not wish to receive constantly interrupting location-based ads when on the move (Bhave et al. 2013; Schade et al. 2018). The slightly negative effect of control on attitudes for SMS advertising indicates that control has no relevance in the context of SMS advertising. According to Merisavo et al. (2007), consumers might take it for granted that they do not receive SMS ads from marketers without prior permission. Additionally, sending and receiving SMS starts to decline in many countries (eMarketer 2015). This decline might also explain the slightly negative effect of control for SMS advertising since general usage is decreasing and no control is needed for those ads anymore.

The effect of credibility on attitude is significantly stronger for location-based advertising compared to the other formats. Research indicates that ad-congruency (when contents of ads are congruent within the context they are placed in) enhances to certain degrees effects on ad credibility (Kim and Choi 2012). Similar might account for locational congruity of location-based ads, which leads to positive evaluations (Lee et al. 2015), and thus, might lead to higher perceptions of credibility as well. In order to achieve locational congruity, location-based information or product offers need to match consumers' current location.

The effect of entertainment on attitude is significantly higher for location-based advertising. Previous studies note that entertainment is one main driver of using new technologies (e.g., Bruner and Kumar 2005; Ha and Stoel 2009). As location-based advertising constitutes a novel form of advertising, consumers might perceive location-based

ads as more entertaining and exciting compared to other formats of mobile advertising (Ho 2012).

The novelty of location-based advertising could also explain the lower relevance of entertainment for mobile Internet advertising. Mobile devices enable consumers to access the Internet anytime anywhere; however, receiving Internet ads on mobile devices might not constitute novel approaches as consumers are might already familiar with most Internet ads.

Irritation is less relevant for SMS advertising compared to other formats of mobile advertising. The results are consistent with the results of Aydin and Karamehmet (2017). SMS advertising is one of the earliest formats of mobile advertising containing simply short text elements without any irritating animations or pictures. Although SMS ads might interrupt current activities on mobile devices, consumers can ignore those ads easier by opening and reading them at later points (Billore and Sath 2015). This possibility might not directly account for in-app advertising. The results reveal that the effect of irritation on attitude is significantly higher for in-app advertising compared to the other formats. In general, in-app ads share common characteristics with online banner on websites and contain distracting multimedia elements such as animations or pop-up banner (Ghose and Han 2014). As stated by Xu et al. (2009), mobile formats containing multimedia are perceived as more irritating than formats without multimedia elements. In-app ads usually interrupt current activities within apps and trying to close those ads can accidentally lead to opening them due to smaller screens of mobile devices. This circumstance might enhance the intrusive and irritating character of in-app advertising (Bhave et al. 2013).

The results reveal that personalization has higher relevance for in-app advertising compared non-in-app advertising. Like online banner, in-app ads are mainly used to create awareness (Jian and Yazdanifard 2015), assuming that the contents of in-app advertising are mostly superficial. Bleier and Eisenbeiss (2015) constituted that personalized ads at early

information stages of the purchase decision process increase the effectiveness of ads. In alignment with the previous findings, Bhawe et al. (2013) stated that consumers even expect in-app advertising being more customized and personalized.

Research describes location-based advertising as an innovative way of mobile advertising (Limpf and Voorveld 2015). The novel mobile technology might address consumers' personality trait of trying new practices and virtually services, explaining the high relevance of innovativeness for location-based advertising. This explanation might not hold for mobile Internet advertising since consumers are confronted with Internet advertising almost daily. They are might getting used to their design and functions and do not address consumers' innovativeness anymore.

The influence of subjective norms on attitudes is larger for location-based advertising than for the others. Nowadays, marketers use location-based data for targeting purposes, location-based offers or customer experience and personalization (Factual 2018), creating value for consumers. When seeing close others benefiting from location-based advertising, consumers might adopt their thinking and actions about location-based advertising.

The effect of attitude on the intention to accept mobile ads is significantly less relevant for SMS advertising than for other formats. As already mentioned, consumers' general usage of SMS is continuously declining, since newer formats of communications are rising, such as messenger apps (eMarketer 2015). Consequently, consumers are less willing to accept or use SMS advertising, although they might have positive attitudes toward them. In this context, the effect of attitude on the intention to accept is larger for mobile Internet ads. Most consumers are familiar with the functionality and purposes of general Internet advertising, which might increase their intention to accept them on mobile devices. Additionally, the effect of attitude on the intention to accept mobile advertising is higher for location-based advertising compared to non-location-based advertising. As stated by Banerjee and Dholakia (2008)

consumers are more willing to accept or respond to location-based advertising, when ads are perceived as useful and received in public locations, so that potential discounts of location-based ads can be immediately utilized.

The effect of attitude on purchase intention is significantly weaker for in-app advertising compared to other formats. As mentioned earlier, in-app advertising mostly constitutes first contact points to create awareness for certain products or services (Jian and Yazdanifard 2015), which might not lead consumers directly to purchase products or services. Additionally, the intrusive character (e.g., animation or pop-ups) of in-app advertising might reduce consumers' purchase intentions, since consumers are highly involved when using apps and ads interrupting their activities lead to negative responses toward them (Bhave et al. 2013). In contrast, the effect of attitude on purchase intentions is higher for mobile Internet advertising. Online shopping is one main mobile Internet activity of consumers (Kaspersky Lab 2018). Additional mobile Internet ads might support these activities and in turn, increase their purchase intentions.

Methodological differences revealed that the effect of irritation is more negative in developed countries compared to developing countries. Mobile penetration rates of most developing countries are lower compared to developed countries (Pew Research Center 2018) assuming mobile advertising markets in developing countries might not be highly developed as well. Thus, consumers of developing countries might not be confronted with irritating or intrusive mobile ads in the same ways compared to consumers of developed countries with highly developed mobile advertising markets.

The effect of incentives on attitudes toward mobile advertising is significantly higher for non-student samples compared to student samples. Kumar and Lim (2008) state that older generations (such as baby boomers) use mobile devices more for functional and utilitarian purposes, while younger generations (such as generation Y) are more attached to mobile

devices due to emotional benefits and social communication. In regard, Kumar and Lim (2008) show that economic value of mobile services has higher relevance for baby boomers than for generation Y, which might also explain that incentives within mobile advertising have a higher relevance for non-student than for student samples. The effect of attitude on the intention to accept mobile advertising is significantly higher for non-student samples compared to student samples. Although younger samples might have favorable attitudes toward mobile advertising, their attitudes do not fully contribute to their intentions to accept mobile advertising. Younger samples use their mobile devices more for entertainment and communication. They might be less willing to generally accept mobile advertising on their mobile devices since they would interrupt current activities (Grant and O'Donohoe 2007). This aspect might explain why the effect of irritation on attitude is significantly stronger for student than for non-student samples. Especially when mobile ads interrupt current mobile games, they are perceived as irritating by younger consumers (Bhave et al. 2013).

The significant difference for the effect of incentives on attitude between low and high-quality studies might be explained by different applied measures of incentives, sample size, or statistical analyses.

7 Implications, Limitations, and Future Research

Theoretical Implications

While other meta-analyses concentrated on mobile commerce (e.g., Zhang et al. 2012) or mobile services (e.g., Baptista and Oliveira 2016), this meta-analysis focuses explicitly on mobile advertising. My study adds existing and new knowledge to the growing research field of mobile advertising by combining as well as opposing results from existing studies.

With reference to the first and second research objective, I reveal groups of central determinants, which influence attitudes toward mobile advertising. The analyses show significant mean effect sizes between almost all central determinants and consequences with

attitude but varying slightly in strength. On average, ad/message-related determinants have stronger, while consumer-related determinants have weaker effects on attitude. Furthermore, the significant effects of ad/message-related determinants confirm that aspects of the uses-and-gratifications theory, e.g., entertainment and informativeness, have a high relevance within a mobile context as well. Similar accounts for the proposed model of Ducoffe (1995) (e.g., ad value and irritation) or the technology acceptance model (e.g., usefulness), which both hold for mobile advertising as well.

The findings of the third research objective reveal significant differences between the formats of mobile advertising. Such comparisons have been barely addressed within the academic literature. Thereby, most differences among the determinants are found for location-based advertising compared to other formats. My findings enhance academic knowledge about location-based advertising within a mobile context.

Practical Implications

Overall, ad/message-related determinants illustrate larger effects with attitude compared to consumer-related determinants. In general, marketers could enhance the effectiveness of mobile advertising by increasing the value and utility of mobile ads. For example, they could send product information exclusively via mobile devices (e.g., prices or availability summaries of products). Other options are to integrate more entertainment-related elements such as videos, amusing claims within mobile advertising, or include advertising in mobile games. Marketers should rely on credible and trustworthy claims about products and brands within mobile ads since consumers' can easily check the validity of advertised products or brands through mobile Internet technologies. Beyond, they should address consumers' innovativeness by emphasizing innovative characteristics and advantages of mobile advertising (e.g., free of time and location constraints). Marketers should also tailor

mobile advertising along with consumers' preferences, demographics, or lifestyles, e.g., with personalized shopping offers.

Based on moderator analyses, marketers should not treat each format of mobile advertising in the same manner; instead, they should consider their unique differences. The effects of most antecedents on attitudes are significantly higher for location-based advertising assuming an outstanding role of location-based ads for marketers. For example, marketers could include more entertaining aspects within location-based advertising, such as promoting short, exciting videos of nearby stores or connecting location-based ads with social media apps like Foursquare. Beyond, they should ensure the credibility and reliability of location-based ads, e.g., by sending ads at the right place at the right time. Marketers should avoid location-based ads when consumers are not in direct proximity of stores since locational incongruity of ads might diminish their credibility. As the effect of consumers' innovativeness is significantly higher for location-based advertising, marketers should find ways to promote location-based advertising as new and innovative ways of advertising in the digital era. For example, they could highlight unique characteristics of location-based advertising such as receiving exclusive benefits or deals of close stores. In this context, marketers should also guarantee that consumers will have constant control about location-based ads such as frequency, content, and timing and will not receive location-based ads constantly. Beyond, marketers could set incentives for consumers who already use location-based ads. For example, consumers could receive exclusive deals via location-based ads if they recommend the usage of location-based ads to close friends or family members. The results showed that the social influence of close others is significantly higher for location-based advertising compared to other mobile advertising formats.

Regarding in-app advertising, marketers should find ways to decrease perceptions of irritation for in-app advertising. For example, they could reduce the intrusive character of in-

app ads by integrating ads, which do not interrupt or disturb consumers' current activities within the apps. They could integrate ads, which adjust to the design or functionality of the apps. Another approach could be to design in-app ads like SMS ads since the results showed that the effects of irritation are weaker for SMS advertising. For example, marketers could limit in-app ads to just textual ads without including irritating pictures or videos. Further, marketers should especially increase the degree of personalization within in-app advertising. For example, they could consider consumers' preferences or demographics, which they indicate in shopping or travel apps, and tailor their in-app ads based on this information to achieve higher degrees of personalization. However, marketers should consider that in-app advertising should be used in early stages of consumers' purchase decision processes since the effect of attitude on purchase intentions is significantly lower for in-app advertising compared to other formats of mobile advertising. This indicates that consumers might not directly purchase products or services which are advertised in in-app ads.

With reference to demographics, marketers should offer incentives via mobile advertising more to older consumers as they seem to be more open for incentives than students or younger consumers. Thus, such incentives should be more tailored to older generations. Beyond, marketers should focus on less irritating or intrusive mobile ads when their target audience are especially younger consumers because the effect of irritation on attitude is significantly higher for students than for non-students. They should send mobile ads, which do not interrupt younger consumers' current activities on mobile devices, e.g., sending ads via SMS since they are less irritating than other formats of mobile advertising and can be read at later points by younger consumers.

Lastly, marketers, who operate in different countries with mobile advertising, should relinquish on irritating elements in their mobile advertising campaigns for developed

countries as the effect of irritation on attitude is significantly higher for developed countries compared to developing countries.

Limitations and Future Research

This meta-analysis underlies several limitations, common for the use of meta-analytic data. Despite an exhaustive literature research, I may have overlooked some research studies due to used keywords and databases. Further, the meta-analysis is restricted by the accessibility of information and the quality of the identified studies. As a consequence, the framework includes only the most studied determinants and consequences, for which sufficient primary data were available. I was not able to include further determinants (e.g., ease of use of mobile advertising, self-efficacy, or permission) or consequences (e.g., brand attitude) due to missing statistical information. As another consequence, all moderators could not be tested simultaneously through the application of meta-regressions. This was due to low numbers of observations in general. In this context, another limitation can be seen as some moderator subgroups contain only one observation, which might limit the power and validity of the moderator analyses and the reported results. Additional observations could address this issue and strengthen the presented results. Another limitation constitutes the high indicators (e.g., Q statistic or I^2) for heterogeneity for almost all pairwise relationships. Some of the heterogeneity might be attributed to the aggregation process of the variables in the early stages of the meta-analysis as I aggregated variables with variations on precise construct definitions, operationalization, and statistical estimates (e.g., privacy concerns). More narrowed definitions might conclude in lower heterogeneity and file drawer N . Finally, I could not assess further formats of mobile advertising due to missing data such as Bluetooth advertising or newer formats like mobile messenger advertising. I could not investigate moderators such as type of product or familiarity of the advertised brand. Most research

studies remained superficial on these moderators. Information about the advertised product or brand were mostly missing within studies.

Future research could adopt some of these limitations and examine other moderators, which I could not investigate due to missing information such as product or brand-related influences. Since consumers mostly have their mobile devices on hand, research could examine how the effects of determinants and consequences differ in different situational contexts such as being on the move or being at home. Further research could apply other country-related moderators, e.g., Hofstede's cultural dimensions. Beyond, academic research could adapt this framework to other formats of mobile advertising like Bluetooth advertising or messenger advertising to detect differences. Those results would enhance current insights about the differences between various formats of mobile advertising. Researchers could conduct a meta-analysis focusing on observable metrics such as click-through rates or advertising elasticities and compare results. Other research might expand the framework or parts of it and conduct a meta-analysis on more traditional types of advertising, such as television or radio and compare results.

Funding

This research was supported by the *“Zukunftskonzept der Universität Bremen im Rahmen der Exzellenzinitiative des Bundes und der Länder“*.

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Appendix

List of identified studies used for the meta-analysis

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Paper III: Consumers' Attitudes toward Social Media Advertising – A Systematic Literature Review and Framework

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Abstract

Over the years, social media became a vital advertising tool for marketers. However, they still lack knowledge about the effectiveness of their advertising activities and efforts. Academic research adapts consumers' attitude toward social media advertising as a measure of effectiveness examining diverse constructs, which have significant effects on attitude toward social media advertising. The main goal of this paper is to review, analyze, and integrate various constructs within a conceptual framework exhibiting antecedents and consequences of consumers' social media advertising attitude. More than 50 relevant articles were identified through an extensive literature review. The findings of this study provide a taxonomic classification of relevant research articles and provide detailed insights about significance and directions of cause-and-effects relations with attitudes toward social media advertising. This review closes by providing research implications and future research directions.

Keywords

Social media advertising, literature review, attitude towards advertising, conceptual framework

1 Introduction

In recent years, social media sites and platforms became an integral component within today's society. Consumers use social media primarily for the communication and interaction with others, consumption of relevant information and news, or for entertaining and gaming purposes (GlobalWebIndex 2018). While the number of social media users worldwide accounted for about 2.14 billion in 2015, it is forecasted that about 3.02 billion users will use social media by 2021 (eMarketer 2017), assuming that social media is one of the most promising developments of current digital communication.

Social media's impressive user numbers have raised marketers' attention around the world towards adopting social media within their business structures and strategies (Langaro et al. 2018). Social media provides marketers with tools and services, which enhance multiple business activities like customer relationship management or the communication with large audiences at low costs (Kumar et al. 2017; Leeftang et al. 2014; Ngai et al. 2015). Beyond, marketers can effortlessly address and target consumers through diverse and new ad formats like display and videos ads or brand pages and posts in social media (Johnston et al. 2018). Conclusively, social media developed as an essential advertising opportunity for new marketing communication strategies.

However, marketers around the world state that social media communication is the most difficult strategy among other digital communication options (ProActive Report 2016), e.g., marketers are struggling measuring impacts and effectiveness of social media advertising (Leeftang et al. 2014; Social Media Examiner 2018). Social media advertising offers myriad metrics, e.g., number of likes, comments, shares, or click-through rates. However, the reliability of these observable metrics appears to diminish steadily due to increasing numbers of passive users on social media, who confine their social media activities to reading and observing (Bolton et al. 2013; Tuten and Solomon 2015). These developments suggest that

observable metrics become less informative and lead to risks of false decisions about social media advertising.

In contrast, a broad literature stream relies on mind-set metrics such as attitudes, cognitions, intentions, perceptions, or recall as measures of advertising effectiveness (Colicev et al. 2018; Srinivasan et al. 2010). Especially, the concept of consumers' attitude¹⁴ is commonly used in academic research. Over the years, a substantial body of research investigated and examined attitudes toward social media advertising under varying perspectives, e.g., examined different antecedents, consequences, or social media platforms. These studies provide a fundamental understanding about the effectiveness of social media advertising for marketers and theory.

Consequently, the literature about attitudes toward social media advertising is nowadays highly fragmented and heterogeneous in their research findings and designs. A comprehensive overview of the current state of research is missing, which provides new research directions by synthesizing various research findings. I address this research gap through the conduction of a systematic literature review on the social media advertising literature. Although social media advertising reviews already exist (e.g., Alalwan et al. 2017; Alves et al. 2016; Khang et al. 2012; Knoll 2017; Yadav and Rahman 2017), these reviews remain limited. They generally group social media advertising literature into broader research categories and topics, neglecting social media advertising effectiveness. Current literature reviews did not conduct in-depth analyses of specific measurements of social media advertising. Therefore, I go one step further and provide a fine-grained understanding about attitude toward social media advertising, its antecedents and consequences, corresponding research designs, and publication contexts, similarly done by Muehling and McCann (1993).

¹⁴ Attitude(s) is used as a short form of *consumers' attitude(s)* in this article.

To my best knowledge, this study is the first attempt of structuring and analyzing past academic research involving attitudes toward social media advertising. Similar to Lamberton and Stephen (2016), it is not the aim to cite and discuss every research article in great detail. Instead, I aim to develop a conceptual framework to combine and extend past academic literature (Palmatier et al. 2018). I reveal current patterns within academic research to provide managerial implications and new directions of research. The research objectives of my study are as follows: (1) Identification of occurrence and frequencies patterns of published academic research of attitudes toward social media advertising, (2) identification and integration of antecedents and consequences of attitudes toward social media advertising, and (3) derivation of managerial implications and directions for future research.

By synthesizing 56 research articles, I contribute in several ways to the existing literature. This study is the first systematic literature review about the effectiveness of social media advertising by focusing on attitude as a mind-set metric. The proposed framework combines findings across different studies by providing an overview of antecedents and consequences and shows if antecedents and consequences have positive, negative, or non-significant relations with attitude. The findings serve on the one hand as guidance for future research directions, while on the other hand, they give marketers an overview, which variables need to be considered to increase and enhance the effectiveness of their social media advertising efforts and activities.

I organize the remainder of the study as follows. After the introduction part, a short overview of social media advertising is given, followed by the description of the research method, applied criteria, and coded categories. The stated research objectives of this study guide the results. The paper closes with extensive implications for practice and theory, future research directions, and limitations.

2 Social Media Advertising and Attitudes

Social media advertising can be achieved in several ways on social media, which depend on unique formats and attributes of the specific social media platforms and sites (Johnston et al. 2018). In contrast to most traditional advertising formats, marketers are directly able to address, communicate, and interact with their target audience through interactive characteristics of social media advertising (Johnston et al. 2018). I define social media advertising as a general concept capturing all firm-generated advertising delivered through social media platforms or sites (Johnston et al. 2018; Taylor et al. 2011). The definition includes all formats of advertising on social media, which either belong to paid or owned media, such as brand posts, fan pages, display banner, or commercial videos. Simultaneously, it excludes all purely advertising formats of earned media since they are not firm-generated, e.g., user-generated advertising, electronic word-of-mouth, or consumer posts and blogs.¹⁵

As mentioned above, I choose the concept of attitude as the measurement for advertising effectiveness. While Fishbein and Ajzen (1975) originally introduced the concept of attitude toward an object X, Lutz (1985) transferred the approach to an advertising context, which became a widely used approach for advertising effectiveness over the years (Tutaj and van Reijmersdal 2012). I define attitude toward social media advertising as an evaluation, tendency or learned predisposition to respond in a favorable or unfavorable manner to general or specific formats of social media advertising (Fishbein and Ajzen 1975, MacKenzie and Lutz 1989). Within this study, the construct attitude towards social media advertising is an aggregated construct, which encompasses similar attitudes toward social media advertising, e.g., attitude toward brand posts or attitude toward Facebook advertising.

¹⁵ I made an exception for social ads (social impressions), which feature names of a user's friends at the top of the ad, who already became a fan of the firm or brand. According to Nielsen (2010), those ads are a mix of paid and earned media. However, firms still have to pay for those ads to appear in the user's newsfeed.

3 Research Methodology

The process of conducting the systematic literature review is guided by common guidelines and recommendations of Palmatier et al. (2018) and Webster and Watson (2002). I follow a domain-based systematic literature review by synthesizing and extending the existing academic literature of the same substantive domain (Palmatier et al. 2018). Simultaneously, the identification of relevant studies adopts a concept-driven approach, considering academic literature from all authors instead of including research from specific authors, which fit preset notions or perceptions of the author of the review (Webster and Watson 2002). The concept-driven approach seems to be more suitable as this research field is still emerging.

To identify relevant research articles, I conducted an extensive and thoroughly systematic search process. Similar to other systematic literature reviews (e.g., Alves et al. 2016; Lamberton and Stephen 2016), I considered only articles from peer-reviewed journals. Journals represent to certain degrees the highest level of research since they are reviewed by experts in that field and are considered by academicians and marketers as reliable sources of information (Ngai 2003; Nord and Nord 1995). Thus, I excluded book series, conference paper, dissertations, editorials, or working paper. In addition, journals of relevant articles had to be listed in either the Web of Science or the SCImago journal citation database¹⁶ to guarantee the inclusion of studies with high-quality standards and impact factors (Alalwan et al. 2017; Eisend et al. 2017). Further, articles had to be written in English due to language barriers. As mentioned above, I did not consider articles focusing on advertising relating to earned media. I initially included articles, when they empirically measured the construct attitude in a social media advertising context and reported empirical findings of corresponding

¹⁶ The SCImago journal citation database is chosen as a second database, as the informative insights complement those of the Web of Science journal citation database (Jascó 2010) and allows a broader scope of relevant academic research.

antecedents and consequences. Therefore, I excluded theoretical or conceptual research studies during the search process.

I did not restrict the search by any pre-defined time frames and thus, aimed to cover all published articles up to February 2019. I started the search process with a series of keyword searches, which I conducted in four central research electronic databases, namely Business Source Premier, Google Scholar, Science Direct, and Web of Science, similarly done by Alalwan et al. (2017). I applied different combinations and alternative terms of keywords to capture and identify relevant articles, e.g., “attitude toward social media advertising”, “attitude toward brand posts”, “attitude towards social ads”, or “attitude toward fan pages”. Additionally, I combined keywords with comparable meanings to social media or specific and popular social media platforms and sites with attitude, such as “attitude toward Facebook/YouTube/Twitter advertising”, “attitude toward brand communities”, “attitude toward social network site advertising”, “attitude toward corporate blogs”, or “attitude toward mobile social network advertising”. In the next step, I checked the reference lists of each relevant article to obtain further publications.

Overall, I obtained 56 different research articles through the extensive search process, which met the above-defined criteria. Then, I screened, coded, and analyzed all identified articles according to the research objectives of this study. Regarding the first research objective, I coded each article among five standard parameters,¹⁷ which I derived from other systematic literature reviews (e.g., Cho and Khang 2006; Knoll 2016; Yadav and Rahman 2017) to disclose common patterns:

1. Name of the journal in which the articles are published in (to understand which journals publish more research about attitudes toward social media advertising).

¹⁷ The unit of analysis of the coding process for the first research objective is the article. In a few cases, where articles contained multiple studies, I aggregated the findings since they were congruent across studies in terms of the five parameters.

2. Year of publication of the article (to comprehend any time trends).
3. Information about the underlying type of sample of the article (to realize whether homogeneous or heterogeneous samples were used).
4. Countries (or continents) where the articles were carried out (to reflect attitudes toward social media advertising around the world).
5. Social media platform or site (to understand whether attitudes toward social media advertising are determined or influenced by specific social media platforms or sites or by social media/network sites in general).

Regarding the second research objective, I developed a causal chain framework to express and examine the causal relations between antecedents and consequences and attitude toward social media advertising (Ngai et al. 2015; Yadav and Rahman 2017). The causal chain framework is guided basically by the belief-attitude-intention-behavior model developed by Fishbein and Ajzen (1975). In brief, belief factors about an object X have an effect on the attitude toward the object X, which in turn causes different intentions regarding the object X (Fishbein and Ajzen 1975). However, in the causal chain framework of my study, not all antecedents represent belief factors about social media advertising purely. Instead, they can also occur as personalities or user behaviors.

Based on these considerations, I positioned the examined variables within each study as either an antecedent or consequence based on given information within the studies. Moderator are not considered and depicted within the framework since relatively few studies examined moderating influences. I only used direct, main, or indirect (mediated)¹⁸ effects between antecedents and consequences with attitude. I derived the needed information from conceptual frameworks, hypotheses, revised models, additionally tested relationships or conducted analyses of regression analyses, structural equation models, t-tests, or analyses of

¹⁸ For example, a study reports only the indirect effect of informativeness on attitude, when ad value is included as a mediator (Aydin 2018; Hassan et al. 2013; Leung et al. 2015; Singh 2016; Yazdanparast et al. 2015).

variances. Furthermore, I did not consider information from correlations analyses or matrices as they do not represent cause-and-effect relationships between two variables (Taylor 1990). I made exceptions when correlation analyses were used for the testing of hypotheses (e.g., Bright and Logan 2018).

Due to increased complexity and depiction concerns of the framework, I did not consider and depict interaction effects between two or more variables. Instead, I coded their main effects, when reported. I made exceptions by labeling moderator variables as antecedents when the studies reported their direct main effects on attitude (e.g., Belanche et al. 2017; Walrave et al. 2018). The same procedure was used for control variables (e.g., Jung et al. 2016). Articles can contribute more than one relationship between two variables to the framework if they include multiple studies, scenarios, or models (e.g., Jung et al. 2009; Leung and Tanford 2016). As a result, some variables occur in more than just one category, e.g., I coded attitude toward the brand as an antecedent (Bright and Logan 2018) and consequence (Alansari et al. 2018).

During the coding process, I aggregated antecedents and consequences having or sharing nearly same definitions but operate under different aliases or synonyms to one variable, similarly done by Palmatier et al. (2016). In a second step, I grouped and classified antecedents and consequences into broader categories based on their similarities and meanings. Beyond, existing models within academic literature, e.g., Ducoffe (1996) or Pollay and Mittal (1993), or already existing categories from other systematic literature reviews, e.g., Akar and Nasir (2015), Muehling and McCann (1993), Ngai et al. (2015), or Yadav and Rahman (2017), served as guidance of the grouping process as well.

Besides, I used basic statistical aspects of vote-counting analyses to integrate and analyze the direct, main, and indirect effects of antecedents and consequences. In general, vote-counting is a quantitative method that permits the integration of distinct research

findings by allocating same relations between two variables in categories labeled as either significant positive, significant negative, or no significant findings or differences (Hedges and Olkin 1980; Voorveld et al. 2009). If a majority of relations between two variables fall into one these three categories with fewer in the other two, then this category represents the best estimate for the direction between these two variables (Light and Smith 1971). I developed the fourth category significant differences for findings of main effects of non-metric variables (e.g., usage of hashtags vs. no usage of hashtags) on attitudes toward social media advertising. They are commonly manipulated within experimental designs. To code relations between two variables across the different research studies as either significant positive, significant negative, no significant relations or differences, or significant differences, I used corresponding p- or t-values of the relations as references.

In sum, I identified 80 different antecedents and 13 consequences within 56 research articles. I further sorted them into eight main categories of antecedents and five categories of consequences.

4 Results

4.1 Occurrence and Frequency Patterns

Table 1 presents the distribution of the identified articles across journals. Attitudes toward social media advertising appear to be a multidisciplinary academic research phenomenon since about 40 different journals published relevant academic articles. Especially, marketing, management and business, tourism, advertising, and information systems disciplines focused on attitudes as a measure of effectiveness. However, on a micro level, a relatively small number of journals published at least three articles (*Computers in Human Behaviour*, *International Journal of Advertising*, *Journal of Creative Communications*, *Journal of Hospitality and Tourism Technology*, *Journal of Research in Interactive Marketing*), while a majority of journals published not more than one article.

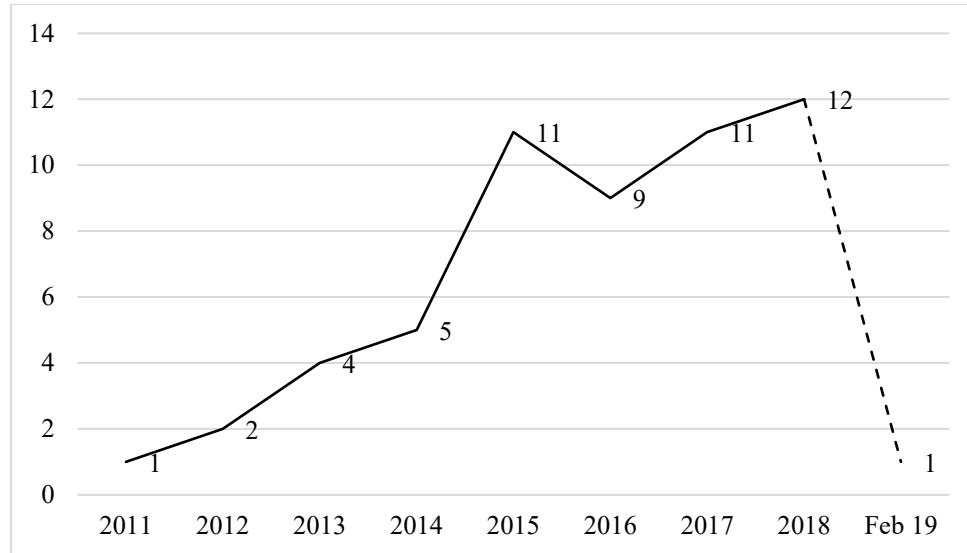
Table 1. Distribution of articles across journals

No.	Journal Name (alphabetical order)	# of Articles
1	Advanced Science Letters	1
2	Asia Pacific Management Review	1
3	Asia Social Science	1
4	Aslib Journal of Information Management	1
5	Behaviour and Information Technology	2
6	Computers in Human Behavior	3
7	Electronic Markets	1
8	Global Business Review	1
9	International Journal of Advertising	3
10	International Journal of Business Excellence	1
11	International Journal of Business Information Systems	1
12	International Journal of E-Business Research	1
13	International Journal of Internet Marketing and Advertising	1
14	Internet Research	2
15	Journal of Advertising Research	1
16	Journal of Business Ethics	1
17	Journal of Consumer Behaviour	1
18	Journal of Creative Communications	3
19	Journal of Current Issues and Research in Advertising	2
20	Journal of Electronic Commerce in Organization	1
21	Journal of Enterprise Information Management	1
22	Journal of Global Fashion Marketing	1
23	Journal of Hospitality and Tourism Research	1
24	Journal of Hospitality and Tourism Technology	3
25	Journal of Hospitality Marketing and Management	1
26	Journal of Interactive Marketing	1
27	Journal of International Marketing	1
28	Journal of Internet Banking and Commerce	1
29	Journal of Marketing Analytics	1
30	Journal of Marketing Communications	1
31	Journal of Research in Interactive Marketing	3
32	Journal of Retailing and Consumer Services	2
33	Journal of Travel and Tourism Marketing	1
34	Kybernetes	1
35	Mediterranean Journal of Social Sciences	1
36	Middle-East Journal of Scientific Research	1
37	Online Information Review	2
38	Psychology and Marketing	1
39	Worldwide Hospitality and Tourism Themes	1
40	Young Consumers	2

Although I did not set a specific time frame during the search process, all identified articles were published from 2011 to 2019 (see Figure 1). While only one article was published in 2011, twelve articles were published in 2018, revealing increasing attention among researcher in attitude toward social media advertising. Simultaneously, the time trend illustrates the growing relevance of measuring the effectiveness of social media advertising with the concept of attitude. These findings are congruent with other reviews about social

media marketing and advertising, who report similar time trends (Knoll 2017; Yadav and Rahman 2017).

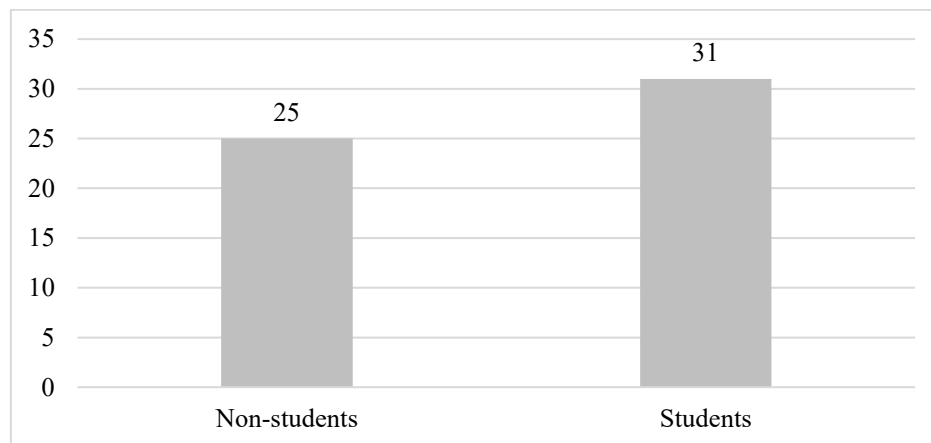
Figure 1. Publication of articles per year



Notes: The dashed line constitutes not the final increase or decrease of published studies between 2018 and 2019.

Concerning Figure 2, 31 out of the 56 identified articles recruited college students for the analyses of attitudes toward social media advertising, while 25 articles referred to non-student samples, such as panel data or social media users. Knoll (2017) found similar distribution patterns of sample types. My findings indicate that college-aged students are the predominantly chosen type of sample within social media contexts, as they mostly represent the largest proportion of users among different social media platforms and sites (GlobalWebIndex 2014).

Research about attitudes toward social media advertising was conducted in over 21 different countries around the world (see Table 2), revealing a broad range of country-specific information and differences about attitudes. On an abstract level, almost half of the studies have been conducted in North America ($n = 21$), followed by the Asian ($n = 21$), European ($n = 9$), and African continent ($n = 5$).

Figure 2. Distribution of sample types

No studies were conducted on the South American or Australian continent. On a concrete level, the maximum of research publications was conducted in the United States or used U.S. American samples ($n = 21$). India follows with five publications and Pakistan, South Korea, and Spain with each having at least three publications. Other listed countries had no more than two publications.

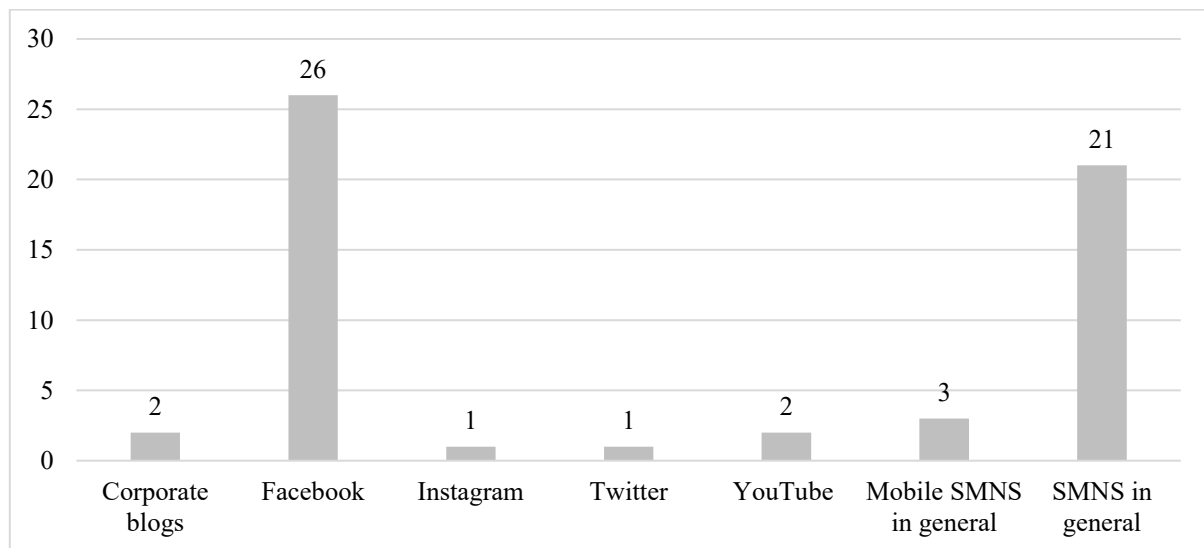
Table 2. Distribution of articles across countries

No.	Country (alphabetical order)	# of Articles
1	Bangladesh	1
2	Belgium	2
3	Bosnia and Herzegovina	1
4	China	1
5	Ghana	2
6	India	5
7	Iran	1
8	Kenya	1
9	Malaysia	2
10	Monaco	1
11	Pakistan	3
12	Saudi Arabia	1
13	South Africa	1
14	South Korea	3
15	Spain	3
16	Taiwan	2
17	Tunisia	1
18	Turkey	2
19	United Arab Emirates	1
20	USA	21
21	Vietnam	1

Notes: MTurk samples are coded as U.S. samples, as MTurk samples are more representative of the U.S. population (Berinsky et al. 2012) / Johnston et al. (2018) is coded as Vietnam since more than half of the sample is from Vietnam.

In terms of the underlying social media platform or site, Figure 3 demonstrates that almost half of the identified studies explicitly examined attitudes toward paid or owned forms of advertising on Facebook. Other platforms like YouTube, Twitter, Instagram, or corporate blogs are scarce. This fact is not surprising as Facebook is the most popular social network site in the world (We Are Social 2019). Another proportion of articles referred to advertising attitudes on social media or social networks in general with no specific platform or site focus. Worth mentioning, a small number of articles already emphasize advertising attitudes of mobile social media/network sites in general. Mobile social network advertising might gain more attention in the future, as consumers predominantly use their mobile devices to access social media platforms and sites (GlobalWebIndex 2017). Academic research did not investigate advertising attitudes toward brand communities as formats of owned media at all.

Figure 3. Distribution of articles across social media platforms and sites



Notes: SMNS = social media/network sites. Articles, who focused on at least two different social media platforms or sites within their studies were coded as SMNS in general (e.g., Leung et al. 2015, Balakrishnan and Manickavasagam 2016, Johnson et al. 2018). Segev et al. (2014) investigated the placement of paid display banner on consumer blogs. Due to similarities of consumer and corporate blogs as a social media platform, I coded this study as corporate blogs.

4.2 Causal Chain Framework

Regarding the second research objective, I developed a conceptual framework to integrate and summarize cause-and-effect relationships of various constructs with attitude toward social media advertising (see Figure 4). Based on the vote-counting approach, I report the corresponding significances of each cause-and-effect relationship to extend and enhance the findings of the framework. Table 3 gives more detailed information about each variable.

4.2.1 Antecedents

I analyzed and allocated 80 different antecedents into eight broader categories. With reference to Table 3, not all individual antecedents received the same amount of attention among researchers as other antecedents. However, this does not implicate that antecedents (or consequences) with few investigated relations are less relevant within the framework.

Demographics and personality factors. The first category comprises twelve different antecedents, which relate to general consumer demographics, specific personality traits or thoughts, and feelings. Within this category, a majority of studies ($n = 4$) analyzed gender as an antecedent. Almost all studies report no significant differences between males and females regarding their attitudes toward social media advertising. However, Thoo et al. (2018) found a significant difference but did not specify whether males or females have more favorable attitudes toward social media advertising. Beyond, consumers' occupation is also studied in most studies in this category ($n = 3$). The findings reveal that professionals have significantly more favorable attitudes toward social media advertising than students (Balakrishnan and Manickavasagam 2016; Natarajan et al. 2015). Age represents another major antecedent within this category ($n = 2$). Balakrishnan and Manickavasagam (2016) found different findings for participants' age.

Figure 4. Causal chain framework of attitudes toward social media advertising

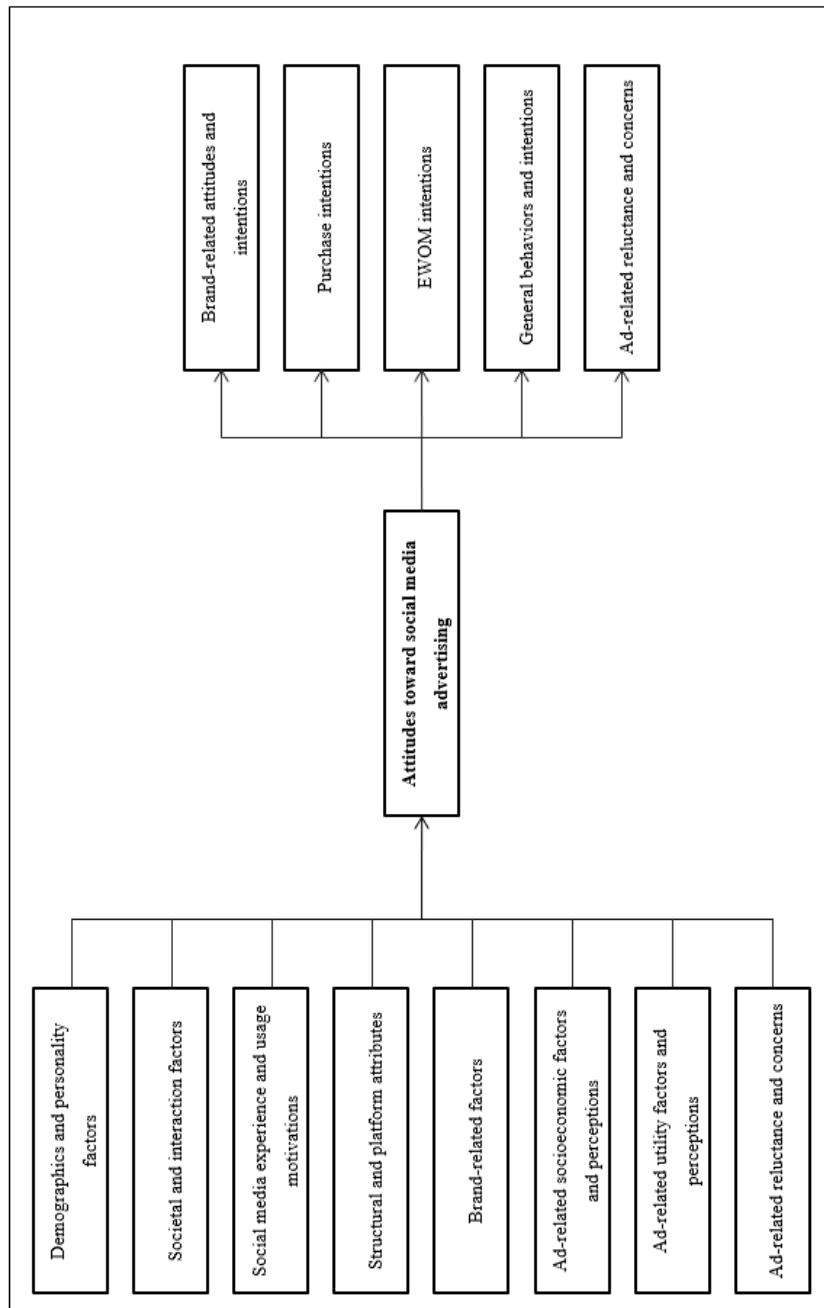


Table 3. Summary of antecedents and consequences of attitudes toward social media advertising

Variables	Definition / Description	Operationalization	Studies	Freq.*	Summary of findings
Antecedents					
Demographics and personality factors					
Gender	Individual's gender	Non-metric: Male vs. female	Kamal and Chu (2012), Singh (2016), Thoo et al. (2018), Yazdanparast et al. (2015)	4	No significant differences (except Thoo et al. 2018, significant difference, but not specified in more detail)
Occupation	Individual's current occupation	Non-metric: Professionals vs. students	Balakrishnan and Manickavasagam (2016), Natarajan et al. (2015)	3	Significant more favorable attitude for professionals
Age	Individual's current age	Non-metric: Different age groups	Balakrishnan and Manickavasagam (2016)	2	Significant differences between age groups
Ethnicity	Individual's ethnic group	Non-metric: Different ethnicity groups	Thoo et al. (2018)	1	No significant differences
Affective elaboration	Individuals' message-related feelings (Chen et al. 2015)	Metric: Multi-item	Chen et al. (2015)	1	Significant positive effect
Cognitive elaboration	Individuals' message-related thoughts (Chen et al. 2015)	Metric: Multi-item	Chen et al. (2015)	1	No significant effect
Consumer groups	Different consumer groups based on level of ad favoritism and resistance (Tran 2017)	Non-metric: Ad haters vs. ad lovers vs. ad commondators	Tran (2017)	1	Significant more favorable attitude for ad lovers than for ad commondators and ad haters
Income	Individual's current income	Non-metric: High vs. low income	Kamal and Chu (2012)	1	Significant more favorable attitudes of consumers with high incomes

Nationality	Individual's nationality	Non-metric: Malaysian vs. non-Malaysian	Thoo et al. (2018)	1	No significant differences
Self-disclosure	Information, thoughts, feelings or experiences that individuals reveal about themselves to others (Lee 2016)	Metric: Multi-item	Lee (2016)	1	Significant positive effect
Self-presentation	The degree to which individuals create good impressions on others and accomplish a favorable self-presentation (Lee 2016)	Metric: Multi-item	Lee (2016)	1	Significant positive effect
Year of study	Current college year of students	Non-metric: College year: 1 st , 2 nd , 3 rd , 4 th year	Thoo et al. (2018)	1	No significant differences
Societal and interaction factors					
Peer / social influence	Individual's desire for interpersonal attachment and influence of other individuals on their behavior or influencing others' behavior (Jung et al. 2016)	Metric: Multi-item	Jung et al. (2016), Muk (2013), Taylor et al. (2011)	4	Significant positive effect
Compliance	"Individual adopts the induced behavior because of outside rewards or punishments" (Leung and Baloglu 2015)	Metric: Multi-item	Leung and Baloglu (2015), Leung and Tanford (2016)	2	Significant negative effect
Identification	"Individual adopts the induced behavior in an attempt to establish or maintain a satisfying self-defining relationship with group members" (Leung and Baloglu 2015)	Metric: Multi-item	Leung and Baloglu (2015), Leung and Tanford (2016)	2	Significant positive effect
Internalization	"Individual adopts the induced behavior because it is congruent with his/her value system" (Leung and Baloglu 2015)	Metric: Multi-item	Leung and Baloglu (2015), Leung and Tanford (2016)	2	Significant positive effect

Social interaction ties	The tendency to affiliate and communicate with other individuals and prefer being with them rather than being alone and thus obtaining social benefits (Ho and To 2018)	Metric: Multi-item	Ho and To (2018), Manthiou et al. (2014)	2	Significant positive effect
Parasocial interaction	Individual's passive participation on fan pages such as reading other users' comments, who share the same interests and opinions (Sanz-Blas et al. 2017)	Metric: Multi-item	Sanz-Blas et al. (2017)	1	Significant positive effect
Social media experience and usage motivations					
Usage behavior	Usage, time or frequency spent using social media	Non-metric: High vs. low usage Metric: Multi-item and single item	Colton (2018), Jung et al. (2016), Kamal and Chu (2012), Mir (2017), Thoo et al. (2018)	7	No significant effect (except Colton (2018), significant positive effect; Kamal and Chu 2012, significant more favorable attitude for high usage users; Jung et al. 2016, significant positive effect; Thoo et al. 2018, significant differences, but not specified in more detail)
Social media experience	Individual's experience with social media, e.g., following social media brand pages	Metric: Multi-item	Leung et al. (2015), Leung and Jiang (2018)	3	Significant positive effect

Individual media dependency	Individuals fulfill personal and collective goals by having to depend, rely or access on (informational) resources controlled by mass media such as Internet and television (Ruiz-Mafe et al. 2013). Dependency aggregates social and self-dimensions of understanding, orientation, and play	Metric: Multi-item	Ruiz-Mafe et al. (2014), Sanz-Blas et al. (2017)	2	Significant positive effect
Number of friends	Number of friends on social media	Metric: Single item	Jung et al. (2016)	2	No significant effect
Social media boredom	Individual's loss of interest in social media and its corresponding activities (Singh et al. 2016)	Metric: Multi-item	Singh et al. (2016), Yazdamparast et al. (2015)	2	Significant negative effect
Hedonic needs	Having fun in social media (Leung and Tanford 2016)	Metric: Multi-item	Leung and Tanford (2016)	1	No significant effect
Fear of missing out	Individual's apprehension of not being constantly up to date on new information within its network, despite constant social media usage (Bright and Logan 2018)	Metric: Multi-item	Bright and Logan (2018)	1	Significant positive effect
Functional needs	Participation in social media to fulfill specific activities (Leung and Tanford 2016)	Metric: Multi-item	Leung and Tanford (2016)	1	Significant positive effect
Psychological needs	Sense of inclusion within social media (Leung and Tanford 2016)	Metric: Multi-item	Leung and Tanford (2016)	1	No significant effect
Quality of life	Engaging in social media activities to advance the quality of life (Taylor et al. 2011)	Metric: Multi-item	Taylor et al. (2011)	1	No significant effect
Quality of life, structure time, and peer influence	A mix of quality of life, structure time, and peer influence	Metric: Multi-item	Celebi (2015)	1	Significant positive effect

Social escapism motivation	Individual's desire of getting out of real-life routine issues, problems and challenges (Mir 2017)	Metric: Multi-item	Mir (2017)	1	Significant positive effect
Social needs	Exchange of ideas and form relationships in social media (Leung and Tanford 2016)	Metric: Multi-item	Leung and Tanford (2016)	1	No significant effect
Structure time	Individual's login on social media as part of a structured daily routine (Taylor et al. 2011)	Metric: Multi-item	Taylor et al. (2011)	1	No significant effect
Structural and platform attributes					
Interactivity	"State or process of communicating, exchanging, obtaining and/or modifying content (e.g., ideas, entertainment, product information) and/or its form with or through a medium (e.g., computer, modem, etc.), which respond to both the communicator's and the audience's communication needs by including hypertext links, reciprocal communication, etc." (Macias 2003)	Metric: Multi-item	Kujur and Singh (2017), Mirmehdi et al. (2017), Shin et al. (2018), Thoo et al. (2018), Yaakop et al. (2013)	5	Significant positive effect
Arousal	The degree of energization, activation, inner tensions, or alertness (physiological perspective) or state of wakefulness or action preparation (psychological perspective) (Shapiro et al. 2002)	Non-metric: High vs. low stimuli (such that individuals pay more or less attention)	Belanche et al. (2017)	2	Mixed: Significant more favorable attitude for high arousal stimuli (Belanche et al. 2017), no significant differences (Belanche et al. 2017)

Congruency / Context	The degree of similarity between the ad and its context (Belanche et al. 2017)	Non-metric: Congruency vs. incongruency (content of ad is (in)congruent with content of external video/blog)	Belanche et al. (2017), Segev et al. (2014)	2	Mixed: No significant differences (Belanche et al. 2017), significant more favorable attitude for ad-congruent context (Segev et al. 2014)
Message content	It “refers to the type of content expressed by the messages” (Leung et al. 2017)	Non-metric: Brand vs. product vs. interactive related content	Leung et al. (2017)	2	No significant differences
Message format	It “refers to the presentation format of messages” (Leung et al. 2017)	Non-metric: Word vs. picture vs. web link	Leung et al. (2017)	2	Mixed: Significantly more favorable attitude for picture formats than for word or web link formats (Leung et al. 2017), no significant differences (Leung et al. 2017)
Ad format	The format of the ad “refers to the manner in which it appears” (Rodgers and Thorson 2000)	Non-metric: Social vs. non-social ad	Zarouali et al. (2018)	1	Significant more favorable attitude for social ads
Ad location	Location of the ad on social media platforms and sites	Non-metric: Ad located inside vs. outside the Facebook timeline	Bang and Lee (2016)	1	No significant differences
Ad path	The way how ads are sent to individuals (Bang and Lee 2016)	Non-metric: Direct (received from brands) vs. indirect path (received from close friends)	Bang and Lee (2016)	1	No significant differences

Appeal of brand post	“Message appeals refers [...] to the overall style of the advertising [...] rather than the details of message claims and formats” (Percy and Rossiter 1992)	Non-metric: Emotional (emotions and sensorial elements) vs. informational (objective facts) content and appeal	Cervellon and Galipienzo (2015)	1	No significant differences
Construal-related messages	“Construal level theory suggests that temporal distance, defined as the perceived proximity of an event in time, can influence an individual's reaction to future events by changing his or her mental representations of those events” (Kim et al. 2016)	Non-metric: High-level vs. low-level construal-related message	Kim et al. (2016)	1	No significant differences
Content of brand post	It refers to content type expressed by brand post	Non-metric: Hotel vs. city-related content	Cervellon and Galipienzo (2015)	1	No significant differences
Fan page design characteristics	Includes layout, navigation, download speed and how easy the usage of fan pages is (Manthiou et al. 2014)	Metric: Multi-item	Manthiou et al. (2014)	1	Significant positive effect
Hashtag	Within social media, the symbol # is a format of tagging preceding keywords, which “can be searched for a collective display of related information” (Shin et al. 2018)	Non-metric: Hashtags used yes vs. no	Shin et al. (2018)	1	Significant differences (but not specified in more detail)
Hashtag-related marketing activities	Categorization of hashtags related to different marketing activities (Shin et al. 2018)	Non-metric: Price vs. place vs. promotion vs. product-related hashtags	Shin et al. (2018)	1	No significant differences

Issue involvement	It is defined “as the attention to an intangible attitude object such as topics, ideas or values that derives from its relevance or importance to individuals” (Segev et al. (2014)	Non-metric: High vs. low environmental issue involvement	Segev et al. (2014)	1	No significant differences
Network tie	Intense usage of linkages between advertiser and consumers enable efficient dissemination of ad information and access to resources (Lee 2016)	Metric: Multi-item	Lee (2016)	1	No significant effect
Product involvement	Individual's enduring perception of the relevance of the product, depending on their needs, values, and interests) (Belanche et al. 2017)	Metric: High vs. low product involvement	Belanche et al. (2017)	1	Significant positive effect
Social distance	It “refers to the perceived psychological distance from the self toward another individual or other groups (Kim et al. 2016)	Non-metric: Newsfeed vs. timeline (psychological distance) Metric: Multi-item	Kim et al. (2016)	1	Significant differences (but not specified in more detail)
Structured content	Patterns of linkages (density, connectivity, and hierarchy) and appropriate organization of content created for the usage by individuals (Lee 2016)	Metric: Multi-item	Lee (2016)	1	Significant positive effect
Vividness	“Representational richness of a mediated environment is defined by its formal features; that is, the way in which an environment presents information to the senses, such as videos, images, statuses, and links” (Kujur and Singh 2017)	Metric: Multi-item	Kujur and Singh (2017)	1	Significant positive effect

Brand-related factors					
Attitude toward the brand	Individual's internal evaluation of the brand (Mitchell and Olson 1981)	Metric: Multi-item	Bright and Logan (2018), Colton (2018)	2	Significant positive effect
Self-brand congruity	Individual's identification and assessment of their social prestige with the advertised brand (Celebi 2015)	Metric: Multi-item	Celebi (2015), Taylor et al. (2011)	2	Significant positive effect
Attitude toward hotel tweets	Individual's internal evaluation of brand-related tweets or accounts	Metric: Multi-item	Alansari et al. (2018)	1	Significant positive effect
Brand bonds	The bonding that individuals build up with brands such as commitment or attachment to brands (Lee 2016)	Metric: Multi-item	Lee (2016)	1	Significant positive effect
Brand consciousness	Individuals are described as brand-conscious as those who have a high attention for brands and take an active interest in brands (Chu et al. 2013)	Metric: Multi-item	Chu et al. (2013)	1	Significant positive effect
Corporate image consistency	Consistency between corporate image and sent messages to target audiences (Colton 2018)	N/A	Colton (2018)	1	Significant positive effect
Corporate reputation	Overall emotional attachment of individuals to a firm (Boateng and Okoe 2015b)	Metric: Multi-item	Boateng and Okoe (2015b)	1	Significant positive effect
Ad-related socioeconomic factors					
Materialism	Set of belief structures and concerns that advertising emphasizes consumption as the route to most satisfaction (Pollay and Mittal 1993)	Metric: Multi-item	Boateng and Okoe (2015b), Chu et al. (2013), Mir (2015), Mirmehdi et al. (2017)	4	Mixed: Significant negative effect (Boateng and Okoe 2015b; Mirmehdi et al. 2017); no significant effect (Chu et al. 2013; Mir 2015)

Value corruption	Advertising can shape or corrupt individual's value but by focusing on negative values (Pollay and Mittal 1993)	Metric: Multi-item	Boateng and Okoe (2015b), Chu et al. (2013), Mir (2015), Mirmehdi et al. (2017)	4	Significant negative effect (except Mir 2015, no significant effect)
Falsity / no sense	Advertising is purposefully misleading and does not provide a true picture of products and services through manipulation (Pollay and Mittal 1993)	Metric: Multi-item	Chu et al. (2013), Mir (2015)	2	Mixed: Significant negative effect (Chu et al. 2013); no significant effect (Mir 2015)
Good for the economy	Advertising "speeds acceptance of new goods and technologies, fosters full employment, lowers the average cost of production, promotes a healthy competition between producers to all consumers' benefit, and generally is a prudent use of national resources that raises the average standard of living" (Pollay and Mittal 1993)	Metric: Multi-item	Mir (2015), Mirmehdi et al. (2017)	2	Significant positive effect
Social role and image	Advertising provides lifestyle imagery, information about brand-related content, portrayals of idealized individuals or associations of status or prestige (Pollay and Mittal 1993)	Metric: Multi-item	Mirmehdi et al. (2017)	1	Significant positive effect
Ad-related utility factors					
Informativeness	The ability of advertising to inform individuals about product or services alternatives / role of advertising providing helpful and relevant information (Ducoffe 1996)	Metric: Multi-item	Aydin (2018), Chu et al. (2013), Ho and To (2018), Jung et al. (2016), Kujur and Singh (2017), Logan et al. (2012), Mahlangu (2014), Manthiou et al. (2014), Mir (2015), Mirmehdi et al. (2017), Mukherjee and Banerjee (2017), Shareef et al. (2019), Shin et al. (2018) Taylor et al. (2011), Yang et al. (2017)	17	Significant positive effect (except Jung et al. 2016, no significant effect; Logan et al. 2012; no significant effect; Mahlangu 2014, no significant effect)

Entertainment	Individual's perception of advertising as being entertaining, exciting, enjoying or fun to use (Ducoffe 1996)	Metric: Multi-item	Aydin (2018), Ha et al. (2014), Ho and To (2018), Jung et al. (2016), Kujur and Singh (2017), Logan et al. (2012), Manthiou et al. (2014), Mir (2015), Mirmehdi et al. (2017), Mukherjee and Banerjee (2017), Shareef et al. (2019), Shin et al. (2018), Taylor et al. (2011), Yang et al. (2017)	16	Significant positive effect (except Jung et al. 2016, no significant effect; Shareef et al. 2019, no significant effect)
Credibility	The extent to which individuals perceive ad claims or ads to be credible and believable (MacKenzie and Lutz 1989)	Metric: Multi-item	Aydin (2018), Boateng and Okoe (2015b), Colton (2018), Hassan et al. (2013), Johnston et al. (2018), Mirmehdi et al. (2017), Mukherjee and Banerjee (2017), Thoo et al. (2018), Tran (2017), Yaakop et al. (2013), Yang et al. (2017)	11	Significant positive effect (except Hassan et al. 2013, no significant effect; Yaakop et al. 2013, no significant effect)
Advertising value	Overall representation and subjective assessment of the worth of advertising to individuals (Ducoffe 1996)	Metric: Multi-item	Aydin (2018), Ha et al. (2014), Hamouda (2018), Hassan et al. (2013), Johnston et al. (2018), Logan et al. (2012), Natarajan et al. (2015), Shareef et al. (2019)	9	Significant positive effect
Personalization	Individual's perception that advertising is personalized or customized around personal circumstances (e.g., demographics, preferences, behaviors, etc.) to certain degrees or receiving personalized prices, etc. through ads (Tran 2017)	Metric: Multi-item	Aydin (2018), Hassan et al. (2013), Tran (2017), Walrave et al. (2018)	6	Significant positive effect
Ease of use	The extent that the interaction or usage of advertising or technologies do not require any physical or mental effort, thus being easy to learn (Ruiz-Mafe et al. 2013)	Metric: Multi-item	Leung and Tanford (2016), Lin and Kim (2016), Luna-Nevarez and Torres (2015), Muk (2013), Ruiz-Mafe et al. 2014)	5	Significant positive effect
Incentives	Provision of tangible or intangible incentives or rewards to create value for individuals (Aydin 2018)	Metric: Multi-item	Aydin (2018), Jung et al. (2016), Kujur and Singh (2017), Luna-Nevarez and Torres (2015)	5	Significant positive effect

Usefulness	Perceptions of general benefits from advertising, which improve individual's performance or behavior (Muk 2013)	Metric: Multi-item	Leung and Tanford (2016), Lin and Kim (2016), Luna-Nevarez and Torres (2015), Muk (2013), Ruiz-Mafe et al. (2014)	5	Significant positive effect
Infotainment	Combination of entertaining and informational elements	Metric: Multi-item	Celebi (2015), Hassan et al. (2013), Johnston et al. (2018)	3	Significant positive effect
Trust	The perception that advertising is reliable, credible and trustworthy (Lee 2016)	Metric: Multi-item	Lee (2016), Ruiz-Mafe et al. (2014)	2	Mixed: Significant positive effect (Ruiz-Mafe et al. 2014); no significant effect (Lee 2016)
Ad-related reluctance concerns					
Privacy concerns	Individual's concerns about their loss of privacy due to collection or disclosure of personal information by firms or advertisers (Taylor et al. 2011)	Metric: Multi-item	Celebi (2015), Jung et al. 2016), Lee (2016), Lin and Kim (2016), Mahlangu (2014), Taylor et al. (2011), Thoo et al. (2018), Walrave et al. (2018), Yaakop et al. (2013)	10	Significant negative effect (except Yaakop et al. 2013, significant positive effect; Jung et al. 2016, no significant effect; Walrave et al. 2018, no significant effect)
Intrusiveness / invasiveness	Complaints about advertising practices that interfere or distract an individual's current processes and activities (Li et al. 2002)	Metric: Multi-item	Celebi (2015), Jung et al. (2016), Lin and Kim (2016), Luna-Nevarez and Torres (2015), Mir (2015), Taylor et al. (2011)	7	Significant negative effect (except Jung et al. 2016, no significant effect; Mir 2015, no significant effect)
Irritation	Advertising techniques that annoy, offend or insult are perceived as an unwanted or irritating influence (Ducoffe 1996)	Metric: Multi-item	Aydin (2018), Hassan et al. (2013), Lee (2016), Logan et al. (2012), Mir (2015), Mirmehdi et al. (2017), Yang et al. (2017)	7	Significant negative effect (except Hassan et al. 2013, no significant effect; Lee 2016, no significant effect; Mirmehdi et al. 2017, no significant effect)

Advertising avoidance	Individual's activities to prevent their exposure to advertising (Tran 2017)	Metric: Multi-item	Thoo et al. (2018), Tran (2017), Yakoop et al. 2013)	3	Mixed: Significant negative effect (Tran 2017); significant positive effect (Yaakop et al. 2013); no significant effect (Thoo et al. 2018)
Advertising skepticism	Individual's predisposition to disbelieve the messages conveyed by advertising (Tran 2017)	Metric: Multi-item	Tran (2017)	1	No significant effect
Controversial ad perception	Ads perceived as controversial refer to images, themes or slogans which purposely evoke feelings of shame, disgust, resentment or indignation (Kadić-Maglajlić et al. 2017)	Metric: Multi-item	Kadić-Maglajlić et al. (2017)	1	Significant negative effect
Consequences	Definition / Description	Operationalization	References	Freq.*	Summary of findings
Brand-related attitudes and intentions					
Attitude toward the brand	Individual's internal evaluation of the brand (Mitchell and Olson 1981)	Metric: Multi-item	Alansari et al. (2018), Ho and To (2018), Kadić-Maglajlić et al. (2017), Leung and Baloglu (2015), Leung et al. (2015), Leung and Jiang (2018)	7	Significant positive effect
Intention to join the brand's fan page	Individual's intention to join the brand's social media fan page (by clicking like)	Metric: Multi-item	Cervellon and Galipienzo (2015), Jung et al. (2016), Leung and Tanford (2016), Muk (2013)	7	Significant positive effect
Fan page loyalty and continued active usage	To continue using the fan page (in the future) actively (Ruiz-Mafe et al. 2014)	Metric: Multi-item	Ha et al. (2014), Manthiou et al. (2014), Ruiz-Mafe et al. (2014), Sanz-Bias et al. (2017)	5	Significant positive effect
Attitude toward the account	Individual's internal evaluation of brand or firm-related social media accounts	Metric: Multi-item	Alansari et al. (2018)	1	Significant positive effect

Purchase intention				
Purchase intention	Individual's conscious plan to make an effort to purchase a brand (Spears and Singh 2004)	Metric: Multi-item	Ha et al. (2014), Kadić-Maglajić et al. (2017), Luna-Nevarez and Torres (2015), Lin and Kim (2016), Mukherjee and Banerjee (2017)	5 Significant positive effect
Booking or stay intention	Individual's conscious plan to book or stay (at a hotel)	Metric: Multi-item	Cervellon and Gallipienzo (2015), Leung et al. (2015)	3 Significant positive effect
Visit intention	Individual's conscious plan to visit an attraction or place	Metric: Multi-item	Ho and To (2018), Leung and Jiang (2018)	2 Mixed: Significant positive effect (Ho and To 2018); no significant effect (Leung and Jiang 2018)
EWOM intentions				
Intention of eWOM	Individual's intention to share, comment or like ads or recommend products or services advertised	Metric: Multi-item	Leung et al. (2015), Luna-Nevarez and Torres (2015), Mukherjee and Banerjee (2017)	4 Significant positive effect
Social interaction behavior	Individual's contribution to social media using social interaction with advertisers and other consumers about the advertised product/brand (Johnston et al. 2018)	Metric: Multi-item	Johnston et al. (2018)	1 Significant positive effect
General behavior and intentions				
General message interaction behaviors or intentions	Various individual's behaviors or intentions regarding ads (e.g., clicking, ignoring, paying attention, using, searching, accepting, receiving, leaving sites)	Metric: Multi-item	Amegbe et al. (2017), Boateng and Okoe (2015a), Chu et al. (2013), Hamouda (2018), Johnston et al. (2018), Kamal and Chu (2012), Mahlangu (2014), Natarajan et al. (2015), Tran (2017), Yang et al. (2017)	10 Significant positive effect
Click intention	Intended action initiated by individuals to click on ads, which redirects them to further websites for more information (Mir et al. 2015)	Metric: Multi-item and single item	Mir (2015), Mir (2017), Zhang and Mao (2016)	3 Significant positive effect

Ad-related reluctance and concerns				
Privacy concerns	Individual's concerns about their loss of privacy due to collection or disclosure of personal information by firms or advertisers (Taylor et al. 2011)	Metric: Multi-item	Bright and Logan (2018)	1
Social media fatigue	Individual's tendency to back away from social media usage when they become overwhelmed, e.g., with too many sites or content (Bright and Logan 2018)	Metric: Multi-item	Bright and Logan (2018)	1

*Frequencies include direct main and indirect (mediated) cause-and-effect relations. Articles can contribute more than one antecedent or consequence due to aggregation of similar constructs or multiple tested studies, scenarios, etc. with the same antecedents or consequences (e.g., Jung et al. 2016; Leung and Tandford 2016). The antecedent *overall beliefs* from Kamal and Chu (2012) is not included. The variable aggregates seven different variables.

They showed significant differences between various age groups. For example, younger users below the age of 20 have less favorable attitudes toward Twitter advertising compared to older users aged between 20 and 50 and users belonging to age groups 20-30 and 41-50 have more favorable attitudes toward YouTube advertising compared to users aged below 20 and between 31. The effects of affective and cognitive elaboration, income, nationality, self-disclosure, self-presentation, college year of study and consumer groups and on attitudes toward social media advertising have also been investigated in past studies, their results are depicted in Table 3.

Societal and interaction factors. This category summarizes six antecedents, which relate to the social environment, influence, or interaction of consumers. Notably, the relation between the social influence of other individuals on consumers' behavior or mind-set on attitude toward social media advertising received the highest attention within this category (n = 4) showing significant positive effects. In this context, three types of social influence, namely, compliance, identification, and internalization, were frequently studied as well (n = 2). Leung and Baloglu (2015) and Leung and Tanford (2016) showed that identification and internalization with a hotel Facebook page have positive effects on attitudes toward the hotel Facebook page. In contrast to their expectations, compliance has negative effects on attitudes toward hotel Facebook pages. Further, the effect of parasocial interaction is tested as well (see Table 3).

Social media experience and usage motivations. This main category contains 14 antecedents about consumers' social media experience or behavior and their motivations and needs to use social media in general. Consumers' usage behavior of social media gained a high interest in academic research (n = 7). Although most findings reveal that time spent on or usage frequency of social media has no significant effect on attitudes toward social media advertising, three studies reported contradictory results. Kamal and Chu (2012) indicated that

users, who have a high usage intensity of social media, also have more favorable attitudes than users with low usage intensities. Findings of Jung et al. (2016) and Thoo et al. (2018) are congruent with the ones of Kamal and Chu (2012); however, they only reported that significant differences exist but did not specify them. Beyond, social media experience is also analyzed in the majority of studies ($n = 3$). Leung et al. (2015) and Leung and Jiang (2018) showed that social media experiences have positive effects on attitudes toward social media advertising. Individual media dependency, number of friends, and social media boredom were studied at least twice within the studies. Ruiz-Mafe et al. (2014) and Sanz-Blas et al. (2017) found that consumers' media dependency has positive effects on attitudes toward social media advertising. Consumers' number of friends on social media has no effect on attitudes, while higher boredom of social media leads to less favorable attitudes toward social media advertising. In addition, hedonic, functional, psychological and social needs, fear of missing out, quality of life, social escapism motivation, structure time, and an aggregation of quality of life, structure time, and peer influence are analyzed as well (see Table 3).

Structural and platform attributes. This category summarizes 20 different antecedents, which mainly includes structural or configurational attributes or contents of ads. They can be directly designed by marketers or depend on the corresponding social media platforms and sites, who place the ads. The majority of studies ($n = 5$) investigated the effect of interactivity on attitudes toward social media advertising. They reveal that interactive ads or messages have positive effects on attitudes (e.g., Kujur and Singh 2017; Shin et al. 2018). Ad Arousal, congruency, message content, and message format received high attention as well in this category ($n = 2$). Message content, including either brand, product, or interactive-related, showed no significant differences among attitudes (Leung et al. 2017). The main effect of arousal shows mixed results. Belanche et al. (2017) found in their first study that the effect for high arousal stimuli on attitudes is higher than for low arousal stimuli, however, they did not

find the same main effect in their second study. The same accounts for the chosen message format. Leung et al. (2017) showed in their first study that consumers' have significantly more favorable attitudes toward the ad when the ad contains pictures compared to purely text or web link formats. However, the second study does not confirm the main effect of the first study. Belanche et al. (2017) showed that the main effect of congruency of the ad with its surrounding context on attitude has no significant differences, while Segev et al. (2014) found that an ad-congruent context leads to more positive attitudes compared to a non-congruent context. The other antecedents report clear findings. The effects of further structural and platform attributes like ad format, location, and ad path, appeal or content of brand post, fan page design, usage of hashtags, issue involvement, message type, network tie, product involvement, social distance, structured content, and vividness are shown in Table 3.

Brand-related factors. This category involves seven different antecedents, which refer to brand-related issues or perceptions about the brand or firm. A small majority of studies ($n = 2$) analyzed self-brand congruity and consumers' attitudes toward the brand. High consumer-brand congruity leads to more favorable attitudes toward social network or Facebook advertising (Celebi 2015; Taylor et al. 2011). Consumers' attitudes toward the brand or corporation have positive effects on attitudes toward social media advertising or corporate blogs (Bright and Logan 2015; Colton 2018). Further, studies investigated the effects of attitude toward hotel tweets, brand bonds, brand consciousness, corporate image consistency, and corporate reputation (see Table 3).

Ad-related socioeconomic factors. The five antecedents of this main category refer to socioeconomic perceptions about social media advertising (Pollay and Mittal 1993). Materialism and value corruption received high attention among researchers within a social media advertising context ($n = 4$). However, the results for materialism are mixed. While Boateng and Okoe (2015b) and Mirmehdi et al. (2017) found a significant negative effect of

materialism on attitude, Chu et al. (2013) and Mir (2015) reported no significant effect at all. Perceptions of value corruption of social media advertising lead to significant unfavorable attitudes (Boateng and Okoe 2015b; Chu et al. 2013; Mirmehdi et al. 2017). Mir (2015) found no significant effect of value corruption on attitude. Mixed research patterns occur for the construct falsity / no sense ($n = 2$). Chu et al. (2013) found a significant negative effect, whereas Mir (2015) showed a non-significant effect of falsity perceptions on attitude. Perceptions of social media advertising being good for the economy lead to positive attitudes toward social media advertising ($n = 2$) (Mir 2015; Mirmehdi et al. 2017). Table 3 also shows the findings for social role and image.

Ad-related utility factors. This main category involves ten attributes and perceptions about social media advertising, which offer certain degrees of personal utilities for consumers. Informativeness received the highest attention within this category ($n = 17$) and across all other antecedents across categories. Almost all studies concluded that informative social media advertising leads to more favorable attitudes toward social media advertising (e.g., Aydin 2018; Chu et al. 2013); only Jung et al. (2016), Logan et al. (2012) and Mahlangu (2014) found no significant effect. Another central antecedent of this category constitutes entertainment ($n = 16$). Entertaining or exciting social media ads lead to more favorable attitudes toward social media advertising (e.g., Aydin et al. 2018; Ha et al. 2014). However, Jung et al. (2016) and Shareef et al. (2019) showed no significant effects of entertainment on attitude. Credibility is yet another central antecedent of this category ($n = 11$). While most studies reported that perceptions of credibility have positive effects on attitude (e.g., Colton 2018; Johnston et al. 2018), Hassan et al. (2013) and Yaakop (2013) found no significant effects. Beyond, the effects of advertising value, personalization, ease of use, incentives, usefulness, infotainment, and trust on attitudes toward social media advertising are depicted in Table 3.

Ad-related reluctance and concerns. The last of the eight main categories encompasses six antecedents. They mainly describe negative perceptions or concerns of social media advertising. Most studies ($n = 10$) analyzed consumers' privacy concerns, which lead to less favorable attitudes toward social media advertising (e.g., Celebi 2015; Taylor et al. 2011). However, Yaakop et al. (2013) found a significant positive effect and Jung et al. (2016) and Walrave et al. (2018) reported no significant effect of privacy concerns at all. Intrusiveness is also analyzed in the majority of studies ($n = 7$). Celebi (2015) or Lin and Kim (2016) showed that social media ads interfering current consumers activities lead to unfavorable attitudes toward these ads. However, Jung et al. (2016) and Mir (2015) did not confirm these findings, revealing no significant effect of intrusiveness on attitude. A third central antecedent of this category constitutes irritation ($n = 7$). For example, Aydin (2018) or Hassan et al. (2013) showed that irritating perceptions of social media advertising have negative effects on attitudes; however, Hassan et al. (2013), Lee (2016), and Mirmehdi et al. (2017) exhibited no significant effect of irritation on attitude. A last central construct is advertising avoidance ($n = 3$), but with mixed research findings. Tran (2017) found a significant negative effect of ad avoidance on attitude, while Yaakop et al. (2013) reported a significant positive effect and Thoo et al. (2018) found no significant relation at all. Table 3 shows further findings of advertising skepticism and controversial perceptions of ad.

4.2.2 Consequences

Consequences are the dependent variables, while attitude serves as the independent variable. The reported consequences within the framework are less heterogeneous and fragmented in their research findings compared to the antecedents. In sum, the search process yields 13 different consequences, which I grouped into five main categories (see Figure 4 and Table 3).

Brand-related attitudes and intentions. The first category summarizes four different attitudes and intentions, which have a direct connection to the brand. Consumers' attitude toward the brand and their intention to join the brand's fan page were studied the most ($n = 7$). Favorable attitudes toward a firm's or brand's fan page lead to more favorable attitudes toward the brand (e.g., Alansari et al. 2018) and intentions to join the fan page (e.g., Jung et al. 2016). Further, favorable attitudes toward fan pages have significant positive effects on fan page loyalty ($n = 5$) (e.g., Manthiou et al. 2014). Further, Table 3 shows the findings of attitude toward the account.

Purchase intention. This main category comprises three consequences, which refer directly or indirectly to financial intentions regarding the advertised brand, product, or service. Thereby, most studies ($n = 5$) showed that favorable attitudes toward social media advertising enhance consumers' purchase intentions (e.g., Ha et al. 2014). Beyond, favorable attitudes toward fan pages or accounts increase the probability of booking intentions ($n = 3$) or visit intentions ($n = 2$) of shown destinations, attractions, or hotels on the fan pages or accounts (e.g., Ho and To 2018; Leung et al. 2015).

EWOM intentions. This category covers two consequences, which relate to consumers' intentions to share or recommend the ad or the advertised products and services to others. The central consequence of this category is eWOM intentions, which received high intention among researcher ($n = 4$). For example, Leung et al. (2015) found that favorable attitudes toward eWOM intentions have positive effects on the probability of spreading eWOM about the advertised products or the ad itself. The findings of the construct social interaction behavior are listed in Table 3.

General behavior and intentions. This main category comprises two different consequences, which contain general behavioral intentions triggered by ads such as clicking, ignoring, or paying attention to ads. General message interaction behaviors or intentions

received high interest among researcher ($n = 10$). Boateng and Okoe (2015a) showed that favorable attitudes lead to higher search intentions of the advertised product. Beyond, research showed that favorable attitudes have positive effects on click intentions of the ads ($n = 3$) (e.g., Mir 2015).

Ad-related reluctance and concerns. The last main category includes two consequences, namely privacy concerns, and social media fatigue, which both were measured only once ($n = 1$). Although they refer to negative concerns and behaviors about social media in general and advertising, attitudes toward social media advertising have a significant positive effect on privacy concerns (Bright and Logan 2018) but have no significant effect on social media fatigue (Bright and Logan (2018)).

5 Implications and Future Research Directions

5.1 Managerial Implications

Although most social media platform and sites originated in the mid or end of the 2000s, the utilization of social media and advertising purposes still constitutes insurmountable obstacles for many marketers. Due to the dynamic nature of social media and its users, marketers lack knowledge of how to implement and organize social media advertising in more effective ways.

The proposed causal chain framework helps marketers to gain competitive advantages for their social media advertising. The framework reveals that attitudes toward social media advertising have significant positive effects on many firm-relevant outcomes, such as attitude toward the brand, purchase intentions, or spreading eWOM among other consumers. At the same time, the framework provides an extensive list of different antecedents influencing either in positive or negative ways attitudes and thus, the effectiveness. Due to the additional findings of the vote-count analyses, marketers have more certainty about which effects of antecedents are valid and reliable due to information on frequency. Overall, the results benefit

marketers in multiple ways, providing a better understanding of social media advertising effectiveness.

First, marketers can employ certain information about main categories like *demographics and personality factors*, *social media experience and usage motivations*, or *societal and interaction factors*, to enhance targeting approaches in a social media context. For example, marketers should target more professionals, as they have more favorable attitudes than students—the same accounts for users with high incomes, which report more favorable attitudes than users with lower incomes. However, there is no need to target consumers based on genders since no differences between male and female were found. Marketers should also observe consumers' activity and conversation patterns for targeting. Consumers having more experiences with social media or showing high tendencies communicating with others have favorable attitudes toward social media advertising. In this context, marketers should integrate references of close friends of consumers within their ads (e.g., social ads), as the social influence of others has significant positive effects on the effectiveness. Beyond, knowledge about consumers' personality traits self-disclosure or self-presentation could be utilized for the planning and implementation of influencer marketing strategies within social media. Consumers with these personality traits have more favorable attitudes of social media advertising and might be more willing to cooperate with firms or brands to promote their products and services.

Second, marketers could derive beneficial information from the framework by adopting information from *structural or platform specific attributes*. Results from this category help marketers with structural decisions when designing and placing ads on social media platforms or sites. For example, according to the findings, the placement of ads within users' timeline does not yield in more favorable attitudes compared to the placement outside the timeline on Facebook. Further, marketers could integrate ads, which contain interactive

elements, e.g., hyperlinks or clickable maps, since interactivity of social media ads leads to positive effects on advertising attitudes. As mentioned above, marketers should rely on social ads, which refer to users' friends within the ad, as they lead to more favorable attitudes compared to non-social ads.

Findings of the *brand-related factors* reveal that, e.g., higher self-brand congruity and brand bonds lead to more favorable attitudes toward social media advertising. Conclusively, marketers should use social media to build up relationships with consumers to increase their attachment and commitment to the brand. Beyond, marketers should implement advertising, which is consistent with their corporate image.

Fourth, the three *ad-related categories* help marketers to understand better how consumers' perceptions of ads influence their attitudes toward social media advertising in either positive or negative ways. The information could be utilized to tailor social media advertising and its content along with consumers' preferences and perceptions. For example, marketers should put more efforts into exciting aspects within its ads, such as humorous images or slogans, as entertainment has positive effects on attitudes. Beyond, marketers should provide clear and helpful information about products or services advertised within social media. This step could be achieved, e.g., through videos, which offer additional and comprehensible information about products or services. Incentives within social media ads could be anticipated by marketers as well to generate positive attitudes. For example, marketers could offer specific deals or discounts, which they exclusively distribute through their brand pages. Beyond, they should focus on personalized advertising such as considering consumers' liked preferences and interests on social media, as personalization generates favorable attitudes. Finally, marketers should increase perceptions that social media advertising provides values for the economy as those perceptions increase the effectiveness.

Simultaneously, marketers should design ads and their contents in such ways that they are easily understood and relevant to consumers. For example, too complicated information or interfering colors may irritate consumers. Furthermore, the framework shows that intrusiveness has negative effects on attitude. Therefore, marketers should decide for less invasive advertising techniques, which do not interrupt current social media activities of consumers. Instead, ads should be integrated smoothly within consumers' social media environment.

5.2 Theoretical Implications

My study is the first systematic literature review summarizing the current research status of attitudes toward social media advertising. In contrast to other literature reviews about social media marketing or advertising (e.g., Knoll 2016; Yadav and Rahman 2017), the findings offer fine-grained insights and knowledge about social media advertising showing, e.g., what determinants influence its effectiveness in negative or positive ways. The proposed causal chain framework of attitudes toward social media advertising synthesizes and integrates 80 different antecedents and 13 consequences across different studies and research disciplines. It offers a multidisciplinary status quo of social media advertising.

Beyond, findings of the vote-count analyses reveal first indications about directions and significance of each cause-and-effect relationship within the framework. Those additional findings help academic literature to detect inconsistencies (e.g., conflictive directions and significance of effects) among antecedents and consequences and further help to identify less studied constructs. Beyond, my study reveals common patterns of social media advertising literature, providing additional research topics and gaps.

5.3 Future Research Directions

In accordance with the third research objective, I derive the detection of future research directions and recommendations for attitude toward social media advertising from

the findings of the first and second research objectives. The findings of the occurrence and frequencies patterns, as well as the causal chain framework, offer interesting research gaps and directions.

Figure 2 reveals that the majority of articles relied on college student samples, as they occupy the largest proportion of social media users. However, the usage of such homogeneous samples might involve risks of biased results, such as finding stronger effects for homogenous than for more heterogeneous populations (Brown and Stayman 1992). College students are not representative of all social media users anymore, as more elderly people use social media as well (Pew Research Center 2018; We Are Social 2018). Future research studies should generally adjust to this shift of age and should anticipate more heterogeneous samples, e.g., panel data, when examining their attitudes.

Additionally, Table 2 shows that attitude toward social media advertising mainly based on U.S. American samples. However, social media is nowadays a worldwide phenomenon with increasing penetration rates and social media behavior in many countries and cultures (We Are Social 2019), assuming different attitudes as well. Thus, future studies should examine attitudes from less frequently studied countries and cultures to provide a broader cross-cultural overview. In the next step, attitudes toward social media advertising from different countries and cultures could be directly compared, as already done by Johnston et al. (2018). Further, Table 3 confirms that nationality is a less studied construct. These findings would be helpful for marketers who operate on global levels.

According to Figure 4, most of the articles refer to paid or owned forms of advertising for Facebook or social media/networks in general. Although Facebook is the most popular social network worldwide (We Are Social 2019), other social media platforms and sites like Twitter, Instagram, YouTube, or Snapchat have enormous user numbers as well. It would be interesting to take more in-depth looks by analyzing and comparing advertising attitudes on

these social media platforms and sites. They differ among in terms the of platform structure, user behavior, or application priorities. In a second step, attitudes toward different ad formats of specific social media platforms and sites could be compared, helping marketers to find the most advantageous formats for their advertising strategies. Another stream of research could investigate how antecedents influence attitudes toward brand communities since the identified articles did not study these attitudes at all. Within brand communities, consumers express intensive brand loyalty as they are treated by the firm more as partners than customers (Bagozzi and Dholakia 2006). It would be helpful to understand how antecedents influence those attitudes toward brand communities and how these findings could be transferred to other social media ad formats.

Unaddressed issues remain for attitudes toward mobile social media advertising. Mobile devices are increasingly becoming a standard when accessing social media (GlobalWebIndex 2017), diminishing the relevance of desktop PCs. Future studies could provide how the mobile channel influence attitudes toward social media advertising. Mobile devices accompany with specific challenges for marketers, e.g., smaller screens, location-based services, or changed consumer behavior (Zubcsek et al. 2017).

The results from the proposed causal chain framework demonstrate a broad and diverse range of antecedents and consequences of attitude toward social media advertising. According to Table 3, most of the past research concentrated predominantly on antecedents from ad-related utility factors and ad-related reluctance and concerns with stable and reliable findings. Other antecedents and categories are quite underrepresented, which may result in less accurate and reliable results. Future research could address these research gaps by providing more solid knowledge and insights about less represented (studied less than two times) and “mixed” constructs (e.g., materialism, falsity, advertising avoidance, visit intention, or message format).

Furthermore, product-related antecedents such as product type, complexity, or involvement did not receive any attention within the identified articles, except for Belanche et al. (2017). Past research showed that product-related variables do have effects on advertising effectiveness (Eisenbeiss et al. 2015; Lee et al. 2015). Future studies could adopt and transfer their findings and analyze the effects and directions of product-related antecedents on attitudes.

Beyond, future studies could explicitly examine and compare effects on and of social media attitudes toward paid or owned advertising formats. Although I did not differentiate between these two forms, future research could investigate this differentiation in more details. Interesting findings could be expected as paid media has a higher reach than owned media but counteracted by declining consumer responses and less credibility (Baetzgen and Tropp 2015). Future findings could investigate, which antecedents are more relevant for paid and owned advertising formats to increase their effectiveness.

The findings of the vote-count method provide first insights about the best estimation between antecedents and consequences with attitudes. However, there is still need for further statistical evidence from these relations, which could be done through the conduction of meta-analytical analyses. Future meta-analyses could disclose which antecedents have the most substantial effects on attitudes and how social media platforms or sites might moderate these effects.

6 Conclusion and Limitations

Nowadays, social media occupies central parts in most marketers' advertising activities and efforts (Zhang et al. 2017), however, the understanding of the effectiveness of social media advertising is limited (Kumar et al. 2017). My study aimed to review and analyze all past academic research dealing with attitudes toward social media advertising and its antecedents and consequences.

The findings of my study exhibit that multiple research disciplines such as tourism, management business, and advertising study attitudes toward social media advertising. Most articles are originated in the U.S. and apply student samples, while Facebook is mostly used as the social network to determine advertising attitudes. Given the causal chain framework, research constructs were integrated and positioned as antecedents and consequences, which have been further categorized into broader categories. The findings of the framework and the vote-count analysis show that especially ad-related antecedents received enormous attention among academic research, while others were studied less, like structural or platform-related antecedents. Although most cause-and-effect relations with attitude were clear and valid, some relations indicate contradictory findings in terms of significance and direction.

In conclusion, my study contributes significantly to the existing body of social media advertising research in various ways. I provide qualitative contributions through the exhaustive and systematic literature review of 56 articles revealing key findings and insights about antecedents and consequences of attitudes. Various classifications (i.e., journal, publication year, country, type of sample, and type of social media platform or site), provide additional insights about occurrence and frequency patterns of the relevant literature. I achieve quantitative contributions through the development of a causal chain framework combined with findings of basic approaches of the vote-count method. The framework integrates 80 different antecedents and 13 consequences with further information about significance and directions. Lastly, many research gaps and recommendations are given to help academic research enhancing and extending knowledge about attitudes toward social media advertising.

Similar to other literature reviews, this study is not without limitations. Despite an accurate and exhaustive search process, it is possible that the identified articles do not represent the full range of relevant articles. I might have overlooked some articles due to used

search keywords or databases. My study did not provide information about certain aspects of the framework, such as moderator variables since their analyses were highly limited and analyzed within the identified studies. Thus, I did not address and examine the interaction effects of moderator or other variables. Interaction effects of moderator variables could be addressed in future literature reviews. Although I formed the broader categories of antecedents and consequences on constructs' similarities and other previously defined categories of other review, risks of subjective allocations and assessments could not be entirely excluded.

Further, not all studies provided complete information about their used variables or research findings. For example, studies reported significant differences for certain variables but did not accomplish these findings in more detail. Lastly, research about attitudes toward social media advertising is still continually increasing. Thus, more recently published research should be considered in future research.

References – Paper III¹⁹

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¹⁹ Articles comprising the dataset of the systematic literature review are marked with asterisk (*).

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Statutory Declaration

Eidesstattliche Erklärung

„Hiermit versichere ich an Eides Statt, dass die Arbeit ohne unerlaubte Hilfe angefertigt und keine anderen, als die angegebenen Quellen und Hilfsmittel benutzt wurden. Ich erkläre ferner, dass die den benutzten Werken wörtlich oder inhaltlich entnommenen Stellen als solche kenntlich gemacht wurden. Eine Überprüfung der Dissertation mit qualifizierter Software im Rahmen der Untersuchung von Plagiatsvorwürfen ist gestattet.“

Bremen, 09. August 2019

Ort, Datum

Unterschrift