

## MICRO-MOMENTS OF USER EXPERIENCE: AN APPROACH TO UNDERSTANDING ONLINE USER INTENTIONS AND BEHAVIOR

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### ABSTRACT

*In recent years, in the advent of global internet availability and almost equally omnipresent mobile device usage, online user behavior together with the resulting experience has been changing and evolving at a significant pace. Users do not only spend more time online, they consult online resources and seek information for various goals and are motivated by a variety of needs: those intent-driven actions are dispersed throughout the day (or night) and integrated within their daily activities. The user behavior is determined by specific micro-moments which are truly the moments of consumer needs and therefore the moments the marketers need to be a part of. Furthermore, mobile devices and smartphones in particular, possess the ability to promptly meet the immediate needs of their users thus shaping new opportunities for marketers to capture and utilize. In order to have a better understanding of online user intention and behavioral patterns, the paper provides an insight of recent studies of user micro-moments within the digital environment. The main goal of this paper is to provide an overview of recent academic and professional papers on the changes in online user experience and behavior and suggest the theoretical background for further research. Mobile devices can directly influence user behavior and emotional states by addressing a wide variety of information needs. The implications of these findings are important as they empower the possibilities of direct marketing in the digital era.*

**KEYWORDS:** micro-moments, mobile devices, online user experience, user behavior

## 1 INTRODUCTION

In recent years, there have been significant changes in patterns of information search and information consumption paired with highly accelerated information flows through different mediums and associated channels [Nicholas et al., 2013]. Information access and transmission has been heavily influenced by the use of mobile devices such as portable computers (laptops), mobile phones, tablets, wearables and similar devices. Mobile devices are highly individualized communication tools [Bacile et al., 2014] that have enabled consumers' global access to digital information while empowering them to initiate engagement with desired content at the time and place of their preference [Fulgoni, 2016].

An overwhelming majority of consumers in developed and emerging economies alike are mobile phone users [Nielsen Research, 2013]. For 2016, the number of mobile phone users worldwide is forecast to reach 4.61 billion while the same source project over 5 billion mobile phone users in 2019 [Statista, 2016a]. Within that majority, the percentage of smartphone ownership is on the rise. Smartphones are usually described as advanced mobile phones with data access capabilities and a multitude of software applications [Mang et al., 2016]. In 2016, the number of smartphone users is expected to reach 2.08 billion worldwide and by 2019, the number of smartphone users should surpass 2.66 billion [Statista, 2016b].

Mobile devices have been rapidly altering user behavior: the change is evident in the way users search, interact, socialize and make purchases [Ghose et al., 2013]. This type of change is affecting the entire user experience across various screens, devices and channels [Adams et al., 2015]. Mobile devices represent "the most important dislocation in the historical communication flow from brands to consumers" [Fulgoni, 2016]. Furthermore, in many countries more searches take place on mobile devices than on (desktop) computers. Adams et al. [2015] suggest that mobile search behavior is a good reflection of growing user reliance on mobile devices worldwide. Avci [2013] proposes that a simultaneous usage of several media formats and devices is a behavior leading to a 'glance culture' where users split their attention between varieties of condensed media forms. Within this behavioral change, consumer attitudes, expectations and values are transformed and shaped towards new conventions.

The global internet and mobile device presence equally enabled the potential reach of their respective users: it allowed marketers to reach their target audience constantly and more directly [Grewal et al., 2016]. Considering the decreasing user attention span and lower patience levels, it is relatively easier to provide all the relevant information through mobile device [Sarvepalli et al., 2016], acknowledging the user-specific needs and preferences. The ability to support location-based applications is an extremely important feature that is very specific to mobile

devices [Grewal et al., 2016]. Those interconnected devices allow access to a range of context-based and location-based services that were previously unavailable.

## **2 MICRO-MOMENTS OF USER EXPERIENCE**

The availability of mobile devices resulted in changing the user experience in the digital environment. The traditional user journey is fractured into hundreds of real-time intent-driven moments which occur billions of times per day (Solis, 2015). In 2011, Google specialists introduced the term Zero Moment Of Truth (ZMOT) as an online “decision-making moment of user experience” (Lecinski, 2014). However, the term ‘micro-moment’ started to appear more frequently in digital information environment around 2012 but was made extremely popular by Google, among others, during 2015 (Google Trends, 2016). Llewellyn (2015) suggests that the micro-moment concept is a successor to ZMOT concept and is influenced by the increasingly evolving state of mobile device usage among users. Besides many available professional articles, the usage of the term micro-moments is still rather limited in the scientific domain.

Ramaswamy (2015) refers to micro-moments as “intent-driven moments of decision-making and preference-shaping” that occur during the entire user journey and ultimately determine how that journey ends (Adams et al., 2015). These micro-moments happen when individuals almost reflexively reach for a device (usually smartphone) to promptly act on any sort of immediate need. In these moments, user expectations are very high because they expect businesses to proactively anticipate their needs powered by contextual data (Husson, Ask, 2014). In addition, digitally-savvy users expect companies to immediately deliver useful content to help them shape preferences and ultimately make decisions (Milhinhos, 2015).

Micro-moments unfold through a variety of user-oriented scenarios (Solis, 2015). Adams et al. (2015) propose 4 categories of micro-moments: I-want-to-know, I-want-to-go, I-want-to-buy, and I-want-to-do moments. In several articles additional categories or sub-categories of micro-moments are also mentioned. Solis (2015) suggests an additional micro-moment type: I-want-to-learn (even though it might be considered within the I-want-to-know category). Regardless of the micro-moment category, every micro-moment is determined by user intent, context and immediacy.

Wan et al. (2010) mention micro-moments in the context of information services of smartphone applications, yet the detailed elaboration of the term is missing. However, the same authors continue to conclude that personalized information services of smartphones support many micro-moments within the travel process (Wang et al., 2013; Karanasios et al., 2015) in addition to supporting main travel activities such as planning, reservation and navigation. The similar influence on user searching and purchasing activities is apparent across multiple mobile devices (Ghose et al., 2013; Google, 2012).

Several researches (Luo et al., 2014; Bernoff et al., 2014) use the term mobile-moments along with micro-moments. Luo et al. (2014) suggest that mobile-moments are specific situations when users reach for a mobile device “for instantaneous response to a moment in context”. Furthermore, Bernoff (2014) differentiates the two terms suggesting that micro-moment is a mobile moment that requires only “a glance to identify and delivers quick information that you can either consume, or act on immediately”. Some marketing professionals even propose the term moment marketing (Friedman, 2014; Ferreira, 2015; Pollock, 2016; eMarketer, 2015a) or micro-moment marketing (Lacoste, 2016) suggesting that micro-moments create a significant starting point of understanding the target audience behavior. In the following subsections, the influence of micro-moments in specific market-related situations and fields will be addressed.

## **2.1 MICRO-MOMENTS IN MOBILE COMMERCE**

One of the most important marketers’ goals over time is reaching target audience at the moments they are open to be influenced and motivated towards preferred action, namely purchase decision (Samarhan, 2016; Court et al., 2009). For many years these moments were understood through a funnel where users evaluate a number of potential actions and reduce the number of alternatives, ultimately choosing one desired action (Court et al., 2009). The funnel approach proposes that users “systematically narrow the initial consideration set” as they evaluate alternatives in order to reach a final decision about the purchase (Samarhan, 2016). However, the funnel concept doesn't capture the complexity of the decision process (Baik et al., 2014; Marvin, 2015). The path of user experience is less linear and far more complicated as it is comprised of various micro-moments of user experience.

Solis (2016) suggests that understanding user intentions, context and expectations for immediacy and relevance helps marketers in reaching their target audience more effectively. Digitally versed companies capture their target audience earlier in the decision-making process by creating useful content and utilizing those micro-moments (Think with Google, 2016). Users are attracted to the brands that best address specific micro-moment needs namely because mobile and digitally connected users are far more oriented on their personal needs than they are loyal to a particular brand or product (Fulgoni, 2016).

The rapid adoption of mobile devices as well as the widespread use of mobile applications has fueled the growth of mobile commerce (or m-commerce) worldwide (Xu et al., 2016). A recent study (Meeker, 2016) showed that the average global mobile phone user has 33 applications (apps) installed on the device, out of which 12 apps are used on a daily level. eMarketer (2016) estimates that US retail m-commerce sales will reach \$123.13 billion in 2016, which is slightly under a 40% increase in comparison with 2015 and more than double the amount compared to 2014. In addition, m-commerce will account for just under one-third of retail e-commerce sales in 2016.

Based on a recent Google/Ipsos study (Ramaswamy, 2015), 91% of US based smartphone users, look up information on their smartphones while in the middle of a task. Furthermore, 82% use their phones while they're standing in a physical store deciding which product to purchase. One in 10 of those buy a different product than they had initially planned. A similar study (Google, 2016) revealed that 88% of online users accessed a device for immediate information or ideas while 78% of smartphone users regularly turn to their smartphone for ideas while doing a given task. In addition, more than half of smartphone users agree that the last time they used their smartphone while shopping at the physical store, the information found impacted their purchase decision. Furthermore, 50% of consumers conducting research on their smartphone have purchased a product they would not normally purchase because of relevant information available on their smartphone in the specific moment (micro-moment).

Xu et al. (2016) confirmed that users rely on micro-moments across devices to browse for products and make purchases and in fact positively influence the consumer purchase process. In addition, Milhinhos (2015) investigated how the intersection of content marketing and e-commerce affects attitudes and behavioral intent, thus leveraging the micro-moments of user experience. The results indicate that content marketing in commercial product pages is relevant in driving consumer attitudes and purchase intentions. Interestingly enough, recent changes in user online behavior also influenced the frequency of physical store visits. Adams, Burkholder and Hamilton (2015) propose that even though the physical store visits have declined, consumers are spending more when they visit as a result of prior research and decisions made ahead of coming to the physical store.

A recent study of the US market (Forrester, 2015) indicated that many businesses recognize the sense of urgency that mobile-oriented user behavior has on user experience. In fact, 70% of companies stated they have begun to transform their businesses on account of mobile device usage among their target audiences. Furthermore, the same study found that businesses that act on implementing the micro-moment approach in their strategies reap tangible benefits in overall marketing investment.

## **2.2 MICRO-MOMENTS IN ONLINE ADVERTISING**

Bearing in mind the popularity and global connectivity of mobile devices, it is apparent that mobile advertising presents major opportunities for various businesses. The global mobile advertising market is growing, with estimation to reach over \$100 billion and account for more than half of total digital advertising spending in 2016 (eMarketer, 2015b).

Professional research has shown that the consumer engagement and the impact of advertising is higher on mobile devices than on desktop computers (comScore et al., 2015). Fulgoni (2016) suggest that the reason behind this is less advertising clutter on mobile devices in comparison

to traditional desktop computers and that advertisements can be delivered closer to the actual point of purchase or, in more general terms, closely aligned to the consumer mindset utilizing the micro-moments of user experience.

The message oversaturation of advertising communication channels has traditionally driven advertisers towards the need of being unique and different at almost any cost thus alienating them from the initial communication goals. Although target audience might respond to the novelty of advertising message, Gevelber (2015) argues that the consumers value utility over novelty which ultimately leads to achieving desired business goals. However, leveraging the potential of mobile advertising has proven to be a significant challenge with somewhat questionable effectiveness (Del Rey, 2012). In addition, a large percentage of consumers perceive mobile ads as irrelevant, thus considering them as irritating and often ignoring those ads entirely. This perception can lead to absence of any positive effect or even create negative influence on consumer attitudes and purchase intentions (Bart et al., 2014; Patel et al., 2013). On the other hand, prior research has shown that valid geo-targeting or consumer micro-location context is crucial to mobile ad effectiveness (Ghose et al., 2014; Luo et al., 2014).

### **2.3 MICRO-MOMENTS IN ONLINE TRAVEL INDUSTRY**

Smartphones appear to have substantial influence on travelers enabling them to access online information virtually anytime and anywhere (Brown, Chalmers, 2003) and construct their personal travel experience (Wang et al., 2010; Rasinger et al., 2007). Mobile devices “can change tourists’ behavior and emotional states by addressing a wide variety of information needs” while empowering them to solve problems more effectively, share their experiences and even preserve memories (Wang et al., 2013).

Common travel usages for smartphones usually include taking photos, social networking, viewing maps, finding transportation and searching for shops and restaurants (Mang et al., 2016). However, smartphone apps support tourists’ information processing activities in the consumption stage, but also the activities in the pre-consumption and post-consumption stages of tourism services (Wang et al., 2010). A number of activities that had been traditionally conducted by tourists in the pre-travel and the post-travel stage (searching for information, booking, feedback, reviews) are now being carried out in the during-travel stage. Karanasios et al. (2015) refer to this as a ‘concertina effect’ on tourism-related activities.

Location-based capabilities of mobile devices can foster “a scale of response and immediacy by tourists” which can’t be matched by any traditional means of tourist attention seeking (Brown et al., 2013). The omnipresence and strong computational capability of smartphones motivate tourists’ impulsive action (Wang et al., 2013) which accentuates the significance of micro-moments and the necessity of examining their influence.

### 3 CONCLUSION

In recent years, there have been significant changes in patterns of information search and information consumption. With the increasing number of mobile phone users worldwide, user behavior has been changing and evolving at a significant pace. Mobile devices have been rapidly altering user behavior: the change is evident in the way users search, interact, socialize and make purchases. This type of change is affecting the entire user experience across various screens, devices and channels. Furthermore, mobile devices enabled consumers' global access to digital information while empowering them to initiate engagement with desired content at the time and place of their preference. The user behavior is influenced by specific micro-moments which are truly the moments of consumer needs and therefore provide a significant platform of research. Micro-moments are intent-driven moments of decision-making and preference-shaping that occur during the entire user journey. These micro-moments happen when individuals reflexively reach for a mobile device to promptly act on any sort of immediate need. In those specific moments, user expectations are very high because they expect businesses to proactively anticipate their needs powered by contextual data. Therefore, every micro-moment is determined by the user intent, context and immediacy. In addition, mobile devices and smartphones in particular, possess the ability to promptly meet the immediate needs of their users thus shaping new opportunities for marketers to capture and utilize. In order to have a better understanding of online user intention and behavioral patterns, the paper provides an insight of recent studies of user micro-moments within the digital environment. The main goal of this paper is to provide an overview of recent academic and professional papers on the changes in online user experience and behavior and suggest the theoretical background for further research. The implications of these findings are important as they empower the possibilities of direct marketing in the digital era. Therefore, in order to obtain a more comprehensive understanding of this issue, further research is encouraged to test, observe and measure the influence of micro-moments of user experience and behavior.

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