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Effect of Mobile Marketing Services on Customer's Mobile Marketing Acceptance

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Abstract:
Marketing has been a never-ending topic of research for many years, and while throughout all these years, it might have changed its shape and form, marketing will still continue to strive and be discussed about as long as there are businesses willing to work and create things and customers and consumers willing to use their products and services. With the latest advancement of mobile devices that have become more personalized and more sophisticated in the recent years, businesses have taken a keen interest in these medium and how it can be utilized for marketing purposes. With the help of the technology advancements, and the availability of wireless Internet, Wi-Fi, GSM, Bluetooth, and many others, it opened up new paths for new mobile marketing services that are more customer centric and has thus helped shaped a new era of marketing and advertising.
This study will focus on analyzing whether mobile marketing services such as those via social media and via mobile applications, have any impact in whether individuals are more prone to accept mobile marketing or not. To get a better understanding of this, a study was conducted using Bosnia and Herzegovina as the population sample, and their demographic variables, such as age, residence type and education level were used as the primary variables that would guide the results of the study. Bosnia and Herzegovina was used as the sample for it is a developing country with a love for technology, but lacking in terms of customer and business relationships. Marketing done by the companies in this country is seen as a form of raising awareness that a product or service exists, but is not catered towards the needs and wants of potential customers. As such, it was chosen as a country of interest and thus an online questionnaire was conducted, through which a sample population of 422 individuals and their opinions was gathered and analyzed using several statistical programs.

Keywords: mobile marketing, mobile advertising, social media, mobile application, mobile technology, consumer behavior

1. Introduction

As technology is developing with each year, so is the business industry and its connecting branches. Likewise, the devices that come out of this new technology have seen a steady rise within each year of its conception, and mobile devices in particular have been popular in all areas around the world, especially after the development of smartphones and its related devices. Bosnia and Herzegovina, the country studied in this research paper, has seen a very large increase in mobile-cellular phone and smartphone users in the last decade, going from 1.4 million subscribers in 2004 to 3.44 million in 2015. As such, it is a good platform to observe and see how a small country as itself can connect its own local businesses, as well as foreign businesses, with its growing technology acceptance.

Mobile marketing is a popular and quite highly developed segment of the business industry, and has been seen to be more accepted and recognized in the developed countries compared to other traditional marketing mediums. Seeing as how the mobile industry is growing in Bosnia and Herzegovina, businesses have picked up on the trend to utilize these new devices to promote their products, services, and events in every way possible. However, as it has been seen from past marketing endeavors by many of these companies, there is only so little that they do when it comes to paying attention to what the customers want and need in these marketing campaigns, regardless on which medium they are receiving and seeing the marketing message.

This paper aims to critically interrogate and evaluate the effect of using various mobile marketing services created by business companies in order to see how customers are willing to accept mobile marketing, and thus help guide companies in how to successfully attract and obtain customers, who will ultimately stay loyal throughout the business's life cycle. Though previous research has been carried out on the said topic, this study will provide a deeper insight not only in how the mobile marketing services are created and implemented, but also in what ways are those mobile marketing services used by businesses. It will also analyze how

effective are the companies in making sure the customers who come in contact with those marketing services perceive them as beneficial or not, and will these services have any effect on the customers' quicker acceptance of mobile marketing.

2. Theoretical Background

2.1. Mobile Marketing Services

As mobile marketing is gaining popularity with technology more evolving and the acceptance rate of marketing through small electronic devices going up, the services offered on these devices as a form of marketing keep expanding day by day. Some of these mobile commerce tools are more widespread in one country and less in another, and as technology evolves so does mobile marketing. Which is to say that mobile marketing has yet to discover its full potential, and the services it is able to offer through the small electronic devices have yet to be all realized and exploited.

2.1.1. Mobile Applications

Mobile-cellular telephones and smartphones have become a ubiquitous gadget that are being carried with the customers nearly at all times. Thus companies and its marketers had to find a way to adapt their marketing practices and focus on what is best for representing their company through mobile devices. Applications industry has been revolutionized in the last decade and software download system has changed tremendously throughout these years, all with a goal to simplify the process of downloading and obtaining these third-party applications (Leontiadis et al., 2012). The industry already in 2013 was worth over $50 billion (Ghose and Han, 2014), and in 2016 it recorded a revenue of $88.3 billion worldwide (Statista, 2017). The revenue number is expected to grow up to $188.9 billion by 2020 with the help of app stores and in-app advertisements (Statista, 2017).

App stores are specialized third-party digital distribution platforms that collect all available applications on the Internet and offer them to their users for download either for a certain fee or for free. The two most popular stores are Apple's App Store and Google Play Store, with Google Play store leading in number of applications available, with 2.8 million of available mobile applications recorded in March 2017 (Statista, 2017). Some other popular app stores are Amazon's App Store, BlackBerry's App World and Windows Phone Store, which is steadily growing in number of available applications in their store.

These mobile applications are made not just in order to simplify the customers' use of mobile device, but also the customers' lives. For them to be accepted by the major public, the mobile applications should be innovative, user-friendly despite which mobile device is using the mobile application, and they should provide proper solutions for what they are originally meant for (Varnali and Toker, 2010).

Some of the highly downloaded mobile applications separated into their purposeful categories (Krum, 2010):

- Business Productivity: cloud hosting, checklists, alerts, schedule organizers, file sharing, voice recording
- Educational: foreign languages, maps, tutorials, dictionaries, calculators, flash cards, books
- Financial: personal and business reports, bill payment reminders, tracking of account balance, consolidation of cards and bank accounts, mortgage calculators
- Lifestyle: running maps, drink mixing, calorie counters, nutrition facts, restaurant search, barcode scanners
- Mobile Device Utilities: flash, battery savers, extra security, currency and unit converters, mobile device usage statistics, syncing
- Multimedia: image editing, music, radio, musical instruments, audiobook players, TV watching, magazine and e-book readers
- Navigation and Travel: road maps, trip schedulers, bus, train, and airplane time trackers, delays in transportation, currency exchange locators, traffic locators
- News and Entertainment: game highlights, sport scores, celebrity gossip, games
- Shopping: price comparisons, grocery lists, virtual trying on clothes before purchase, gift shopping and delivery, couponing, holiday spending trackers
- Social Networking: Facebook, Twitter, Tinder, Yik Yak, Pinterest, Periscope, WhatsApp, Viber, LINE, WeChat, Snapchat, Vine, Tumblr, LinkedIn
- Weather: weather forecasts, alerts, allergy zones, past and future weather maps, moon phases, star visibility time
- With applications showing up right and left, it comes as no surprise that mobile applications are dominating over mobile browsing.
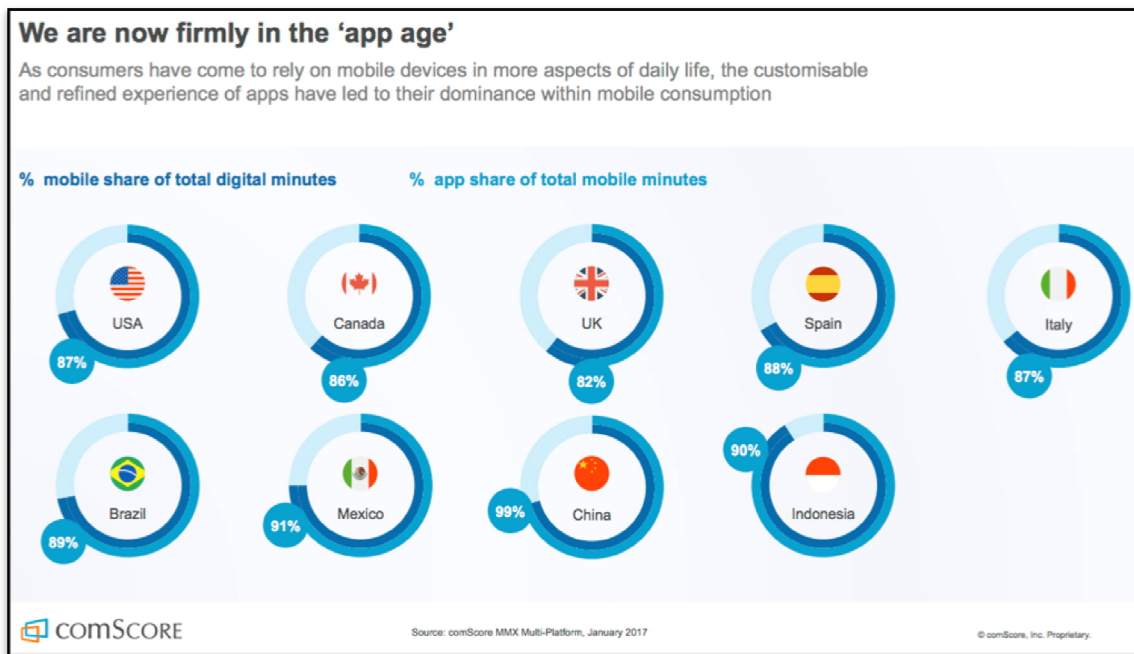
Figure 1: Percentage of App Usage Share vs Mobile Minutes' Share (Adam, 2017)

Looking at com Score's report from January 2017, shown in Figure 1, customers all around the world are spending a very large number, if not all, of their mobile minutes on mobile applications.

According to another report, made by Flurry (2015), as seen in Figure 2, customers are spending 90 per cent of their time on mobile device on mobile applications, with Facebook leading in percentage with 19 per cent, and entertainment mobile applications being second with 17 per cent.
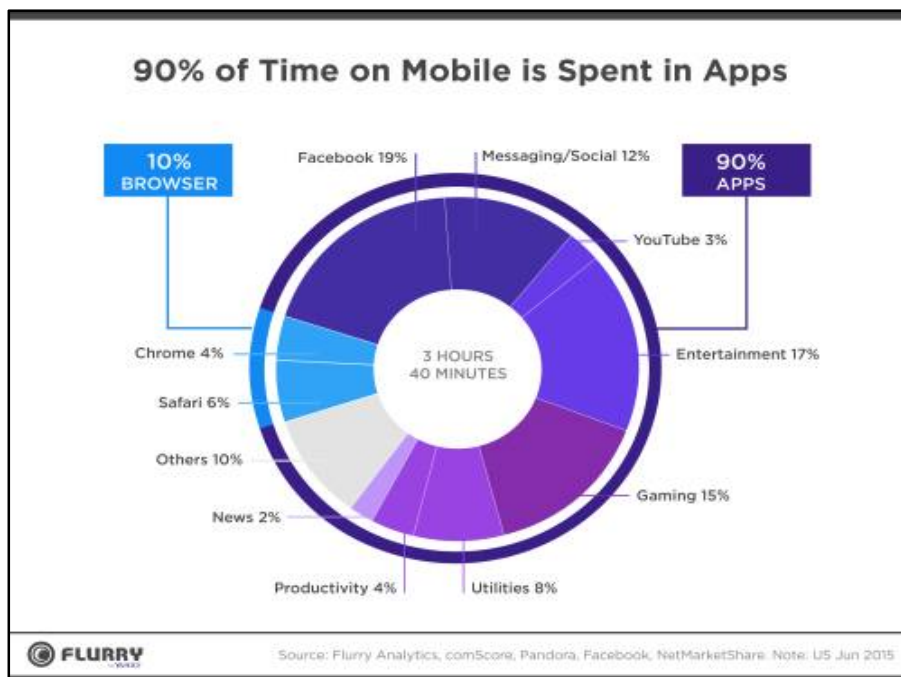

Figure 2: Mobile App Minute Spending on Each Category (Flurry, 2015)

These number point out that companies needs to think carefully before deciding on whether to create an application that is specific for a mobile device, or should they create optimized mobile web sites (Chaffey, 2017).

2.1.2. Social Media
Social media has become one of the most popular mobile marketing practices in the last few years, which stems from the fact that more and more people are hanging out on social media, and have thus come to accept social media as a form of an entity that is constantly present in their daily life.

With each era coming and going, social media has become the norm of communication today and companies have come to realize that without implementing any social media marketing plan they do not stand a chance in competing against others in this ever-evolving environment. Some social media websites, like Facebook, LinkedIn, and Twitter have seen a rapid increase in registered users, and Facebook alone, if observed as a country, would be the third largest country in the entire world, standing only behind China and India (Saravanakumar and SuganthaLakshmi, 2012).

Social media has opened doors to reach out to a greater specter of consumers, and it has helped companies in having a more direct and open communication between themselves and the customers. However, as social media has become more available and transparent, companies also have to put up extra caution when marketing over social media, as any mistake made by the company can go viral in a matter of seconds. The amount of time it took the company to reach their potential customers via social media, if caution is not observed, then that number of customers or more can likewise be lost, if not even faster than gaining them. In order to avoid such blunders, companies are advised to know their target market well and to communicate with them appropriately so as not to damage the brand's image, but improve it and gain the customers' much-needed trust (Saravanakumar & SuganthaLakshmi, 2012).

Social media is described as a gathering place online using a conversational media to exchange ideas, opinions, and information among a group of people, all while observing as the same time their behaviors, attitudes, and practices using that conversational media (Safko, 2010). Weinberg (2009) also reiterates that statement that social media is a form of exchanging experiences, information, and perspectives on various topics via community oriented online websites. Using social media as a form of marketing for products, events, services, and others, has many benefits for the company, one of which is mentioned before and that is the number of people being reached is extraordinarily high. By using social media, marketers can also save a lot of money, as majority of social media platforms do not charge anything for opening an account, and thus the company can post information and make a profit without purchasing anything (Kaur, 2016). Another advantage of social media is that it offers marketers an opportunity to reach a selected market, which they predetermined in advance, rather than blindly trying to reach all customers out there (Kaur, 2016). On top of the aforementioned advantages, there is one more advantage that defines social media perhaps more than the others, and that is the ability to control the content on social media, therefore, having a higher interactivity and thus giving greater access to the user to the vast information that is offered online (Kaur, 2016).

As there are advantages, there is bound be some disadvantages to social media, just like any other entity out there, though they are currently outweighed by the advantages. Nevertheless, the disadvantages are something that should not be ignored and should be carefully studied. Privacy and trust issues are on a rise in the last few years, and as social media is becoming more spread-out, and users share their and others' information a lot quicker and easier, they also are starting to realize the consequences of such actions. Trademarks and copyright issues are potential problems that companies need to look out for, as they can be misused when they reach social media and the online world in general, so the companies need to carefully monitor their trademarks and copyrights online (Kaur, 2016).

Bosnia and Herzegovina has an approximately 1.70 million social media users as of April 2017, and out of those 1.70 million, 1.40 million are active social media users via mobile devices (StatCounter, 2017). Facebook dominates the social media platforms, reeling in 98.96 per cent of users accessing its website, while the second position holds Twitter with less than 1 per cent, standing at 0.36 per cent of users accessing it (StatCounter, 2017). YouTube closely follows Twitter with 0.25 per cent, and Pinterest and Instagram hold the fourth and fifth position, with each standing at 0.17 and 0.15 per cent respectively (StatCounter, 2017). Tumblr comes in last out of the present social media platforms in Bosnia and Herzegovina, holding 0.05 per cent of totally social media users (StatCounter, 2017). Bosnia and Herzegovina has proven to be a fan of social media throughout every year since it was made available, and Facebook seems to take the cake as the leading social media platform. Marketing through social media in a country like this, does have the numbers to back up marketers' plans that they will have their returns on investment in the future.

2.2. Consumer Demographic Variables

Demographic variables have been found in extensive amount of researches that it influences consumers' approach towards using mobile devices and its services (Okazaki, 2007). Most researchers use age, gender, household structure, marital status, monthly allowance, and occupation to conduct profiling of their target customers using one or more of these demographic variables (Okazaki, 2007). These variables are used in order to get a general idea of what a company's potential market will look like, as this data is a lot more accessible. In time, businesses have come to terms that these variables cannot be the only ones guiding their marketing and production planning, as it is not narrow enough and encompasses too large of a group, leaving many individual customers unsatisfied.

When looking at the age variable, it was seen that young consumers, in particular, adopt mobile devices quicker than the older generations, and they do so either because they wish to listen to music, socialize, play games, and download other content for their entertainment (Sultan and Rohm, 2005). It was noticed that this particular age group sees mobile devices as a form of a status symbol and therefore feel very attached to it, as they would with a particular piece of clothing (Sultan and Rohm, 2005; Robins, 2003).

Gender and education are two other variables that are easy to track and have been recorded to have a significant influence on the acceptance of mobile devices and mobile marketing. Older studies have already noted that there is a difference in how male and females use and how they perceive their mobile devices (Dedeoglu, 2004; Ling, 2001). It has been shown through several other research papers that though there might not be a difference in the perceived value that each gender shows towards mobile marketing, but there is a difference in what advertising type each gender prefers (Haghirian and Madlberger, 2005).

Along the same lines, education has been shown to be a major influencer in the mobile marketing world, as the higher the education was of a person, the higher the negative attitude towards mobile marketing was and vice versa (Ström et al., 2014; Haghirian and Madlberger, 2005; Dedeoglu, 2004). The same goes for customers with higher income, who have been observed to showcase a more

negative attitude towards mobile marketing, while the customers with lower income, have been more open and had a positive attitude towards mobile marketing (Ström et al., 2014).

2.2.1. Factors that Affects Consumer Purchase

Other than variables that affect which customers use mobile devices more and how these customers also perceive their mobile devices, the profiles of these customers can be separated even further by seeing which factors encourage them to make a purchase over their mobile devices. Starting off with the demographic variables, it can be right away seen that depending on the age of the customer, they demand different things, as, for example, young generation would be driven to purchase things based on their external wishes and what their social circle is using, while the older generations would be more prone to purchase things based on their immediate needs and would look less at what people around them buy.

Another clear category is noticed within the gender variable, where businesses separate their products and services depending on the gender, and that is also portrayed in their traditional and mobile advertisements, as well as on their company's websites. As was mentioned in the previous section, gender is a variable that is highly observed by researches, and according to the latest report by Liftoff (2016), it is 40 per cent cheaper to obtain a female mobile customer compared to the male.
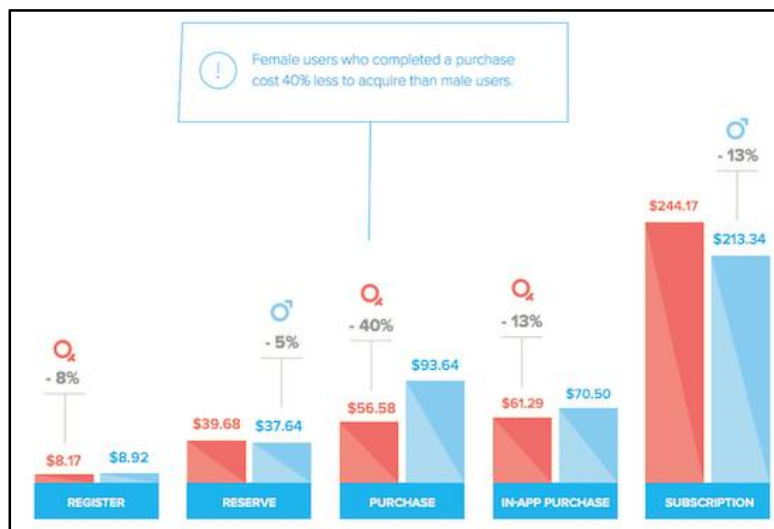

Figure 3: Female to Male Acquisition Rates (Liftoff, 2016)

To acquire a female mobile customer, a company would need to spend about $56.58 per person, while to acquire a male mobile customer, the company would need to spend nearly double, and would cost them around $93.64 per every male customer. The in-app purchases also see a clear distinction, where in-app female customers tend to costs $61.29, a 13 per cent difference from the male in-app customer, where the company would need to spend $70.50 per every male, as seen in Figure 3. The report by Liftoff (2016) also made an interesting discovery where females were seen to spend more money than men on mobile device games. Females are also the ones that are more likely to download mobile applications, in the shopping and utility categories, register, and perform in-app purchases, while males are seen to be more dominating in the financial categories (Liftoff, 2016).

Other demographic variables, such as income level, place of residence, marital status, education, and profession are both indirectly and directly influencing customer's intention to purchase. Income level might have a more direct influence than the other aforementioned variables, as customers with lower income are immediately stopped from purchasing anything above their limit as they cannot afford it, and businesses will not give them the products or services for free. The customer's income level has also been observed from an example of shopping via online websites and how its connection to the service quality of these websites and businesses effects the customer's willingness for purchase (Kim et al., 2012). One study has observed an increase in purchases made by customers who spent less money when going the traditional route of purchasing and before they got more adapted to the shopping applications on their mobile devices (Wang et al., 2015). These types of customers tend to place larger orders on a more frequent basis than other types of customer, and they are also more prone to spend their money on things that they have familiarized themselves with in a previous purchase (Wang et al., 2015). Alternatively, customers who are not married have more time and more income to spend on things that satisfy just them, and have no one that depends on them to provide. Being married, often entails spending more money on the house, marriage partner, and future kids, among other things. Family shapes the customer's purchase intentions often times more unconsciously, rather than consciously, and with families changing from childhood to adult age, so does the motivation behind customer's purchase intentions and needs change.

Other than family, there are social class, reference groups, and culture as socio-cultural factors that are influencing customer's intention to purchase. Culture, in particular, and different histories, have been an important indication of how customers plan and evaluate a product or a service they plan to purchase and use (Rezvani et al., 2012). Often times, customers prefer to buy products whose origin is the same country they are currently living in, or from a country they feel a sort of personal connection to (Rezvani et

al., 2012). It has been shown also, that customers can even create negative reactions towards advertisements and its subsequent products and service that are from another country (Rezvani et al., 2012; Yeong et al., 2007).

Another set of variables that influence customer's intention to purchase products are psychological factors, and these factors come more from the inside of the customer and its built-up personality throughout the years. The customer's motivation to purchase a certain product can differ from product to product, from day to day, from one mood to another mood, and so on. The motivation is built from external factors that the customer experience in its everyday life and can change with each situation. That is why it is very difficult for businesses to pinpoint what exactly is the motivation behind every customer's purchase as it can be very unpredictable. Some customers have a sort of motivation where they want to buy a product or use a service solely because they want to show those around them that they are capable of doing that, and not so much because they need that certain product or service. With this kind of motivation behind a purchase they get a sense of superiority and feeling of belonging, which has been a subject of study for many years and will continue to be for many more. Often times, customers who achieve to feel a sense of superiority also get pleasure from it, and pleasure has been seen to have one of the strongest influence on customer's purchase decision, as well as its use of mobile device and many other things.

Another psychological factor that influences customer's purchase decisions, is its perception ability, where the customer has to pay attention to all the information that is being sent its way and process all of that in their head, while comparing and evaluating all the new things that they see and hear every day as they are processing the previous information. While trying to process all of this information at a fast speed, the customer also finds things that they can learn and use that knowledge in other situations in their lives. Businesses who provide an entertaining and easy learning environment to their potential customers can see a more positive attitude towards the use of mobile devices and its mobile marketing (Akturan and Tezcan, 2012). Lastly, the customer's personality and attitude towards things is the accumulation of all its life experiences up till the purchase point and are variables that are unique for each customer, making them hard to distinguish and predict.

According to the conducted research, a conceptual model of the study and its hypotheses were made and presented below:
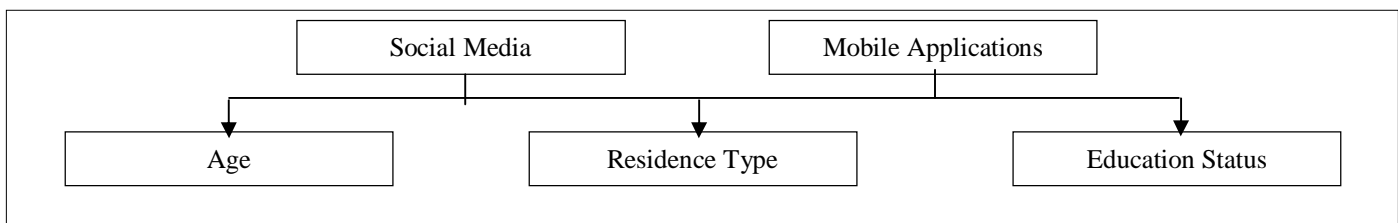

Figure 4: Model of the study.

→ H_1: The effect of mobile marketing via social media differs according to various demographic variables on mobile marketing acceptance.
→ $H_{1.1}$: The effect of mobile marketing via social media differs according to age on mobile marketing acceptance.
→ $H_{1.2}$: The effect of mobile marketing via social media differs according to residence type on mobile marketing acceptance.
→ $H_{1.3}$: The effect of mobile marketing via social media differs according to education level on mobile marketing acceptance.
→ H_2: The effect of mobile marketing via mobile applications differs according to various demographic variables on mobile marketing acceptance.
→ $H_{2.1}$: The effect of mobile marketing via mobile applications differs according to age on mobile marketing acceptance.
→ $H_{2.2}$: The effect of mobile marketing via mobile applications differs according to residence type on mobile marketing acceptance.
→ $H_{2.3}$: The effect of mobile marketing via mobile applications differs according to education level on mobile marketing acceptance.

3. Research Methodology and Findings

The research was conducted in order to test and analyze what kind of effect do various mobile marketing services have on selected demographic variables. Out of the big set of mobile marketing services that are openly available to all businesses, two services, in particular, were used to test against a selected number of demographic variables. Mobile marketing via social media and mobile marketing via mobile applications were used to see how it effects the population of Bosnia and Herzegovina and their subsequent willingness to acceptance such services.

A sample of 422 people was taken from the population of Bosnia and Herzegovina, and was primarily aimed at young and working adults who have had at least one experience in their life with mobile marketing and are more open to react and take action when seeing a marketing message on their mobile device. The sample size was defined by using a confidence level of 95 per cent and confidence interval of 5 per cent to allow for any possible error. The survey was piloted in the summer of 2017, throughout Bosnia and Herzegovina, in an online form that was made available to anyone who had an access link to the survey. The survey form was made as such that the respondents had to answers all the questions in the survey if they wish to submit it for processing. If all the answers were not selected, the data was not accepted nor presented in the final results. Other than the mandatory demographic questions, a 5-point Likert scale was utilized to collect primary data on the people's opinions about several mobile marketing services.

In order to test the reliability of the collected data from the questionnaire, the Cronbach's alpha reliability test was first conducted. The standard range for the Cronbach's alpha coefficient is between 0 and 1, and for the data to be considered valid within social sciences, the coefficient should be above 0.7. The higher the Cronbach's alpha coefficient is, the more reliable is the data.

	Number of variables	Cronbach Alpha
Coefficient related to mobile marketing via social media variables	10	0.770
Coefficient related to mobile marketing via mobile applications variables	10	0.877
Total	30	0.918

Table 1: Cronbach's Alpha Reliability Test.

Demographic Profile	Frequencies	Percent
Gender		
Male	200	47.4
Female	222	52.6
Age		
<20	38	9.0
20-30	189	44.8
30-40	116	27.5
40-50	58	13.7
50>	21	5.0
Residence Type		
Urban	346	82.0
Suburban	54	12.8
Rural	22	5.2
Education Status		
High School	97	23.0
Undergraduate	247	58.5
Graduate	62	14.7
PhD	16	3.8

Table 2: Main Demographic Characteristics of the Responses.

In order to test the hypotheses against the demographic variables that were presented in the questionnaire two types of tests were used, which are Mann-Whitney U test and Kruskal-Wallis H test. These two tests were chosen for testing the hypotheses in this study because it was determined that the data in the questionnaire is not normally distributed. In order to test the normality of the data, Kolmogorov-Smirnov and Shapiro-Wilk tests were used and it was shown that the significance value for each variable was 0.000, which is below the required significance value of $\alpha = 0.05$, thus leading to the conclusion that the data is not normally distributed and the null hypotheses was thus rejected. Both Mann-Whitney U test and Kruskal-Wallis H test are non-parametric tests, with the former being used to compare two independent groups with one dependent variable, and the later one being an extension of Mann-Whitney U test, where two or more groups of independent variables are used to see if there is any significant difference with the dependent variable.

➤ $H_{1.1}$: The effect of mobile marketing via social media differs according to age on mobile marketing acceptance.

Effect of mobile marketing via social media according to age	Age	N	Mean Rank	X^2	Sig.
	<20	38	242.54	13.707	0.008
	20-30	189	212.40		
	30-40	116	211.64		
	40-50	58	170.89		
	50>	21	258.57		
	Total	422			

Table 3: The Kruskal-Wallis H Test of Mobile Marketing Via Social Media According to Age

Table 3 shows the results of the Kruskal-Wallis H test done in order to see if there is any significant difference between the effect of mobile marketing via social media and the age on mobile marketing's acceptance. Considering that the chi square is 13.707, while the p-value is 0.008, which is below the marked significance level of $\alpha = 0.05$, the given hypothesis, $H_{1.1}$, is not rejected. The effect of mobile marketing via social media significantly differs according to age on mobile marketing's acceptance.

➤ $H_{1.2}$: The effect of mobile marketing via social media differs according to residence type on mobile marketing acceptance.

Effect of mobile marketing via social media on residence type	Residence Type	N	Mean Rank	X^2	Sig.
	Urban	346	209.35	6.710	0.035
	Suburban	54	241.84		
	Rural	22	170.89		
	Total	422			

Table 4: The Kruskal-Wallis H Test of Mobile Marketing Via Social Media According to Residence Type

Table 4 presents the results of Kruskal-Wallis H test done to show the results of whether the effect of mobile marketing via social media differs according to residence type on mobile marketing's acceptance, and since Table 5 shows that the chi-square is 6.710 and the significance value is 0.035, the hypothesis, H$_{1.2}$, will not be rejected. Reason being is that the significance value in the table is below the required significance level of α = 0.05.

➤ H$_{1.3}$: The effect of mobile marketing via social media differs according to education level on mobile marketing acceptance.

Effect of mobile marketing via social media according to education level	Age	N	Mean Rank	X^2	Sig.
	High School	97	212.44	0.849	0.838
	Undergraduate	247	208.10		
	Graduate	62	219.35		
	PhD	16	227.94		
	Total	422			

Table 5: The Kruskal-Wallis H Test of Mobile Marketing Via Social Media According to Education Level

By analyzing Table 5, which represents the results of another Kruskal-Wallis H test done in order to test if there is any significant difference in the effect of mobile marketing via social media and the education level, it can be seen that the chi-square value is 0.849 while the p-value is 0.838. Since the p-value is higher than the accepted significance value of α = 0.05, the hypothesis, H$_{1.3}$, will be rejected. The effect of mobile marketing via social media does not significantly differ according to education level on mobile marketing's acceptance.

➤ H$_{2.1}$: The effect of mobile marketing via mobile applications differs according to age on mobile marketing acceptance.

Effect of mobile marketing via mobile applications according to age	Age	N	Mean Rank	X^2	Sig.
	<20	38	204.84	13.088	0.011
	20-30	189	221.07		
	30-40	116	215.81		
	40-50	58	164.75		
	50>	21	242.74		
	Total	422			

Table 6: The Kruskal-Wallis H Test of Mobile Marketing Via Mobile Applications According to Age

Kruskal-Wallis H test was done also on hypothesis 2.1, as to see if there is any significant difference between the effect of mobile marketing via social media and the age on mobile marketing's acceptance. Table 6 represents the results of this test and shows that the chi-square value is 13.088, while the p-value is below the required significance level of α = 0.05, holding at 0.011. Since the p-value is lower than the required significance level hypothesis H$_{2.1}$ is not rejected. The effect of mobile marketing via social media significantly differs according to age on mobile marketing's acceptance.

➤ H$_{2.2}$: The effect of mobile marketing via mobile applications differs according to residence type on mobile marketing acceptance.

Effect of mobile marketing via mobile applications on residence type	Residence Type	N	Mean Rank	X^2	Sig.
	Urban	346	210.10	0.875	0.646
	Suburban	54	224.20		
	Rural	22	202.27		
	Total	422			

Table 7: The Kruskal-Wallis H Test of Mobile Marketing Via Mobile Applications According to Residence Type

Table 7 presents the results of Kruskal-Wallis H test done using the effect of mobile marketing via mobile applications as the dependent variable and the residence type as the independent variable. Seeing as how the chi-square is 0.875 and the p-value is 0.646, which is above the required significance level of α = 0.05, the given hypothesis, H$_{2.2}$, will have to be rejected. The effect of mobile marketing via mobile application does not significantly differ according to residence type on mobile marketing's acceptance.

➤ H$_{2.3}$: The effect of mobile marketing via mobile applications differs according to education level on mobile marketing acceptance.

Effect of mobile marketing via mobile applications according to education level	Age	N	Mean Rank	X^2	Sig.
	High School	97	197.88	8.560	0.036
	Undergraduate	247	212.95		
	Graduate	62	240.09		
	PhD	16	160.91		
	Total	422			

Table 8: The Kruskal-Wallis H Test of Mobile Marketing Via Mobile Applications According to Education Level

As with the previous hypotheses, in Table 8 are shown results of the Kruskal-Wallis H test that was done in order to test the hypothesis, $H_{2.3}$, and see whether there is any significant difference between the effect of mobile marketing via mobile applications and the education level on mobile marketing's acceptance. In Table 8 it can be seen that the chi-square stands at 8.560, while the p-value is 0.036, which is lower than the required significance level of $\alpha = 0.05$, indicating that the hypothesis is not rejected. Thus, the effect of mobile marketing via mobile applications does significantly differ according to education level on mobile marketing's acceptance.

4. Conclusion, Limitations, and Recommendations for Future Studies
In the collected data, there was a slightly higher number of females than males, gathering 222 females and 200 males out of the 422 respondents. Moreover, the majority of the respondents happened to be aged between 20 and 30 years old, while the second biggest group was aged between 30 and 40. These results correspond with the primary goal of seeking out to young and working adults who have had some connection with mobile marketing at some point in their life and thus this topic would have more relevance to them as well as being a helpful guide to businesses in their targeted marketing campaigns. From this it can be reiterated that younger age groups are more prone to ignore marketing messages on their device, and older age groups are more likely unfamiliar and uninterested in how mobile marketing works, thus the expected results in this area.

Based on the conducted research and findings, it can have been seen that the majority of the hypothesis were not rejected and have shown that variables such as age and residence type have a significant effect on an individual's mobile marketing acceptance when looking at mobile marketing done via social media. Also, age and education level demographic variables have shown to have a significant effect on an individual's mobile marketing acceptance when studying mobile marketing via mobile applications. The results of the findings can be seen below:

- $H_{1.1}$ is not rejected. As reported by Kruskal-Wallis H test the effect of mobile marketing via social media significantly differs according to age on mobile marketing's acceptance.
- $H_{1.2}$ is not rejected. As reported by Kruskal-Wallis H test the effect of mobile marketing via social media significantly differs according to residence type on mobile marketing's acceptance.
- $H_{1.3}$ is rejected. As reported by Kruskal-Wallis H test the effect of mobile marketing via social media does not significantly differ according to education level on mobile marketing's acceptance.
- $H_{2.1}$ is not rejected. As reported by Kruskal-Wallis H test the effect of mobile marketing via mobile applications significantly differs according to age on mobile marketing's acceptance.
- $H_{2.2}$ is rejected. As reported by Kruskal-Wallis H test the effect of mobile marketing via mobile applications does not significantly differ according to residence type on mobile marketing's acceptance.
- $H_{2.3}$ is not rejected. As reported by Kruskal-Wallis H test the effect of mobile marketing via mobile applications significantly differs according to education level on mobile marketing's acceptance.

Overall, mobile marketing seems to be gaining more attention and popularity among businesses in Bosnia and Herzegovina, and its residents that have come across mobile marketing through one way or another have strong opinions about what exactly they want from the messages they receive on their mobile devices. As a great number of individuals consider their mobile device as a personal item, they are not particularly opposed to receive marketing messages through these devices, but if they already have to, then it would be smart for businesses to look into what makes mobile marketing different than traditional marketing services and what is the best way to utilize such services, while keeping the customers satisfied.

This conducted research and study also has its own few limitations, primarily in the sense that out of a great variety of mobile marketing services available, only two were used to collect and analyze data. In addition to that, the sample population focused primarily on young and working adults and was led with the assumption that younger and older generations are not too familiar with mobile marketing and thus were not fully observed and represented in the study. Another limitation was that the previous data in the same and similar field is very minimal when observing only the country Bosnia and Herzegovina, and thus cannot be compared to provide further proof of validity of this study and the difference between years.

For future research it will be good to expand the selection of mobile marketing services to understand how individuals also feel about other service besides the one through social media and mobile applications. Changing and expanding the main independent demographic variables, is also another option that can be done in future researches. As the sample population in this study is of limited size and cannot fully represent a large population, it is recommended to look at a broader spectrum of people in Bosnia and Herzegovina, and gather the number of respondents on a larger scale.

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