BSc in Business Administration

SOCIAL MEDIA USE AND IMPACT ON CUSTOMER ENGAGEMENT

Insights from Prosthetic Users

Nafn nemanda: Viktor Grönfeldt Steinþórsson

Kennitala: 170594 – 3639

Nafn nemanda: Viktoría Vasilynka Alfreðsdóttir

Kennitala: 140194 - 3879

Leiðbeinandi: Þóranna Jónsdóttir

Declaration of Research Work Integrity

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature of any degree. This thesis is the result of our own investigations, except where otherwise stated. Other sources are acknowledged by giving explicit references. A bibliography is appended. By signing the present document, we confirm and agree that we have read RU's ethics code of conduct and fully understand the consequences of violating these rules in regard to our thesis

Date	SS	Signature

Date	SS	Signature

Abstract

The birth of social media has empowered consumers and changed the dynamics of traditional marketing by providing customers with platforms capable of reaching large audiences and enabling active engagement between organizations and their customers through online two-way communication. This study examined social media use of amputees drawing on data collected for this study on the social media platforms of the Amputee Coalition of America. The purpose of the study was to examine how amputees use social media and analyze if social media use impacts their prosthetic choice and level of engagement with prosthetic manufacturers. A questionnaire was posted on the Facebook and Twitter pages of the Amputee Coalition focused on four topics: 1) social media use, 2) social media content, 3) social media influencers, and 4) social media engagement. Also, a competitor social media analysis was conducted for leading prosthetic manufacturers to document their social media footprint and current number of social media followers. Results of the study show that amputees are active social media users regardless of age with most participants using three social media platforms daily and spending on average more than two hours per day on social media. Majority followed amputee influencers and although the influencers did not impact prosthetic choice they did have an impact on reported brand awareness. Moreover, participants who had contacted, visited or searched for information on social media platforms were more likely to be influenced in their prosthetic choices than those who did not engage with providers. The results demonstrate both the importance and key opportunities for social media users and organizations across industries to actively engage on social media. In today's rapidly evolving social media environment and new technically proficient generations of consumers growing up with social media at their fingertips requires organizations to formulate effective social media strategies. Marketers need to build effective social media toolkits to proactively engage with customers through relevant content and meaningful conversations about products and services to ascertain sustainable competitive advantage.

Prefix

This research is a thesis for a B.Sc. degree in Business Administration, with a marketing emphasis, at Reykjavik University. The thesis accounts for 12 ECTS and was conducted during the period of December 2017 until May 2018.

Acknowledgements

The instructor of this thesis was Dr. Þóranna Jónsdóttir. The authors would like to thank Dr. Jónsdóttir for all the advice, inspiration and support in writing this thesis. Further thanks go to the employees of Össur, especially Ms. Eydís Sigurðardóttir, Mrs. Edda H. Geirsdóttir, Mrs. Erna R. Kristinsdóttir, and Mrs. Pam Calad. Furthermore, a special thanks to the Amputee Coalition of America, especially Mrs. Melanie Miller. Additionally, the authors would like to thank family and friends for their support and motivation.

Table of Contents

Abstract 0

2. Literature Review 3
   2.1 Traditional Media vs. Social Media 3
   2.2. The Paradigm Shift of the World Wide Web 6
   2.3 Social Media Development 7
   2.4 Social Media Platforms 8
   2.5 Social Media Marketing 10
   2.6 Customer Engagement 13
   2.7. Influencer Marketing 15
   2.8. Future of Social Media 16

3. Methods 19
   3.1 Participants 20
   3.2 Materials 20
   3.3 Procedure 21
   3.4 Research Design and Statistical Analysis 22
   3.5 Competitor Social Media Analysis 22
   3.6 Limitations 23

4. Results 23
   4.1 Social Media Use 24
   4.2 Social Media Content 26
   4.3 Social Media Influencers 29
   4.4 Social Media Engagement 31
   4.5 Competitor Analysis 40

5. Discussion 41
   5.1 Social Media Application 43
   5.2 Social Media Engagement 47
   5.3 Conclusion and Recommendations 49

6. Final Remarks 51

References 52

Appendix A 62

Appendix B 65

Appendix C 71

List of Figures

Figure 1. Hours spent on average on Social Media daily. 25
Figure 2: Social Media Platforms used daily. 26
Figure 3. The content participants look for when browsing social media. 27
Figure 4. Where amputees look for information about prosthetic products or services. 28
Figure 5. Different types of content amputees would prefer seeing from the prosthetic providers. 29
Figure 6. Prosthetic manufacturer that comes first to mind. 30
Figure 7. The first brand that comes to mind for those whose brand awareness has been increased by an amputee influencer. 31
Figure 8. How helpful participants found the content provided by manufacturers on the social media platforms they visited. 33
Figure 9. How important participants think it is for a prosthetic provider to engage on social media. 33

List of Tables

Table 1 24
Table 2 30
Table 3 32
Table 4 34
Table 5 35
Table 6 36
Table 7 38
Table 8 39
Table 9 40
Table 10 40
Table 11 42
Table 12 50

1. Introduction

Social media has changed the landscape of communication and traditional marketing. In recent years, the power dynamics between organizations and their customers have been shifting with social media technology providing customers with the ability to communicate their opinions freely to a large audience base and provide direct feedback to developers, manufacturers and distributors of products and services. New technology accompanied by new emerging generations of consumers growing up with social media poses both an opportunity and a threat to marketers (Kaplan & Haenlein, 2010). Hence, the importance of building a close relationship with customers is increasing not only in terms of customer retention and satisfaction, but as well in terms of profitability and growth for organizations (Young & Aitken, 2007; Zaltman, 2003). To create and maintain sustainable competitive advantage and to leverage the opportunities and balance risk, organization must analyze their target audience closely in terms of social media use and make social media an integral part of their marketing strategies designed to enhance customer engagement (Pansari & Kumar, 2017).

Social media provides boundless opportunities to reach and engage with customers. The aim of the study is to examine social media use and impact on customer engagement. The research question is: *How do amputees use social media and does social media use impact customer engagement and prosthetic choice*. To provide answers to the question the study focuses on four factors: 1) Social media use, 2) Social media content, 3) Social media influencers, and 4) Social media engagement. The first two factors explore how amputees use social media in terms of average daily hours spent online, which platforms they use and what type of content they look for when browsing on social media. The latter two factors assess the impact of social media engagement as it relates to brand awareness and amputee's prosthetic choices. In order to explore the four factors stated above, responses from the survey were tested against five hypotheses, each reflecting on the research question. The hypothesis explored the possible effect of age and gender on social media use, the impact of social media engagement and influencers on prosthetic choice and the impact of social media use on the level of engagement.

The study was conducted in collaboration with The Amputee Coalition of America, a donor sponsored non-profit organization headquartered in Washington DC dedicated to outreach and empowerment of people affected by limb loss through education, support and advocacy and promotion of limb loss prevention. In preparation for the research design, informal interviews were conducted with marketing managers of one of the world's leading

Orthopedic companies Össur, to better understand the prosthetic market dynamic, customer's needs and social media practices of a prosthetic manufacturer. The company specializes in the development of prosthetic, osteoarthritis and injury solutions and is a world leader in the technological development of noninvasive orthopedics focusing on development and manufacturing of products for people with limited mobility due to injury or disease. Focusing the research initiative on a designated market, such as the prosthetics markets, provides a unique opportunity to explore the customer and product/service provider relationships. Amputees require a broad range of material, education and product information about their prostheses, but the number of prosthetic manufacturers is limited, leaving a handful of companies with dominant market share. Hence, providing an opportunity to examine the correlation between social media use of the market segment and their engagement with market leaders.

A brief Competitor Social Media Analysis was also conducted for the prosthetic manufacturers included in the survey. Data was collected on a) how many followers each company currently had at the time of the study and b) their engagement level on social media, mentions etc. on four different social media platforms: Facebook, Instagram, YouTube, and Twitter. The purpose of this analysis was to map current social media presence of the prosthetic providers included in the study to better understand how active these companies are on social media and if and how they engage with their customers through social media platforms.

The study consists of six chapters starting with a literature review examining the past and the future of social media and social media marketing. Followed by a methods chapter, describing participants, materials and procedures, the research design and the statistical analysis, competitor analysis and the limitations of the study. Next, the results are presented and categorized in the four categories presented above. (i.e. social media use, content, influencers, and engagement). Lastly, a discussion chapter including a summary of results and deliberation of key findings is presented followed by a brief conclusion and recommendations to prosthetic providers.

2. Literature Review

Marketing has broadly been defined as the communication channel linking products and services to the target customers, focusing on identifying customer needs and ensuring product and service fit to those needs (Lee, 2013). Marketing concepts and definitions have remained relatively stable and unaffected by the changes that marketers have seen in recent years in the age of the digital revolution (Scullin, Fjermestad, & Romano, 2004). But times are changing with new technology, dynamic platforms for social interaction and communication, consumers are armed with the power of a two-way communication and new generations coming of age growing up with social media at their fingertips. This literature review will reflect on how times have changed in terms of marketing, moving from the standard one-way communication to more dynamic market communication where the customer's voice is both important and more powerful and explore the urgency for organizations to master the art of two-way communication through social media. In this chapter, traditional media will be discussed followed by an overview of the development of the world-wide web and social media as well as the impact of social media influencers on consumer behavior. Furthermore, the concept of customer engagement and the future development of social media will be discussed.

2.1 Traditional Media vs. Social Media

A question that many business owners may ask themselves during the ongoing digital revolution, is whether *traditional marketing* is still effective enough to drive business growth. Traditional marketing methods refer to advertising in newspapers, magazines, phone books, radio, TV, billboards etc. Generally, when publishing ads within each of those media platforms organizations pay a certain fee depending on size and placement for that advertisement (Lavinsky, 2013). Traditional marketing has also been defined as "anything other than digital means to promote the brand, product or logo" (Todor, 2016, p. 54). In contrast, *digital marketing* has been explained as an umbrella term for, search engine marketing, email marketing, blog marketing, viral marketing, content marketing, and social media marketing (Vinerean & Opreana, 2015).

Is traditional media still effective in today's digital world? The answer is yes. Lavinsky (2013), argues that business owners and advertisers must simply know where to look and how to apply traditional marketing tools effectively to ensure maximum results. Consumers are accustomed to traditional marketing and frequently still look for information in newspaper

adds, magazines and other familiar media platforms as pointed out by Jane Tudor (2016). She argues that "longevity is the main reason why people are attached to traditional marketing" (Todor, 2016, p. 54). In other words, traditional media has been around since most of us were born, giving traditional marketing reliability and attachment in the minds of consumers. Todor talks about the advantages and disadvantages of traditional marketing. She argues that higher levels of trust, associated with traditional media, may be its biggest advantage over social media in general. Explaining that, consumers place more trust in offline buying rather than online due to large amount of fraud within the online sector (Todor, 2016). Furthermore, people are still adapting and getting comfortable with providing a large amount of personal information needed for online purchases. However, the key disadvantage of traditional media is the inability to accurately measure its impact on buying behavior. Furthermore, traditional media is in most cases more expensive and is a one-way flow of information from the advertiser to the consumer (Todor, 2016). Hence, making it more costly and difficult to target the most respective audience and accurately predict the outcome of the transaction.

Larry Myler (2016) argues that business owners should be aware of getting too carried away with the latest digital trends and keep key aspects of their traditional marketing methods. He maintains that both online and offline media are important for organizations to achieve and maintain brand awareness in today's crowded marketplace and overload of information. While agreeing with the fact that measuring the Return of Investment (RoI) of marketing initiatives through traditional media, such as newspaper ads and billboards is challenging, he firmly highlights its importance for increased brand awareness. Furthermore, Myler (2016) points out that while many marketers tend to focus their efforts on creating the ideal digital customer journey, businesses tend to forget that customers also look for offline touchpoints. Marketers need to account for differences in market segments and their digital literacy, for example older generations that might be more custom and more frequently exposed to offline media opposed to online digital platforms. Also, research has indicated the importance of synchronized messaging when deploying both online and offline platforms (Chang, 2018). In summery Myler, argues there are some benefits in including traditional marketing tactics in the organizations marketing efforts. By mixing both online and offline campaigns brand awareness and competitive advantage can be acquired more quickly than focusing on digital media alone (Myler, 2016). The actual *tangibility* of the media material may be another advantage of traditional media over digital media. Terry Murphy (2017) has pointed out that in the digital age consumers find it a nice change to obtain hard copies of materials, such as fliers, brochures, business cards or any other printed/tangible material, i.e. something they can browse through

at their own convenience. Furthermore, tangible materials are an effective way to expose consumers to a particular brand, rather than relying on consumers to find it online and running the risk of them finding the competitor first (Terry Murphy, 2017).

Bernard Schmitt classifies four characteristics of traditional marketing: 1) Focus on functional features and benefits, 2) Product category and competition are narrowly defined, 3) Customers are viewed as rational decision makers and 4) Methods are analytical, quantitative and verbal. He states, "traditional marketing describes the nature of products, the behavior of consumers, and competitive activity in the market place. They are used to develop new products, plan product lines and brand extensions, design communications and respond to competitive activities" (Schmitt, 1999, p. 55). In other words, consumers are viewed as rational decision makers who carefully weigh features and benefits of a product or services. So, a traditional marketer would assume customers always focus on a functional benefit of a product. They would rationally compare it to other competing products in the marketplace and make a decision based on maximizing their utility. Furthermore, a traditional marketer for example selling hamburgers would define the market as customers looking to buy hamburgers rather than customers who are looking for fast and convenient food (Schmitt, 1999).

In his book, Damian Ryan (2014) argues that technological advancements have driven the development of advertising and/or how organizations communicate with their target market. He points out that, despite the radical innovations (i.e. printing, radio, TV, etc.) new technology has never fully replaced previous marketing channels. In fact, it just gave marketers more 'tools to work with'(Ryan, 2014). However, the pace of change is accelerating fast. Ryan (2014) states the fact that it took television 22 years to reach 50 million households, but it took only five years for the internet to achieve the same reach. Hence, he argues that marketing has hit a pivoting point where digital marketing will take over traditional marketing (ibid). Furthermore, Lamberton and Stephen (2016) argue that over the past 15 years, digital media platforms have revolutionized marketing, introducing new and alternative ways to reach and engage customers. Moreover, digital marketing has been growing in parallel with technological innovations opening access to millions of people to the internet, smartphones and social media platforms. Therefore, it is very important that the businesses integrate and adapt to the rapidly changing marketing environment and therefore develop appropriate digital- and traditional marketing to better service the needs of their target audience (Lamberton & Stephen, 2016).

2.2. The Paradigm Shift of the World Wide Web

The emerging of the internet and the World Wide Web has changed society forever. When the first-generation internet (Web 1.0) first became available to the public in the early 90's it was a web of limited information about goods and services (Wertime & Fenwick, 2008). The users of Web 1.0 are best described as "consumers of content" because they had limited access to information and were only publishers rather than participants (Allen, 2013; Cormode & Krishnamurthy, 2008). That soon changed with the introduction of Web 2.0 in 1999 which enabled users to become content creators and active participants (ibid.). Web 2.0 changed the world by enabling communication across country borders and time zones. It introduced immediate access to limitless information and knowledge and changed the way people lived their lives, how companies do business and sell their products and services and transformed social norms. Soon so called social media emerged, revolutionizing human interaction through technology.

Berthon, Pitt, Plangger and Sharpio (2012) argue that the Web 2.0 technologies have caused three irreversible changes in the company/consumer relationship. First, it shifted people's activity from the desktop to the web, which lead to greater and immediate accessibility of information. Second, the possibilities of Web 2.0 gave rise to social media, which shifted the value creation from the company to the consumer. Thirdly, these factors empowered consumers like never before as power once belonging to the company transcendent into the hands of consumers around the world (Berthon et al., 2012). The empowered consumer does not only use and consume products and services, but rather adapts and transforms previously standardized offerings to his/her demand (Berthon, Pitt, & Campbell, 2008). The emerge of social media facilitated limitless communication between individuals and applied technology to bring about more interactive interaction between individuals and organizations. Suddenly, people could consult with each other on different brands, products and service experience as well as simply conveying their own opinion.

The internet and social media has grabbed the attention of people of all ages, gender, social position and professions. Although the age gap between internet users is becoming smaller (Kannenberg, 2017) the "digital natives" were the ones that changed the traditional marketing perspectives. Millennials are considered to be digital natives although it is a generation born before the internet. However, millennials were teenagers or young adults when the internet emerged and are therefore digitally savvy and have adapted to the web and its prospects (Ryan, 2014). So-called Generation Z came after the Millennials and represents the

youngest generation today. These individuals were born into the digital age and are living their lives fully integrated with social media powered by information technology. These two generations have a different mindset towards business to consumer communications (B2C) and traditional marketing (Ehlers, 2017; Serazio, 2015). They grew up with social media and the vast access to information at their fingertips, creating a new generation of informed consumers who are highly selective on the content they are exposed to (Kannenberg, 2017). Consumers who easily search for product and service information and freely share their opinions to others operating beyond the control of manufacturers or service providers. Social media has armed customers with the ability to damage or benefit companies (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011) and their products and services, transforming how companies view customer engagement and value creation (Kumar et al., 2010). Channels such as Facebook, YouTube, Twitter etc. have created a platform for consumers to express themselves openly and given companies free access to customer feedback enabling them to leverage customer feedback and act on customer wishes. Hence, dramatically change go-to-market strategies, product development and promotional activities in today's marketplace.

2.3 Social Media Development

Social media, its function and purpose can be defined in various ways. The Oxford dictionary defines social media as: "Websites and applications that enable users to create and share content to participate in social networking" ("Social Media" e.d.). According to Tech-Target the definition of social media is: "Social Media is the collective of online communications channels dedicated to community-based input, interaction, content sharing and collaboration" ("What is social media?," n.d.) The definition of the construct varies based on different perspectives towards social media. Arman (2014) highlights several definitions defining four different social media perspectives. First, *Technological Perspective* that maintains that social media constitutes a combination of mobile and web-based technologies. In other words, Web 2.0 technologies generated internet-based applications that represent social media functions. This is the scientific approach that only defines the general function of social media. Second, *General User Perspective* explains further the concept of social media and sheds some light on the difference between traditional media and social media. This perspective explains how social media allows its' users to participate in the content creation and development unlike the traditional media where users were only consumers of the content. Social media enables its' users to communicate, network, share and interact with each other about their own perception,

opinions, experiences and perspectives. The third perspective is the *Information and Communication Related to Business Perspective* which is similar to general user perspective. However, its' focal point is on how organizations use social media to their advantage by gathering information and communicating with customers. Forth and the final perspective defined by Arman (2014) is the *Marketing Perspective* which views social media as a new marketing tool that is both cost and time effective. It claims that social media is an important factor for revenue growth and brand promotion and extension. The Marketing Perspective also outlines that social media is an effective channel to communicate with consumers which makes it a fundamental part of business strategy. But what does social media consist of and what is its function and value for individual users? Anthony Mayfield (2008) perceived social media as a new type of media with five different applications: 1) Participation, 2) Openness, 3) Conversation, 4) Community and 5) Connectedness. Participation is key as social media endorses user engagement, fading the line between media and audience. Because of its active participation social media services can be accessed by everyone who wants to make use of its content. Conversation is what social media is all about as it established two-way communication between content provider and the reader/user. With active engagement and interaction social media quickly creates communities of similar interests and perspectives where users can communicate easily and successfully. Last, but not least, Connectedness is what social media thrives on and what Web 2.0, the foundation of early social media, has enabled with social networking (Mayfield, 2008; Wertime & Fenwick, 2008). Social media connects not only websites and resources, but also people.

2.4 Social Media Platforms

As of April 2018, there are over 4 billion active internet users (Statista, 2018a) and social media platform like Facebook currently have over 2 billion users, YouTube 1.500 billion, Instagram with 700 million, Twitter with 328 million, Snapchat with 255 million users, and LinkedIn 106 million users (Statista, 2018e). This powerful new form of communication requires new strategies. Munter and Hamilton (2013) state that in the past most corporate messages were designed to inform audiences in the "tell style" of communication where the aim is to persuade the audience to do something that corporations wanted to accomplish (Schultz & Kitchen, 2004). In other words, communication was mostly preplanned and designed and delivered through personal contacts, presentations, company visits, and the traditional mass media. However, today's social media platforms, powered by modern technology, can facilitate real-

time dialogue between companies and customers. Hence, Ihator (2001) highlighted the need for companies to efficiently react to public inquiries and direct online communication regardless of having less opportunity to prepare for presenting their own position or point of view.

As outlined above, social media consists of various network platforms or channels where different types of activity takes place. Kaplan and Haenlein (2010) classified social media into six different categories based on social presence/media richness and self-presentation/self-disclosure. These categories are blogs and microblogs (e.g., Twitter), social networking sites (e.g., Facebook), virtual social worlds (e.g. Second Life), collaborative projects (e.g., Wikipedia), content communities (e.g., YouTube) and virtual game worlds (e.g. World of Warcraft) (Allen, 2013; Arman, 2014). Blogs represent the earliest form of social media. Blogs are personal websites that usually present entries in reverse chronological order. The entries vary from personal diaries to commentaries on relevant information of any sort in the form of text, videos, graphics or links to other web pages (Berthon et al., 2012; Kaplan & Haenlein, 2010).

The first webpage was introduced to the public in 1991 which is eight years before the arrival of Web 2.0 launched in 1999. However, the reason why blogs are considered to be the beginning of social media is because Web 2.0 made it possible for the first time for users to leave comments on the websites (Meredith & O'Donnell, 2011). This marked the beginning of the networking revolution (O'Reilly, 2007). Content communities are web pages where users can share various types of media content based on their preferences. This media can be in the form of videos (e.g., YouTube and Vimeo), text (e.g., BookCrossing), photos (e.g., Pinterest and Instagram), audio (e.g., SoundCloud) etc. The shared material can belong to the individual posting it or be copied from the original owner. Many share content, they have created themselves, for example, a musician sharing his music on YouTube. However, most publications are re-posted from someone else with the original owner having little or no ownership rights, consequently presenting a threat to copyright-protected content. Therefore, these websites strive to keep the illegal material out by enforcing prohibitions and removing it. Despite this disadvantage content communities pose great opportunities, both for individuals and organizations. Because of their popularity content communities are ideal platform to reach the public. For example, companies have begun to interact with their customers by posting content themselves or encouraging people to participate in the sharing of their content (Kaplan and Haenlein, 2010). This has helped firms to not only increase brand awareness but also help them build their brand image (Kumar et al., 2010).

Social networking sites are web pages where individuals create a profile describing themselves and post information about them and their everyday life. Kaplan and Haenlein (2010) maintain, that these pages are different from blogs because they contain more private information about the owner and are usually used for communication with friends and family whereas blogs support more formal interaction between strangers. The objective of these sites is to connect people on a more personal level in their day to day life. Social network sites are private profiles where users provide information about themselves, post photos, videos etc. The largest social media site today is Facebook with 2.2 billion monthly active members (Statista, 2018e).

Collaborative projects are defined by Kaplan and Haenlein (2010, p. 62) as "projects that enable the joint and simultaneous creation of content by many end-users". The goal of collaborative projects is to provide extensive and reliable information online. The content has many authors because it is believed that the joint effort of many results in a better outcome than could be reached individually. These websites are possibly the best representation of the popularity of user generated content (Kaplan & Haenlein, 2014). Two types of collaborative projects can be identified – Wikis (e.g., Wikipedia) and Social Bookmarking (e.g., Reddit). Wikis are a fundamental type of collaborative projects, allowing users to add, change and remove content. However, social bookmarking enables users to collect and rate online content and links (Kaplan & Haenlein, 2010).

Virtual reality is a combination of advanced technology and human imagination (Samoylova, 2014). This platform presents a fantasy world that can be either real or completely fictional. Virtual game worlds are replicas of real environment where users create two-dimensional or three-dimensional *avatars* or graphical models to represent themselves and interact with each other. Virtual game worlds include multiplayer online role-playing game (MMORPG) governed by strict regulations on user behaviors (Kaplan & Haenlein, 2010). Virtual social worlds however, do not pose such restriction and allow avatars to represent their creators in a more specific way as well as enabling them to interact with each other more freely. These worlds are online communities created and shared by users to freely interact and live virtual life in a simulated world (ibid.)

2.5 Social Media Marketing

Over the past decade organizations have been recognizing the potential impact of social media on corporate image, reputation and relationships with stakeholders by introducing social media

into their marketing strategies to engage with customers. Social media is changing organizational communication and public relations. Parveen, Jaafar, & Ainin (2016) have pointed out that social media opens two-way communication, enabling organizations to better understand their customers desired needs and wants and how to effectively respond to those desires. However, if organizations are to use new technologies and methods to further increase organizational performance, these methods must be adopted properly (Parveen, Jaafar, & Ainin, 2016). The fast-growing digital environment and the high influence of social media have had a monumental effect on marketing, customer behavior and e-businesses practices (Shin, Pang, & Kim, 2015). Paul Argenti (2006) argues, that every facet of corporate communication is altering as a consequence of social media. Companies have less control over communications while competitors and consumers have greater access to information than ever. In fact, communications have become more dynamic and less static (Argenti, 2006). In the past, the majority of advertising/corporate messages were broadcasted to their audience with the objective to inform or persuade them to act on a certain behaviors to realize corporate goals (Schultz & Kitchen, 2004). Today, technology accommodates real-time dialogue between companies and consumers, replacing more static, formal and often reactive corporate messaging.

Kristin Herold (2017), conducted a study in cooperation with Clutch and Smart Insights finding that 52% of social media marketers say that social media has had an impact on their companies performance and an increase in sales and revenue (Herold, 2017). Furthermore, the research found out that the most valuable social media platforms used by companies were 1) Facebook (89%), 2) LinkedIn (83%), 3) YouTube (81%), 4) Twitter (80%) and finally Instagram ranking number five with 56%. However, the researchers maintain that Instagram is expected to increase dramatically in the coming years. In fact, nearly a third of teenagers consider it to be the most valuable and important social media platform (Herold, 2017). According to Tom Pick (2016) “social media is important today, but even more so tomorrow with 90% of young adults – aged 18 – 29 using social media”. In contrast Frank Grillo (2017) argues that while social media channels continue to grow and over one third or 2.62 billion people (Statista, 2018b) are active social media users. However, organizations seem to be falling short in their efforts to harness social media. Wonsun Shin and associates (2015) conducted a study on how global organizations use different social media platforms i.e. Brand website, Facebook and Twitter to develop relationships with their stakeholders (Shin et al., 2015). The results indicated that the way organizations use the three platforms where quite similar, that is, rather they would use it to distribute information instead of user engagement.

Therefore, the platforms were generally used for one-way communication rather than two-way communication. Furthermore, research conducted by Christine Moorman revealed that 44.1% of organizations say they haven't been able to identify the impact of their social media spending (Moorman, 2016)

Grillo explains the difference between how Business-to-Business (B2B) vs. Business-to-Consumer (B2C) operate and see value in social media. Both B2B and B2C organizations actively operate across Facebook, LinkedIn, YouTube, Twitter and Instagram. Facebook and LinkedIn scored exceptionally high and were and fairly similar participation between B2B and B2C. However, Instagram usage in B2C dominated B2B, were Instagram scored 71% for B2C trailing merely 31% for B2B. Another interesting fact is that 83% of B2C marketers used LinkedIn (Grillo, 2017). Therefore, it is important for organizations to realize the difference between the social media platforms and estimate the potential value created by each platform for the organization and its corporate goals.

Schniederjans et al. (2013) suggest another alternative for organizations to use social media by integrating it to their *Impression Management* strategies. The definition of impression management according to the Business Dictionary is "a process whereby someone tries to influence the observations and opinions of others. In a typical impression management process within a business, a manger might attempt to regulate and control information in their interactions with staff or the general public to give them the most favorable impression about their company and its objectives" (BusinessDictionary, n.d.). Or simply, impression management manages the desired impressions of a firm in the eyes of stakeholders (Schniederjans, Cao, & Schniederjans, 2013). Schniederjans research focused on the correlations between impression management and corporate financial performance. Examining five impression management variables applied through social media designed to effect financial performance: ingratiation, intimidation, organizational performance, exemplification and supplication. The results should positive correlation between the fine social media applications and financial performance. Hence, there are financial opportunities associated with strategic application of social media.

Social media is different from other technologies and scholars have argued that social media through easy-to-use, customer focused tools can have more direct and faster impact on performance than other marketing channels (Alarcón-del-Amo, Rialp-Criado, & Rialp-Criado, 2018). Social media draws on mobile and web-based technologies to create highly interactive platforms empowering individuals and groups to share and co-create user generated content (Gagliardi, 2013; Kietzmann et al., 2011). Furthermore, Schniederjans, Cao and Schniederjans

(2013) have highlighted the qualities of social media to enable fast, low cost and efficient exchange of information and potential greater access to customer information through social media both directly and indirectly via customer-customer interaction.

2.6 Customer Engagement

Customer engagement is a multidimensional concept with a variety of definitions embracing numerous aspects of business and communication. A simple interpretation of customer engagement is a two-way interaction between a firm and a consumer. This interaction can take on different forms, varying from a simple purchase action to active collaboration. Scholars have argued that companies create a platform for customer engagement, but the customers are the ones who choose to engage (Hussain, 2017). This perspective highlights a key feature of customer engagement i.e. positive relationship between a company and a customer fostering an emotional connection (McEachern, 2017; Pansari & Kumar, 2017). McEachern (2017) also points out that customer engagement is not limited to customers interacting only with the company itself, but even more so when customers interact with each other about a brand. Research has reviled a link between customer satisfaction, customer loyalty, increased revenue and company profitability (Bowden, 2009; EIU, 2007; Fernandes & Esteves, 2016). Traditionally companies focus on improving products and services in order to establish a favorable relationship with their customers and ensure customer loyalty. Although their attempts are not in vain, the internet has made it difficult to stand out based solely on the quality of products or services as consumers have easy access to any product or service they wish to search for (Young & Aitken, 2007). However, too many options are overwhelming and that is why people look for brands they can connect emotionally with based on their ethical values and factors that are meaningful to them (Zaltman, 2003). As an example, the marketing of the Nestlé Crunch Bar evoked memories of childhood and security in their customers. However as soon as the advertisement began focusing more on the physical aspects of the bar Nestlé not only lost sales but also gave its' competitors an opportunity to attack the chocolate-bar business (ibid.) Instead of counting the transactions companies have with their customers, they should focus on creating a close relationship with them through communication. The more information companies have about their customers the more chance of building a lasting relationship (Young & Aitken, 2007). Accordingly, consumers seek communication with businesses and are more willing to participate in two-way interactions. The opportunity to be involved gives the customer the sense of being valuable and in control (Deloitte, 2014; Joosten, Bloemer, &

Hillebrand, 2016; Wertime & Fenwick, 2008) and in return gives the company a competitive advantage of having a stronger relationship with the customer (Young & Aitken, 2007).

Generally, customer engagement is viewed as value addition from a customer to a business (Pansari & Kumar, 2017). Today, the value of customer engagement goes beyond monetary prospect (Van Doorn et al., 2010). It is rather "a road to important business objectives" (Solomon, 2015). It gives rise to brand awareness, strengthens customer loyalty, improves brand value and customer satisfaction (EIU, 2007b; (Pansari & Kumar, 2017). It is also important to understand to what extend the customer is engaged and how customer engagement helps companies to achieve their goals. Even though achievement of goals is an important motivator for companies to foster customer engagement, the actual reactive or proactive responses are in fact in the hands of consumers and therefore not fully under the companies' control. With the introduction of the internet, today's customers have more power. Social media allows not only firms to share information with their customers but also customers to share information with each other (Sashi, 2012). They can share their opinions with the world in a matter of seconds, potentially destroying a business or making it a success (Kumar et al., 2010). On that account businesses must be very careful when it comes to building their relationship with customers. Social media has revolutionized customer engagement. It has made it easier to advertise brands, reach masses of potential customers in an instance as well as measure more easily what works and what doesn't (Sashi, 2012).

Now, businesses can measure customer engagement in a more cost-effective and timely manner. Even more so, firms can measure customer engagement on different levels, which is the key to identifying the difference of valuable and invaluable costumers (Van Doorn et al., 2010). A study by McKinsey & Company (2014) shows that C-level executives most often rank digital customer engagement as a top strategic priority. According to (Statista, 2018c), organizations can engage in many different social media platforms to capture customer attention and build awareness with the aim of increasing revenue or customer loyalty. Facebooks' 2 billion users, YouTube's 1.5 billion and the millions of users of other popular social media platforms are a powerful incentive for companies to actively engage with social media as a part of their customer outreach. The immense scale of the customer reach of those platforms has the promise of countless opportunities if successfully executed. Customer engagement on social media can take on many forms and could be defined as any online action a customer makes in relation to a business. Online engagement can be subscription, purchases, likes, shares, comments, blog or blog posts etc. The simplest function of online customer engagement is when an individual pays a visit to a company's webpage. Hence, companies

need to focus on driving traffic to their webpages and more importantly, keeping the customer on the website for longer time (Ryan, 2014). That can be done by providing entertaining content as well as asking people to participate in surveys, promotions, giveaways etc. Further actions are subscriptions or follows on social media. This means that companies must regularly update posts that are not only designed to attract new customers, but also to retain current followers. As a result, customers contribute by liking, commenting and sharing. Companies need to pay attention to this because this form of engagement provides valuable and free feedback in an instance. This engagement also increases brand awareness and Electronic Word of Mouth (EWOM). EWOM has its advantages over traditional word-of-mouth because business can not only track the conversations about their brand but also intervene if necessary (Kietzmann et al., 2011; Wertime & Fenwick, 2008). This factor brings power back to the firm because it provides it with an opportunity to respond to negative publicity as well as take advantage of the positive discussions. With social media, businesses provide their customers with a platform to contact them directly so that they can provide immediate and efficient responses to any questions customers have. That way firms can connect easily with their customers on a more personal level (Rafiq, 2017). They can make customers feel valued by offering special promotions or offers. Many online stores, for example, offer individualized discount codes based on previous purchase, letting customers know that they observe their purchase behavior. Today's algorithms even enable stores to target customers on other social media platforms based on the products they have recently searched (Reczek, Summers, & Smith, 2016).

2.7. Influencer Marketing

The use of sponsored media has been on the rise and more commonly used for advertising through the use of so called social media influencers. It is evident that social media platforms and influencers associated with them have the potential to reach a wide range of consumers on a global scale (Gürkaynak, Kama, & Ergün, 2018). Murphy and Scram further argue that *sponsored social media* is constantly growing alongside rising investment in sponsored media. Furthermore, marketers are releasing that traditional advertising is rapidly declining forcing them to look for alternative channels (Ted Murphy & Schram, 2014). But what is influencer marketing? "Influencer marketing can be defined as a process of identifying and activating individuals who have an influence over a specific target audience or medium, in order to be part of a brand's campaign towards increased reach, sales, or engagement. Influencer marketing is an extension to the original concept of word-of-mouth marketing, focusing on a social

context and performed in a more professional way. It is a form of relationship building which may be very helpful for brands that seek to expand their audience and turn them into loyal customers through trust and authenticity" (Sudha & Sheena, 2017, p. 16).

Influencer marketing is growing rapidly. A study conducted in 2017 shows that 58% of marketing professionals participating in the study believe that over the course of the next three years influencer marking would be incorporated in all marketing activities (Statista, 2018c). Furthermore, on average across all industries more than 11dollars are made for every one dollar spent on influencer marketing and nearly double that amount within in the health and pharma industry averaging $21.25 for every one dollar spent (Statista, 2018c). Moreover, 39% of organizations plan to increase their influencer marketing budget in 2019 (Statista, 2018d). Another term used to describe influencer/influential marketing or similar marketing methods is called Buzz marketing. Mohr (2017) describes buzz marketing as a promotional activity that is focused on maximizing word-of-mouth impact associated with a product or services through viral marketing, i.e. social media platforms (Mohr, 2017). Mohr further explains that buzz marketing is piloted through social media word of mouth or electronic word-of-mouth (EWOM). Leveraging influencers and their well-established online presences and extensive follower base to proactively share brand information and start the conversation. Organizations have begun to understand and rely on influencers to raise brand awareness, promote brands and to create a 'buzz' around that particular product or service with the aim to increase online traffic, sales and its bottom line (ibid.)

2.8. Future of Social Media

From the above review it can be argued that social media is firmly established as an important part of effective marketing strategies. So, what is the future of social media? With constant changes and improvements of social media platforms it's hard to speculate how social media users will apply social media in a decade from now. However, research on future impact of social media indicates strong future growth of social media with 72% of online adults saying they were likely to use social media networking tools in the future (Penni, 2017). In the coming years the millennial and Z generations are infiltrating key positions in the market and bringing with them high demand for online content, new technologies and greater understanding of technology. Therefore, it is safe to assume that the social media expansion is just beginning.

In the light of the exponential growth and impact of social media in recent years, many organizations are already taking on the challenging task of formulating and implementing

social media strategies to ensure strong customer relations to gain and maintain competitive advantage. In 2006, Foux states that consumers have begun to view social media as more trustworthy than TV, radio or other traditional media (Foux, 2006). However, Chirag Kulkarni (2017) has highlighted new trends and a shift in social media application related to democracy and generational changes reveling new challenges for social media leaders. Kulkarni states that after the presidential elections in The United States in 2016, many voters contributed the results of the elections to social media due to a host of real and fake information shared. "Social media, in its role as ground zero for viral political commentary, is invaluable, unavoidable and exhausting" (Kulkarni, 2017). Furthermore, another shift is evolving. Teenagers have been leaving Facebook in bulks and younger generations don't even bother to sign up because it's a platform their parents use. As argued by Lang (2015), "Facebook simply isn't looked at as being cool anymore (Lang, 2015). According to Erin Griffith (2016) supported by a report published by The Information, in 2016 Facebook took a major hit or a 21% decrease in "original sharing" or personal updates from its 1.6 billion active monthly users. Facebook´s decline in personal updates mirrors a growing trouble for other online platforms. Perhaps reveling a transformation of main stream social media from platforms of personal sharing and intimacy to an impersonal and professional exchange (Griffith, 2016). Some online communities like Reddit try to preserve the "special and intimate" at the expense of adding new users. Consequently, never quite become mainstream. Others like Myspace, Bebo, Flickr, Orkut, LiveJournal, Friendster crumble when failing to reach the mainstream as their followers abandon them for the latest new thing (Griffith, 2016).

So far, Facebook has managed to grow. It went mainstream but didn't lose its appeal as it lost some of that "special and intimate feeling" and has in return become an essential utility for keeping up with friends and family. Facebook is still the first place where people are compelled to share meaningful updates like engagement announcements, baby photos, and vacation photos. As Griffith states, "Facebook is a home for your personal press releases" (Griffith, 2016). However, users are having increasing concerns about data harvesting and identity theft (Tynan, 2016).

The question is how leading social media platforms will react to these challenges and develop in the coming years. As mentioned above, social media has developed into a broadcasting tool both for people/consumers and organizations. This is extremely valuable to reach a broad scale of audience. This has cast a shadow on the original intent of platforms like Facebook of sharing intimate or organic posts (i.e. family photos etc.) and their emphasis on connecting people. However, social media is expected to react to this

trend by starting to focus more on relationships over meme's, gif's, and articles (Kulkarni, 2017). Other future trends include increased focus on privacy, less gamification and increased video material (Kulkarni, 2017). Application of video made a giant leap in late 2016 when Instagram launched Instagram Story and Instagram Live. Facebook followed shortly with Facebook Live and Messenger Day (ibid). Social media is shifting towards live content produced by the user through his/her camera. Being able to see through other people's lenses in real time is having a massive impact on the industry and becoming a powerful source within social media (ibid). Erica Abbott interviewed 32 marketing managers and her findings indicate that the trends social media users and marketers may expect in 2018 are an increase in chat bots, growing focus on highly-engaging content and greater push for mobile applications (Abbott, 2017). Natalie Athanasiadis was among the 32 marketers interviewed, she argues that one of the major trends in social media for 2018 is an increase in chat bots. Facebook already has over 100.000 active chat bots which no longer respond robotically, but engage in personalized dialog with its audience (Abbott, 2017). Furthermore, Paige Leidig CMO of NetBase talks about product launches on social media becoming the "norm". First, organizations will launch their products on social media to early advocates during the testing phase of the product. This will generate immediate feedback to the organization and created a buzz around the product resulting in rapidly increasing awareness (ibid). Bisht and Andrienko (2017) talk about video being the next big thing, agreeing predictions made both by Abbot and Kulkarni. Andrienko argues that experience consumers are looking for that feeling of "being in the moment" that can be achieved through mediums like live video, Facebook/Instagram stories, Snapchat etc. Bisht further emphasizes the impact of video content and video chatting like the new feature on Instagram stories where people can video chat like on Skype (ibid).

It's hard to determine exactly what social media users may expect in the coming years but it is safe to say that social media is here to stay, and its goal is to optimize user experience. As mentioned above scholars and experts agree on emerging social media trends and where leading social media platforms will focus their attention. Most of them agreed that video is the next big thing followed by enhancing social medias original values of relationships communication. Others speculate that new platforms will arise with similar features like Spotify with "premium" accounts which gives the user the benefit of no commercials and unwanted material.

3. Methods

Social media has changed the landscape of communication and traditional marketing. As discussed above, social media platforms have in recent years been changing the power dynamics between organizations and their customers with customers' ability to communicate their opinions and provide feedback to developers, manufacturers and distributors as well as to a wide customer audience. This shift poses both an opportunity and a threat to marketers. Hence, the purpose of this study is to examine the level of engagement of social media users with providers of products and services. For the purpose of this study, customer engagement is defined as two-way interactions between a company and a consumer.

The research question posed for this study is:
How do amputees use social media and does social media use impact customer engagement and prosthetic choice?

The following hypothesis have been defined for this study:
H_0: Age does not affect how much amputees engage on social media
H_1: Age does affect how much amputees engage on social media

H_0: Gender does not affect how much amputees engage on social media
H_1: Gender affects how much amputees engage on social media

H_0: Social media engagement does not affect amputees' prosthetic choice
H_1: Social media engagement does affect amputees' prosthetic choice

H_0: Amputee influencers do not impact the prosthetic choice of amputees
H_1: Amputee influencers impact the prosthetic choice of amputees

H_0: Social media does not impact customer engagement.
H_1: Social media impacts customer engagement.

3.1 Participants

To explore consumer use of social media and their engagement with product and service providers quantitative data was collected with a survey conducted in collaboration with the Amputee Coalition of America (AC), a donor sponsored non-profit organization headquartered in Washington DC. The Amputee Coalition is dedicated to outreach and empowerment of people affected by limb loss. They strive for amputees to achieve their full potential through education, support and advocacy, and to promote limb loss prevention (Amputee Coalition, 2018). Focusing on a designated market, such as the prosthetics markets, provides a unique opportunity to explore the customer and product/service provider relationships. Amputees require a wealth of information, education and product information about their prostheses, but the number of prosthetic manufacturers is very limited leaving a handful of companies with overwhelming market share. Hence, providing an opportunity to examine the correlation between social media use of the market segment and their engagement with the four market leaders.

The demographics of this study were amputees domiciled/located in the United States. The US market accounts for more than half of the global prosthetic market. The survey was posted on the official Facebook page of Amputee Coalition which has 123.986 group members, as well as their Twitter account which has 13.130 followers. The total number of participants in this study was 101 respectively with relatively equal gender and age distribution. 53% of the respondents were male and 47% female. Amputees are generally older (Ephraim & Duncan, 2005) therefore a possible age bias might exist in the sample, therefore a specific age categorization was applied for the purpose of this study. The participants were categorized in six different age groups with each group spanning 10 years, except the first group including participants 20 years or younger and the last group consisting of participants 60 years old or older. The statistical representation between the different age groups are as follows: 1) 20 years or younger: 2%, 2) 21-30 years: 12%, 3) 31-40 years: 13%, 4) 41-50 years: 20%, 5) 51-60 years: 29%, 6) 60 years or older: 24%. (See Appendix B).

3.2 Materials

The method used for this study was a quantitative web-survey conducted via Google Forms and distributed to participants via the Amputee Coalition Facebook and Twitter accounts. The survey questionnaire consisted of 17 questions, both open ended and close ended. Three of the questions were based on a 5-point Likert scale, and other questions allowed the participants to

choose multiple options (see Appendix A). To answer the research question proposed for this study, the survey focused on four main topics: 1) Social Media Use, 2) Social Media Content, 3) Social Media Influencers, and 4) Social Media Engagement.

First, to gather information on participant´s social media use they were asked to estimate how many hours per day on average they spend on social media and which social media platforms they use on daily baes. Also, the participants were asked whether they had visited social media platforms of prosthetic manufacturers. Based on their answers participants continued to different questions in the survey. If the answer was 'Yes' they continued to the next question with was concerned with their experience from visiting the platform. However, if the answer was 'No' participants automatically skipped the questions that were not relevant and continued with the survey.

Second, participants were asked about what type of content they look for when browsing on social media, where they look for information regarding prosthetic products and services and whether they had used social media to acquire that information. Furthermore, participants were asked specifically about what type of content they look for when browsing social media platforms of a prosthetic manufacturers and what information they preferred seeing on the social media platforms of the prosthetic manufacturers.

The third set of questions aimed at exploring the impact of social media influencers. Participants were asked whether they follow amputee influencers on social media and if those influencers have increased their brand awareness of specific brands. Furthermore, to explore the brand awareness of the four leading prosthetic manufacturers participants were asked which manufacturer comes first to mind when thinking about prosthetic solutions.

The fourth and last category of questions explored social media engagement. Participants were asked whether they had been in contact with a prosthetic product/service provider through social media. If so, they were asked if the content on that social media platform had been helpful or unhelpful. Moreover, they were asked how influential or uninfluential the social media platform had been on their prosthetic choices and how important or unimportant it was in their opinion that prosthetic providers engage with their customers on social media.

3.3 Procedure

The Amputee Coalition welcomes research initiatives designed to explore relevant topics to their mission. The Coalition applies rigorous selection and reviewing protocol to ensure the

research quality requiring detailed information about research design and methods. Research rational and survey outline was submitted to the Amputee Coalition Research Council prior to data collection. The application was reviewed and approved and an introduction to the project including a survey link was posted on the Amputee Coalition Facebook and Twitter pages (see Appendix C). The survey announcement and link were posted twice on each platform, first on 11 April 2018 and again 15 April 2018. Participants were informed that the survey was anonymous and that their responses could not be linked to individuals. The estimated average time for each participant to complete the survey was projected to be 3-5 minutes.

3.4 Research Design and Statistical Analysis

After all data collection, the data was extracted to Microsoft Excel to organize the data properly for further extraction to SPSS in order to compare different variables. In addition to analyzing responses to each of the 17 survey questions, each question was analyzed by gender and age to explore possible relationships between demographics and social media behavior. Furthermore, questions in the section of the questionnaire focused on social media use (questions 1, 2 and 7) were correlated with survey questions relating to social media engagement (questions 8, 11, 14, and 15). The aim was to explore if more time spent on social media platforms made the participants more likely to engage with all or any of the four market leaders and if that engagement had been influential on the participants' prosthetic choices. Also, to examine which of the social media platforms had the most influencing power. The data was examined in SPSS with various tests. Frequencies and correlation was used to compare results in quantitative terms. Several questions were paired in order to test the hypothesis. Test used to analyze the significance of the data were mainly Independent sample t-Test and One-way ANOVA as well as Regression Analysis.

3.5 Competitor Social Media Analysis

A brief competitor analysis was conducted among the different prosthetics manufacturers included in the survey. The purpose of this analysis was to map their current social media presence. The data consists of information reflecting how active or inactive the companies are on social media, number of followers each company has, their engagement level, mentions etc. The four different social media platforms that were analyzed are the following: 1) Facebook, 2) Instagram, 3) YouTube, and 4) Twitter.

3.6 Limitations

All studies have limitations that can affect the validity and reliability of the research and therefore impact the interpretation and generalization of research findings (Price & Murnan, 2004). Small sample size is the main limitation of this study. Statistical tests commonly require a larger sample limiting the scope of analysis, detection of significant relationships or trends from the data as well as generalizations about the findings being representative for the population and/or the general public (Simon & Goes, 2013). Furthermore, correlation analysis as applied in this study, predicts if association exists between different variables. However, Simon and Goes (2013) have argued that variables can be associated without there being a causal relationship between the two. In other words, the data can reveille association between social media and customer engagement, meaning social media use impacts customer engagement or vice versa or there could be additional unknown variables impacting the causal relationship.

To mitigate for the known limitations, this study focuses on a specific market segment smaller than the general public with four product providers accounting for vast majority of the market. The study provides an indication of possible correlations and existing trends apparent in the data. But, further research is required to comprehensively test correlation between social media use and customer engagement and any causal relationships detected.

4. Results

Total of 101 participants answered the web survey, with 47,5% female and 52,5% male responders. There is an evident age bias in the sample as 73,3% of participants were older than 40 years and 26,8% younger than 40 years with only 13,9% younger than 30 years (see Table 1). This could be due to the fact that people with limb loss are usually older (Ephraim & Duncan, 2005).

The results of the 17 questions posted on Facebook and Twitter pages of the American Amputee Coalition for this study will be presented in four sections: a) Social Media Use, b) Content, c) Influencers and d) Customer Engagement. Results for each question will be presented in numbers and graphics including an analysis of statistical differences. Moreover, correlations between questions measuring Social Media Use and Customer Engagement will be reported. In this chapter, the questions are numbered in the same order they appeared in the questionnaire presented to the participants (see Appendix A).

Table 1

Participants compared by Age and Gender

	Male		Female		Total	
	Frequency	%	Frequency	%	Frequency	%
20 years or younger	1	1,0%	1	1,0%	2	2%
21-30 years	4	33,3%	8	66,7%	12	11.9%
31-40 years	4	30,8%	9	69,2%	13	12,9%
41-50 years	14	70,0%	6	30,0%	20	19,8%
51-60 years	16	53,3%	14	46,7%	30	29,7%
60 years or older	14	58,3%	10	41,7%	24	23,8%
Total	53	52,5%	48	47,5%	101	100%

4.1 Social Media Use

The first category includes the three questions relating to the use of social media. Participants were asked to estimate how many hours, on average per day, they spend on social media (Q1), which social media platforms they use daily (Q2) and if they have visited a social media platform of a prosthetics manufacturer (Q7).

When asked about how many hours per day the participants spent on social media about 40% reported to spend 3 hours or more on social media daily. As shown in Figure 1, 7.9% of respondents reported to spend one hour or less on social media every day, 51.5% spent 1-2 hours, 27.7% spend 3-4 hours, 8.9% spend 5-6 hours and finally the remaining 4% spend 6 or more hours on average per day on social media (See Figure 1).

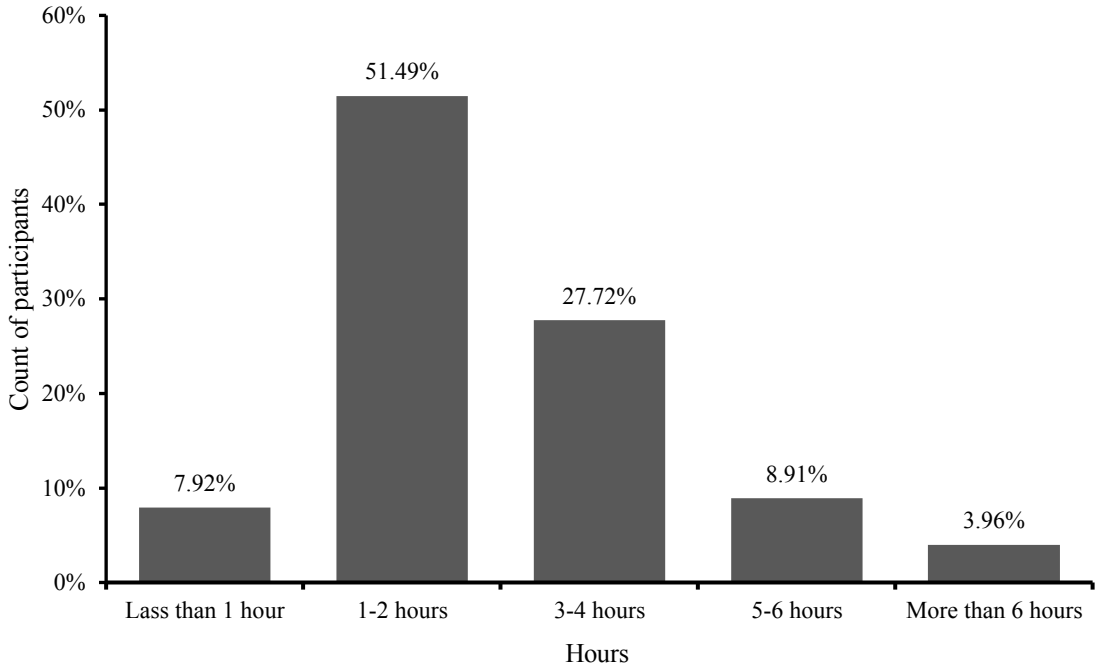

Figure 1. Hours spent on average on Social Media daily.

As shown in Figure 2, Facebook was the most used social media platform with 92.1% of participants reporting to use Facebook daily. 41.6% selected Instagram, 12.9% selected Snap Chat, 30.7% selected Twitter, 24.8% selected Pinterest, 47.5% chose YouTube, 10.9% selected LinkedIn, 4% selected Reddit and finally 9% selected 'other'. On average participants chose 3 platforms they use daily with minimum one platform and maximum seven platforms used daily. This question offered participants nine selection options and they could choose everything that applied to their selection of social media platforms (see Appendix A).

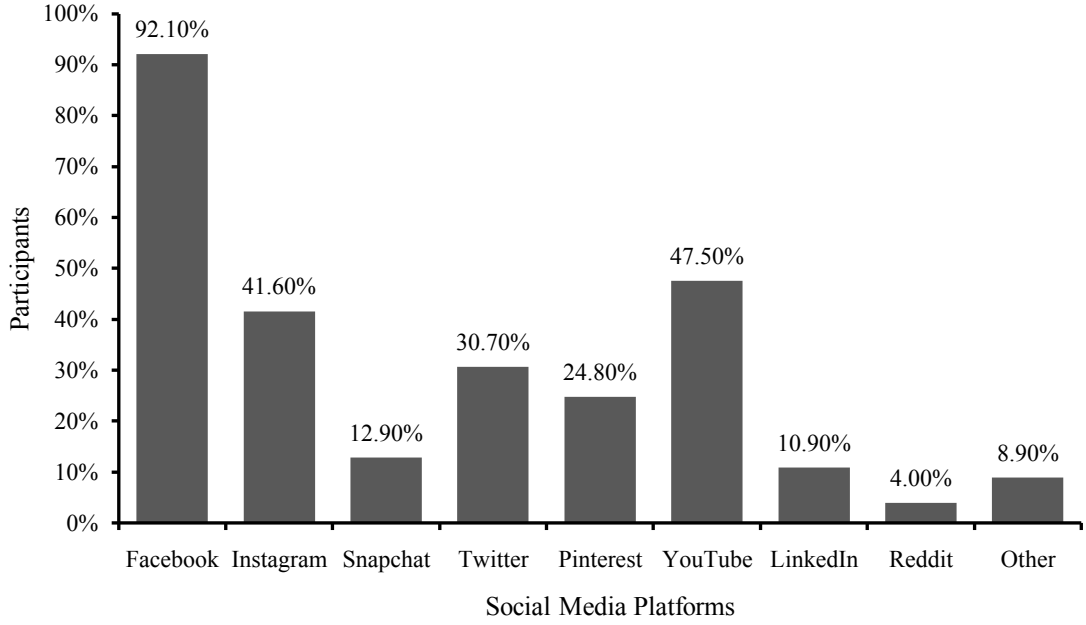

Figure 2: Social Media Platforms used daily.

Over 80% of participants had used social media to acquire information about prosthetic products and services (see Figure 1, Appendix B). Whereas, the remaining 18.8% answered negatively. Two thirds of participants reported to have visited a social media site of a prosthetic manufacturer (see Figure 2, Appendix B). This was a simple 'Yes' or 'No' question where 74.3% of participants answered, 'Yes' and the remaining 25.7% answered 'No'.

4.2 Social Media Content

The second category of questions reflected Social Media Content and consisted of five questions from the questionnaire. In this category survey participants were asked about what content they look for on social media (Q3), where they look for information on prosthetic products and services (Q4), if they have used social media to find information about prosthetics (Q5), what type of content they were looking for on the social media platforms of prosthetics manufacturers (Q9) and finally what type of content they would prefer to see from prosthetic manufacturers (Q10). When asked about what type of content the respondents could choose multiple options which ever applied to them. In other words, the participants could select more than one options.

As shown in Figure 3, over 80% browse social media for news and updates on current events, 70.3% reported to be looking for knowledge and education, 54.5% entertainment,

75.2% selected communication with family and friends, 45.5% selected inspiration/motivation, 29.7% selected shopping. Lastly, 3% selected 'other' where three individuals specified they answer in words. One said, 'looking for recipes', another said 'trying to help my husband who is now a double amputee', the third and final said 'group and communities I am a member of'.

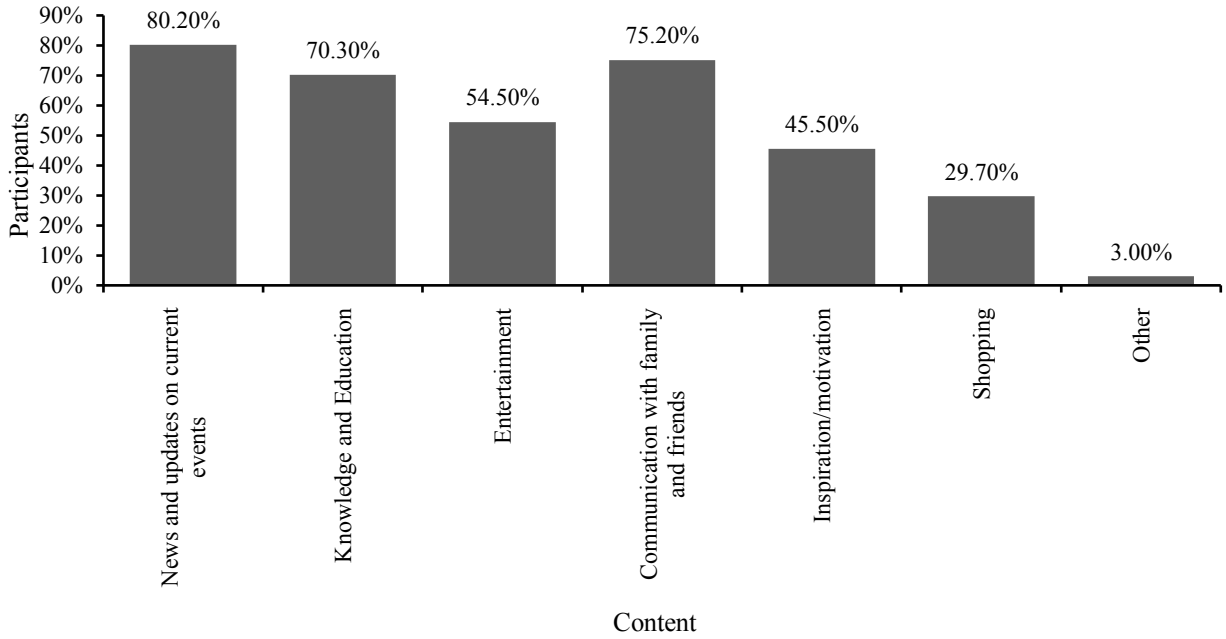

Figure 3. The content participants look for when browsing social media.

When participants were asked more specifically about information needs relating to prosthetics 70.3% of the participants reported they look for information about prosthetic products or services at their 'clinic/doctor'. 65.3% reported to use search engines (e.g. Google, Bling Yahoo)' and 71.3% social media platforms, such as Facebook, Reddit, YouTube, etc. However, only one in ten appears to look to traditional media, such as newspapers, TV, radio, etc. for information relating to their prosthetic products and services (see Figure 4). 14.9% said 'Friends and Family', 1% said 'I don't look for information on prosthetic products and services' and finally 11.9% selected 'other'.

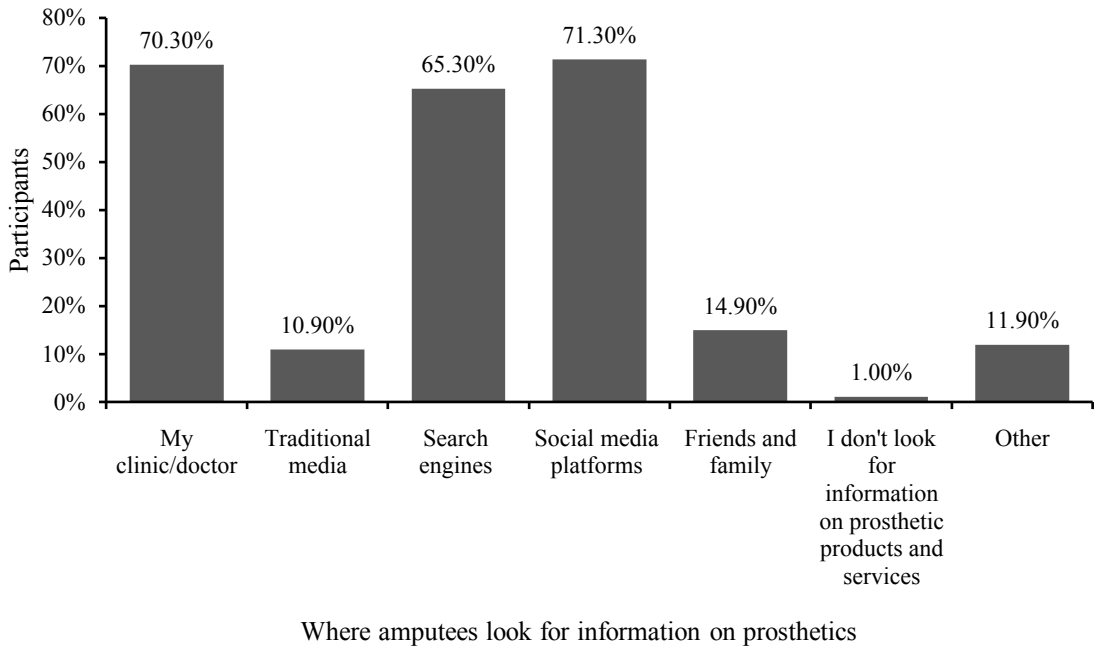

Figure 4. Where amputees look for information about prosthetic products or services.

Question 7 explored whether the participant had visited a social media platform of a manufacturer. If the participant answered No, he/she went immediately to question 10, skipping questions 8 and 9. These questions were based on a Yes answer in question 7 and were concerned with the experience of the participants who had visited a social media platform of a manufacturer. Question 9 was a multiple-choice question answered by 75 out of 101 participants, or all those who had visited a social media platform of a manufacturer. 93.3% of the respondents said that they were looking for 'information', 66.7% selected 'feedback on products/services', 53.3% said 'education', 17.3% said 'motivation', 13.3% said 'shopping', 7.9% selected 'other' and specified their answers in writing including: 'looking for an answer to questions', 'browsing to learn more about the company', and another wanted to see about 'why her husband can't get lighter legs'. Lastly, one individual wanted to find more information on 'prices and availability in his/her country' (see Figure 3, Appendix B).

The last question in this category refers to customers' preference on what type of content they would like to see from prosthetic providers (see Figure 5). 88.1% agreed that content regarding 'new products or services' is something they would prefer seeing from prosthetic providers. To further support that, 59.4% agreed on 'testimonials' from users. 37.6% said 'live material'. 7.9% selected advertisement and 5% said entertainment. There were 8% who selected 'other' and specified accordingly. Majority of the comments in the 'other'

category mentioned they wanted information on current prosthetics, tips, tricks and demos. The rest wanted price related information.

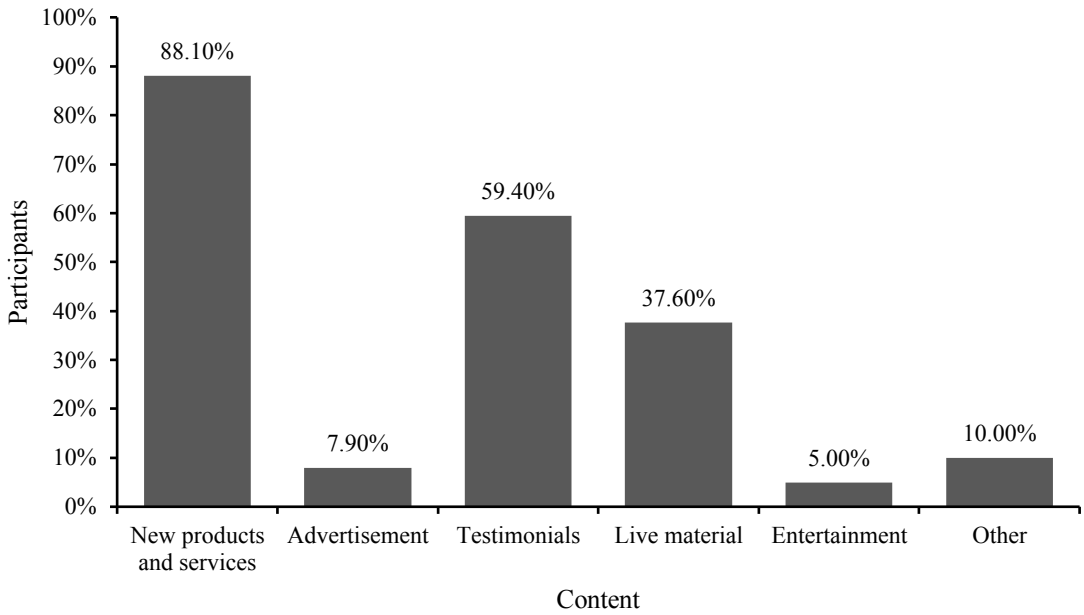

Figure 5. Different types of content amputees would prefer seeing from the prosthetic providers.

4.3 Social Media Influencers

The third category of the survey questionnaire refers to Social Media Influencers. Participants were asked if they followed amputee influencers on social media (Q 12) and if an amputee influencer had increased their brand awareness of specific brands (Q 13). Furthermore, prosthetic's brand awareness was examined by asking which manufacturer comes first to mind when thinking about prosthetic solutions (Q6).

Answering a 'Yes' or 'No' question, more than half of the survey participants reported to follow amputee influencers on social media. 55.4% of participants answered yes to the question and 44.6% answered no (see Figure 4, Appendix B). Table 2 explores whether amputee influencer has increased brand awareness based on participants age. Majority, or 71,4% of responders, regardless of age, answered 'Yes' to whether their brand awareness has been increased by an amputee influencer and only 28.6% answered 'No'. As can be seen in Table 2, there is no significant difference between age groups when it comes to following an influencer.

Table 2

Whether an Amputee Influencer had Increased Brand Awareness of Participants on specific brands (by Age)

	Yes		No		Total	
	Frequency	%	Frequency	%	Frequency	%
20 years or younger	0	0%	1	100%	1	1,8%
21-30 years	9	75%	3	25%	12	21,4%
31-40 years	4	57%	3	43%	7	12,5%
41-50 years	8	73%	3	27%	11	19,6%
51-60 years	9	64%	5	36%	14	25%
Older than 60 years	10	91%	1	9%	11	19,6%
Total	40	71.4%	16	28.6%	56	100%

When examining the participant's brand awareness of prosthetic brands, they had the option of selecting from five different prosthetics brands and if non-applied they could choose 'other'. As Figure 6 shows, when answering the question 'When thinking about prosthetic solutions which of the following manufacturer comes first to mind?' Ottobock ranked 1st with 33.7%, Össur 2nd with 21.8%, followed by Rush Foot and Ohio Willow Wood both with 8.9% and Freedom Innovation with 6.9%.

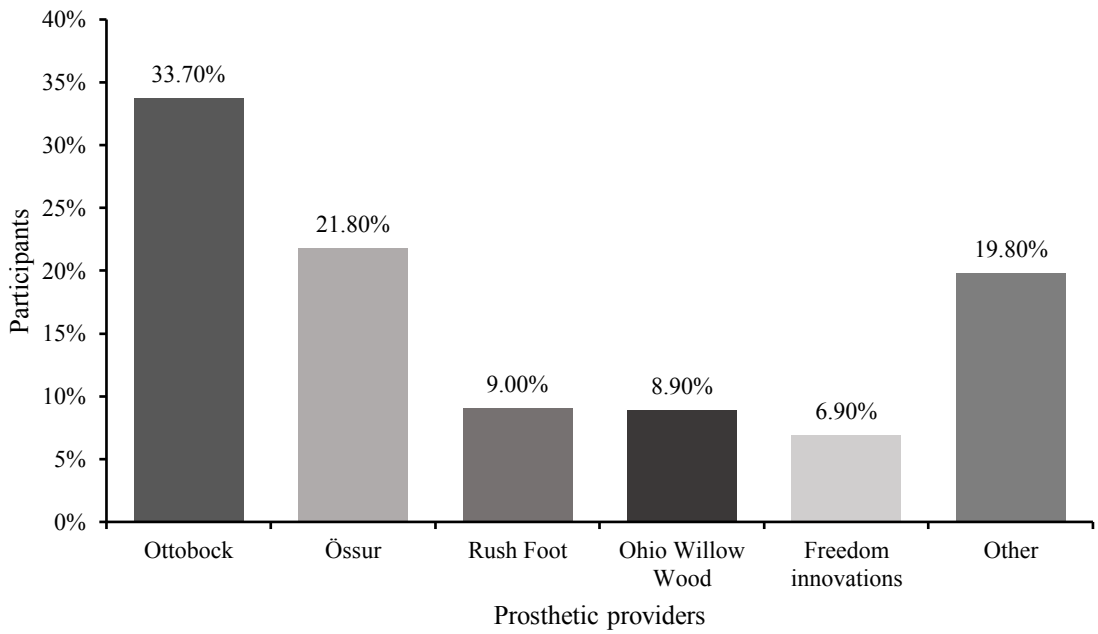

Figure 6. Prosthetic manufacturer that comes first to mind.

However, when examining the answers of those participants whose brand awareness had been increased by an amputee influencer, the difference between which brand participants recalled first changed (see Figure 7). Össur rose to the same level as Ottobock meaning that amputee influencers greatly impacted brand awareness for Össur. Figure 7 shows the responses from the participants whose brand awareness has been increased by an amputee influencer.

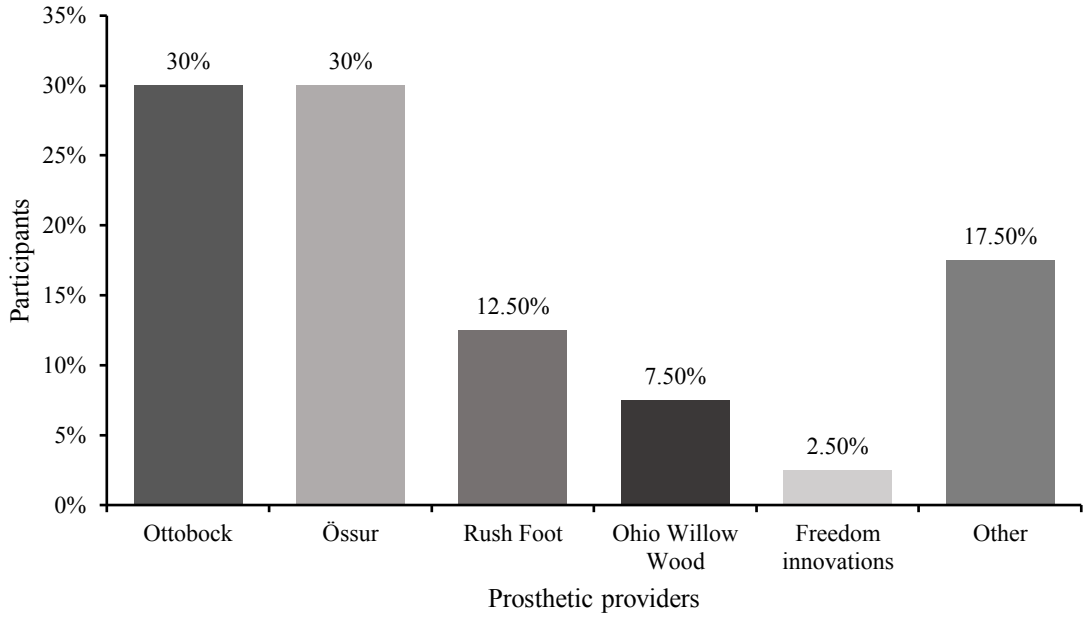

Figure 7. The first brand that comes to mind for those whose brand awareness has been increased by an amputee influencer.

4.4 Social Media Engagement

The fourth and final category of the survey questionnaire examined Social Media Engagement. The category consists of four questions exploring if respondents have been in contact with the manufacturer or service provider through social media regarding product or service development (Q14) and how influential they believed social media has been on their prosthetic choice (Q11). Also, the respondents were asked if social media platforms have been helpful (Q8) and finally how important or unimportant it has been for them that their product and service providers engage with them on social media (Q15).

Answering a 'Yes' or 'No' question, about one third of survey respondents reported to have been in contact with service providers through social media regarding development of products and services, but 65,3 % said they had not (see Figure 6, Appendix B). A third of participants said that social media platforms has been very influential or somewhat influential

on their prosthetic choice (32.7%) and another third (33.6%) believed social media did not influence their choice (see Table 3).

Table 3 explores further how influential social media has been on prosthetic choice based on whether participants had turned to social media when looking for information about prosthetics. Total of 81.2% had used social media to acquire information on prosthetic products and services, with 97% of them agreeing that social media has been influential (very and somewhat influential) on their prosthetic choice.

Table 3

How Influential or Uninfluential has Social Media Platform been on Prosthetic Choice based on whether Participants Have Used Social Media to Acquire Information on Prosthetics

	Yes		No		Total	
	Frequency	%	Frequency	%	Frequency	%
Very influential	10	91%	1	9,0%	11	10,9%
Somewhat influential	22	100%	0	0,0%	22	21,8%
In between	29	85%	5	15,0%	34	33,7%
Somewhat uninfluential	14	88%	2	12,0%	16	15,8%
Very uninfluential	7	39%	11	61,0%	18	17,8%
Total	82	81,2%	19	18.8%	101	100%

Survey results show that majority of respondents found content provided on the social media platforms of prosthetics manufacturers to be helpful. 64% say the content was ‘very-’ or ‘somewhat helpful’ 30.7% said ‘in between’ and the 5.4% said it was ‘very-’ or ‘somewhat unhelpful’ (see Figure 8).

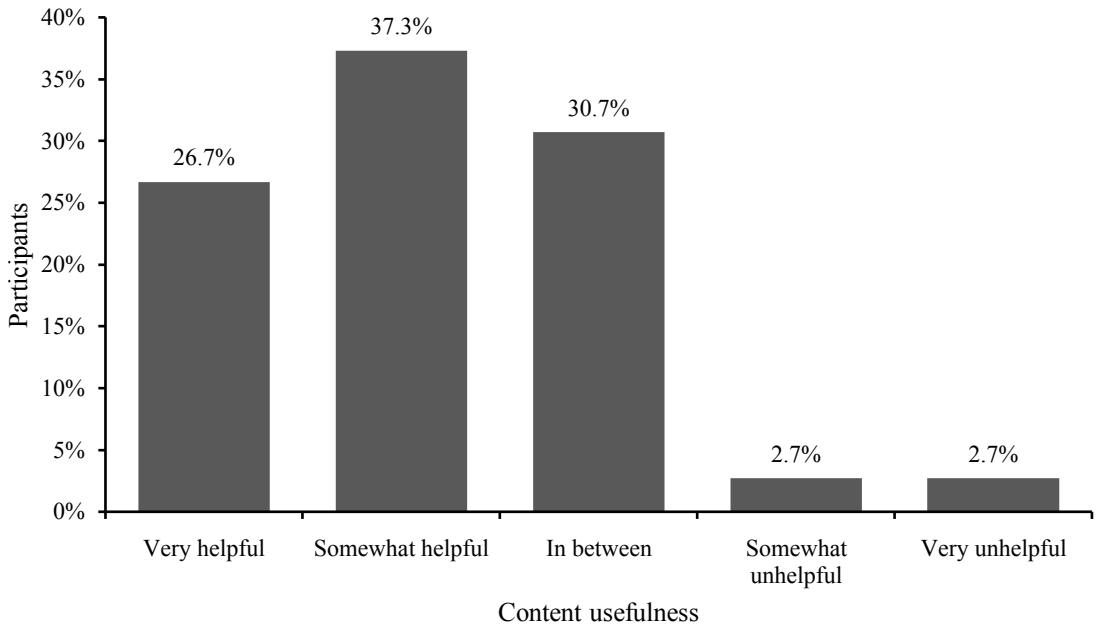

Figure 8. How helpful participants found the content provided by manufacturers on the social media platforms they visited.

The final question explored how important or unimportant participants believed it is for prosthetic providers to engage with customers on social media. As shown in Figure 9, majority of respondents believed it to be very important or somewhat important (72.3%). Only 10% believed it to be somewhat or very unimportant for prosthetic providers engage on social media

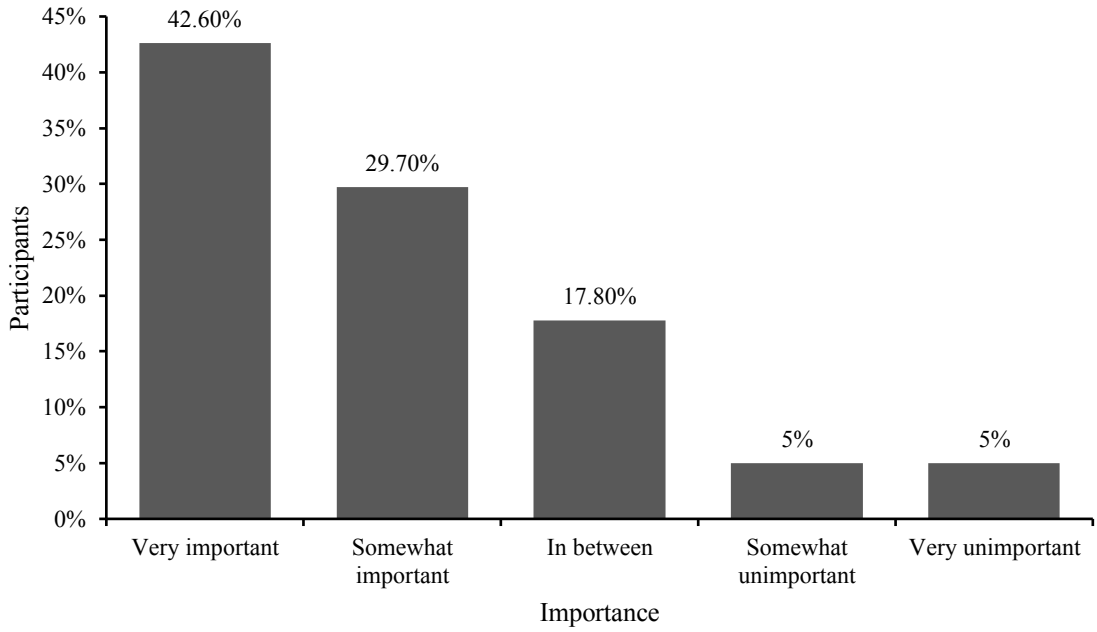

Figure 9. How important participants think it is for a prosthetic provider to engage on social media.

Hypothesis 1

H_0: Age does not affect how much amputees engage on social media

H_1: Age affects how much amputees engage on social media

$$H_0: \mu_{20\ years\ or\ younger} = \mu_{21-30\ years} \cdots = \mu_{older\ than\ years}$$

$$H_1: \mu_i \neq \mu_j$$

In the context of age, social media engagement of amputees was defined on four levels based on (1) how much time (*average hours per day*) participants spent on social media, whether they had (2) contacted service providers through social media, (3) visited social media platform of a prosthetic provider and, (4) used social media to acquire information about prosthetic manufacturers.

One-way ANOVA test was performed to examine the difference between age groups and their daily social media use in hours. The independent variable is age and the dependent variable is average hours spent on social media per day. The results are shown in Table 4 where $F(5, 95) = 1.070$, $p = .382$ shows that there is no significant difference in social media use based on participants age. Independent sample t-Test was used for the other three variables. As the results show in Table 5, all the tests were statistically insignificant. This concludes, with 95% confidence interval, that age does not affect average hours of use nor whether participants engage with prosthetic providers on social media; in terms of contact, platforms visited or if they use social media to acquire information about prosthetics.

Table 4

One-way ANOVA test comparing Age with daily Hours spent on Social Media

Source	*df*	*SS*	*MS*	*F*	*p*
Between groups	5	4.439	.888	1.070	.382
Within groups	95	78.809	.830		
Total	100	83.248			

Table 5

Independent sample t-Test testing the difference in Social Media Engagement (Use, Visit or Contact) based on Age

Variable	Age	*N*	*M*	*SD*	*t*	*p*
Use social media	Yes	82	48.66	14.00	.426	.671
	No	19	50.13	11.58		
Visit platforms	Yes	75	48.69	14.22	.304	.765
	No	26	48.63	11.59		
Contact providers	Yes	35	48.75	15.37	.090	.928
	No	66	49.03	12.59		

From Table 5 we can see that there is no significant difference in age between participants based on whether they have interacted with prosthetic providers through social media. The mean age of those who had used social media to acquire information about prosthetics is 49 years old (≈ 48,66) (*SD* = 14.00) and for those who had not used social media the mean age is 50 years old (*SD* = 11.58). The difference is therefore not statistically significant as $t(99) = .426$, $p = .671$. Table 2 also shows that the difference between the mean age of participants who had visited social media platforms of a prosthetic provider (*M* = 48,69, *SD* = 14.22) and those who had not (*M* = 48,63, *SD* = 11.59) is also not significant at 5% significance level, $t(99) = .304$, $p = .765$. The same applies to the participants who had or had not contacted service providers through social media where $t(99) = 090$, $p = .928$ shows no significant difference in mean age. Therefore, based on the results shown in Table 4 and 5, the first hypothesis is not rejected as age does not have a statistically significant effect on how much amputees engage on social media.

Hypothesis 2

H_0: Gender does not affect how much amputees engage on social media

H_1: Gender affects how much amputees engage on social media

$$H_0: \mu_{Male} - \mu_{Female} = 0$$
$$H_1: \mu_{Male} - \mu_{Female} \neq 0$$

For this hypothesis, social media engagement is defined by the same criteria as for the first hypothesis, (1) how much time (*average hours per day*) participants spend on social

media, whether they had (2) contacted service providers through social media, (3) visited social media platform of a prosthetic provider and, (4) used social media to acquire information about prosthetic manufacturers. An independent samples t-Test was conducted to test all the four variables and the results are shown in Table 6. The test shows that the average hours spent on social media is similar between males (M = 2.38, SD = .92) and females (M = 2.63, SD = .89), $t(99) = -1.368$, $p = .174$. That is also the case in whether participants use social media to acquire information about prosthetic providers. The results show no statistically significant difference between males (M = 1.77, SD = .42) and females (M = 1.85, SD = .36), $t(99) = -1.030$, $p = .301$. When examining the difference between gender in whether participants visit social media platforms of prosthetic providers no significant difference was found between males (M = 1.72, SD = .45) and females (M = 1.77, SD = .42), $t(99) = -.613$, $p = .541$. Finally, the results were also statistically insignificant for gender on whether participants contacted service providers through social media, $t(99) = -.986$, $p = .327$ (see Table 6). Therefore, we can be 95% confident that gender does not affect whether participants engage with prosthetic providers on social media, the null hypothesis is not rejected.

Table 6

Independent samples t-Test testing the difference between Gender in Social Media Use (average hours spent on social media) and Engagement (Use, Visit or Contact)

Variable	Gender	*N*	*M*	*SD*	*t*	*p*
Hours	Male	53	2.38	.92	-1.368	.174
	Female	48	2.63	.89		
Use social media	Male	53	1.77	.42	-1.030	.301
	Female	48	1.85	.36		
Visit platforms	Male	53	1.72	.45	-.613	.541
	Female	48	1.77	.42		
Contact providers	Male	53	1.30	.46	-.986	.327
	Female	48	1.40	.49		

Hypothesis 3

H_0: Social media engagement does not influence amputees' prosthetic chose.

H_1: Social media engagement influences amputees' prosthetic chose.

$$H_0: \mu_{very\ influenced} = \mu_{somewhat\ influenced} \cdots = \mu_{very\ uninfluenced}$$

$$H_1: \mu_i \neq \mu_j$$

In order to test the second hypothesis, three levels of social media engagement where used, based on whether amputees had (1) contacted service providers through social media, (2) visited social media platform of a prosthetic provider and, (3) used social media to acquire information about prosthetic manufacturers. Table 7 shows the results from all the One-way ANOVA tests with $\alpha = 0.05$ significance level. The first test shows influence results based on if participants had been in contact with service providers. The test proved to be significant with $F(1, 99) = 6.568$, $p = .012$. These results confirm with 95% confidence level that those who have been in contact with service providers through social media are more influenced in their prosthetic choice. The second test of engagement included whether amputees had visited social media platform of a prosthetic manufacturer. The One-way ANOVA test showed significant difference between groups where $F(1, 99) = 15.357$, $p < .001$ demonstrates that those who visit social media platforms are more influenced. The third and last test was also statistically significant as the results of $F(1, 99) = 21.372$, $p < .001$ support the fact that those who have used social media for information search are more influenced when it comes to selecting a prosthetic brand than those who had not used social media.

Therefore, the null hypothesis is rejected, concluding with 95% confidence interval that social media engagement of amputees does affect their prosthetic choice. Those who contact, visit or search for information through social media are more influenced by social media platforms in their prosthetic choice.

Table 7

One-way ANOVA testing the difference in Influence on the Prosthetic Choice depending on Social Media Engagement (Use, Visit and Contact)

Contact providers

Source	*df*	*SS*	*MS*	*F*	*p*
Between groups	1	9.541	9.541	6.568	.012
Within groups	99	143.825	1.453		
Total	100	83.248			

Visits platforms

Source	*df*	*SS*	*MS*	*F*	*p*
Between groups	1	20.595	20.595	15.357	.000
Within groups	99	132.771	1.341		
Total	100	153.366			

Social media use

Source	*df*	*SS*	*MS*	*F*	*p*
Between groups	1	27.230	27.230	21.372	.000
Within groups	99	126.136	1.274		
Total	100	153.366			

Hypothesis 4

H_0: Amputee influencers do not impact the prosthetic choice of amputees

H_1: Amputee influencers impact the prosthetic choice of amputees

$$H_0: \mu_{Follow} - \mu_{Don'tfollow} = 0$$

$$H_1: \mu_{Follow} - \mu_{Don'tfollow} \neq 0$$

Independent sample t-Test was conducted to test the third hypothesis of the research. Table 8 shows the difference between participants who follow amputee influencers ($M = 2.95$,

SD = 1.16) and those who do not follow amputee influencers (*M* = 2.89, *SD* = 1.33). The null hypothesis that amputee influencers do not affect prosthetic choice could not be rejected at 5% significance level where *t* (99) = -.231, *p* = .818. Hence, there is no evidence of a statistically significant difference between how influenced participants are in their prosthetic choice based on whether they follow or don't follow amputee influencers on social media.

Table 8

Independent sample t-Test testing whether Amputee Influencers Impact Prosthetic Choices of Participants

Variable	Influence	*N*	*M*	*SD*	*t*	*p*
Follow	Yes	56	2.95	1.16	-.231	.818
	No	45	2.89	1.33		

Hypothesis 5

H_0: How much time (*average hours per day*) amputees spend on social media does not affect whether they engage with prosthetic providers through social media.

H_1: How much time *(average hours per day)* amputees spend on social media affects whether they engage with prosthetic providers through social media.

$$H_0: \mu_{Engage} - \mu_{Don't\ engage} = 0$$

$$H_1: \mu_{Engage} - \mu_{Don't\ engage} \neq 0$$

The hypothesis that social media use (*average hours per day*) does not affect customer engagement (participants visiting or contacting service providers on social media), was tested with another Independent sample t-Test. According to the results shown in Table 9 there is no significant difference between how many hours participants spend on social media with whether they had visited or contacted prosthetic providers on their social media platforms. Therefore, with 95% confidence level the null hypothesis was not rejected. This means that social media use alone does not affect whether consumers engage with the business.

Table 9

Independent sample t-Test comparing Customer Engagement on Social Media based on How much Time (average hours per day) Participants Spend on Social Media

Variable	Hours	*N*	*M*	*SD*	*t*	*p*
Visit	Yes	75	2.51	.91	-.216	.829
	No	26	2.46	.95		
Contact	Yes	35	2.54	1.12	-.382	.703
	No	66	2.47	.79		

4.5 Competitor Analysis

An analysis was conducted of the social media platforms of key manufacturers and service providers in the prosthetic market included in this study. The analysis was conducted by examining the social media follower base of the four-key prosthetic companies including Facebook, Instagram, Twitter and YouTube (see Table 10). Note that social media data is gathered in real-time, therefore, these statistics may change quite rapidly. The most recent data was extracted on 26th of April 2018.

Table 10

Competitor Social Media Platform Analysis

	Ottobock	Össur	Rush Foot	Ohio Willow Wood	Freedom Innovations
Facebook	66.511	57.296	40.595	1.309	13.065
Instagram	14.500	18.400	8.297	0	4.823
Twitter	3.310	5.896	2.572	1.479	577
YouTube	5.787	2.535	669	557	532

*Data reflects the follower base from the global social media pages of the four organizations, not from local social media sites

As can be seen from Table 10, Ottobock has the largest Facebook follower base with 66.511 followers, compared to Össur ranking second with 57.296 followers, tailed by Rush Foot with 40.595 followers. Freedom Innovations with 13.065 and finally Ohio Willow Wood with 1.309 followers. However, on Instagram, Össur has the largest follower base with 18.400 followers, compared to Ottobock with 14.500. Note that Ottobock only has localized Instagram accounts. The account reported in this table represents Ottobock in North America since the

survey conducted for this study was conducted in the United States in collaboration with the Amputee Coalition of America. Rush Foot has 8.297 Instagram followers and Freedom Innovations 4.823. Ohio Willow Wood does not have an active Instagram account. In terms of Twitter, Össur leads with 5.896 followers, compared to Ottobock with 3.310 followers, Rush Food trails with 2.572 respectively, Ohio Willow Wood with 1.479 and finally Freedom Innovations with 577 followers on Twitter. The last platform is YouTube, were Ottobock has 5.787, Össur with 2.535, Rush Foot with 669, Ohio Willow Wood with 557, and Freedom Innovations with 532 followers.

Facebook makes additional data available allowing for further exploration into how active these individual organizations are on social media. For example, a Facebook metrics labeled, 'People talking about this' measures how many people have interacted with that page or its content in any way in the past week. On this metric, Össur outperforms other prosthetics providers included in the study with 1.742 interactions compared to 305 interactions with Rush Foot, 71 for Freedom Innovations, 49 for Ohio Willow Wood, and lastly 22 interactions with Ottobock.

Another interesting metric is the 'number of mentions' on Instagram. Mentions mean users hashtag-ing (#) the company name on their posts. As shown above in Table 10, Ottobock has 14.500 Instagram followers compared to Össur with 18.400, yet Ottobock has twice as many mentions as Össur. Ottobock has 25.578 mentions or hashtags (#) compared to Össur with 12.477 mentions. Rush Foot with 5.153, followed by Freedom Innovations with 3.283. Ohio Willow Wood has 732 mentions despite the fact they don't have an active Instagram account.

5. Discussion

The powerful waive of social media is changing the way organizations reach, communicate and sell products and services to their customers. As discussed in the literature review in chapter two, the rapidly evolving social media environment now requires organizations to develop two-way communication with consumers to create and maintain competitive advantage (Ehlers, 2017; Lamberton & Stephen, 2016; Serazio, 2015). Hence, establishing effective channels of communication, designed to engage customers to better understand their needs and preferences, makes effective social media strategies of vital importance for any organization. Amputees require vast variety of information relating to their prostheses function and application. This study was designed to examine how amputees use social media and

analyze if social media use impacts their prosthetic choice and level of engagement with prosthetic manufacturers. As demonstrated in the summary of findings in Table 11, the data presented in this study symbolizes both the importance and a key opportunity for organizations to reach consumers through social media application and in this context, prosthetic providers to actively engage with amputees on social media.

Table 11

Summary of Results

Social Media Use	Social Media Content	Social Media Influencers	Social Media Engagement
Highlights: Q1: hours spend on social media: 40% spend 3 hours or more 51,5% spent 1-2 hours Q2: Facebook daily use 92% YouTube 47,5% Instagram 41,6%, snapchat 30,7%, Twitter 24,8% on average each participant uses 3 social media platforms a day Q5: Over 80% used social media to acquire information about prosthetics Q7: 74.3% had visited social media platform of a prosthetic manufacturer	**Highlights:** Q3: 80% use social media for news and updates on current events 70% knowledge and education 29,7% shopping Q4: 71,3% use social media platforms to look for information on prosthetic products or services, 70% look to their doctors and clinics and 65% use search engines Q5: Over 80% used social media to acquire information about prosthetics Q9 when on a prosthetic platform 93.3% are looking for information, 66.7% feedback on products and 53.3% education Q10: 88.8% preferred to see information about new products and services, 59,4% prefer amputee testimonials	**Highlights:** Q12: More than half (55.4%) follow amputee influencers Q13: 71.4% reported that their brand awareness of a specific brand had been increased by influencers Q6: The US market leader Ottobock with highest brand awareness i.e. comes first to mind at 33.5% followed by Össur with 21.18%. Amputee influencers had a bigger impact on the Össur brand than on other brand names. Participants who followed influencers named Össur as the first brand that came to mind (30%) matching the brand awareness of the market leader Ottobock.	**Highlights:** Q14: One third had been in contact with prosthetic manufacturers regarding development of product or services Q8: About two thirds of participants found content on the social media platform of prosthetic manufacturers to be helpful, but 5.4% found it unhelpful Q15: 72.3% found it important for prosthetic manufacturers to engage with customers on social media Q11: Third of participants said that social media platforms had been influential on their prosthetic choice when participants reported to use social media to acquire information about prosthetics majority of them say social media was influential in their prosthetic choice.
Hypothesis: Statistical analysis for hypothesis 1 and 2 showed that neither age or gender affect how much amputees engage on social media For hypothesis 5 the statistical analysis showed that the amount of time spent on social media alone does not affect whether amputees engage with prosthetic manufacturers		**Hypothesis:** Statistical analysis for hypothesis 4 showed that amputee influencers did not impact prosthetic choice of amputees Amputee influencers positively impacted brand awareness	**Hypothesis:** Statistical analysis for hypothesis 3 showed that social media engagement of amputee does affect their prosthetic choice Those who contacted, visited or searched for information through social media are more influenced by social media platform in their prosthetic choices

5.1 Social Media Application

Although traditional marketing still has its place within the marketing function to serve as an active reminder of a specific brand or product, business owners have to keep in mind that social media has already altered traditional marketing perspectives. The fact that the age gap between inactive and active online users is constantly reducing (Kannenberg, 2017) makes is now virtually impossible to ignore social media when marketing any type of products or services. This study supports that argument and demonstrates that amputees are active users of social media with more than half of participants in the study spending up to two hours per day on social media and about 40% spending three or more hours on social media platforms daily. Analysis reviled statistically insignificant difference in time spent and selection of social media platforms between younger and older participants. Majority of participants used three social media platforms every day with Facebook being the most popular (92%) followed by YouTube (47.5%) and Instagram (41.6%). The sheer volume of users and the amount of time spent daily on those platforms signals the importance of this phenomenon to marketers. These findings were also mirrored in the results from the Competitor Social Media Analysis conducted as a part of this study highlighting Facebook as the most popular social media platform for all the leading prosthetic companies followed by YouTube and Instagram respectively. The number of followers at each of the companies' Facebook pages eco the companies' actual market share with Ottobock as market leader followed by Össur.

When constructing a social media strategy, it's important to know which platforms are relevant in the minds of the target audience and tailor posted content to the audience of each platform (Todor, 2016). Majority of the participants from this study had a clear preference for which platforms they use daily. This should give organizations incentives to know and understand the social media habits of their customers and focus their attention to these platforms to maximize efficiency, resources, etc. For example, the data gathered from the social media competitor analysis conducted for this study showed that YouTube had relatively few followers compared to Facebook or Instagram for example. However, when participants were asked which platforms they use daily, YouTube ranked 2nd. Here organizations have a clear opportunity to statically gain an edge on their competitors by engaging more on YouTube and provide their audience with daily and relevant content. In terms of content, majority of participants also expressed clear preferences on what content they wished to see from their prosthetic providers. This can be leveraged by the different organizations to strengthen their relationship to further establish customer satisfaction and loyalty. As previously discussed,

content consistency between each platform is a crucial factor when designing a social media engagement strategy. Each platform requires different information that is relevant to its audience. It is, therefore, both more cost- and time-effective for companies to analyze their target audience and deliver relevant content based on customer needs. The results show that amputees are not only active users of social media, but also that over 80% of participant use social media to acquire information about prosthetics products and services and majority had also visited a social media platform of a prosthetic manufacturer.

Age and time spent on social media did not impact how likely or unlikely participants were to engage with prosthetic manufacturers on social media. Social media engagement based on age was measured by how many hours per day participants spent on social media, if they use social media to search for information about prosthetic products and services as well as if they had contacted or visited social media platforms of prosthetic providers. The effect of age was tested against how many hours participants spend on social media as younger users have been found to spend more time on social media than older users (Myler, 2016). That was not the outcome in this study reflecting Kannenberg's (2017) argument that the age gap between internet users is becoming smaller. Responses of difference age groups were also analyzed in terms of whether participants had used social media to acquire information about prosthetic providers. The calculations showed no significant difference between age groups. This indicates that everyone, regardless of their age, turns to social media when looking for information of interest. Furthermore, the responses to whether participants had visited social media platforms of prosthetic providers were analyzed based on the age of responders. Yet again, there was no statistically significant relationship found between these factors, meaning that people of any age are likely to visit social media platforms of a prosthetic providers. The results showed that age does not affect whether participants contact service providers through social media. Overall, the result from the study regarding the age effect support the notion that social media has become a fundamental element of everyone's life regardless of their age. This can be interpreted as an indication of the fact that the age gap between social media users is closing (Kannenberg, 2017). However, an important note here is that in this study, the majority of participants were 41 years or older because of the nature of the sample which reflects relative higher age of amputees in general. Therefore, the results collected from the survey might be somewhat biased by the age of participants limiting the generalizability of these findings for other industries.

To further examine social media use of amputees the study explored content preferences of the participants. News and updates on current events, and knowledge and

educational material was the primary content participants reported to be looking for on social media. Over 80% used social media to acquire information about prosthetics and used social media to search for information, education and/or feedback on related products and services. Close to 90% of the participants preferred content relating to new products and services and for more than half of the participants, user testimonials were the preferred content. In terms of social media content, Kaplan and Haelein (2010) talk about content communities which are different types of sites where users can share content based on their preferences, in the form of video, images, text etc. Content communities create both threats and opportunities. The threats of content communities lie mostly in copyright issues due to re-posting where the original owners have little ownership rights. However, these platforms (e.g. Facebook, YouTube, Instagram, etc.) pose many opportunities both for individuals and organizations. Both can interact with each other, share content and more. Content sharing is a fast and relatively inexpensive way to increase brand awareness and in the long run to build a strong brand image.

The results showed that amputees rely on social media as much as their clinic or doctor when it comes to looking for information on prosthetic products and services. This is an important indicator of the growing power of social media. Furthermore, majority of participants said it was important for prosthetic providers to engage on social media. This reflects the second perspective of social media *General User Perspective* argued by Arman (2014). This perspective highlights how users can actively participate and use social media platforms to interact with each other and organizations alike. Although, social media platform preferences may change the social media phenomenon will continue to thrive. With the millennials entering the market and current business environment and generation Z emerging as active consumers, it's safe to say that social media is here to stay and will further impact the marketing practices (Kannenberg, 2017; Pick, 2016).

As discussed above, social media provides prosthetic manufactures with an opportunity to engage and communicate effectively with their target market and active users within selected content communities. However, if the prosthetic providers are to engage on different social media platforms they have to pay attention to what type of content their consumers want to see and in order to build a healthy relationship and establish a positive brand image they must emphasize content consistency. As argued by Chang (2018) the importance of synchronizing and employing consistent messaging between different platform is crucial whether its all-digital or between traditional and digital media. An indication of what content users are looking for can be drawn from the data collected for this study. Participants were inclined to choose the same options when asked what content they were looking for and what content they

preferred seeing from prosthetic providers. This provides clear opportunities for prosthetic providers in terms of what content their target market needs and wants to see. Also, it's possible to categorize which content fits for which platform. Therefore, the data further indicates the importance for organizations to interact within content communities and enforce consistent messaging across all platforms. There are some limitations to this argument due to the small sample size of this study. Yet, the data supports findings reported in the literature review.

In the past few years, a new phenomenon has rapidly been rising in the ranks of effective marketing tools. The application of social media personalities or so-called influencers has gained the interest of both consumers and marketers alike as marketers have realized the potential return on investment associated with influencers by leveraging their influence on specific groups of audiences (Mohr, 2017). The impact of amputee social media influencers is reflected in the results of this study. More than half of participants followed amputee influencers and more than 70% of them reported that influencers had raised their awareness of specific brands. The US market leader Ottobock had the highest brand awareness among amputees with one third of participants naming the company as the first one that comes to mind when asked to name a prosthetic manufacturer followed by Össur the company with the second largest market share. However, when the impact of influencers was analyzed further by examining the answers from those participants who reported that their brand awareness had been increased by amputee influencer, the top of mind brand lineup changed. In this scenario, Össur reached the same level as Ottobock as the first brand that comes to mind. In other words, amputee influencers impacted the brand awareness of Össur to a greater extent than for Ottobock and other companies named in the study. No statistically significant difference was found by age groups indicating that people of all age were responsive to brand influencers.

Although amputee influencers impacted brand awareness in the study, the statistical analysis of the data did not indicate that they had a significant impact on amputees' prosthetic choices. That is, whether a customer's brand awareness has been increased by an amputee influencer does not necessarily influence purchasing decisions and the customer's selection of a prosthetic device. This finding is perhaps not surprising as a selection of a prosthetic device depends on many variables other than customer preferences, such as medical and health related conditions which were not controlled for in this study. But the outcome shows that regardless of the age of the customer, amputee influencers do have a say in improving brand awareness even if it does not directly influence purchasing decisions.

In addition to information, education and news, participants in the study said they were also looking for motivational content. Prosthetic manufacturers can leverage this opportunity

to engage with customers and proactively meet their needs by providing motivational content on their own platforms with amputee influencers sharing their story, experiences, preferences, know-how, etc. These are topics influencers specialize in. For example, in the prosthetic industry, the brand ambassadors can be engaged in terms of motivational content, educational videos, and for sharing their experience both with the company they are sponsored by and their own experiences using their products.

5.2 Social Media Engagement

The paradigm shift associated with social media arming consumers with the power to share their thoughts, opinions and experiences on easy to use platforms capable of reaching large audiences has created a new reality for organizations across all industries. Hence, highlighting the importance of building strong relationships with consumers through active company/customer communication to enable organizations to leverage the risk and take advantage of the opportunities associated with dynamic customer engagement in the digital age (Arman, 2014). Customer engagement is multidimensional, but for the purpose of this study the term was defined as two-way communication between an organization and a consumer. As discussed in chapter 2, organizations create the platforms for those interactions, but it is in fact the consumer who decides to engage. As McEachern (2017) pointed out customer's engagement is not limited to their interaction only with the company about a particular products or services, but also with each other. That highlights the power shift that has taken place with widespread social media use (Berthon et al., 2012). The results of this study show that amputees use social media to engage with providers of prostheses products and services and believe it is important for prosthetic manufacturers to actively engage with their customers on their social media platforms. One third of participants reported to have been in contact with manufacturers regarding development of products or services and more than 70% stated the importance for prosthetic manufacturers to engage with their customers on social media. Moreover, one third of amputees reported that social media platforms had in fact influenced their prosthetic choice. Further analysis of the data also reviled that those who contacted, visited or searched for information on social media platforms were more likely to be influenced in their prosthetic choices than those who did not engage with providers. This is an important finding showing a statistically significant difference between how much or little participants' prosthetic choices were influenced by social media. This means that people who engaged on social media

regarding prosthetics were likely influenced by it when it came to choose between prosthetic brands.

This is a clear indication of how customer engagement on social media can create tangible value for organizations. Active customer engagement on social media can also provide organizations with valuable direct real-time feedback from actual product and service users. Building processes and the skills to effectively listen to and apply customer feedback into day-to-day operation can not only strengthen relationships with customers and enhance sales and customer satisfaction, but also provides an opportunity for product development and innovation based on real customer needs. Based on the results above, it is safe to say that organizations must pay close attention to their social media platforms and how they encourage interaction with customers. An interaction as small as searching for information or watch a video with social media influencer on social media can impact brand awareness and even brand selection. Consequently, businesses should focus on search engine optimization as well as tracking social media conversations about their brand in order to intervene if needed (Kietzmann et al., 2011). Feedback is an important factor in influencing brand image and according to the results, 66.7% of participants were exactly looking for feedback on products and services when browsing a social media platform of a prosthetic provider. Hence, keeping up a good image on social media is crucial. Including product and service feedback on social media platforms is a good idea as the results from the study show that 60% of participants preferred seeing testimonials from prosthetic providers.

The results also showed a connection between how much customers engage with prosthetic providers on social media and how important it is to them that prosthetics are active on social media. This supports the fact that amputees not only search for information about prosthetic providers, but also visit their social media sites. Therefore, effective social media platforms must be up to date and provide all the relevant and necessary information an amputee might be searching for. In further attempt to grasp what influences whether customers actually engage with providers on social media, an analysis was conducted on customer engagement and how much time participants spend online. The outcome showed no significant differences in engagement based on time spent on social media. In other words, how much people use social media did not affect whether they reached out to prosthetics providers.

5.3 Conclusion and Recommendations

Today, organizations are faced with the rapidly changing marketing environment dominated by growing social media use. Traditional TV is being replaced with services such as Netflix, Apple TV in a similar way Spotify is replacing radio and although reaching customers is not a problem, maintaining their attention is becoming increasingly more difficult. However, traditional media still has an active role in the marketing 'toolbox'. In today's fast pace environment consumers are constantly bombarded with all sorts of stimuli. Therefore, traditional marketing can be best applied to serve as a consistent reminder of brands in consumers' minds. At its' core, traditional marketing communicates to consumers through a one-way communication (Todor, 2016). In contrast, social media can, and should be used by companies to actively engage with their target audience via two-way communication. Social media enables companies to better target their customers with the focus on building closer relationships with them(Parveen et al., 2016).

The results of this study demonstrate the application and impact of social media looking through the lens of amputee social media use and customer engagement. In sum, amputees are active users of social media who spend considerable amount of time on social media platforms looking for information on products and services, news on current events, motivational material and relevant information based on their prosthetic needs regardless of age or gender. They are satisfied with the content provided and prefer to see new product information and amputee testimonials. The results show that amputee social media influencers do not directly impact amputees' prostheses choice but have an impact on brand awareness and can be deployed by prosthetic providers as effective motivational ambassadors sharing knowledge and helpful information (see Table 12).

The development of social media has empowered consumers like never before, with the ability to communicate, share and engage not only with organizations, but with each other. Now the consumers' voice alone can have the ability to either destroy or build a brand's or organization's reputation (Kumar et al., 2010). The participants in this study believe in the importance for organizations to actively engage with consumers on social media. This creates opportunities for prosthetic manufacturers and service providers to answer their call and proactively develop a close relationship with their audience. Table 12 shows tangible examples how organizations can draw on the finding of this study.

It is important to note the limited generalizability of this study and further research is needed, but the statistical data analysis with its known limitations supports the hypothesis that

social media use positively impacts customer engagement, making social media an important tool for marketers and providers of products and services. Nine out of ten participants in this study were active users of social media, regardless of the higher average age of amputees, and social media had in fact influenced the prosthetic choice of about one third of participants. Furthermore, those who contacted, visited or searched for information on social media platforms were even more likely to be influenced in their prosthetic choices than those who did not engage with providers making it extensively more important for organizations to actively enable and encourage customer engagement. In other words, the fact that purchasing decisions of those who have engaged with product or service providers are influenced more than others, demonstrates how social media can create a competitive advantage, especially in a niche markets as the prosthetic market.

Table 12

Summary of Recommendations

Social Media Use	Social Media Content	Social Media Influencers	Social Media Engagement
Recommendation:	**Recommendation:**	**Recommendation:**	**Recommendation:**
Leverage the already active social media use to promote new products and services Design content to address the needs and preferences of followers to attract them to providers' social media platforms Have strong presence on all key social media platforms and tailor content accordingly	Develop strategies to attract customers to the social media site with news, updates, testimonials and new product information Analyse target audience and deliver relevant content based on customer needs Design content to fit both customer preferences and their primary social media platform of choice Each platform requires different information that is relevant to its audience Ensure content consistency across social media platforms and traditional marketing channels	Engage carefully selected influencers to promote the brand and enhance brand awareness Amputees look for motivation content on social media sites. Amputee influencers as brand ambassadors can be engaged to share their experiences, preferences, educational know-how, videos, motivational content etc. for the benefit of followers	Actively encourage followers to participate in two-way communication to increase the number of customers engaged with the organization Implement effective processes to gather and response to customer feedback to foster active engagement through two-way communication Create helpful product content Use content to inform and promote products through testimonials and product descriptions to leverage the impact of customer engagement on purchasing behavior and product choice

6. Final Remarks

Social media has become a permanent factor in everyday life. It has changed not only people's lifestyle, but also how organizations need to function to stay competitive. Social media is here to stay even if preferences between platforms change. Consumers have more power over businesses than ever before and they are not afraid to use it. The future of social media growth is expected to be robust with more than 70% of participants in this study stating the importance of social media for prosthetic manufactures going forward and 72% of online adults (Penni, 2017) saying they will use social media platforms in the future, millennials and generation Z coming of age and older social media adapters becoming more tech savvy.

The findings of this study as well as the number of followers on the social media platforms identified in the Competitor Social Media Analysis underscore the importance for product and service providers to formulate effective social media strategies and build their social media toolkits to create a sustainable advantage through feedback and active two-way communication with social media users. However, it is important to note the small samples size and therefore limited generalizability of this study. Further research is needed on the factors driving customer engagement and the effectiveness of marketing- and communication strategies designed to leverage the power of social media platforms to better serve consumers. In hindsight, this study could simply have split the population roughly between before and after the millennial generation (i.e. individual born before 1980 and those who are born after 1980) due to the decreasing age gap between young and older groups of social media users. This split might have served as a better indicator between age groups and/or generations and how they use and engage on social media platforms.

The process of writing this thesis has been a giant learning curve. The process from learning how to apply academic standards and research practices, to converting data into useable results for organizations to further support and attend to their customer needs has been both challenging and educational. Finally, it has been especially rewarding to have had the opportunity to work on the emerging topic of *social media empowerment* focused on the social media use and engagement of amputees to better understand how manufacturers of prosthetics and amputees can collaborate to advance the development of effective mobility solution.

References

Abbott, E. (2017, December 11). The Future of Social Media: 32 Experts Share Their 2018 Predictions. Retrieved March 5, 2018, from https://www.business2community.com/social-media/future-social-media-32-experts-share-2018-predictions-01973207

Alarcón-del-Amo, M.-C., Rialp-Criado, A., & Rialp-Criado, J. (2018). Examining the impact of managerial involvement with social media on exporting firm performance. *International Business Review*, *27*(2), 355–366. https://doi.org/10.1016/j.ibusrev.2017.09.003

Allen, M. (2013). What was Web 2.0? Versions as the dominant mode of internet history. *New Media & Society*, *15*(2), 260–275. https://doi.org/10.1177/1461444812451567

Amputee Coalition. (2018). Amputee Coalition. Retrieved from https://www.amputee-coalition.org/

Argenti, P. A. (2006). How Technology Has Influenced the Field of Corporate Communication. *Journal of Business and Technical Communication: JBTC; Thousand Oaks*, *20*(3), 357–370.

Arman, S. M. (2014). Integrated model of social media and customer relationship management: A literature review. *International Journal of Information, Business and Management; Chung-Li*, *6*(3), 118–131.

Berthon, P., Pitt, L., & Campbell, C. (2008). Ad Lib: When customers create the ad. *California Management Review*, *50*(4), 6–30.

Berthon, P., Pitt, L., Plangger, K., & Shapiro, D. (2012). Marketing meets Web 2.0, social media, and creative consumers: Implications for international marketing strategy. *Business Horizons*, *55*(3), 261–271. https://doi.org/10.1016/j.bushor.2012.01.007

Bowden, J. L.-H. (2009). The process of customer engagement: A conceptual framework. *Journal of Marketing Theory and Practice*, *17*(1), 63–74. https://doi.org/10.2753/MTP1069-6679170105

BusinessDictionary. (n.d.). What is impression management? definition and meaning. Retrieved February 18, 2018, from http://www.businessdictionary.com/definition/impression-management.html

Chang, Y. (2018). Perceived message consistency: Explicating how brand messages being processed across multiple online media. *Computers in Human Behavior*, *85*, 125–134. https://doi.org/10.1016/j.chb.2018.03.038

Cormode, G., & Krishnamurthy, B. (2008). Key differences between Web 1.0 and Web 2.0. *First Monday*, *13*(6). Retrieved from http://firstmonday.org/ojs/index.php/fm/article/view/2125

Deloitte. (2014). *The Deloitte consumer review: The growing power of consumers*. Retrieved from https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/consumer-business/consumer-review-8-the-growing-power-of-consumers.pdf

Ehlers, K. (2017). May we have your attention: Marketing to millennials. Retrieved from https://www.forbes.com/sites/yec/2017/06/27/may-we-have-your-attention-marketing-to-millennials/

EIU. (2007). *Beyond loyalty: Meeting the challenge of customer engagement*. Retrieved from http://graphics.eiu.com/files/ad_pdfs/eiu_AdobeEngagementPt_II_wp.pdf

Ephraim, P., & Duncan, L. (2005). *People with Amputation Speak Out: With the Amputee Coalition of America (ACA)*. Limb Loss Research and Statistics Program, Johns Hopkins University Bloomberg School of Public Health.

Fernandes, T., & Esteves, F. (2016). Customer Engagement and Loyalty: A Comparative Study Between Service Contexts. *Services Marketing Quarterly*, *37*, 125–139. https://doi.org/10.1080/15332969.2016.1154744

Foux, G. (2006), Consumer-generated media: Get your customers involved. *Brand Strategy*, 8, 38-39.

Griffith, E. (2016, April 7). Have You Been Sharing Less on Facebook? Retrieved March 1, 2018, from http://fortune.com/2016/04/07/facebook-sharing-decline/

Grillo, F. (2017, June 10). Social Media: Considerations for B2C vs. B2B. Retrieved February 16, 2018, from http://www.marketingjournal.org/social-media-considerations-for-b2c-vs-b2b-frank-grillo/

Gürkaynak, G., Kama, O., & Ergün, B. (2018). Navigating the Uncharted Risks of Covert Advertising in Influencer Marketing. *Business Law Review*, *39*(1), 17–19.

Herold, K. (2017, September 14). How Businesses Use Social Media: 2017 Survey | Clutch.co. Retrieved February 16, 2018, from https://clutch.co/agencies/social-media-marketing/resources/social-media-survey-2017

Hussain, A. (2017, July). CRM expert Paul Greenberg defines customer engagement [Interview]. Retrieved from https://blog.hubspot.com/sales/paul-greenberg-defines-customer-engagement

Ihator, A. S. (2001). Communication style in the information age. *Corporate Communications: An International Journal*, *6*(4), 199–204. https://doi.org/10.1108/13563280110409836

Joosten, H., Bloemer, J., & Hillebrand, B. (2016). Is more customer control of services always better? *Journal of Service Management*, *27*(2), 218–246. https://doi.org/10.1108/JOSM-12-2014-0325

Kannenberg, L. (2017, May 12). Close the generational gap with a smarter social content strategy. Retrieved from https://www.entrepreneur.com/article/293901

Kaplan, A., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, *53*(1), 59–68. https://doi.org/10.1016/j.bushor.2009.09.003

Kaplan, A., & Haenlein, M. (2014). Collaborative projects (social media application): About Wikipedia, the free encyclopedia. *Business Horizons*, *57*(5), 617–626. https://doi.org/10.1016/j.bushor.2014.05.004

Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, *54*(3), 241–251. https://doi.org/10.1016/j.bushor.2011.01.005

Kulkarni, C. (2017, August 3). 11 Ways Social Media Will Evolve in the Future. Retrieved March 1, 2018, from https://www.entrepreneur.com/article/293454

Kumar, V., Aksoy, L., Donkers, B., Venkatesan, R., Wiesel, T., & Tillmanns, S. (2010). Undervalued or overvalued customers: Capturing total customer engagement calue. *Journal of Service Research*, *13*(3), 297–310. https://doi.org/10.1177/1094670510375602

Lamberton, C., & Stephen, A., T. (2016). A Thematic Exploration of Digital, Social Media, and Mobile Marketing: Research evolution from 2000 to 2015 and an agenda for future inquiry. *Journal of Marketing*, *80*(6), 146–172.

Lang, N. (2015, February 21). Why teens are leaving Facebook: It's 'meaningless.' *Washington Post*. Retrieved from https://www.washingtonpost.com/news/the-intersect/wp/2015/02/21/why-teens-are-leaving-facebook-its-meaningless/

Lavinsky, D. (2013, March 8). Is Traditional Marketing Still Alive? Retrieved February 18, 2018, from https://www.forbes.com/sites/davelavinsky/2013/03/08/is-traditional-marketing-still-alive/2/#3d21ec8d24e8

Lee, D. (2013). What is Marketing? *Public Services Quarterly*, *9*(2), 169–171. https://doi.org/10.1080/15228959.2013.785900

Mayfield, A. (2008). *What is social media*. Retrieved from http://www.icrossing.com/uk/sites/default/files_uk/insight_pdf_files/What%20is%20Social%20Media_iCrossing_ebook.pdf

McEachern, A. (2017). What is customer engagement, and why is it important? Retrieved from https://blog.smile.io/what-is-customer-engagement-and-why-is-it-important

McKinsey & Company. (2014). *The digital tipping point: McKinsey global survey results*. Retrieved from https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/the-digital-tipping-point-mckinsey-global-survey-results

Meredith, R., & O'Donnell, P. (2011). A framework for understanding the role of social media in business intelligence systems. *Journal of Decision Systems*, *20*(3), 263–282. https://doi.org/10.3166/jds.20.263-282

Mohr, I. (2017). Managing buzz marketing in the digital age. *Journal of Marketing Development and Competitiveness*, *11*(2), 10–16.

Moorman, C. (2016, September 20). The CMO Survey update: Social Media Falls Short of Expectations. Retrieved February 16, 2018, from http://www.marketingjournal.org/the-cmo-survey-update-social-media-falls-short-of-expectations-christine-moorman/

Munter, M., & Hamilton, L. (2013). *Guide to managerial communication*. Pearson Education.

Murphy, Ted, & Schram, R. (2014). What is it worth? The value chasm between brand and influencers. *Journal of Brand Strategy*, *3*(1), 31–40.

Murphy, Terry. (2017, March 27). Advantages of Traditional Marketing. Retrieved March 9, 2018, from https://thinkstrategic.com/advantages-traditional-marketing/

Myler, L. (2016, October 28). Offline In The Digital Age: Why Traditional Advertising Isn't Dead. Retrieved February 18, 2018, from https://www.forbes.com/sites/larrymyler/2016/10/28/offline-in-the-digital-age-why-traditional-advertising-isnt-dead/

O'Reilly, T. (2007). *What is Web 2.0: Design patterns and business models for the next generation of software*. University Library of Munich, Germany. Retrieved from https://ideas.repec.org/p/pra/mprapa/4578.html

Pansari, A., & Kumar, V. (2017). Customer engagement: the construct, antecedents, and consequences. *Journal of the Academy of Marketing Science*, *45*(3), 294–311. https://doi.org/10.1007/s11747-016-0485-6

Parveen, F., Jaafar, N. I., & Ainin, S. (2016). Social media's impact on organizational performance and entrepreneurial orientation in organizations. *Management Decision*, *54*(9), 2208–2234. https://doi.org/10.1108/MD-08-2015-0336

Penni, J. (2017). The future of online social networks (OSN): A measurement analysis using social media tools and application. *Telematics and Informatics*, *34*(5), 498–517. https://doi.org/10.1016/j.tele.2016.10.009

Pick, T. (2016, January 19). 47 Superb social media marketing stats and facts. Retrieved from https://www.business2community.com/social-media/47-superb-social-media-marketing-stats-facts-01431126

Rafiq, M. (2017). The role of social media in customer engagement. Retrieved from https://socialnomics.net/2017/07/14/the-role-of-social-media-in-customer-engagement/

Reczek, R. W., Summers, C., & Smith, R. (2016, April 4). Targeted Ads Don't Just Make You More Likely to Buy — They Can Change How You Think About Yourself. Retrieved March 21, 2018, from https://hbr.org/2016/04/targeted-ads-dont-just-make-you-more-likely-to-buy-they-can-change-how-you-think-about-yourself

Ryan, D. (2014). *Understanding digital marketing: Marketing strategies for engaging the digital generation* (3rd ed.). Kogan Page.

Samoylova, E. (2014). Virtual world of computer games: Reality or illusion? *Procedia - Social and Behavioral Sciences*, *149*, 842–845. https://doi.org/10.1016/j.sbspro.2014.08.324

Sashi, C. M. (2012). Customer engagement, buyer-seller relationships, and social media. *Management Decision*, *50*(2), 253–272. https://doi.org/10.1108/00251741211203551

Schmitt, B. (1999). Experiential Marketing. *Journal of Marketing Management*, *15*(1–3), 53–67. https://doi.org/10.1362/026725799784870496

Schniederjans, D., Cao, E. S., & Schniederjans, M. (2013). Enhancing financial performance with social media: An impression management perspective. *Decision Support Systems*, *55*(4), 911–918. https://doi.org/10.1016/j.dss.2012.12.027

Schultz, D. E., & Kitchen, P. J. (2004). Managing the Changes in Corporate Branding and Communication:Closing and Re-opening the Corporate Umbrella. *Corporate Reputation Review*, *6*(4), 347–366.

Scullin, S. S., Fjermestad, J., & Romano, N. C. (2004). E-relationship marketing: changes in traditional marketing as an outcome of electronic customer relationship management. *Journal of Enterprise Information Management; Bradford*, *17*(6), 410–415.

Serazio, M. (2015). Selling (digital) millennials: The social construction and technological bias of a consumer generation. *Television & New Media*, *16*(7), 599–615. https://doi.org/10.1177/1527476413491015

Shin, W., Pang, A., & Kim, H. J. (2015). Building Relationships Through Integrated Online Media: Global Organizations' Use of Brand Web Sites, Facebook, and Twitter. *Journal of Business and Technical Communication*, *29*(2), 184–220. https://doi.org/10.1177/1050651914560569

Solomon, M. (2015). Customer engagement Is everything In business. Retrieved from https://www.forbes.com/sites/micahsolomon/2015/12/24/customer-engagement-is-everything/#386a05b9466b

Statista. (2018a). Global digital population 2018. Retrieved April 25, 2018, from https://www.statista.com/statistics/617136/digital-population-worldwide/

Statista. (2018b). Number of social media users worldwide 2010-2021. Retrieved from https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/

Statista. (2018c). Topic: Influence marketing. Retrieved April 1, 2018, from https://www.statista.com/topics/2496/influence-marketing/

Statista. (2018d). U.S. influence marketing budget change 2018. Retrieved April 1, 2018, from https://www.statista.com/statistics/432177/influence-marketing-budget-change-usa/

Statista. (2018e, April). Leading global social networks 2018. Retrieved from https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/

Sudha, M., & Sheena, K. (2017). Impact of influencers in consumer decision process: The fashion industry. *SCMS Journal of Indian Management*, *14*(3), 14–30.

Todor, R. D. (2016). Blending traditional and digital marketing. *Bulletin of the Transilvania University of Brasov. Economic Sciences. Series V; Brasov*, *9*(1), 51–56.

Tynan, D. (2016, August 25). WhatsApp privacy backlash: Facebook angers users by harvesting their data. Retrieved March 1, 2018, from http://www.theguardian.com/technology/2016/aug/25/whatsapp-backlash-facebook-data-privacy-users

Van Doorn, J., Lemon, K. N., Mittal, V., Nass, S., Pick, D., Pirner, P., & Verhoef, P. C. (2010). Customer engagement behavior: Theoretical foundations and research directions. *Journal of Service Research*, *13*(3), 253–266. https://doi.org/10.1177/1094670510375599

Vinerean, S., & Opreana, A. (2015). A New Development in Online Marketing: Introducing Digital Inbound Marketing. *Expert Journal of Marketing*, *3*(1), 29–34.

Wertime, K., & Fenwick, I. (2008). *DigiMarketing*. ExecuGo media.

What is social media? (n.d.). *WhatIs.com*. Retrieved from https://whatis.techtarget.com/definition/social-media

Young, A., & Aitken, L. (2007). *Profitable marketing communications: A guide to marketing return on investment*. Kogan Page Publishers.

Zaltman, G. (2003). *How customers think: Essential insights into the mind of the market*. Harvard Business Press.

Appendix A

1. Please estimate how many hours, on average per day, you spend on social media?
   a. Less than 1 hour
   b. 1-2 hours
   c. 3-4 hours
   d. 5-6 hours
   e. More than 6 hours

2. Which of the following social media platforms do you use daily?
   (Please check all that apply)
   a. Facebook
   b. Instagram
   c. Snap Chat
   d. Twitter
   e. Pinterest
   f. YouTube
   g. LinkedIn
   h. Reddit (or similar)
   i. Other

3. What type of content are you looking for when browsing social media?
   (Please check all that apply. If other, please provide a short answer)
   a. News and updates on current events
   b. Knowledge and Education
   c. Entertainment
   d. Communication with family and friends
   e. Inspiration/motivation
   f. Shopping
   g. Other, what?

4. Where do you look for information about prosthetic products and services?
   (Please check all that apply)
   a. My clinic/doctor
   b. Traditional media (Newspaper, TV, Radio etc.)
   c. Search engines (e.g., Google, Bling, Yahoo)
   d. Social media platforms (e.g., Facebook, Reddit, YouTube etc.)
   e. Friends and family
   f. I don't look for information on prosthetic products and services
   g. Other

5. Have you used social media to acquire information about prosthetic products and services?
   a. Yes
   b. No

6. When thinking about prosthetic solutions which of the following manufacturer comes first to mind?
   a. Ottobock
   b. Össur
   c. Rush Foot
   d. Ohio Willow Wood
   e. Freedom Innovations
   f. Other

7. Have you ever visited a social media platform of a prosthetic manufacturer? *(Social media platforms are websites such as Facebook, Instagram etc.)*
   a. Yes
   b. No

If no, the participant will automatically go to question nr. 10.

8. If yes, how helpful or unhelpful was the content provided on the social media platforms of this manufacturer?
   a. Very helpful
   b. Somewhat helpful
   c. In between
   d. Somewhat unhelpful
   e. Very unhelpful

9. What type of content were you looking for when browsing social media platforms of a prosthetic manufacturer?
   (Please check all that apply. If other, please provide a short answer)
   a. Information about products/services
   b. Education
   c. Feedback on products and services
   d. Motivation
   e. Shopping
   f. Other, what? _____

10. What type of content would you prefer seeing from the prosthetic providers?
    (Please check all that apply. If other, please provide a short answer)
    a. New products and services
    b. Advertisement
    c. Testimonials
    d. Live material
    e. Entertainment
    f. Other, what? _____

11. How influential or uninfluential has a social media platform been on your prosthetics choice?
   a. Very influential
   b. Somewhat influential
   c. In between
   d. Somewhat uninfluential
   e. Very uninfluential

12. Do you follow amputee influencers on social media?
   (An influencer is an individual who has the power to affect purchase decisions of others because of his/her authority, knowledge, position or relationship with his/her audience)
   a. Yes
   b. No

If no, the participant will automatically go to question nr. 14.

13. Has an amputee influencer increased your brand awareness on specific brands?
   a. Yes
   b. No

14. Have you been in contact with service providers regarding products and service developments through social media?
   a. Yes
   b. No

15. Based on your opinion and experience, how important or unimportant is it for a prosthetic provider to engage on social media?
   a. Very important
   b. Somewhat important
   c. In between
   d. Somewhat unimportant
   e. Very unimportant

16. What is your gender?
   a. Male
   b. Female
   c. Other

17. How old are you?
   a. 20 years or younger
   b. 21-30 years
   c. 31-40 years
   d. 41-50 years
   e. 51-60 years
   f. Older than 60 years

Appendix B

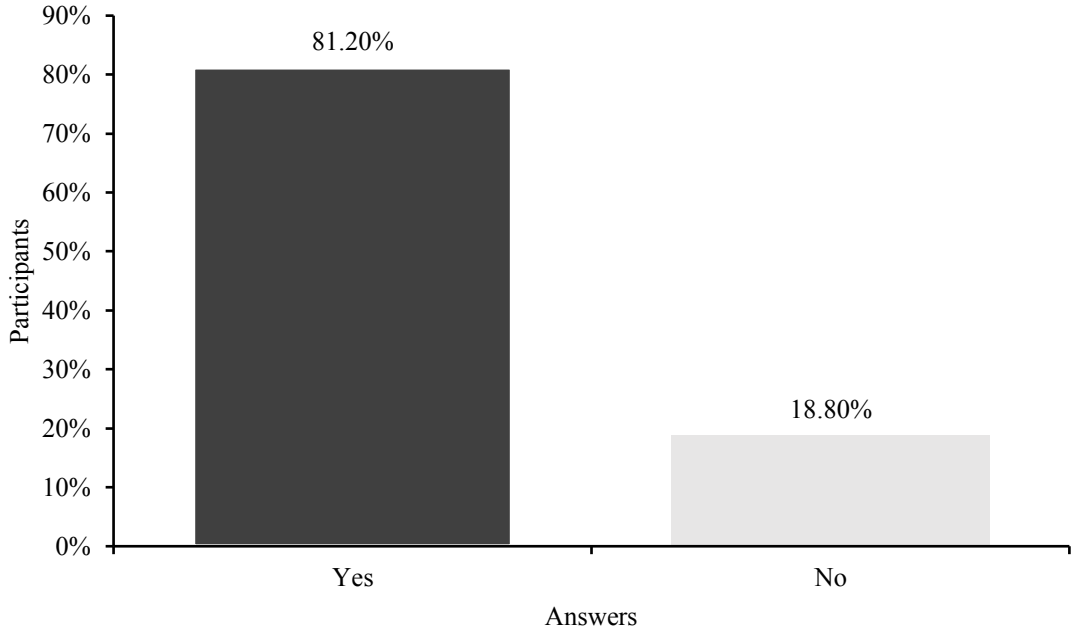

*Figure 1.*Have you used social media to acquire information about prosthetic products and services?

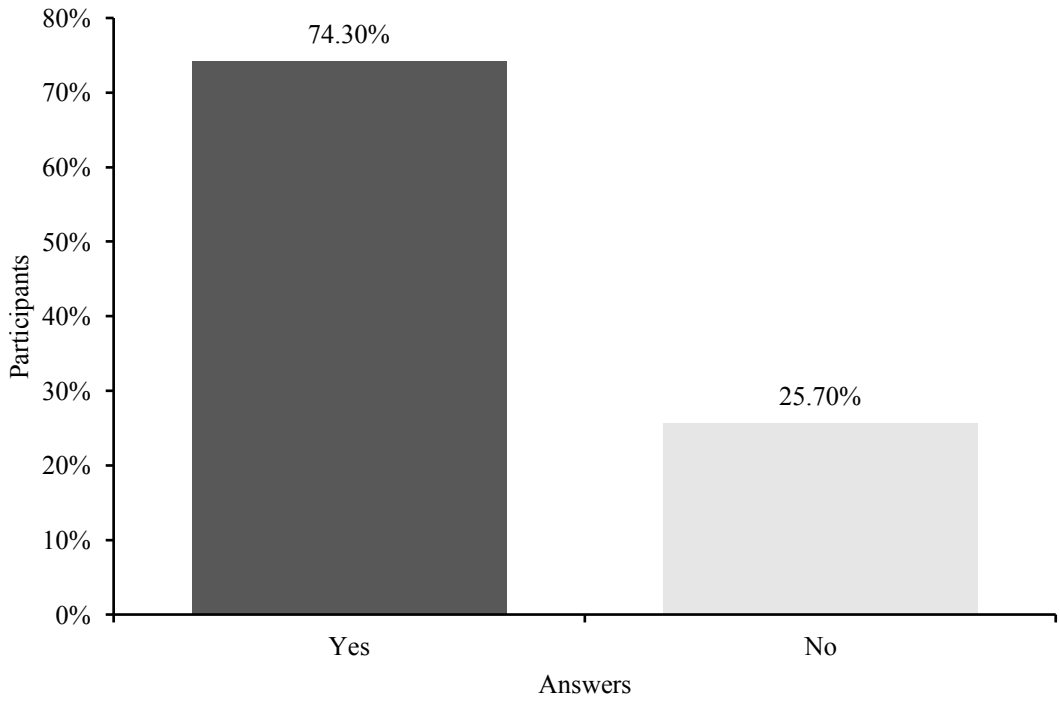

Figure 2. Have you ever visited Social Media Platform a prosthetic manufacturer?

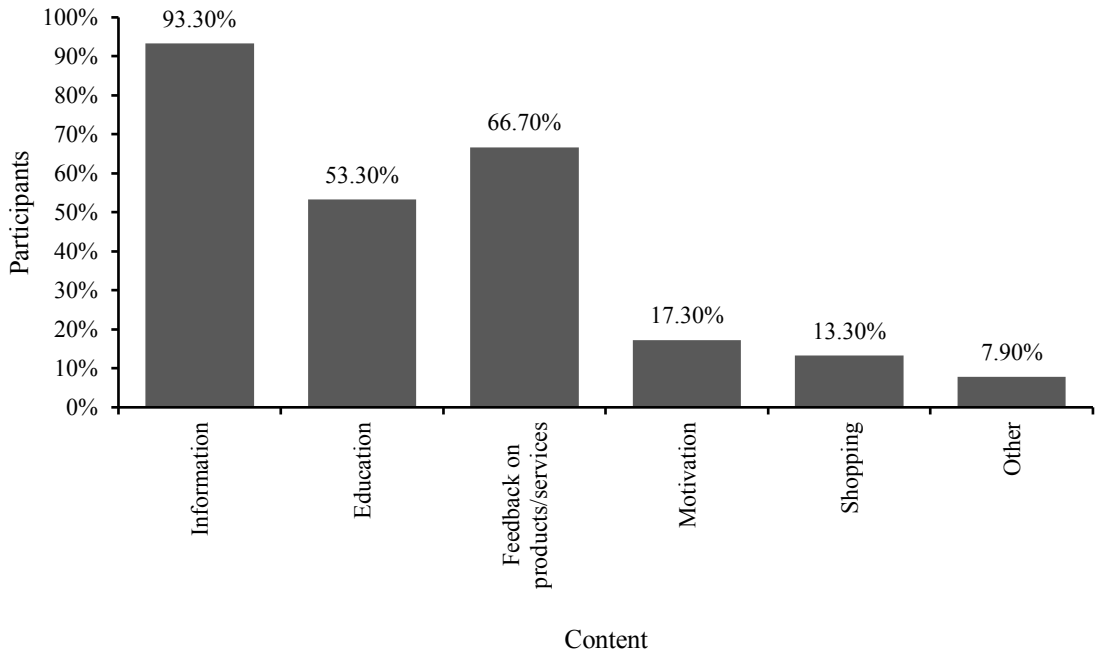

Figure 3. What type of content were you looking for when browsing social media platforms of a prosthetic manufacturer?

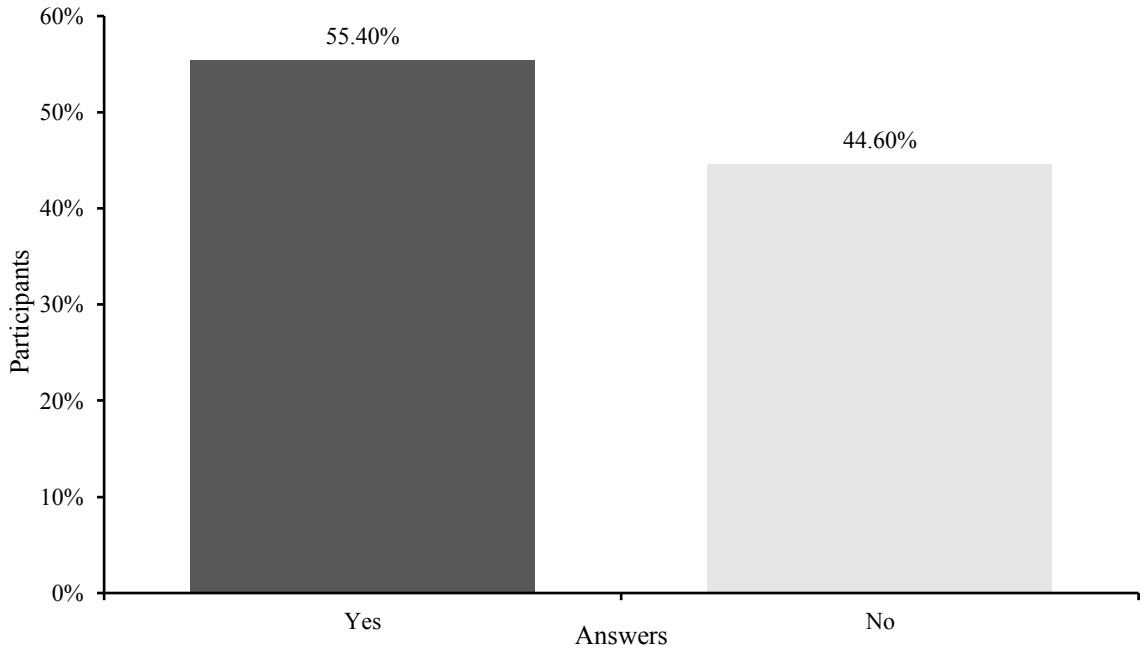

Figure 4. Do you follow amputee influencers on social media?

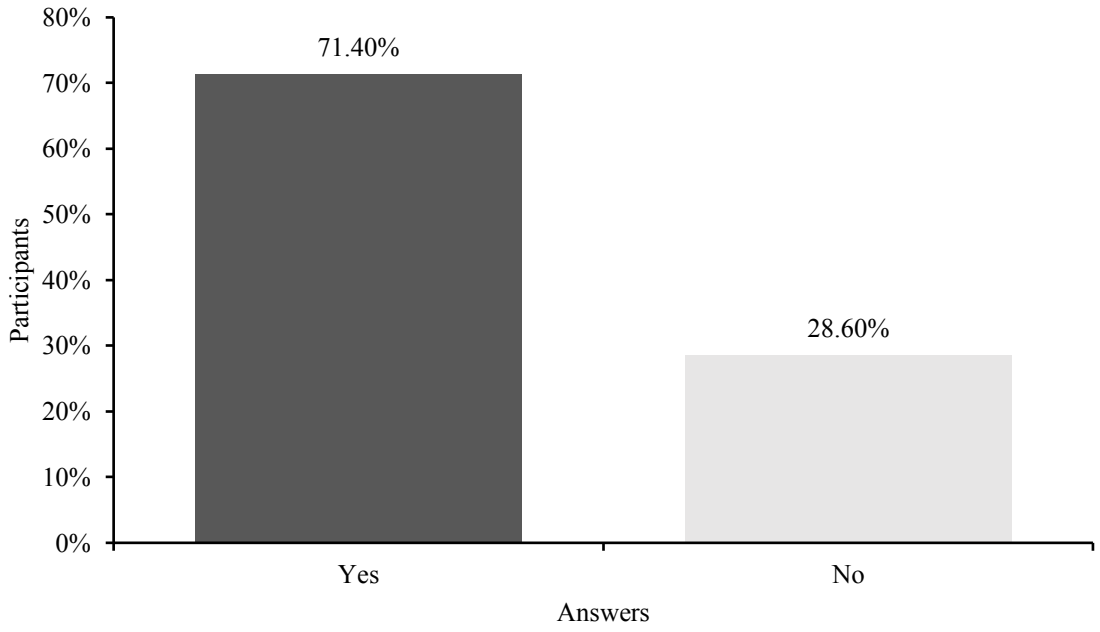

Figure 5. Has an amputee influencer increased your brand awareness on specific brands?

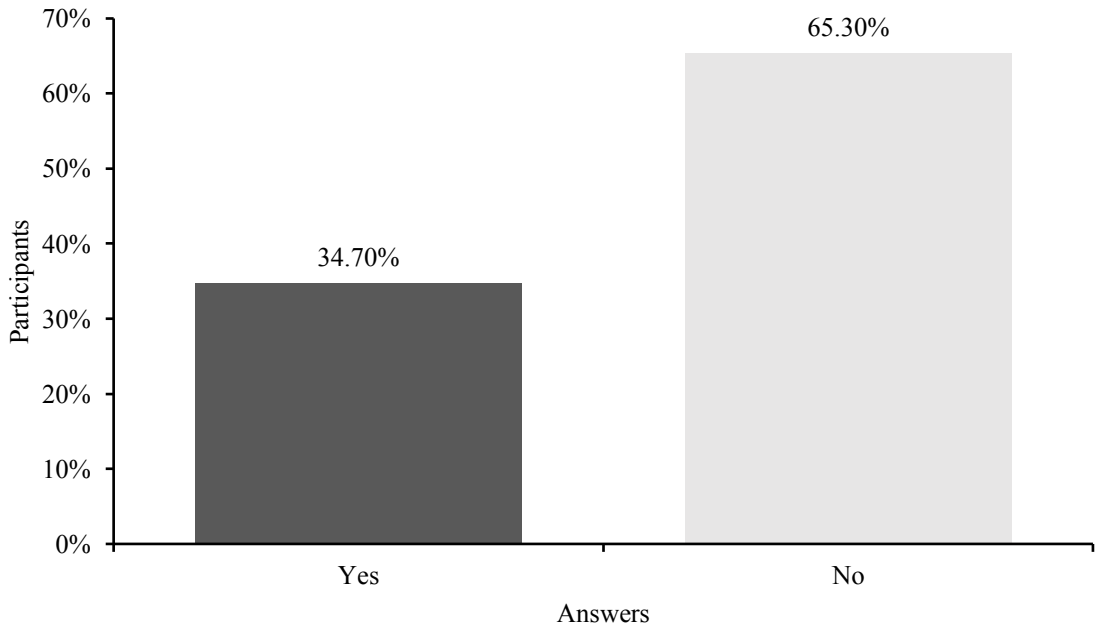

Figure 6. Have you been in contact with service providers regarding products and service developments through social media?

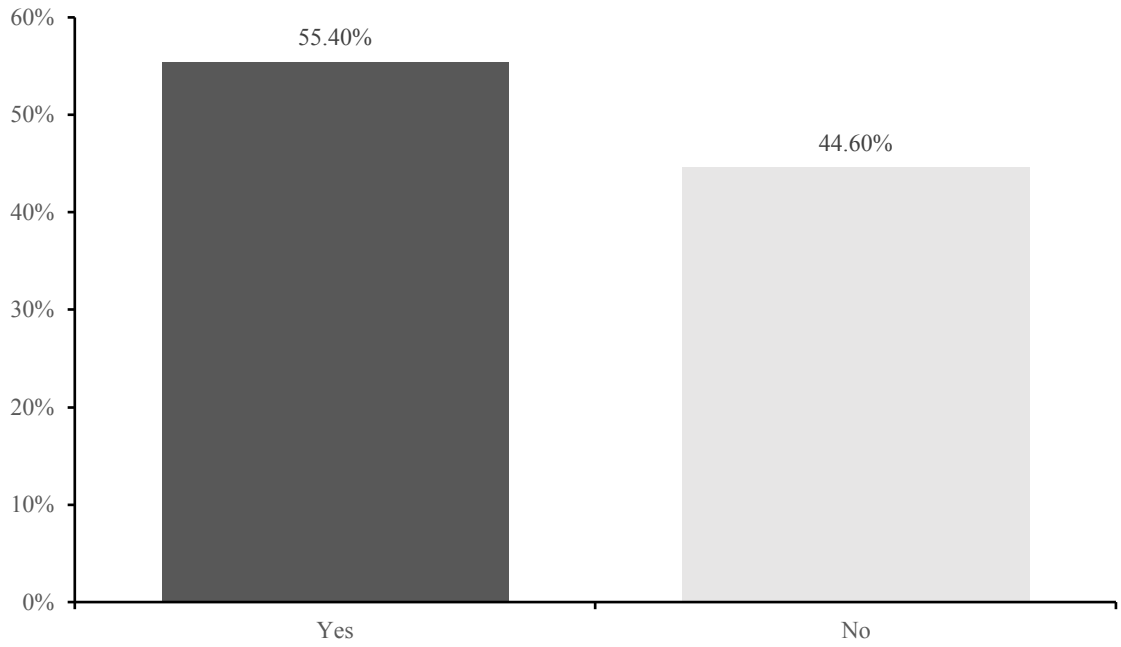

Figure 7: Do you follow amputee influencers on social media?

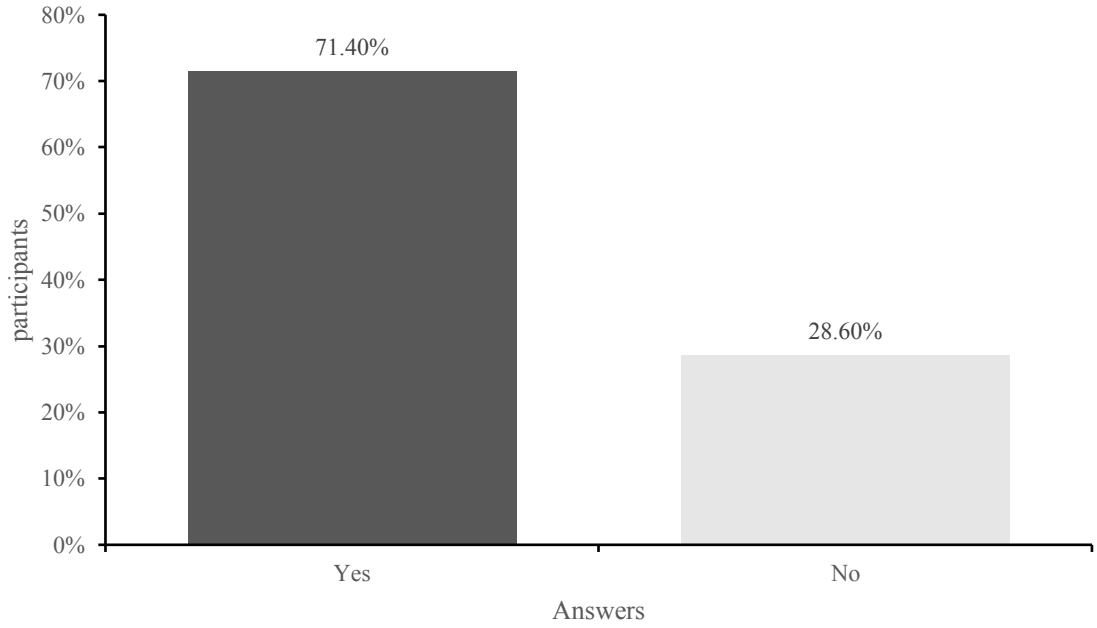

Figure 8: Has an amputee influencer increased your brand awareness on specific brands?

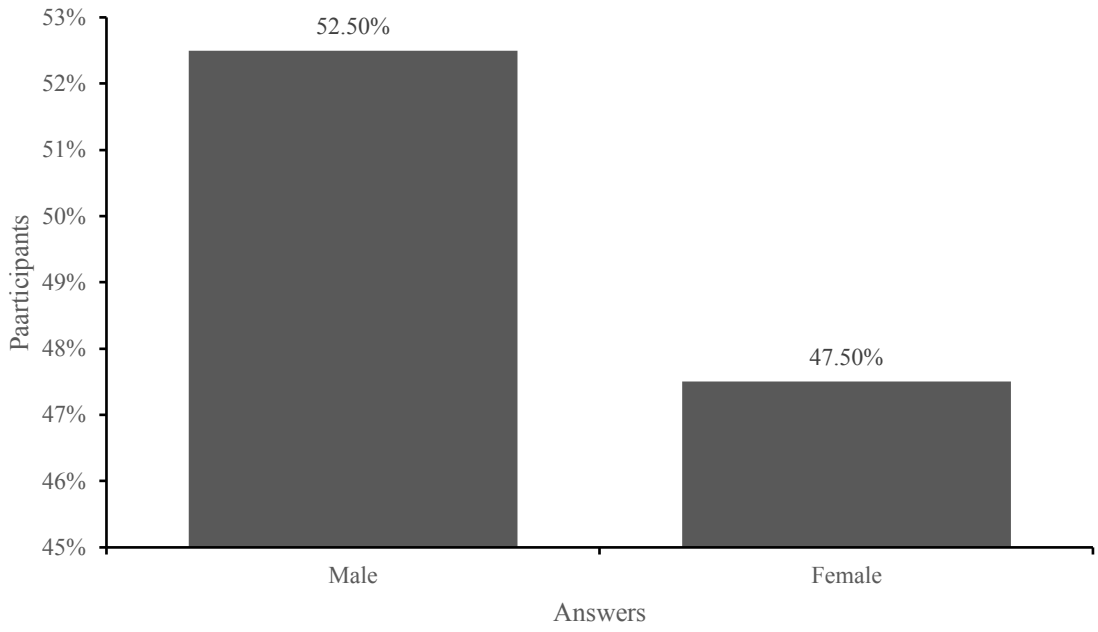

Figure 9: What is your gender?

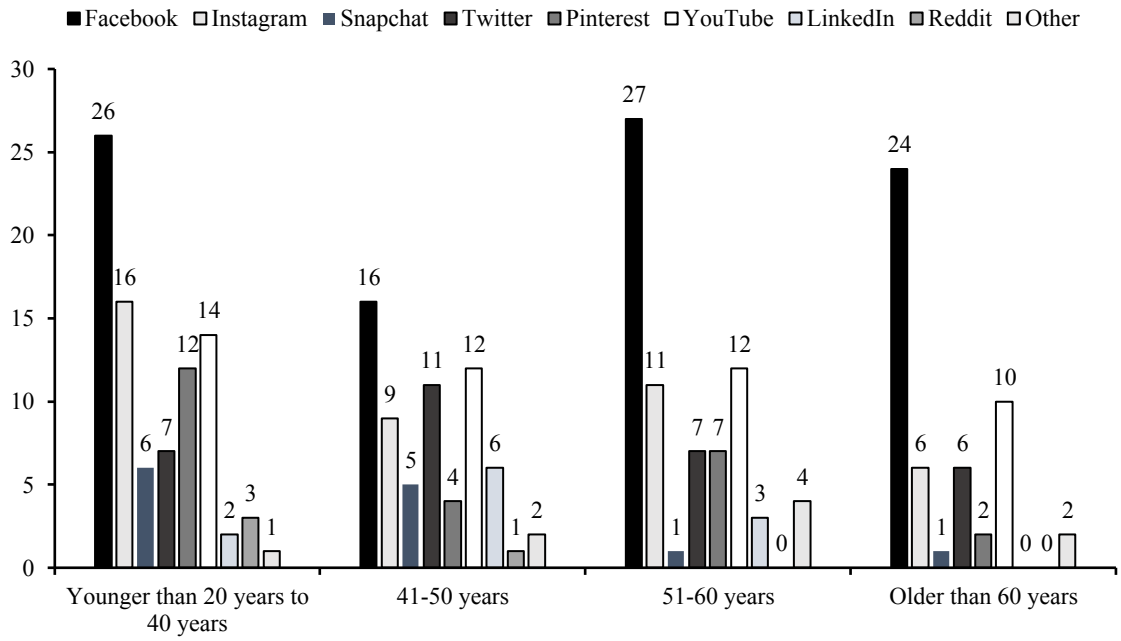

Figure 10. Social Media Platform use based on Age.

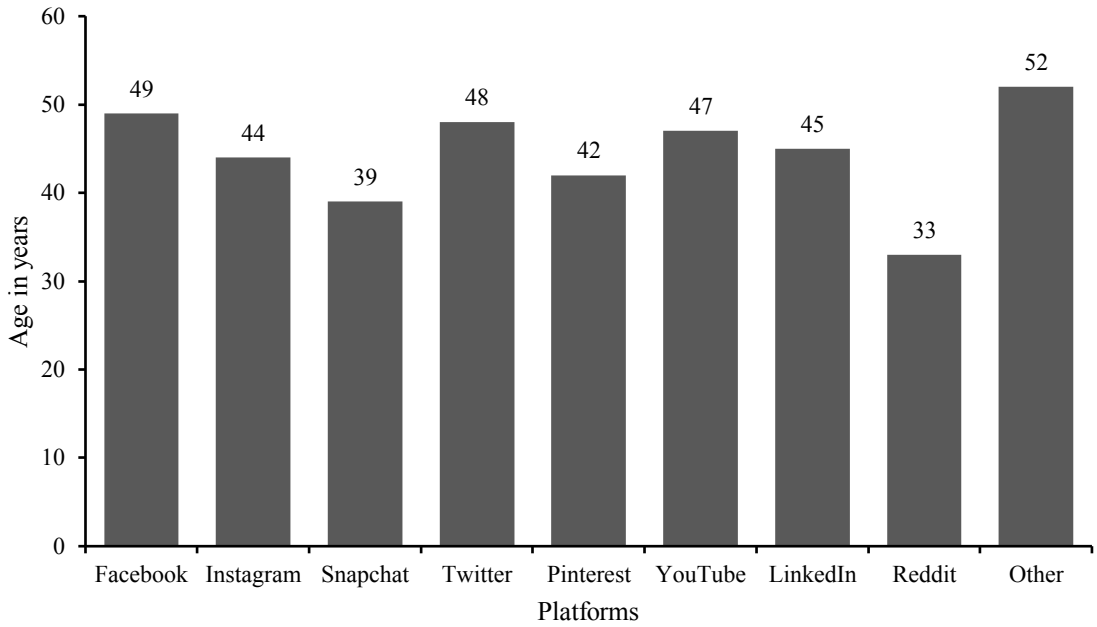

Figure 11. Mean age of different platform users.

Appendix C

amputee coalition

March 29, 2018

30th Anniversary
30 YEARS SERVING THE LIMB LOSS COMMUNITY

Dear Viktoría Alfreðsdóttir and Viktor Steinporsson,

This letter is to inform you that the Amputee Coalition's Scientific and Medical Advisory Committee (SciMAC) has reviewed the application for your project titled: **"Social Media Impact on User Engagement".** At this time, this project meets our requirements for research participation and is hereby approved.

As stated in our Research Participation Policy, we will assist you in your research endeavors through the recruitment of research subjects. This participation is defined as:

- Provision of advertising in *inMotion* magazine at a discounted rate
- Posting on Amputee Coalition's Web site with links to researcher study sites

To advertise your study in *inMotion*, at a discounted rate, please contact Kelly Wood - kwood@amputee-coalition.org - who handles our advertising for the magazine.

Listing your project on our Web site and/or advertising in *inMotion* does not imply endorsement from the Amputee Coalition. Projects are listed as a service to the amputee research and limb loss community. Recruitment materials should not indicate that the project is endorsed by, or is an activity of the Amputee Coalition.

We appreciate your commitment to research that may lead to improved quality of life for persons with limb loss. If there are other areas where collaboration with the Amputee Coalition can enhance your efforts to serve people with limb loss please contact us.

Sincerely,

Troy A. Turner, MBA

Chair, Research Subcommittee
Scientific and Medical Advisory Committee
Amputee Coalition

Headquarters
9303 Center St. Suite 100
Manassas, VA 20110
Phone: 703/330-1699
Fax: 703/330-1688

Branch Office
900 East Hill Ave. Suite 390
Knoxville, TN 37915
Phone: 865/524-8772
Fax: 865/525-7917

Limb Loss Resource Center
Phone: 888/267-5669
visit us at:
amputee-coalition.org