

## **The role of data analytics in maintaining efficient communication with consumers through social media marketing**

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**ABSTRACT:** *Needless to say, social media represents one of the most important platforms for marketing communications in today's world. In line with other opportunities, it is an important resource for business - information. Therefore, it should be considered as a valuable asset by companies. Data analytics in social media is an extremely important aspect for maintaining efficient communication between brands and consumers. It can be used to make decisions that can bring a number of benefits for a company. Gaining competitiveness is one of the most important advantages. In order to make data analytics policy in social media efficient, companies need to elaborate clear strategy for it. The paper theoretically reviews different aspects of data analytics in social media and presents some suggestions for managing it. Namely, it discusses the importance and opportunities of data analytics, collecting and processing data through social media, traits of consumer behaviour and ways of utilizing processed data in marketing decisions. Based on the author's observations and literature review, the paper is summarized by conclusive remarks.*

**KEYWORDS** - *Social media marketing, data analytics, online marketing*

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### **I. INTRODUCTION**

Social media is one of the primary channels of communication between brands and consumers. The level of intensity of communication is so high that companies are able to collect immense amounts of data on consumers. Every engagement or other type of behaviour demonstrated by consumers involuntarily results in generating diverse information about themselves. The more time an individual spends on social media and higher the intensity of engagement, the more data is collected by brands, thereby providing companies with precious resources for business – information. Information in the modern age is a valuable asset that brands potentially have in their disposal. Social media is one of the main providers of this type of asset as it can be regarded as an infinite source of data on consumers. However, collecting data on consumers is just the first technical step of the entire process. In order to turn collected data into a basis for successful marketing decisions, it needs to be properly processed and analyzed. Hence, companies need to consider social media data analytics as one of the main priorities in their marketing policies.

In terms of opportunities for making marketing decisions, social media data analytics has a vast spectrum of applications. It can be used on both general, strategic scale and for local decisions. The amount of data collected and processed in social media is often referred as “Big data”. It is huge in volume, high in velocity, diverse in variety, exhaustive in scope, fine-grained in resolution, relational in nature, and flexible in trait (Kitchin, 2014: 68). However, not all social media data analytics would meet this definition of Big Data. Debates in the field of Big Data studies are pertinent to data analytics in general (Felt, 2016: 1).

The importance of data analytics in social media can be broken down into several aspects. The opportunity to use it in decision-making is one of the main prerequisites of maintaining successful marketing policy. In today's highly competitive markets, making proper business decisions is vitally important both for small companies and big brands. To ensure high quality of marketing decisions, companies need to have a clear strategy of collecting, processing and analyzing data from social media. This is one of the premises of maintaining competitiveness and reaching goals in a fast-changing business environment.

Another aspect of importance is more security for brand reputation and authority. Unpredictability of the social media environment brings numerous threats and challenges for brands. In such conditions, probability of PR crises and other complications for brand reputation drastically rise. Besides other factors, precise information and its thorough analysis must be used in preventive measures, crisis management and post-crisis analysis. For these purposes, social media data analytics can be used for managing brand reputation and providing its secure development.

Last but not least, social media data analytics gives an opportunity to achieve long-term goals more effectively. Since data analytics is a continuous process, it needs to be managed in line with reaching strategic goals. For example, raising brand awareness on an international level or positioning it as a trustworthy company. It needs possessing various types of information that will allow companies to establish long-lasting relationships with their consumers. Level of competition in consumer markets is so high that it is more and more difficult to

keep consumers loyal. In order to maintain efficient and consistent communication with consumers, data analytics in social media must be considered as one of the competitive advantages.

## **II. DISCUSSION**

### **2.1 Data analytics as a tool for gaining competitive advantage**

Social media represents both an opportunity and a challenge for companies; An opportunity due to its numerous marketing tools and a challenge due to its unpredictability. This is a business environment where small companies and big brands are in relatively equal positions. The level of competition is often on the highest mark. Therefore, it is vitally important for companies to use social media for gaining competitive advantage. One of the ways to achieve this goal is to manage consumer data analytics properly. Studies indicate that timely, effective use of data-derived knowledge is a competitive advantage and that not using this knowledge effectively is a competitive disadvantage (Ribarsky, 2013: 1). Improper methodology or lack of competence in collecting, processing and analyzing data in social media may lead to losing consumer loyalty. In order to avoid it, companies should invest resources in data analytics management and elaborate clear plans for analyzing consumer data throughout various channels of social media.

Special attention should be drawn to the opportunities of social media data analytics for small businesses. Social media platforms, such as Facebook, Instagram, Youtube etc. offer integrated tools for managing data analytics and provide insights on various aspects of online behaviour demonstrated by consumers. Such an opportunity is a basis for successful operation for small businesses in an online environment to become competitive alongside their big rivals. However, human resources of small businesses are not always qualified enough to cope with this task. Social media platforms provide a wide range of options for collecting and processing data but gaining benefits from this opportunity requires special education, skills and experience. Although social media is quite common among small businesses, the latter are not always able to use these tools in a truly profitable way (Cesaroni, 2015: 266). In order to solve this problem, small business owners should make initial investments in qualified human resources that will allow them to manage social media data analytics for their competitiveness.

Social media data analytics is able to foster various marketing objectives: sales, brand awareness, public relations, consumer loyalty, positive word of mouth in Web 2.0 environment. Successful fulfillment of these objectives separately and in conjunction increase competitiveness of a company. The role of data analytics in this process is extremely important. Managing sales requires making various decisions. This includes decisions that can persuade both loyal and potential consumers to buy a product. Possessing diverse information on audiences is able to make decisions on sales much more productive. Eventually, it brings more financial profit that is one of the most important premises for staying competitive.

Public relations is another aspect while discussing data analytics in social media marketing. Planning and executing PR activities must be based on data where various trends of consumer behaviour can be tracked. Considerable amount of this data can be obtained from different platforms of social media. Hence, social media is one of the primary tools for public relations, both on planning and executing stages. Reputation and brand awareness plays a key role in creating a positive image of a company. Especially, when it comes to branding where even small details may have a significant impact on consumers' perceptions, opinions, feedbacks and behaviour. Public relations and brand awareness policy based on rich data from social media can provide a company with a valuable asset – high brand equity. Among many other benefits, it may include increased number of loyal consumers, which is another important prerequisite for maintaining competitiveness. The higher the number of loyal consumers, the more positive word of mouth occurs for a company, both online and offline. Especially in social media where even a single user's opinion may get high publicity and become extremely influential for vast audiences.

Staying competitive requires adapting to a fluctuating and rapidly changing business environment. Especially in the digital age where social media is one of the major channels for spreading information. In line with numerous opportunities, social media marketing entails many challenges that should be dealt with strategy backed by data analytics. Nevertheless, just possessing diverse data from social media is not enough to cope with these challenges. Being competitive requires a neatly elaborated plan for data analytics in social media. In this context, qualified human resources can be considered to be one of the main responses to challenges occurring both in social media and offline environments. They are able to track consumer behaviour on different platforms of social media, collect raw data, interpret it, analyze and make respective conclusions. Based on this information, managing marketing communication in general and in social media particularly will be efficient and financially profitable for a company.

Many executives and investors assume that it's possible to use customer-data capabilities to gain an unbeatable competitive edge. The more customers a company has, the more data it can gather, and that data, when analyzed with machine-learning tools, allows them to offer a better product that attracts more customers (Hagiu, 2020). Besides human resources, companies may face a necessity to use machine-learning applications

for using data analytics in increasing competitiveness. Especially when it comes to collecting and processing big amounts of data.

## **2.2 Collecting and processing data in social media**

Among various stages of data analytics in social media marketing, collecting and processing data is one of the key issues. Accuracy in this process is the basis for final success in making necessary conclusions and eventually, right marketing decisions. Especially, when companies have to deal with large audiences. If managed properly, the process of collecting and processing data can provide marketers with valuable information. As a result, marketers are able to instantly see who their digital audiences are, their ideal customer, and ensure that their broader marketing strategy is aligned with the personas' characteristics, interests, and behaviors. They can also leverage the insights to reach new audiences and create many more business opportunities (Crawford, 2020). Therefore, collecting and analyzing data is crucial not only for retaining loyal consumers, but for attracting new audiences. In social media environment, both cold and warm audiences must be subjects for collecting various types of data.

Each and every click or any other kind of engagement in social media potentially is a source of data for marketers. The more time consumers spend in social media, the more information they give away involuntarily to social media platforms. Social media data analysts need to track these behaviours revealed by consumers and thereby conduct business intelligence. It is used by organizations to interpret the activity feeds from various social media platforms and analyze conversions, likes, shares, clicks, tags and the demographics of the participants. This will help the companies to understand the profile of potential audience, popularity of a product and campaign, and consumer buying behavior trends (Mirchandani, 2019: 123). Such a big amount of information needs to be processed and analyzed to understand what is behind the numbers and raw data.

Social media produces a vast amount of measurable useful data to analysts and marketers whose goal is to monitor and analyze behavioral targeting, brand loyalty and further marketing performance indicators, rendering these data effective (Misirlis, 2018: 270). Hence, marketers have valuable information at their disposal, ready to be analyzed. The next stage is to understand what conclusions can be made based on the analyzed data. Marketing decisions backed by rich data will ensure a company long-term and efficient communication with consumers.

In order to make social media data analytics more organized, online marketers should structure it into the following key areas: Audience analytics, performance analytics, competitive analytics, paid social media analytics, influencer analytics, sentiment analysis, customer service analytics (Crawford, 2020). Each of them requires individual approach and relevant tools. Marketers are able to use integrated analytics tools within social media platforms, as well as outsourcing tools that may have broader opportunities. These tools can provide marketers with four key functions: 1. data analytics; 2. online reputation management (ORM); 3. social media planning and management; 4. customer relationship management (CRM). For example, for audience and sentiment analytics, online reputation management tools are necessary to monitor mentions and conversations about a brand. It allows to detect negative consumer feedback at an early stage and avoid possible complications or even a PR crisis. Efficient communication with a target audience is impossible without having a proper policy for online reputation management. Big companies have more necessity to use these tools for making social media data management more prolific. However, smaller organizations also should leverage it to gain competitiveness. Besides, CRM tools must be considered as a source of information about consumers. Based on interactions within CRM tools, brands are able to observe consumer preferences, needs, behaviours and use this information for improving communication processes.

As for the types of information, social media data can be broadly categorized into seven categories: Demographic Data, Product Data, Psychographic Data, Behavioral Data, Referrals Data, Location Data and Intention Data. These data are available in profile information of individuals' social media profile. Although an individual's profile information may not be enough to understand the bigger picture (Wamba, 2016). Tracking their behaviour is extremely important for efficient management of data analytics.

While collecting and processing data in social media, marketers deal with both qualitative and quantitative data. One of the most important aspects in this process is that these two types of data must be analyzed in conjunction with one another. Qualitative data may have a significant impact on changes in quantitative data and vice versa. For instance, when feedback on a product in social media is positive, which is qualitative information in its nature, statistical data rises in different directions: increased number of audience, engagement rate, reach etc.

Tools and data in social media are important factors in the entire process of analytics but they only give answers on the question "what?". Marketers and data analysts should answer the questions "why?" and "how?" based on the information collected and processed. This requires profound marketing education, skills and experience. If done right, they will be able to make marketing decisions and plan actions that will have strong influence on consumer behaviour.

### **2.3 Data analytics and behavioural traits of audiences**

The nature of data is determined by various aspects and influencing factors, such as cultural, demographic, geographic and psychographic. Each of these factors is an essential prerequisite for holistic analysis of audiences and making right marketing decisions. In some cases, it is necessary to process data for making conclusions based on predictions. It is possible to predict the real-world behavior of a person by analyzing his/her online behavior (Dissanayake, 2017: 11). Nevertheless, these predictions, of course, are presumptive and it is impossible to completely rely on them.

Culture is among the most powerful factors influencing behaviour both in online and offline environments. People tend to follow norms and stereotypes established in a cultural environment. This is a conformist trait of a human behaviour that must be taken into consideration while collecting and analyzing data in social media. The behavior influenced by culture can be revealed in a number of ways: the intensity of usage of social media platforms, types of posts and engagement to brands' posts, attitudes in the process of making decisions on purchase and contacting brands for various purposes. On one hand, preliminary market research is necessary for studying a culture environment and on the other hand, marketers and data analysts must constantly monitor cultural peculiarities of target audiences. This is a good source for qualitative data which can be used in making decisions with high potential of influence.

Whilst the cultural environment is mostly a source of qualitative data, demography provides marketers with valuable quantitative data. This is one of the most important types of information for segmentation, choosing the right audience and targeting. Data like age, gender, marital status, ethnicity, race, income, education, employment are the basis for analyzing a target audience. It is an extremely important part in the process of identifying needs, wants and demands of consumers. Maintaining efficient communication with consumers requires constant collection and analysis of demographic indicators. Furthermore, marketers and data analysts should make comparisons in a company's target audience and identify if there are some trends of changing demographic peculiarities. If so, respective marketing decisions must be made, envisaging changes in product, packaging, communication or branding strategy.

Geographic data on consumers is necessary in a number of aspects. One of them is setting targeting options in advertising and publishing posts. Social media platforms allow marketers a wide spectrum of precise geographic targeting opportunities. It may include constant place of residence (such as home town and country), as well as travel and temporary location. The advantages of such an approach are obvious for marketers and advertisers, which reach their clients easier through the structured groups logged on social media (Barbu, 2016: 46). Eventually, the level of efficiency and return on investment rises significantly.

Interaction of a consumer with brands in social media can be regarded as a source of psychographic data. Studies have demonstrated that psychological variables, such as value and personality, are the main theories and tools for user psychographic segmentation, which is an important determinant of user purchase behaviors and preferences (Liu...2019: 2). The main distinguishing factor of such data is that social media is an extremely favourable environment for collecting and analyzing it. Since psychological factors are one of the main determinants of consumer behaviour, psychographic data must be considered as an integral part of studying an audience.

Feedback posts on products and brands represent another important source of qualitative data in social media. The reviews have become valuable sources of information for potential customers by helping them increase their insights into the products or services that they are going to purchase. These user-generated contents are also useful sources for the online-business entities. Merchants can use this information to improve their products, services, marketing strategies or analyzing their competitors (Le...2020: 185). It should be analyzed within the framework of online reputation management (ORM). The most important aspect of this type of content is that trust level towards them are higher than those of brands' posts. For potential and even loyal consumers, the opinion of another consumer is much more trustworthy and unbiased. Using data obtained from this source in PR activities is able to boost brand awareness, brand equity and sales. Most importantly, it has potential to influence consumer behaviour. In this context, conformist factors play one of the key roles. People are often prone to exhibit behaviour that is common in their communities or social groups. Marketers and data analysts should identify factors influencing conformist behaviour in social media and take it into consideration while planning and executing marketing activities.

Managing data analytics in social media marketing requires staying up to date to constantly changing algorithms. This is one of the main determining factors in content distribution among social media users. Of course, it also may have a significant impact on the results of obtained data on consumers. The main focus in this process is how an algorithm change influences organic reach of brands' posts among social media users. In 2018, Facebook announced an algorithm update that resulted in decreased organic reach for posts published on brand pages. Instead, Facebook said it would be prioritizing posts that create meaningful conversations, especially those from family and friends (Peters, 2018). This is a clear example of how an algorithm update can

influence the performance of social media marketing for brands. Consequently, it also had considerable impact on the results in data analytics.

Algorithms also may influence consumer journey in the purchase decision making process. Social media plays an important role in this regard as it is one of the main sources of information. Purchase involvement encompasses the time, effort, and costs invested in making a purchase, such as the research that may precede the transaction. Higher levels of economic and time concerns are associated with higher levels of purchase involvement (Coursaris...2016: 8). In its turn, higher level of purchase involvement generates more data on consumer behaviour. This is an extremely valuable source of data on social media users as it is connected with purchase decisions and therefore financial success of a company. It is upon marketers how they will turn this information into a useful asset for a business.

#### **2.4 Leveraging consumer data analytics**

The ever-expanding usage of social media throughout everyday life offers a critical data resource (Brooker...2016: 1). In social media, it is important to participate in conversation and to measure it (Kaushik, 2010: 270). However, collecting and analyzing consumer data from social media platforms is important but not the only stages in the entire process. Using it properly in decision-making process is crucial in successful marketing policy. It requires competence, experience and comprehensive understanding of market characteristics. Based on information gained, marketers and data analysts are able to make changes in ongoing marketing campaigns, as well as in general marketing policies. Such an agile approach is of high importance as today's markets undergo drastic changes and high pace of transformations. Therefore, companies need to respond to this challenge by efficient management of consumer data. It is extremely important for maintaining competitiveness on ever-changing markets.

Marketers and data analysts have to deal with large amounts of data on consumer behaviour while making decisions. Big data provided from social media can be managed effectively using big data analytics process. Accordingly, customer behavior can be recognized and five characteristics of big data, which are known as volume, value, velocity, variety and veracity, can be handled (Sangaiah...2020: 82216). Based on these characteristics it is possible to modify various aspects of marketing policy, such as positioning strategy, category of target audience, advertising intensity and marketing channels. Decisions backed by thoroughly analyzed big data are able to provide a company efficient management of a marketing plan. As a result, with high probability, return on investment will be on a high mark compared to competitors.

In order to make social media data management efficient, it is also important to set specific action plan in terms of how processed data should be used in decision-making processes. One of the main parts of the plan is to determine clear marketing goals. Depending on a company's needs, it may include: brand awareness, sales, new customers, leads, engagement and audience size on social media platforms. It also envisages setting right priorities for providing the best possible outcome. It requires identifying trends on early stages of a campaign. Accordingly, it will allow marketers to make respective changes and implement processed data for achieving best possible results. Besides, setting realistic KPIs (key performance indicators) is important. It not only allows marketers to have a clear action plan but also makes post-campaign analytics more realistic and efficient.

Another important aspect of social media data on consumers is using it in crisis management. Social media can be regarded both as a cause of a PR crisis and a tool for managing it. A crisis can be detected through social media analytics even before the incident is communicated (Stieglitz, 2018). Hence, Social media data is an important tool for ORM (online reputation management). It allows marketers to monitor feedback and attitudes of audiences towards a brand. The more diverse and voluminous data, the more opportunities a brand possesses for managing possible crises in social media. It provides an opportunity to respond to a crisis at an early stage and prevent it. This aspect of data analytics in social media can be considered as an important indicator of competitiveness level.

As mentioned above, proper management of data analytics in social media can bring numerous marketing benefits for a company: improved marketing strategies, better customer engagement, better customer service, better reputation management and brand awareness, product innovation, business process improvement and discerning new business opportunities (Holsapple, 2014). If we break down the above mentioned benefits, we can clearly see how powerful data analytics in social media can be: general marketing strategy becomes more sophisticated and substantiated by data, thereby making particular marketing campaigns more efficient; The level of engagement is one of the main indicators of successful management of social media marketing. Therefore, social media managers are able to boost engagement rate and attract new customers through social media channels when they are equipped with diverse and precise data on consumers; Social media, as a channel for customer relationship management (CRM), becomes more efficient when data collection and processing is managed on a regular basis; Reputation management and raising brand awareness in social media environment must be considered by marketers as one of the primary goals in general marketing strategy. Thoroughly analyzed data on consumers makes easier to achieve these goals; As consumers expect constant novelties from

brands, monitoring their needs, wants and demands in social media provides an opportunity for marketers to elaborate new services and products that fit contemporary demands on markets; Last but not least, laying on consumer data collected throughout various platforms of social media, marketers are able to discover new business opportunities, improve all aspects of communication with their loyal consumers and attract new audiences.

### III. CONCLUSION

Marketing decisions in today's digital age is inefficient without diverse qualitative and quantitative data on consumers. The issues discussed above emphasize the importance and opportunities of data analytics in social media. One of the most important aspects in managing this process is the ability to adapt to fast-changing environment. The changes and developments may include various directions: preferences of consumers, algorithm changes on social media platforms, methodology and tools for data analytics and decisions made by competitors. These factors must be taken into consideration in order to make data analytics process in social media productive. As a result, communication with consumers will become more efficient as decisions will be backed by precise, up-to-date information and statistics.

In order to gain commercial benefit from data analytics process in social media, it is necessary to manage it properly on all its stages: collecting data, processing, analyzing and using it in decisions. It can ensure a company a number of benefits: increased brand awareness and brand value, more return on investment, more loyal consumers, solid reputation, potential to attract new consumers and expand on more markets. These benefits are the basis for boosting competitiveness. Thus, data analytics in social media must be one of the main priorities in general marketing policies both for big and small companies.

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