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CONTEXT NOTE

Once this article is peer-reviewed and gone through many revisions, this article would be published in an accredited international marketing or business trade journal such as the *International Journal of Information Management* or *Marketing Science* from the Institute for Operations Research and the Management Sciences. These publications are appropriate for this writing about the advancement of marketing technologies such as social media and mobile networks. The article goes on to define and discuss the concept of "big data", which is the advancements that companies are making within database efficiencies and how multiple information sources can be used to create meaningful and actionable insights. This broad concept is important because it helps the growing need for businesses to specifically understand what individual customers like and are interested in, not just broad customer segments.

Big Data: The multifunctional marketing tool

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ABSTRACT

This writing emphasizes the changes in marketing due to the advancements in technology ever since the turn of the 21st Century. The author explains how the introduction of new companies in social media and new technological capabilities in the mobile space has created vast opportunities and challenges for marketing professionals. The author argues that the combination of these advancements into "big data" is the ultimate benefit from all the new technological innovations. Lastly, the author examines the rise of the enabled consumer and how these technologies have empowered the consumer to have new abilities in brand relationships.

INTRODUCTION

The materialization of new consumer technologies has created new opportunities for businesses to communicate and interact with their customers. Prior to these advancements, marketing professionals within businesses performed their jobs without insight until they received weekly or monthly reports. In 2004, the birth of Facebook revolutionized the concept of social media, and soon in 2006, Twitter was born as a revolutionary micro-blogging tool. Short after, with the introduction of the Apple iPhone in 2007, mobile marketing changed from a SMS text message opportunity to a wide array of data-intense advertisements and applications opportunities. Ever since these new technological introductions, businesses have been leveraging these two tools, social media and mobile marketing, to further push their brands and gather as much information about their target market as possible. Marketing professionals are currently so focused on the individual benefits of these two tools that they do not realize that the two in cohesion provide the larger insight they need. Through the inclusion of social media and mobile marketing to create unique customer identities, Big Data provides marketing professionals with a better go-to-market strategy than either advancement could have on their own.

BACKGROUND

The landscape that is modern marketing has completely changed ever since the turn of the century with the introduction of web technologies and computing. However, it was not until Facebook was introduced to the world from Harvard University's campus that the social media revolution began. Over the last nine years, the social network has grown and expanded with more robust functionality to incorporate business and advertising needs and now has over one billion active monthly users. Short after Facebook, another dominant social media website, Twitter, was introduced to the world allowing for quick 140-character messages to be communicated in a stream of content to users, allowing for consumers to gather information

quickly and for businesses to better track customer engagement with their brands. Today, there are hundreds of social media sites used by individuals around the world. "The benefits associated with social networks are enhanced in an online environment, where the problems of time and geographical location become less significant" (Michaelidou, Siamagka, Christodoulides 2011). Although social media removed this barrier regarding time and location, mobile marketing has become a powerful tool for professionals that leverage those barriers. The mobile space has matured from SMS text message communication in the early 2000's, to the robust video-intensive and highly interactive media forms that it is today. This is due to the widespread adoption of powerful smartphones that originated with the release of the first Apple iPhone. With the IPO of both Facebook and Twitter in the past, and smartphones dominating the mobile market, these two forms of marketing are robust opportunities for companies to communicate and interact with their customers.

SOCIAL MEDIA

Social networks have created massive opportunities for consumers to interact with others and for themselves to express their interests. It has created an opportunity for businesses to gauge their consumer's interaction with the product and their interest in the brand. This "ability for consumers to identify brands of interest and connect with them has enabled sharing between brands and consumers in new ways. Brands and their consumers can now create two-way relationships and share content, news, and feedback" (Lipsman et al. 2012). The consumer benefits from receiving more of what they are interested in, and the business gets the opportunity to better connect with consumers on a personal level, creating long lasting relationships. "Companies that properly understand and apply the techniques and technologies of [social media] will accrue competitive advantages" (Bonometti 2012).

There are many challenges that marketing professionals have posed difficult while creating robust social media marketing plans. First off, many social networks (specifically Facebook) have dealt with many ongoing user privacy concerns. This block in user information to companies has depersonalized the experience with the customer and removed the company's insights about the user. Secondly, with the increased feature set of Facebook and Twitter, "typical approaches that focus on raw fan counts, however—or the total number of engagements on a given piece of content—fail to depict the potential and realized scope of social-media brand impressions" (Lipsman et al. 2012). Companies must now look to third-party social media clients such as HooteSuite and Tweetdeck to get the necessary social media metrics they require. Thirdly, other issues such as fake profiles and duplicate identities on social networks have proven to manipulate final metrics. Social media has been declared a hard way to measure the impact on overall return on investment. All these issues have caused for an increased concern about social medias involvement in the marketing space.

MOBILE MARKETING

"We define mobile marketing as a set of programs and practices that firms employ to communicate and engage, in an interactive manner, with consumers and enable them to access information, download content, or purchase products on mobile devices" (Gao et al. 2013). This opportunity to gather physical and tangible information about consumers has allowed for a wealth of opportunity for businesses. The industry is growing and "Global Industry Analysts Inc. has predicted that the world-wide mobile advertising market will reach $18.5 billion by 2015 while the total global mobile applications market will be worth $25 billion" (Watson, McCarthy,

Rowley 2013). The main benefits of mobile marketing include that is allows for a very high amount of interactivity between the consumer and the company, and secondly, that the marketing content can be catered specifically to consumer's location with unique location-based content. This opportunity allows for robust interaction for businesses with their consumers and for more accurate marketing.

There have been many negative side affects and understanding from the growth of mobile marketing. "Prior to the advent of smartphone technology in 2007, mobile marketers were limited to SMS and MMS communications to engage consumers … consumers regard SMS marketing as an invasion of their privacy" (Watson, McCarthy, Rowley 2013). This method proved to be extremely inaccurate for marketing. Research has declared that consumers only like SMS texting when they have the option to opt into the preferences they prefer. Another issue that companies have realized is that there is an ever-growing market of applications and web applications on smartphones. "Acquiring and retaining consumers amid the abundance of apps available presents a major challenge to marketers" (Watson, McCarthy, Rowley 2013). As more services become available to users on their mobile devices, the more interfaces and media exposure they receive. This poses issues to the value of each individual interaction consumers have with the company on a mobile device. Overall, these issues have caused businesses to express concern in mobile marketing's potential in future marketing plans.

THE BENEFITS OF BIG DATA

These technological advancements within Marketing have lead to the creation of the most influential component of technology on modern marketing, Big Data. "A term describing the totality of structured and unstructured data sources including social media" (Bonometti 2012), Big Data is the combination of social media and mobile marketing to create better and more strategic marketing efforts which leverage both advancements. With the insightful, thoughtful, and emotional data provided by social media combined with the actionable tangible data of mobile marketing, companies have the ability to better target what their consumers want and where they want it.

The benefits of each technology work well with the benefits of the other. "To account for the positive role of perceived innovativeness on attitude toward mobile marketing, companies will also want to further explore the concept of social commerce or social media to enable consumers to purchase, talk about, and recommend products or services" (Gao et al. 2013). The information from mobile marketing allows social media marketing to be more concentrated and relevant to the actions that the consumer expressed and performed. While the information from social media marketing allows mobile marketing to offer information relevant to their past interactions and emotional connections, creating deeper and relevant information for the consumer which is more likely to be increasingly actionable. With this information share, "mobile communications should provide consumers with either relevant information or a way to save time or money based on the consumer's situation, location, or personal profile" (Watson, McCarthy, Rowley 2013).

Big Data is to be the best outcome of all these technological marketing innovations because of the comprehensible insight it gives a company into the way a consumer interacts with the company. "The future "marketspace" will be radically different … it will leverage "Big Data" … and it will rely on a complex tapestry of richly interactive, intelligent real-time channels characterized by: … Mobility and Location-Awareness, Intelligence, Real-time Responsiveness and Adaptability, Write-Once Reach-Many" (Bonometti 2012). Marketing

professionals can better see and relate how and why people go certain places, enjoy certain things, and then how they relate to one another. Companies will be able to understand how they are interacting with a consumer immediately with-in any giving moment at any given location. Lastly, companies will be able to publish one piece of information and have it immediately be available to a specific targeted audience, which meet extreme qualifications. These types of trends will allow for refined specialized marketing on a per individual basis, which will best target the user and their interaction with the company.

THE INDIVIDUAL CONSUMER

All of this information funnels down to the concept that marketing has changed from a target market business with general market criteria, to a target consumer business. With the advancements of technology with social media, mobile marketing, and big data, the characteristics of the consumer have been detailed ever so that the voice of the consumer is apparent in the market. All the capabilities of the aforementioned technologies that are accessible to businesses are also available to the consumer. As the business gets more insight on the consumer, the consumer becomes more apparent to the business – for both positive and negative reasons. In August 2013, HubSpot, a marketing automation company based out of Boston, MA, held their annual Inbound Conference where their opening video was spoken in the voice of the consumer:

> I am a person… The world has changed, and me along with it. I am more informed, more engaged, and more connected than ever. I am more opinionated, and I am quick to share my opinions with friends and strangers alike… My recommendations bring in your customers… I can be your most powerful advocate, or I can be your loudest protester. I can make you or break you with one simple post… more so then ever I am in control. (INBOUND 2013 Opening Video)

This acknowledges the interaction that is apparent between companies and consumers in today's marketing world. The relationship must be monitored and fostered throughout the entire lifetime of the company and the consumer. Positive, effective, and reinforced marketing tactics allows for the opportunity to create great brand recognition and consumer opinions, but also leaves the opportunity for one mistake to destroy a customer relationship. This exemplifies how the advancements in technology and the growth of big data have benefited consumers as well as businesses alike.

CONCLUSIONS

Big Data's inclusion of social media and mobile marketing to create unique customer identities   provides more information than either advancement could have on their own to Marketing professionals. Social media proves to offer great emotional connections with consumers and for companies to understand the interests of their customers. Yet, the lack of cohesive data makes it not as comprehensible as necessary. Mobile marketing allows for businesses to gain tangible location information on its consumer's behavior in their day-to-day activity to better measure consumer lifestyle. However, many consumers find this marketing intrusive to their lifestyle and it is hard to get consumers attention in the crowded mobile marketing space. With the combination of this information, big data is the superior outcome of the advancement in marketing technologies of the past decade. The interaction of the two data sets to create comprehensible information for marketers allows for marketers to better decide how to structure their marketing activities. These technological advancements have proven

beneficial for businesses, but they have also created a sense of the individual consumer, a unique individual with a voice and opinion that has the possibility to be constructive or destructive towards a brand. Fast advancements in technology and changes in consumer behavior make marketing an ever-changing landscape that must be continually reevaluated. Although the marketing tools necessary for the future cannot be defined, the advancements in understanding the target market through big data should prove to be a growing tool for professionals.

Response Letter

I would like to thank all my reviewers who helped me bring out the full potential of this assignment. I had a large amount of difficulty with this assignment and with my reviewers help I was able to create a scholarly essay that met the standards that I have for myself. I want to thank Jiaqi Guo for analyzing my scholarly essay and critiquing my writing and confirming my approach. In her review, she made it clear that my essay was not very structured and there had to be one more unified focus. I also want to thank Richard Kamieneski for confirming that my topic was an interesting topic of choice that was interesting and would be of use to scholars in my field. Prof. Christen Enos also provided a mark-up on my essay that made me approach the assignment very differently. She made me realize that I had to rework my essay and define what my motive was for this assignment. With this information from my reviewers, I was able to go back to the drawing board and recreate, restructure, and redefine my scholarly essay to become something that is much more specific, focused, and impressive. I want to thank Prof. Christen Enos for taking a second look at my writing and confirming my motive and approach. With her help I was able to fine-tune my essay. The only advice I decided not to take of hers was to remove the discussion of social media networks in my introduction. I decided to leave this because of the nature of this hot topic about Facebook and Twitter, it grabs readers attentions and encourages them to read through the entire article. I would also like to thank my fellow classmate Josh Conecoff for critiquing areas of my new essay for improvement and ensuring that my used language was scholarly in voice. With a lot of time, research, and effort, I created a scholarly essay that I am proud to publish. With the help of my peers and others, I believe my motive, structure, and argument greatly improved.

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