Article

Social Media Monitoring: An Innovative Intelligent Approach

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Abstract: Digital marketers have a range of tools at their disposal for understanding customers and prospects on social media. These tools allow for better social media monitoring and analysis through the provision of vital insights. The use of artificial intelligence (AI) to such analysis enables for marketing tasks automation, accuracy improvement and human efforts reduction. In this respect, this paper proposes an AI-powered social media monitoring platform, which has been designed with an innovative approach, towards enabling digital marketers to better understand customers with intelligent insights in a manner like never before. The proposed platform helps by analyzing insights for effective online reputation management and competitors monitoring. In addition, this paper elaborates on contributions in respect to social media monitoring issues, mentions analysis uncovering knowledge, smarter insights and personalized advice to help in improving brands web and social presence, negative and positive conversations, competitors analysis ensuring brands are on top of the marketing game and social media strategy improvement.

Keywords: social media monitoring; social listening; artificial intelligence; intelligent insights; media monitoring; online reputation management; AI-powered analytics; competitors monitoring; social media influencers

1. Introduction

Social media marketing today has become too complex. There are too many social media channels, devices and technologies in the marketing stacks, creating a huge volume of data that is no longer humanly possible for marketers to manage. This makes the art of campaigning extremely time-consuming and inefficient. Social media marketing supported by artificial intelligence (AI) features promises to help businesses remove the complexities of modern-day marketing and digital campaigning, while simultaneously delivering exponential results, reducing operational costs [1]. Artificial intelligence can play a crucial role in social media marketing by introducing new features for tasks automation. Digital marketing tools can interpret and analyze information about customers through such features. Though there are numerous applications of AI in marketing, all of them fulfil a single purpose: To better understand the customer and make smarter marketing decisions.

AI is poised to elevate the power of marketers' data capabilities and enable powerful contextual marketing programs. A study from Forrester [2] includes AI-driven marketing benefits, challenges and how marketers can overcome them, as well as recommendations on next steps that should be taken to adopt AI-driven marketing. By understanding the customer, brands can determine relevant marketing messages, find the right social media influencers, refine their content marketing strategy and gain insightful information about their users. A thorough understanding of the customers guarantees an improved and efficient social media marketing strategy for brands. In addition, AI will play a crucial

role in social media monitoring tools, by enabling new features for smart suggestions and intelligent decisions based on the analyzed data (e.g., mentions). Furthermore, several social media monitoring processes will be positively affected, towards helping digital marketers to take smarter decisions.

Sometimes social media marketers find and pay influencers for promoting a product, but the results do not turn out to be effective. This could be because the influencers' approach does not resonate with the brand audience. Therefore, it is important that social media marketers not only have to make use of influencer marketing, but they need to find the right digital influencers too [3]. Digital influencers are very important to marketers. This is because they expand the reach of a brand to new audiences. In the past, the process of finding an influencer and matching their persona with a brand was a rigorous process. Brands made use of word-of-mouth to discover influencers, but now the situation has changed. As intelligent social media monitoring improves, it will become easier for brands to find the right influencers. The process of finding these influencers will become less resource-intensive, time-consuming and more accurate. There are certain algorithms that already make use of influencers' followers, posts and interactions to determine if they are suitable for a brand. The use of AI will thus allow marketers to find the right influencers for their brand by using an intelligent social media monitoring tool.

Furthermore, sometimes social media marketers have great content available but the time or the medium, at which they post could be wrong. This means that the content does not receive the engagement that it deserves. It is not only important to know what to post but also when and where to post it [4]. There is an enormous number of posts on social media at any given time. Therefore, it is natural for a post by a brand to get lost in the noise. If social media marketers post a content at a wrong time, it could receive customer engagement for just a few seconds. Choosing the right time and platform for posting content is a process that can be simplified by using an intelligent social media monitoring tool. Tools that have intelligent features incorporated in them, could analyze data about the reach of posts with their time and platform to come up with an effective content posting strategy.

Currently, social media is the most approachable way of reaching out to individuals. Whether digital marketers look to grab the attention of prospects or to answer queries of their customers, social media is the way to go. However, social media, unlike other forms of media, thrives on real-time interactions. This means marketers cannot just wait days before responding back to customers. They need to get back to them immediately. Social media monitoring tools can help marketers identify opportunities for interacting with customers by providing vital insights. Intelligent features in a social monitoring tool allow for determining when and how to respond back to customers. However, in the upcoming years, AI is expected to be even more involved in the customer service process. Social media marketers can easily get overwhelmed by the amount of social media posts about to their brand. Moreover, they can also get confused between which posts are related to their brand and which of them are not. This is because not all industry keywords will be relevant to their marketing message or brand. AI allows social media marketers to automate the process of skimming through these social media posts. This makes sure that they do not miss out on key opportunities to engage with customers. Social media marketers can leave the sorting of the posts to an intelligent social media monitoring tool. This enables them to focus on responding back to the customers. No matter how many social media marketers are assigned to the task of sorting social media posts, it is nearly impossible to carry out this task without the assistance of automation. AI can play a key role in helping sort these posts and it is expected that intelligent features will improve such processes even further. Learning algorithms enables for making informed calculations, perform analytics and even make automated recommendations.

Another way in which intelligence can be used is to find the right way communicating with individual leads. Social media marketers can mine an intelligent monitoring tool for obtaining rich insights into how exactly they need to interact with prospective leads. AI-powered insights allow social media marketers to improve conversion rates and generate more sales.

For efficient social media monitoring, brands need to go through and learn from all user-generated content, including images. Intelligent tools have to be able to recognize brand-related images and draw

meaning from them. Through this, brands can learn in-depth insights about the customers' feedback on their products. AI enables brands to recognize possible sales opportunities and cross-promotional opportunities through visual content analytics. With the information gathered from images, social media marketers can capture the available opportunities and release targeted content for customers. For instance, if a customer regularly posts an image about a product, social media marketers can send them targeted promotions or even just message of appreciations showing them that they care. This improves customer loyalty and encourages them to post more about the brand. Moreover, analyzing the visual content that customers post can also help social media marketers developing detailed buyer personas. These buyer personas provide useful information about the groups of people that buy from their brand. According to case studies, buyer personas yield a 171% increase in the marketing generated revenue. This proves the importance of developing well-maintained and thorough buyer personas for the customers.

Artificial intelligence has been on the rise over the past few years with all industries catching up on the latest technologies. This has been the case with social media monitoring as well. The introduction of intelligent features in social media monitoring tools allows marketers to focus on the gist of marketing itself rather than the nitty-gritty details of the data analysis. Rather than focusing on collecting data and organizing it into valuable information, intelligent social media monitoring enables marketers to focus on drawing meaning from customers' data for improved decision making. There are numerous advancements being made in this field. Out of these, several ways, in which AI directly influences social media monitoring have been highlighted above. These include effectively finding digital influencers, scheduling content more efficiently, identifying opportunities for real-time interactions and discovering the meaning behind visuals shared by customers. AI adds value to marketers' information and allows them to make smarter, more reliable decisions for their business.

In this context, this paper contributions include the presentation of a social intelligence advisor as a powerful tool that uses artificial intelligence to point out social media mentions. Thus, brands can monitor what customers say about them. The proposed social intelligence advisor helps by analyzing insights for effective online reputation management and competitors monitoring. In addition, this paper elaborates on contributions in respect social media monitoring issues, mentions analysis uncovering knowledge, smarter insights and personalized advice to help in improving brands web and social presence, negative and positive conversations, competitors analysis ensuring brands are on top of the marketing game and social media strategy improvement.

2. Literature Review

In his 1998 book, The Invisible Computer, Donald Norman, argues that the best thing for computer user interfaces, would be to be almost invisible [5]. Thus, allowing users to perform complex tasks without much thinking about the interface between them and a computer. In the recent years we can see numerous applications of this principle in the form of intelligent advisors, automated chat-bots, etc.

Marketing has changed a lot over the past few years. It is rarely acceptable that you can make marketing decisions based only on "hunch", but instead in the era of digital marketing and big data, these decisions should be data-backed. With vast amounts of data now available, companies in almost every industry are focused on exploiting data for a competitive advantage [6]. As the amount of data increases, however, it is becoming more and more difficult for humans to draw conclusions, and monitor manually all these metrics necessary to get useful insights to carry a brand's marketing strategy to the next step. At first the answer to making a digital marketer's life easier was obvious: Making intuitive user interfaces where users can easily and efficiently filter, display and analyze this data, so that they can draw conclusion and insights to make sense out of it. AI algorithms were also utilized to an extent to interpret these data and perform human-like evaluation of it. An example of this, can be found in the area of social media monitoring, a very important area of digital marketing. These systems monitor posts from users of social media and websites that are relevant to a specific topic or keyword, e.g., the name of a company or a product. These posts and comments could say

something positive or something negative about a brand. For medium to large-size brands, these data could include hundreds or even thousands of posts every day. To classify them as positive or negative, a human should have to go through each of those and classify each based on its context. AI sentiment analysis algorithms come into play, to perform this task automatically. Figure 1 presents an example of sentiment analysis results from the Mentionlytics platform.
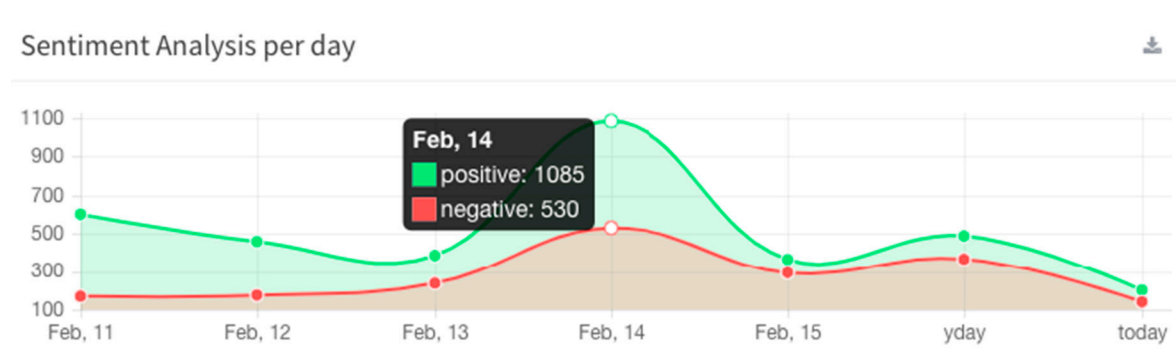

Figure 1. Sentiment analysis per day.

The AI algorithms, certainly, provide great help to marketers analyzing the results, who can now use a social media monitoring app's intuitive interface to identify trends and draw conclusions more easily (see Figure 2). However, this does not mean that the task is easy and does not require great effort and everyday work, complex filtering and specialized staff to be able to understand the data and make the most out of it. Gary Angle, in his book "Measuring the digital World" argues that "the most common digital metrics are almost useless. They fail, at the most basic level, to link what happens in the digital world to our understanding of people's behavior" [6]. Marketers need even simpler ways to understand data and discover the meaning behind it. Additionally, they need to convert them to "actionable metrics", as it has been already revealed in a 2014 survey on 777 marketing professionals [7].

In a general context, AI plays a key role in monitoring social media platforms and other customer review forums [8]. Since social sharing continues to improve across different platforms, as a result, brands face a serious challenge when it comes to monitoring what customers say on these platforms. With the overwhelming feedback and reviews that businesses receive on these platforms, it is important to adopt an advanced monitoring tool. This ensures that the company's reputation is not harmed online. Through the use of artificial intelligence, businesses can effectively monitor mentions on social media. The AI algorithms help in identifying a customer who is complaining about the services received [9]. The same algorithms can be used to identify positive comments from the customers. The business can then share the positive comments, which help in building their online reputation. Such a tool helps to ensure that any online mention is analyzed and classified as a positive comment or negative comment. The negative comments are quickly acted upon to guard the reputation of a company.

Personalized customer experiences also help in online reputation management. To deliver a personalized experience, a business needs to clearly understand customer demands. Through collecting customer data on social media and purchase history, companies can understand the exact customer demands. According to an eMarketer report, 52% of consumers find trouble when searching for the exact products that they need. Upon purchase of a certain product, this customer is disgruntled as the delivered product is not likely to meet the expectation. Thus, it is important that such a company uses artificial intelligence to understand customers preferences to deliver a personalized experience. For marketers, AI helps meet the demand for highly individualized experiences [10]. Thus, businesses can better reach and target their consumers for a better experience. This helps in reducing customer complaints online, guarding the business reputation effectively [11]. Data from Boston Consulting Group (BCG) research indicates that the brands that use advanced digital technologies to offer personalized experiences are seeing an increase in revenues. The artificial intelligence technology

creates an incredible framework for achieving personalized experiences. This is through building on the feedback mechanism, collecting and using all the touch points, and training systems on unbiased data by consuming provided data. Customers who experience personalized service delivery are often likely to share the experience online. This means that the company will be building their online reputation by investing in AI to serve customers better.
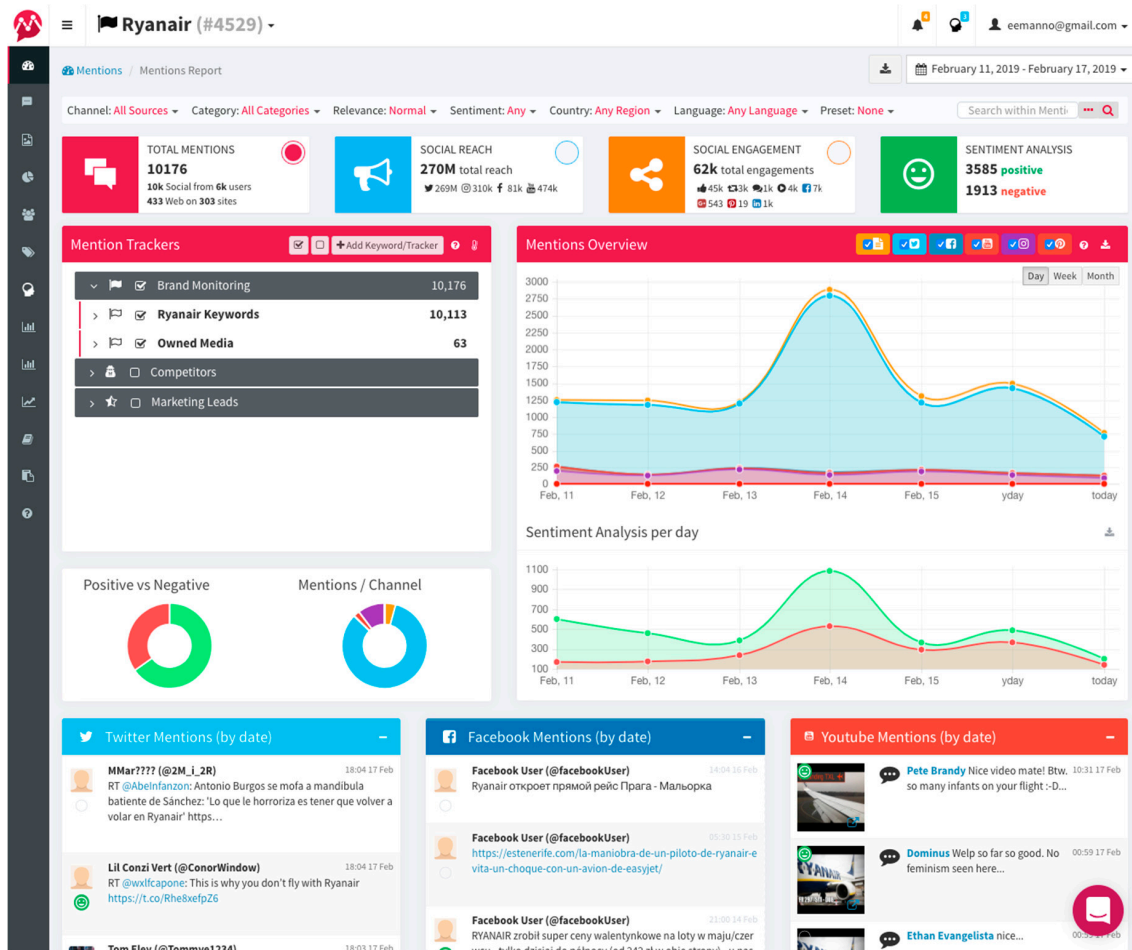

Figure 2. Social media monitoring platform (Mentionlytics).

Artificial intelligence is effective when it comes to online reputation management. Businesses that are looking at the best techniques for online reputation management can use AI as an efficient approach. This is so as to monitor the customer's response on different platforms. These include social media and online review websites. Therefore, a business can track posts by their customers to identify any possible pain points. Another way through which AI helps in online reputation management is in ensuring customer service is effectively delivered. Customers want to be able to get instant replies from businesses. Any slight delays will lead to customers complaining of inefficiency. This ruins a company's reputation. Through the use of AI and chatbots, customers concerns can be addressed effectively. The other uses of AI in online reputation management include offering a personalized customer experience, countering the spread of fake news and gathering customer testimonials [12].

3. Proposed Solution—Social Intelligence Advisor

What we propose is an innovative intelligent system that would analyze this data and draw useful conclusions for the marketers automatically, without needing any human intervention. Thus, combining the principles of an autonomous helper, with minimal user intervention, which analyzes

big data automatically, while it will be giving actionable advice that makes sense to every marketer, not only to digital analysts.

We named this system S.I.A. (social intelligence advisor), and it is based on the following analysis steps (see Figure 3):

1. Data gathering: This is the practice of harvesting data from web and social media. Data is often provided anonymized and it not exactly as seen from actual human social media users.
2. AI micro-analysis of gathered data (Sentiment analysis, text analysis, image recognition, etc.): In this step, each post gathered is individually analyzed by intelligent algorithms to enrich it with semantic information. E.g., the sentiment of text, the language it was written, the gender of the author, the country that it originated, etc.
3. Social intelligent analysis: In this step, the data is treated as a set, rather than individual posts. In this way, patterns are discovered, and useful insights can be drawn automatically. This step was only previously possible in this area by human analysts.
4. Expert advice: Furthermore, the conclusions from step 3 are not only shown to the users, but customized advice sets can be generated, personalized for different cases. This advice is aimed at helping the marketers take action to improve their marketing efforts.
5. Re-evaluate: Since the goal of the system is to generally improve a brand's online marketing efforts in social media, it is important to follow-up and repeat the measurement at regular times. A comparison can be made between the new values and the old ones in order to evaluate if metrics show improvement, and advise the marketer again based on the new results.
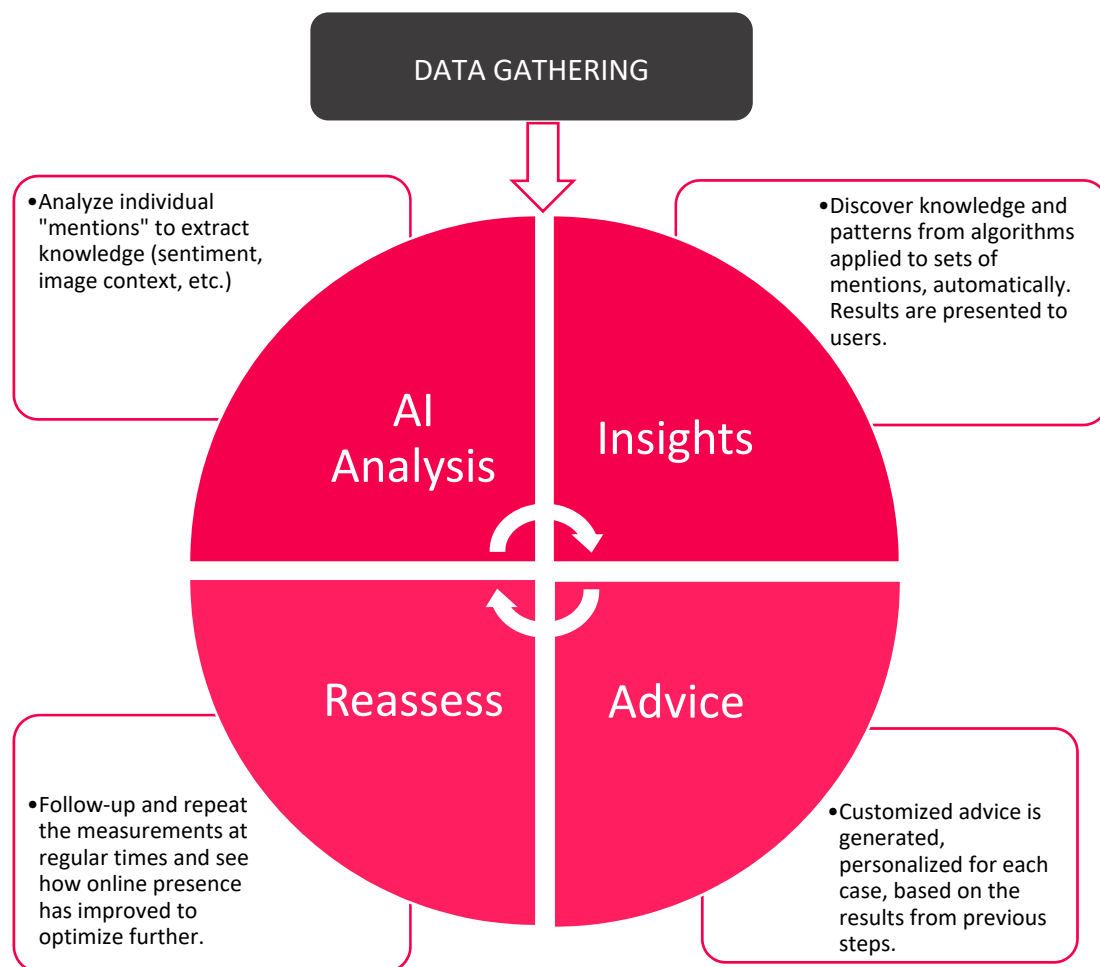

Figure 3. Social intelligence advisor processes.

Examples of useful insights (see Figure 4) that S.I.A. can discover without any human intervention:

- See the most important web and social mentions in terms of engagement, reach and sentiment.

The introduction of S.I.A. and 'intelligent' features in social media monitoring allows marketers to focus on the gist of marketing itself. Rather than focusing on collecting data and organizing it into valuable information, S.I.A. enables marketers to focus on drawing meaning from customers' data for improved decision making based on engagement reach, sentiment as well as other metrics.

- Identify "trolls" and also actual profiles that say bad things about your brand and suggest how to work on resolving these issues.

Using S.I.A., you can see the engagement rate, the reach and the negative sentiments on a particular post. The engagement rate refers to a metric used for measuring the level of engagement content has created. This content can be user-generated by profiles that say bad things about your brand. To determine the engagement rate, you need to check likes, the shares and comments. S.I.A. gives you these results. It is a useful feature allowing a brand to measure or evaluate the negative impact created by posts on social media.

- Discover your brand's fans and ambassadors that you may have never heard of.

Brands are adopting new technologies with an aim of changing critical business operations. There are several critical functions that can benefit from it. S.I.A. can be used for effective brand ambassadors' discovery. In this regard, digital marketers need to think of AI-powered tools for brand fans and ambassadors' discovery.

- Find your best days for posting based on your post's actual performance.

Sometimes you could have great content available but the time at which you post the content could be wrong. This can mean that the content does not receive the engagement that it deserves. It is not only important to know what to post but also when and how to post it. Choosing the right time and platform for posting content is a process that can be simplified by using S.I.A. S.I.A. can analyze the data about the reach of posts with their time and platform to come up with an effective content posting strategy.

- Automatically find hashtags that perform better in your posts and industry to use more often.

Through intelligently monitoring social media posts, you can gain insights on how to improve them. You are able to learn the days when a post generates you high engagement rates. In addition, you can automatically find the hashtags that perform better when used on social media posts. By using S.I.A., you can also know the industry where to use these posts.

- Remind you when you need to repost your previous great content to make the best out of it.

S.I.A. allows you to quickly identify content that has the potential to go viral and remind you when you need to repost it. This allows a brand to take appropriate actions before it becomes too late. You are able to detect a viral event, as it happens to control it or promote it in the case of content that creates a positive impact.

- Find the most popular sites your competitors appear at and advise you on how to appear there as well.

Through S.I.A., you are able to capture every site that your competitors appear. As such, you can identify the positive impact by such advertising efforts. This is the reason why you have to settle on the applications that apply artificial intelligence. Therefore, if you have been using a certain manual way in the past, you might need to ensure an application that is enhanced using AI.

- Become more competitive to increase your market share.

S.I.A. is a technology of the future that is perhaps the next step forward for companies of all scales. There are a number of use cases that suggest how artificial intelligence can help improve (and automate) a number of sales and marketing processes. Through concepts of AI and machine learning, businesses can improve their analysis of data, develop real-time models for prediction, enhance customer engagement and gain a competitive advantage over others.

- Find influencers and sites that are important to your industry that you can work with to improve your brand's awareness.

S.I.A. in influencers' discovery lets brands target social media influencers with followers who are interested in the brand. This is through the application of analytics techniques to identify the follower's interests. Comparing this to human efforts, it is almost impossible since there is huge data that needs to be analyzed. In addition, S.I.A. enables discovering influencers through contextual relationships. Brands that apply AI-powered influencer discovery have the ability to identify most suited influencers.

- Spot a crisis as it starts so that you can take appropriate actions before it is too late.

The prediction, planning and forecasting of a crisis and how the business will deal with it is possible with S.I.A. Businesses and large organizations plan out in such a way that they make sure they have an actual crisis management plan before crisis befalls their firm. From stabilizing the public image of the business, to making sure to face the least decline in profits and business, while focusing on the public relations as well, are just a few of the many things that fall under the umbrella of crisis management that S.I.A. offers.

- Detect a viral event as it is happening to ride the wave!

Social media spreads viral content faster compared to blog posts. S.I.A. allows you to quickly identify content that has the potential to go viral. Thus, you can spot a crisis as it starts. This allows a brand to take appropriate actions before it becomes too late. You are able to detect a viral event, as it happens to control it or promote it in the case of content that creates a positive impact.

The proposed social intelligence advisor of this paper has been adopted by Mentionlytics, which is a social media monitoring and analysis platform. The following directions of S.I.A. are presented below, helping brands to:

- Listen to what customers are saying [3];
- Analyze the mentions uncovering vast knowledge [3];
- Get smarter insights and personalized advice to help in improving your web and social presence [13];
- Get extensive advice on how to take action based on the insights [14,15];
- Find out when there is a negative conversation that can ruin your reputation [14];
- Spy on competitors ensuring brands are on top of the marketing game [16];
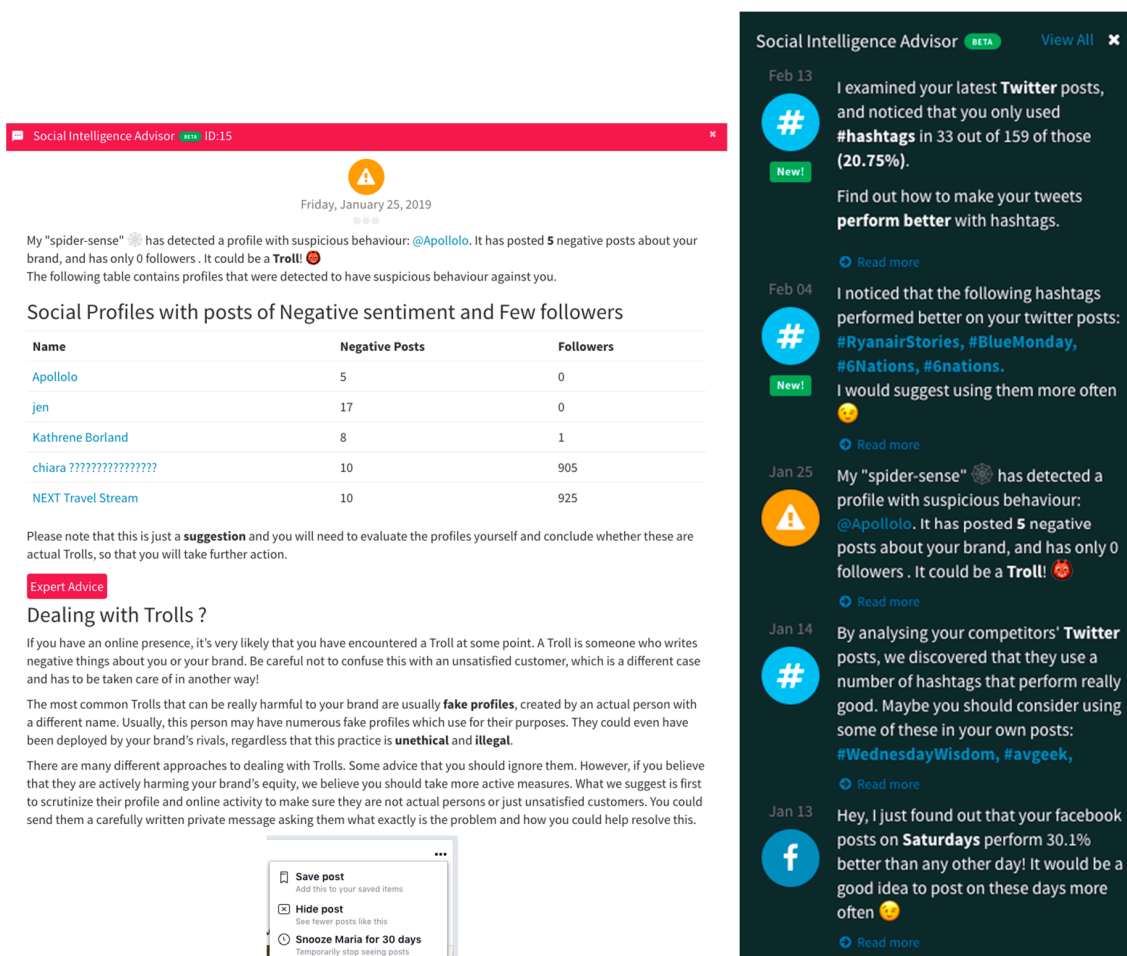- Continually improve their social media strategy.

Figure 4. Social intelligence advisor suggestions.

4. AI-Enabled Competitors Monitoring

Competitors monitoring is one facet that nearly all businesses have in common [16]. Ideally, to stay ahead of your competition, it is important that social media marketers apply modern techniques to monitor what the competitors are doing. By using technology to monitor the activities of a business competitor, social media marketers will be able to retain and attract many more customers. Competitors monitoring is among the application domains of artificial intelligence in business. Basically, with competitors monitoring, businesses need to be keen not to miss out. Therefore, to closely monitor the competitors, social media marketers need to apply the best technology, and this is where AI comes up.

4.1. Apply Intelligent Social Media Monitoring

Every business no matter the industry uses social media to engage customers. Therefore, there are very high chances that a business competitor is using social media. For example, before rolling out a promotion, there are high chances that there will be a post on social media so as to popularize the promotion. Intelligent social media monitoring tools help in giving the idea of what competitors are doing. However, how well the tools used help in monitoring your competitors depends on the techniques used. Adopting a competitors' monitoring tool that applies artificial intelligence comes with an added advantage. Through an intelligent monitoring tool, social media marketers are able to capture every social media post by their competitors and clients. As such, it is possible to identify the complaints raised by the competitor's current clients and effectively target the complaining client with alternatives. Note that not all social media monitoring tools will effectively monitor what the

competition is doing. This is the reason why a social media marketer has to settle on tools that adopt artificial intelligence.

4.2. Using AI for Competitive Intelligence: Identifying New Strategic Moves by Competitors

Through the use of AI, social media marketers can be able to identify moves to like the launch of new products. Such advanced monitoring enables them to prepare how to counter the move and retain the customers. Ideally, artificial intelligence enables to do this by monitoring the online activities. For instance, we have the online communities where companies engage their customers for ideas. This includes the use of different social media tools such as webinars. This is where the next big ideas are laid out, and therefore it becomes very important to monitor such discussions. As a matter of fact, the infinite messaging occurring every day millions of times is a wonderful source of information. The advantage of intelligent tools in monitoring such activities is that social media marketers will not miss any conversations that take place online. Insights from online consumer conversations not only help to identify gaps in the competitor's strategies, but also let social media marketers know the next big ideas. Through machine learning techniques used on intelligent monitoring tools, businesses can query into the global conversations. Using the information gained helps a business to enjoy stunning results.

4.3. Use of an AI-powered Analytics Tool to Monitor Performance of Competitors Campaigns and Ads

Artificial intelligence can also be applied in monitoring the performance of competitor's online campaigns. The reason why this is important is that social media marketers can identify where and how they are getting their customers. Basically, by being able to monitor new campaigns rolled out and also check out the performance of those campaigns, gives insights into what the competitors are doing right. Through monitoring the performance of competitors' campaigns, social media marketers are allowed to know the expectations of their customers. For instance, they can check out the number of likes, shares and reading the comments tells them what these customers like most. Such efforts help them in crafting counter adverts that will reach and attract more engagements than their competitors. With an AI-enabled advertisement analytics tool, social media marketers are aware of the type of adverts run by their competitors that gain more engagements. With this knowledge, they are then able to come up with better advertisements and target the same audience. An advanced tool will give them insights on the type of audience that their competitor's targets hence gaining high engagements. In addition, they can analyze the poorly performing competitor campaigns. Therefore, with such insights, they are aware of the most suitable adverts and the ones that they can avoid.

4.4. Using Intelligent Features to Monitor What Competitors and their Customers Say About a Brand

The reality is that there is a lot going on in the world of social media. A business has to successfully monitor mentions even when the competitors are not mentioning the brand name or the product name through an intelligent monitoring tool. Such a tool will allow to monitor and analyze all posts sent out by the competitors. Through the use of machine learning, a social media marketer can identify when a post is referring to a brand or a product. This way, a brand can intelligently guard the reputation online. The sad reality is that most business managers are not aware of the nicknames being used by their competitors and their customers when referring to them online. Unless when the names used refer directly to the company that is when they respond. Through the use of an intelligent monitoring tool, social media marketers can analyze different posts and therefore be in the picture of what the competitors and their customers say about the brand. The adoption of an intelligent monitoring tool enhances competitors monitoring and helps in identifying negative mentions.

4.5. Monitoring Competitors RSS Feeds Got Better With an AI-enabled Tool

A brand competitor's website is another important place where social media marketers should monitor. The RSS feeds allow them to know the new big announcements made through a website.

As the competitors talk to their clients through new content online, social media marketers are therefore aware of where they touch. Basically, monitoring the millions of posts that are posted on competitors' websites is a daunting task. This is given the fact that there are many industry players who happen to be competitors. However, by using an advanced monitoring tool, social media marketers can effectively monitor the website feeds. For example, they can set up the social media monitoring tool to monitor mentions on competitors' websites and be alerted when such mentions are made. Interestingly, an advanced intelligent tool also allows them to know when comments are made on competitors' blogs.

4.6. Using AI to Discover How Consumers Perceive Competitors Products

An intelligent social media monitoring tool not only focuses on what competitors are saying, but such a tool is also capable of highlighting what customers say about products. Ideally, this is important because social media marketers are able to come up with various selling points. For instance, let us say that a brand competitor's customers are complaining about certain elements missing from a product. Immediately, social media marketers are able to put up an advertisement that shows how their product meets that requirement. As if that is not enough, they will also be able to target the complaining clients. This capability is enabled by using an advanced intelligent social media monitoring tool. In addition, through AI-enabled competitors monitoring, social media marketers will have the ability to get real-time intelligence. Therefore, they will be able to respond to the comments on real-time having a high ability to convert the complaining competitor's clients. The best way to strike a winning strategy with the consumers is focusing on areas that matter most. In this case, offering an alternative to the competitor's customers who are complaining on matters. Therefore, the only way to gain insights into such is by closely monitoring the competitors. This is one of the reasons why an intelligent monitoring tool is a plus for a brand. To successfully monitor brand competitors, social media marketers need to make use of modern technology. Artificial intelligence is one of the modern technologies that enables businesses to effectively compete against their competitors. This is by ensuring they adopt the above ways on how to optimize competitors monitoring. Social media is a primary area of focus in modern-day competitors' monitoring. Businesses need to ensure that they look into what the competitors say, what their customers say and also pay close attention to competitor's advertisements, as well as online campaigns. AI enables to implement this type of competitors monitoring. Do not miss any mentions online. Take advantage of an intelligent competitors monitoring tool.

5. Conclusions and Future Work

Artificial intelligence is a growing concept in the modern age. If it is adopted in social media monitoring, then marketing teams can benefit towards achieving their goals. Artificial intelligence is becoming essential for businesses these days. It is a technology of the future that is perhaps the next step forward for business of all scales. There are a number of use cases that suggest how artificial intelligence can help improve (and automate) a number of sales and marketing processes. Through concepts of AI, businesses can improve their analysis of data, develop real-time models for prediction, enhance customer engagement and gain a competitive advantage over others. Artificial intelligence in sales and marketing pushes the boundaries even further by boosting creativity, increasing interaction with customers and eventually, increasing revenue.

References

1.   Artificial Intelligence Marketing, How to Deliver Exponential Results in Marketing, FORRESTER White Paper. Available online: https://marketics.ai/ai-marketing-delivering-exponential-results/ (accessed on 25 April 2019).

2. AI—The Next Generation of Marketing: Driving Competitive Advantage Throughout the Customer Lifecycle, FORRESTER White Paper. Available online: https://albert.ai/wp-content/uploads/2017/02/AI-The-Next-Generation-Of-Marketing_Final.pdf (accessed on 22 April 2019).

3. Mentionlytics. Available online: https://www.mentionlytics.com/blog/how-to-find-right-digital-influencers/ (accessed on 15 April 2019).

4. Spasojevic, N.; Li, Z.; Rao, A.; Bhattacharyya, P. When-to-post on social networks. In Proceedings of the 21th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, Sydney, Australia, 10–13 August 2015; ACM: New York, NY, USA, 2015; pp. 2127–2136.

5. Norman, D.A. *The Invisible Computer: Why Good Products can Fail, the Personal Computer is so Complex, and Information Appliances are the Solution*; MIT Press: Cambridge, MA, USA, 1998.

6. Provost, F.; Fawcett, T. Data Science and its Relationship to Big Data and Data-Driven Decision Making. *Big data* **2013**, *1*, 51–59. [CrossRef] [PubMed]

7. Leeflang, P.S.; Verhoef, P.C.; Dahlström, P.; Freundt, T. Challenges and solutions for marketing in a digital era. *Eur. Manag. J.* **2014**, *32*, 1–12. [CrossRef]

8. Sterne, J. *Artificial Intelligence for Marketing: Practical Applications*; John Wiley & Sons: Hoboken, NJ, USA, 2017.

9. Marinchak, C.M.; Forrest, E.; Hoanca, B. Artificial Intelligence: Redefining Marketing Management and the Customer Experience. *Int. J. E-Entrep. Innov. (IJEEI)* **2018**, *8*, 14–24. [CrossRef]

10. Dimitrieska, S.; Stankovska, A.; Efremova, T. Artificial Intelligence and Marketing. *Entrepreneurship* **2018**, *6*, 298–304.

11. inchak, C.L.M.; Forrest, E.; Hoanca, B. The impact of artificial intelligence and virtual personal assistants on marketing. In *Encyclopedia of Information Science and Technology*, 4th ed.; IGI global: Hershey, PA, USA, 2018; pp. 5748–5756.

12. Pitt, C.; Eriksson, T.; Dabirian, A.; Vella, J. Elementary, My Dear Watson: The Use of Artificial Intelligence in Marketing Research: An Abstract. In *Boundary Blurred: A Seamless Customer Experience in Virtual and Real Spaces. AMSAC 2018. Developments in Marketing Science: Proceedings of the Academy of Marketing Science*; Krey, N., Rossi, P., Eds.; Springer: Berlin, Germany, 2018; p. 325.

13. Zeng, D.; Chen, H.; Lusch, R.; Li, S.H. Social media analytics and intelligence. *IEEE Intell. Syst.* **2010**, *25*, 13–16. [CrossRef]

14. Wang, Y.; Tang, S.; Liu, H.; Li, B. Unsupervised sentiment analysis for social media images. In *Twenty-Fourth International Joint Conference on Artificial Intelligence*; ACM: New York, NY, USA, 2015.

15. Samek, W.; Wiegand, T.; Müller, K.R. Explainable Artificial Intelligence: Understanding, Visualizing and Interpreting Deep Learning Models. Available online: https://arxiv.org/abs/1708.08296 (accessed on 12 May 2019).

16. Medal, A. 3 Reasons You Should Spy on Your Competition. Available online: https://www.entrepreneur.com/article/294950 (accessed on 22 April 2019).