

The role of artificial intelligence in integrated marketing communications. A case study of Jumia Online Ghana

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Abstract

Artificial intelligence (AI) has been observed as both a destructive and a transformative game changer in all human activities where it has been adopted. This study looked into the role of Artificial Intelligence in Integrated Marketing Communications, with Jumia Online Ghana as a case. Through the use of both quantitative and qualitative approaches, as well as convenience and purposive sampling techniques, the study obtained qualitative and quantitative data from IT staff and customers of Jumia Online Ghana. A total of 112 respondents participated in the study. The study revealed that Jumia Online Ghana boost their marketing communications; undertake marketing leads; and promote their contents and products through the use of Artificial Intelligence. The study recommends that the need exists for AI-powered contents of Jumia Online Ghana to be optimized for mobile devices. It has been established that the use of AI empowers marketing communications in order to reach wider markets.

Keywords: Artificial Intelligence, communications, integrated marketing communication, Jumia online Ghana, Ghana.

Introduction

The choice of studying the phenomenon of Artificial Intelligence (AI) and its implications for businesses comes naturally to the stage due to the advancements in technology within this period of the Information Age. The application of artificial intelligence to marketing communication focuses on strategies for exploiting customer data to predict a customer's future purchase or choice, as well as to improve the customer journey (Marinchak 2018). It provides a mechanism to bridge the gap between data science and implementation by sorting through and analysing massive data sets, which was previously an intractable task (Schwab 2016).

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The development of AI solutions for marketing purposes works with predictive analytics through the modelling of recommendation engines to their clients (Infobaleen 2010a). Infobaleen (2010b) has further suggested that these recommended engines transform customer transactional data into predictions, subsequently turning into product recommendations according to the settings which are decided by the client. In this way, clients could find causal relationships in the data automatically, which would be a very complex and cumbersome process for a human, if not impossible. However, there seem to be divergent views regarding the future potential of AI in the domain of marketing. For example, many users believe that AI can manage most of their marketing endeavours, whereas others envision humans still being essential in carrying out strategic shifts (Sanjiv 2018).

Artificial intelligence can process organised and unstructured data at a rate and accuracy far above that of humans. It's a hot topic for businesses that are having trouble organizing their customer data. Marketers are utilizing machine learning's capacity to correlate data pieces in order to acquire insights into their consumer base (Attaran & Deb 2018). These technologies can evaluate speech to extract sentiment from it, develop visual representations of social media trends, and process data to make projections. (Kelleher *et al.* 2015)

Marinchak *et al.* (2018:22) address the role of Artificial Intelligence on marketing management and state that "AI is changing the rules, roles and tools of marketing" despite their inability to ground their findings in empiricism. As a result, the role of artificial intelligence in marketing communications and judgement appears to be under-appreciated.

Ghana is currently considered one of the fastest-growing countries in relation to information technology and social media usage in West Africa (Buami 2013). The sudden rise in information technology and social media usage is mostly among students in Ghana, from primary school through to the tertiary levels. The purpose of use of social media has changed significantly among various groups, depending on their needs. For example, social media use among journalists in Ghana has been found to change from a portal for a friendly chat to a platform for disseminating news (Deo-Silas 2013).

Its use among Ghanaians has also changed from a portal for chatting with friends to sourcing products and services (Buami 2013). Online companies in Ghana are continuously employing chatbots with AI technology to communicate and target consumers (Kwarteng 2016). The flexibility and cost saving avenues afforded by online companies are compelling a high number of consumers in Ghana to purchase products online. Particularly the benefits derived from online business portals are making people in Ghana get used to the electronic platforms in the various aspects of their lives which would potentially boost electronic commerce and transaction with few years to come tremendously (Boadi *et al.* 2007).

Jumia Online Ghana came into existence in 2014 and has established itself so well that it has become a household name when talking about online shopping in Ghana (Buami 2013). Apart from offering the opportunity to buy authentic products under the phones & tablets, electronics, appliances, gaming, watches & sunglasses and computing options, they also have other services like Jumia Hotels, a hotel booking platform, Jumia Flights, which helps customers find flights and airline tickets, as well as Jumia Food, which offers food delivery services. All these services are made available on *Jumia.com.gh* and the Jumia application on IOS and Android.

Statement of the problem and purpose of the study

The advances in technologies always present opportunities for looking into the effectiveness and efficiency of technological systems. Study of the use of Artificial Intelligence in marketing serves a useful purpose in improving the technology and its applications. However, it has been found

that, until 2016, only a few marketing researchers had examined the use of different AI systems in the field of marketing (Wedel and Kannan 2016:102). The need for studies to be conducted on the application of AI-technologies to marketing communications has also been pointed out by the Marketing Science Institute (MSI), where many of their research goals for 2018-2020 focused on AI in marketing (Martin & Murphy 2017). Only a few papers have examined the role of marketing managers in the development of AI and its integration into marketing communications while reviewing the literature at the confluence of marketing communications, decision-making, and AI. Several surveys reveal that AI is being widely used and applied in a variety of fields. (Kwarteng & Pilik 2016; CMO Survey 2019). However, because of their deductive nature, they fall short of providing a deep knowledge of how advertising strategies and judgment processes are altered.

The proposition of Jarrahi (2018:12) was that, in the face of growing AI, managers must be ready to change for taking advantage of marketing communications. In the face of rapidly emerging technology like AI, strategic decisions need to keep up to date on how to apply it to their business and maintain their strategic advantage in the human-machine synergy. These findings provide some perspective on how marketing managers should experience AI and incorporate it into their marketing and communication strategies, but management in a general sense seems not to be making use of this opportunity.

Marketing managers in data-rich workplaces were found to be well-versed in business strategy as well as sufficiently skilled in technology and analytics, including the use of AI, according to a study that looked into marketing analytics (Wedel and Kannan 2016). The study adequately highlighted the needs of marketing managers in the face of expanding marketing analytics capabilities. However, because the AI revolution is involving other sectors such as AI-assistants, judgments about the function of marketing manager as a whole cannot be reached, leaving gaps in marketing communications. It is for filling this gap that the researcher sought to conduct a case study on the Role of Artificial Intelligence in Integrated Marketing Communications using Jumia Online Ghana as a case.

The purpose of this study was therefore to explore different areas of artificial intelligence and demonstrate the importance of using it as a marketing communications approach in Jumia Online Ghana for the marketing of their products and services by looking into the following research objectives:

- **RO1:** Establish how Artificial Intelligence helps Jumia online in its lead scoring (marketing leads)
- **RO2:** Determine how Artificial intelligence assists Jumia online in its smart segmentation of target market/s.
- **RO3:** Describe the use of Artificial Intelligence in the promotion and personalization of Jumia Online content and products to its customers.
- **RO4:** Assess how AI is employed by the IT department in the operations of Jumia Online Ghana.

Theory and literature review

The impetus for developing an Integrated Marketing Communications model based on Artificial Intelligence was sparked by Batra & Keller (2016), where the writers cited Marketing Communication as a component. The idea focused on the function of social relationships in disseminating information in respect of Jumia Online, therefore the use of the social networking theory. The goal of this idea is to redirect personal influence and enable affective and cognitive change in order to develop effective marketing communications. With the expanding use of network analytic methodologies in diverse empirical contexts, social network theory has greatly enlarged the horizon of media influences on research since the 1960s. Jacob Moreno is credited

with creating the first sociograms, which evolved into the study of interpersonal relationships, which is now known as Social Network Theory, in the 1930s.

The use of Social Network Theory provides a unique viewpoint and a set of tools for analysing the consequences of business communications.

It also allows for the analysis of how micro- and macro-social systems interact and how marketing communication effects are moderated. The theory was conceived during the prime age of information media technologies in the twentieth century, and experts are still testing and refining it in the social media age and time of rapid change in media technology like Artificial Intelligence. As a result, the social network theory guided the conduct of this study. The choice of this theory is premised on the fact that Jumia Online deals greatly and directly with customers online via the Internet. The study employs three elements of this theory in addressing the research objectives:

- Networks: this element enables the study to view the AI system employed by Jumia Ghana as an open system network in addressing objectives 1 & 4.
- Nodes: this element enables the study to appreciate customers and staff as actors of the network; this helped in addressing objectives 2 & 3
- Relationships: this brings to light the interactions between members of the network and thus has enabled the study to address objective 3.

A number of studies on marketing have successfully employed this theory (Prabowo *et al.* 2020; Mgiba 2019; Husnain & Toor 2017; Vismara 2016; Richardson *et al.* 2016). A major strength of this theory is that the framework of its model accommodates itself to a variety of hypotheses from a variety of disciplines. However, the theory's limitation lies in the fact that its concepts are implicitly used "loosely and sometimes interchangeably" (Berkman *et al.* 2000:844).

Conceptualisation of Artificial Intelligence

The concept of Artificial Intelligence, or AI, was first "established at a conference held at Dartmouth College in 1956" (Pan 2016:410). Attaran & Deb (2018) assert that the definition of AI at the conference concerned the ability of machines to interpret, reason, and experience in the same way that humans do, implying that computers may be used to replicate human intellect. Presently, AI's vision extends far beyond human abilities, and it is generally referred to as a key element in humanity's 4th industrial revolution (Syam and Sharma 2018: 135; Schwab 2016).

As of now, AI has a massive impact on businesses, and it will continue to grow (Syam and Sharma 2018:135; Schwab 2016). Business leaders all over the world are rapidly spending on AI to help them find new sources of revenue, and those who have been early adopters of AI have already achieved significant benefits (Ransbotham *et al.* 2018). Furthermore, AI is expected to generate \$13 trillion in output increases by 2030, increasing global GDP by 1.2 percent per year (Bughin *et al.*, 2018). Many people believe that marketing is one of the roles in business that has a lot of potential to gain from AI. (Kardon 2019; Ng 2016). Recently, many techniques within AI's subset domain of machine learning have got the greatest interest (Schrage & Kiron 2018). According to Fagella (2019), founder and CEO of Emerj Artificial Intelligence Research, due to access to large amounts of data and its direct link to operating margins, marketing is amongst the most lucrative sectors to deploy AI.

Certainly, spanning industries, the ability to transform new technical prospects and company investment into increased customer demand is critical. (Bus Ti & Rt, 2014). As a result, marketing researchers must have a skill set that includes both technical skills for managing machine learning and other AI technologies, and also cutting-edge marketing understanding (Wedel & Kannan 2016:116). As a response to this continuous transition, a substantial number of businesses are investing in expertise or training initiatives in order to combine and improve the effectiveness of AI in their marketing communications (Schrage and Kiron2018).

It is widely expected that the growing application of AI-technologies, as well as the resultant automation of work previously performed by humans, will result in significant job losses in the economy. In contrast, the US Bureau of Labour Statistics (2019) has found that the number of marketing managers in the United States will increase by 10% between 2016 and 2026, which is 3% faster than the average for all jobs, with marketing managers who can traverse the digital environment having the greatest prospects.

Artificial Intelligence and marketing communication

The fundamentals of marketing have not changed, but the methods we engage has. It evolves on a daily basis, just as the art of storytelling does, but how we convey the tale and the media we use to tell it become increasingly important. According to Sanjiv (2018), the arrival of Artificial Intelligence and machine learning is a huge development in marketing, just as it is in business.

It is not irrational to claim that artificial intelligence (AI) will be increasingly used in marketing in the future. The facts and components of an AI-based strategy are already in place today.

Modern marketing is becoming more numerically oriented, targeted, and related to business results.

Advertisements and incentives are becoming increasingly personalized in real time for particular customers. As a result, businesses use a variety of methods to reach out to their customers, but all of them are increasingly relying on digital content (Thomas 2018). Marketers from companies still collaborate with agencies, most of which have built their own analytical capabilities using Artificial Intelligence.

How Artificial Intelligence works

According to Oke (2008), Artificial Intelligence (AI) is now a critical research area in nearly every field in the twenty-first century, including engineering, science, education, medicine, business, accounting, finance, marketing, economics, the stock market, and law, to name a few. However, the fundamental question remains: how does AI work? Algorithms, which are a set of rules applied in problem-solving activities, especially by a computer, are the foundation of artificial intelligence systems (Oke 2008). When digital marketers hear the term "Artificial Intelligence," they automatically think of the "Rank Brain" algorithm. Google's Rank Brain is a machine learning system that can provide users with answers. It was released in 2015. It uses Artificial Intelligence to comprehend and reply to customer inquiries in the same way as a human would (Thomas 2018).

It also offers a list of questions that users frequently enter into Google. Artificial Intelligence is responsible for the accurate return of the answers, as well as a similar set of questions. Artificial intelligence was developed by understanding how the human brain works, as well as how humans learn, decide, and operate when attempting to solve a problem, and using the findings to construct intelligent software and systems (Sanjiv 2018). Humans have spent many years attempting to comprehend how they think, perceive, interpret, predict, and manage the universe. With the emergence of AI, we are attempting to build intelligent creatures rather than understanding intelligence (Russell & Norvig 2014).

Artificial intelligence is advancing at a quicker rate, with Google's DeepMind AlphaGo defeating the world's best Go player, Ke Jie, in 2017 (BBC 2017). If AI can already beat the world champion during one of the most sophisticated board games, it doesn't take a lot of imagination to see that AI has a lot of promise in the business and marketing worlds as well.

Methodology

Through the use of case study design, both qualitative and quantitative approaches were used. The population of the study included all customers and IT staff of Jumia Online Ghana and the study employed both convenience and purposive sampling techniques. Convenience sampling was used for the selection of customers to respond to the questionnaire and purposive sampling was used for the selection of the IT staff for interviews. The sample size for the study was 115 comprising 100 customers and 15 IT staff.

Due to the COVID-19 pandemic, the researcher published a simple and cost effective respondent recruitment advert on social media. Basic screening questions were asked in the signup process that identified potential Jumia Online users or customers. After receiving a number of interested entries based on this basic criterion, 130 respondents signed up to whom questionnaires were sent. One hundred and seventeen (117) respondents completed and returned their questionnaire, indicating a 90% return ratio. Of the number returned, the researcher conducted an audit and cleaned the instruments up to ensure that they could satisfy the demands of the study. The expected 100 questionnaires were then acquired from the 117 through random sampling to ensure 100% coverage for the analysis.

The IT staff of Jumia Online were identified based on their information available on the Jumia Online website and referrals. They were directly (purposively) contacted by phone and had their interviews conducted. Of the 15 staff sampled, 12 took part in the interviews, forming an 80% response rate. The quantitative data were analysed through the use of SPSS V.24, and the qualitative data were analysed based on content analysis.

Results

The study analysed both quantitative and qualitative data. A 100% response rate for the quantitative data and 80% response rate for the qualitative data was achieved.

Biodata of quantitative data

In any study, respondents' biodata is critical because it allows a researcher to make informed decisions depending on the kind of people that are involved in the study. It also gives you the chance to express and offer the necessary responses to the topic at hand. A set of personal variables of the respondent, including gender, age, and educational level, were examined in this study.

Gender

Gender is an essential variable in any given social situation, which is a variable affected by any social or economic phenomenon. Of the total (100) respondents investigated for this study, 57% were males whereas 43% were found to be females.

Age of respondents

Age is an essential variable in any research study. It is a distinctive character as it leads to the understanding of respondents' views about the problems under study. The results show that 35% of the respondents were below 25 years of age, 56% of them were between 26 and 35 years of age. The remaining 19% of the respondents were at age 35 years and above.

Educational level

On the level of participants' education, the analysed data depict that 23% of the respondents had completed basic or secondary education. Those who had obtained a Higher National Diploma or a bachelor's degree represented 60% of the participants, with the remaining 17% possessing post-graduate degrees.

Frequency of visit/use social networks

Jumia Ghana is an online business entity and the ability of the customer to patronize their products will depend on how well individuals use social networks. The data obtained from the respondents on the frequency of visit/use of social networks is shown in Table 1.

Table 1: Frequency of using Social networks

Visits	Frequency	Percentage
Once a day	14	14%
About 5 – 10 visits	36	36%
Many times	50	50%
Total	100	100

Reading from Table 1, the study found that 14% of the participants used online social networks once a day, 36% of them used social networks between 5 – 10 times a day, and 50% of them visit social network sites many times within a day.

Gadgets for accessing digital platforms

The researcher wanted to know by what means respondents accessed digital platforms. Each of these methods has merits and demerits depending on their use. The type of device also determines to a great extent how fast information gets to targeted customers on social networks.

Table 2: Gadgets for accessing digital platforms

Gadgets	Frequency	Percentage
Smart phones	65	65%
Tablets	20	20%
Laptop computers	09	9%
Desktop Computers	06	6%
Total	100	100

The study results as presented in Table 2 show that 65% of the participants accessed digital platforms through the use of smartphones, 20% employed tablet devices, nine percent of them used laptop computers and six percent indicated the use of desktop computers for the purposes of accessing digital platforms such as Jumia Online.

Biodata of qualitative data

Twelve of the 15 sampled participants were available for the interviews and the results show that eight (8) of them were males and four (4) females. Three (3) of the interviewees were between the ages of 30 and 35, six (6) of them were between the ages of 36 and 40 and the remaining three (3) were above 40 years. The working experiences of the respondents based on the interview data show that five (5) of them had worked with Jumia Online Ghana for more than 3 years, four (4) of them had worked for 3 years and the remaining three (3) had worked with Jumia Online for 6 years.

Moreover, three (3) of the participants possessed a Higher National Diploma in Information Technology, five (5) of them possessed academic Bachelor's degrees in Computer Science and related fields, three (3) of them possessed Master's degrees in Cybersecurity and Digital

Forensics and the remaining one (1) possessed a Doctorate in Network Engineering. The interview participants (P) narratives will be reported by using P1 to P12

RO1 Examining how Artificial Intelligence helps Jumia online in its lead scoring (marketing leads)

Perhaps for the first time, the researchers predicted that businesses would be able to keep in continual contact with sales leads and send personalized marketing messages to clients at will. They may develop comprehensive digital lead generation campaigns by utilizing web content, social media posts, emails, and a variety of other digital platforms to get their brand in front of as many potential customers as possible. Respondents were asked to agree or disagree with the statements made in respect of these; the statements and responses are presented in Table 3.

Statement	SA	%	A	%	N	%	D	%	SD	%
Multiple adverts and business information's are directed to me.	45	45%	32	32%	12	12%	05	05%	06	06%
Most often, I get links to people, businesses, and products in real-time.	41	41%	22	22%	15	15%	12	12%	10	10%
Provision of user's basic data.	34	34%	31	31%	11	11%	14	14%	10	10%

One of the many ways AI is used to draw the attention of online consumers to goods and services is to direct multiple adverts to them. In order to ascertain how Jumia online use AI to achieve this, respondents were asked to agree or otherwise to the statement that Jumia Online direct multiple adverts to them. From the responses (Table 3), 45% of the respondents strongly agreed that Jumia online direct multiple business advertisements to them, 32% agreed, 12% were neutral, 5% disagreed and 6% strongly disagreed on how Jumia Online directs business advertisements to them.

On getting links to people, businesses, and products in real-time via Jumia Online, the responses (Table 3) show that 41% of the respondents were strongly of the opinion that Jumia Online linked them to people, businesses, and products in real-time and 22% also agreed. However, 15% of the participants remained neutral to the statement, 12% of them disagreed, and 10% of them strongly disagreed that Jumia Online linked them to people, businesses, and products in real-time.

Statement	SA	%	A	%	N	%	D	%	SD	%
Have the habit of browsing through adverts, like and comment on photos and video.	41	41%	34	34%	8	8%	7	7%	10	10%
Engagements with Jumia Online via email, SMS, and chats.	27	27%	25	25%	15	15%	14	14%	19	19%

The researcher sought to know whether respondents had the habit of browsing through adverts, liking and commenting on photos and videos on their social network platforms. This aspect has

to do with AI-powered personalization. Most online commerce platforms such as Jumia Online rely on AI-powered personalisations as lead to target customers. The results from the study (Table 4) show that 41% strongly agreed that they had the habit of browsing through adverts online, with another 34% in agreement. About 8% of the participants remained neutral to the statement, 7% of them disagreed, and 10% of them strongly denied having the habit of browsing through adverts online.

The study also sought to ascertain how Jumia Online engages and communicates with customers, which in turn provides leads for customer targeting. It was clear from the responses that 35% of the respondents were strongly of the opinion that Jumia Online engaged them via e-mail, SMS, and chats with another 27% in agreement. However, 15% of the participants were neutral to the statement, but 14% of them disagreed, and 19% of them strongly disagreed that Jumia Online engaged them via email, SMS, and chats.

During the interviews, the participants were asked to indicate how Jumia Online uses AI for the facilitation of lead scoring (marketing leads) of Jumia customers. The study found that the tasks Jumia online employed to enhance their marketing leads were through the collection of accurate data on their existing customers and new ones through social networks. They then create individual lead profiles based on any amount of data elements they can find. These could include the person's posts on social media and browsing behaviour, as well as their shopping history and the types of images they prefer. The responses from participant 3 and 2 were as follows:

- *This data is used to provide automated lead scoring functions through AI technology to enable us to know which leads have the highest probability of conversion based on the data about them contained in our system. First, staff know which leads to concentrate on, thereby improving efficiency. Second, we identify leads that may need some more outreach to get them closer to converting, and what kind of outreach might work bes (P3)*
- *Knowing that human staff can engage just a little of the many leads at any given time, we do follow-ups. So we use AI technology to power automated lead engagement via e-mail, SMS, and online chat to make sure no potential sales lead goes cold. The underlying AI in these tools uses natural language processing to hold real conversations with leads and to formulate responses that help move them along the sales funnel – leading up to interactions with live sales representatives when they are already primed to convert. (P2)*

RO2 Analysing how Artificial intelligence assists Jumia Online in its smart segmentation of target markets.

In integrated marketing communications, proper market segmentation is one of the pillars of a successful marketing campaign. You can target communications to clients with comparable qualities and wants by segmenting or separating your audience into groups. Because of this personalization, marketing efforts will be more important for individuals reading them. Response rates are likely to be much higher with greater relevance than with a single non-personalized approach.

Statement	SA	%	A	%	N	%	D	%	SD	%
Marketing messages sent are relevant.	32	32%	31	31%	18	18%	8	8%	11	11%

Information mostly sent to users is according to their age, geographic location, or purchasing history.	35	35%	30	30%	14	14%	11	11%	10	10%
Marketing messages received have different variables and different options for users.	29	29%	33	33%	17	17%	9	9%	12	12%

The study wanted to determine whether marketing messages that were powered by AI on Jumia Online and sent to respondents were relevant to them. The analysis (Table 5) shows that 32% of the respondent strongly agreed that they received relevant marketing messages from Jumia Online and another 31% of them agreed. Eighteen percent of the respondents remained neutral to the statement, while 8% of them disagreed and another 11% of them strongly disagreed that the marketing messages they received from Jumia online were relevant.

In order to ascertain the extent of AI-powered segmentation of customers on Jumia Online, the study sought from the respondent to know whether the information they mostly received from Jumia online were based on their age, geographic location, or purchasing history. According to the responses to the questionnaire, 35% of the respondents strongly agreed that information they mostly received from Jumia Online was based on their age, geographic location, or purchasing history and 30% of them agreed. 14% of the participants remained neutral to the statement, and 11% of them disagreed, with 10% of them strongly disagreeing that information they mostly received from Jumia online were based on their age, geographic location, or purchasing history.

Moreover, the study was interested in finding out whether some marketing messages sent via Jumia Online had different variables and different options for users. The responses (Table 5) show that 29% of the respondents strongly agreed with the statement that marketing messages sent via Jumia Online had different variables and different options for users, and 33% of them agreed with the statement. Also, 17% of the respondents remained neutral to the statement, and 9% of them disagreed with 12% strongly disagreeing with the statement that marketing messages sent via Jumia Online had different variables and different options for users.

In relation to the use of AI in assisting Jumia Online in its smart segmentation of the target market, the responses from the interviews depict that the use of Artificial Intelligence to segment customers offers several advantages to Jumia Online over traditional manual segmentation. The IT personnel, in particular, stated that AI helped them discover hidden correlations in data that human marketers would miss. Furthermore, their AI-powered systems automatically updated the segments, allowing Jumia online to construct a limitless number and size of segments, allowing for a better level of personalisation. This enabled the system of Jumia Online Ghana to remove human bias or require much human intervention in their activities. A narrative from participant seven was as follows:

As our data increases, we are enabled to create highly specific segments even as small as one person, and send laser targeted marketing messages to each of them or the segments. Therefore, we employ AI in Jumia Online to remove the complexity in our development by automatically adjusting the marketing campaign to an individual segment and editing variables that include our headlines, email subject lines, images, copies, colours, and even our time of delivery (P7)

RO3 Describing the use of Artificial Intelligence in the promotion and personalization of Jumia Online content and products to its customers

Online marketing organizations may be able to develop more tailored digital experiences that convert potential customers into loyal clients by utilizing AI technology. Because AI helps businesses identify customer preferences, deliver personalised content that suits each customer's individual interests, and they make informed judgments, there is a demand for content promotion.

Statement	SA	%	A	%	N	%	D	%	SD	%
Jumia Online promote and deliver adverts to the customers and all users.	40	40%	38	38%	07	7%	09	9%	05	5%
Jumia extends its customer journey to users through digital signage.	22	22%	28	28%	19	19%	14	14%	17	17%
Jumia generates better results for users with paid advertising.	32	32%	30	30%	18	18%	12	12%	8	8%

The statement 'Jumia Online promote and deliver adverts to the customers and all users' was used to ascertain how well the AI-powered generation of advertisement on Jumia Online were received by the participants. Reading from Table 6, 40% of the respondents strongly agreed that Jumia Online promotes and delivers adverts to them, and another 38% of them agreed with the statement. Seven percent of the participants, however, remained neutral to the statement, 9% of them disagreed, and 5% of them strongly disagreed with the statement.

Again, the study was interested in finding out whether Jumia extends its customer journey to users through digital signage or not. The results from the study show that 22% of the respondents strongly agreed that Jumia Online extends its customer journey to users through digital signage, and another 28% of them agreed with the statement. However, 19% of the participants remained neutral to the statement, 14% of them disagreed, and 17% strongly disagreed that Jumia Online Ghana extends its customer journey to users through digital signage.

On whether or not Jumia Online generates better results to users with paid advertising, the analysed data depict that 32% of the respondents strongly agreed that Jumia Online generated better advertising results and another 30% of them agreed. Besides, 18% of the participants remained neutral, 12% of them disagreed, and 8% of them strongly disagreed that Jumia online generate better results to users with paid advertising (Table 6)..

Statement	SA	%	A	%	N	%	D	%	SD	%
Jumia improves communication using chatbots with customers to facilitate the purchasing of products.	36	36%	29	29%	13	13%	12	12%	10	10%

In order to appreciate how personalisation of advertisement was powered by AI on Jumia Online, the study looked into how Jumia Online employed chatbots to improve marketing communication with customers to facilitate the purchasing of products. The results of the study show that 36% of the respondents strongly agreed that Jumia online employed chatbots to improve marketing communication with them, and another 29% of them agreed with the statement. Some 13% of the participants remained neutral, 12% of them disagreed, and 10% of them strongly disagreed that Jumia Online employed chatbots to improve marketing communication with them (Table 7).

The results from the interviews show that adoption of mobile technologies continues to grow so Jumia Online staff were doing their best to optimise their system content for a mobile world. Additionally, AI was used to enable Jumia Online Ghana's system to give product recommendations and promotions in real-time, greatly improving their promotion services. Participant one indicated that:

We optimize our content for a mobile world as the adoption of mobile technologies continues to expand. The majority of the information we provide to clients was meant to be seen on our websites rather than on mobile devices, however we are now taking steps to optimize our mobile material. This allows Jumia Online to set itself out from the competition. Furthermore, providing real-time personalized suggestions and specials increases the likelihood of a customer making a purchase (P1)

RO4 Ascertaining how AI is employed by the IT department in the operations of Jumia Online Ghana

The interviews with the IT staff provided data in order to address this research objective. According to the interviews, personnel from Jumia Online Ghana's IT department used AI to engage in content marketing, allowing them to segment their audience and offer the right material on the right channel at the right time. As a result of the application of AI, Jumia Online's consumer base was segmented based on the following narrative options:

- *Our systems are set up to use traffic that comes from other websites, email campaigns, social media, paid ads, and other sources. Furthermore, our systems save information on new or returning customers or visitors, previous purchase behaviour, search behaviour, time spent on the website or interaction with email campaigns, viewed content, viewing forum (mobile vs. desktop), location, demographic trends, and average transaction value. (P10)*

Here, AI solutions are used to Identify related leads by mining existing customer data.

- *We then scour the internet for individuals, businesses, and goods that could connect existing customers with prospective new ones, resulting in pre-qualified prospect lists for our salespeople to work with. This is fine by us because it works in conjunction with other AI solutions, such as the engagement platforms discussed before. (P4)*
- *As customers and potential leads consume online information, staff at Jumia online assist their customers in personalizing it on-the-fly. We show hyper-relevant material to website users, for example, based on a profile of their browsing and past content consumption habits. This generates a new pool of leads who are already interested in doing business with the company without the need for further sales or marketing efforts. (P9)*

The study also found that AI is employed by Jumia Online for the creation of better online experiences for customers and also to promote customer online experiences that enable the system to target customers' specific interests as narrated:

- *Our system is built in such a way that it automatically allows our marketing team to build microsites and landing pages for specific campaigns, and thus reduces the time it takes to manage all of our online content. Once that is done, it improves purchasing recommendations based on customer preferences; shares targeted content in real-time*

based on website traffic; increases online conversion rates; provides personalized experiences based on hundreds of data points and delivers the right content to the right person at the right time on the right channel (P7).

- *Jumia AI-powered content help increase customer purchases through the use of; chatbots to improve communication with customers and help facilitate purchasing products, data from multiple sources to provide a single view of the customer which helps lead customers to take action, customer data to help uncover trends and micro-segments such as user behaviour, device type, and geo-location, customer's unique interests to help improve the odds of making a sale and the use of an automated mobile app to continuously optimize the performance of app content (P10).*

Discussion

The study explored the role of Artificial Intelligence in Integrated Marketing Communications using Jumia Online as a case study. Through the use of a mixed methods approach the study obtained and analysed both qualitative and quantitative data. It was obvious from the data that more males than females participated in the study. Earlier studies have shown that the use of smartphones for accessing Internet resources is higher than the use of other gadgets for Internet access (Kankam, 2020). The findings of this study support these earlier findings since the majority (60%) of the participants indicated the use of smartphones for accessing Internet contents.

One of the key objectives of the study was to examine how Artificial Intelligence helps Jumia Online in its lead scoring or marketing leads (RO1). The results from both quantitative and qualitative data clearly show that Jumia Online depends on AI for marketing leads. Particularly, the study found that automated lead scoring functions through the use of AI technology are integrated in the systems of Jumia Online. This allows the system to create a profile of an individual lead based on a variety of available data points (Yaokumah 2016). This supports the findings of Rosie (2018) that concluded that whether you are looking to create content, optimize feedback, build loyalty or target new customers, AI has a solution at your fingertips. This study found that Jumia online has integrated AI in their system to carry out these functions. Evidently, based on the element of 'Networks' in the Social Network Theory employed for this study, the results from the study point to fact that the integration of AI in Jumia Online creates an open system that enables staff, customers and potential customers to interact and have access to the system.

In support of the interviews that outlined how Jumia online employs AI to send targeted messages to customers, more than 60% of the participants indicated that they received relevant marketing messages from Jumia Online and 65% of them opined that the messages they mostly received from Jumia Online were based on their age, geographic location, or purchasing history. These findings address RO2 & RO4 and support earlier studies that concluded that through the use of AI, customers can receive personalized messages based on their social media posts and browsing behaviour, purchase history, and even the types of photos they prefer (Longoni *et al.* 2019; Yeshin 2007). Evidently, Jumia Online uses Artificial Intelligence to empower their smart segmentation of customers.

To ensure that no potential sales lead goes cold, artificial intelligence is increasingly employed to fuel automatic lead engagements via email, SMS, and online chat (Finne & Grönroos 2013). These links are sent to targeted consumers or customers from online companies and are made possible through the deployment of AI (Sharma 2018). The results of this study agree to these, since more than 60% of the participants made it clear that they had lead engagements with Jumia Online via email, online chat, among others. These findings

demonstrate that the staff and customers of Jumia Online Ghana influence the use and application of the AI systems and this makes them serve as actors of the network as depicted in the Social Network Theory's element of 'Nodes'

It has been found that one of the areas "where machine learning or AI is frequently used is within predictive data analytics, which at the present is a technique used for customer insights, content personalization as well as targeting decisions" (CMO Survey 2019: 55). A study by Kelleher *et al.* (2015) shows that 80 percent of customers are more inclined to make a purchase if they receive a tailored experience from a company. This study has also established that Jumia Online Ghana employed AI for the provision of personalised experience to customers. This again supports an earlier study by Longoni *et al.* (2019) that concluded that AI is perceived as a technology used to identify and relate to customers' unique features.

In addressing RO3, artificial intelligence is noted to have links with domains that are related to the promotion of marketing and sales (Bughin *et al.* 2018). Although, this study found that more than 60% of the participants were happy with the promotional activities on Jumia Online, interestingly, about half of the participants did not accept that Jumia online extended their customer journey through digital signage. This is not surprising, given that an earlier study found that AI's use in marketing has an effect on digital marketing activities such as next-best offers in customer promotions and reactive online advertising buying (Thomas 2018; Hoffman 2016). These findings clearly support and link to the element of 'Relationships' since they show how the application of AI enables customers and staff of Jumia Online Ghana to interact.

A difference between the findings of this study and other studies is how the application of AI in marketing poses data processing challenges to them. For example, the results from the qualitative data did not point to difficulties in processing data, especially based on their analytical abilities; however, studies have found that organisations that employ AI are commonly faced with high data processing challenges as well as a constant development of organisational analytic capabilities (Gupta *et al.* 2020; McKinsey 2017), Moreover, it has been found in earlier studies that customers are mostly not willing to interact with AI (Luo *et al.* 2019; longoni *et al.* 2019), nevertheless, the findings from this study points to the fact that customers of Jumia Online Ghana were comfortable and willing to interact with the chatbots and other AI applications.

Conclusion and recommendations

It is evident from this study that Artificial Intelligence was used by Jumia Online Ghana in helping its lead scoring (marketing leads). The conditions that allow for the acceptability that Jumia Online uses Artificial Intelligence in assisting smart segmentation of its target markets have been well established in this study. There is sufficient evidence from the analysed qualitative and quantitative data to infer that Jumia Online Ghana used Artificial Intelligence in aiding the promotion of its content and products to its target markets.

The study has established that Jumia Online deployed AI to boost their marketing communications in order to reach a wider market across Ghana. Clearly, the use of AI in marketing communication enabled smart segmentations for targeted communication at efficient and effective means for Jumia Online Ghana. This study suggests that AI is playing a significant role in the integrated marketing communications of Jumia Online Ghana. For example, AI is found (see RO3) to have been employed by Jumia Online Ghana to give product recommendations and promotions in real-time to customers. Similarly, the study shows how AI is used by Jumia Online for the creation of better online experiences for customers. Evidently, organisations can take advantage of the numerous benefits of AI to improve their services and promote their products.

Jumia Online is seen to be deploying AI in its marketing operations which (Anand, Krushali & Jojo 2018), falls in line with strategic communication objectives. It is observed that Jumia Online Ghana employs chatbots based on personalisation to improve marketing communication with customers. However, the responses from a significant number of the participants demonstrate their challenges with the chatbots. The study therefore recommends improvements in the online integrated marketing engagements and segmentations between Jumia and their customers by providing enhanced chatbots and AI powered tools for these purposes.

The findings of the study indicate how the use of AI can enhance marketing and promotional activities of companies. This implies that the study's results can serve as a great avenue for organisations to increase their customer base and profits through the use of AI. For example, based on the findings of the study, organisations are recommended to employ AI to make tailored experiences and products available to customers to boost their sales since the study has found that customers are more willing to buy if they receive a tailored experience from a company. This attests to how important it would serve companies to provide personalised experience to customers in order to widen their sales and profit margins through the use of AI. Moreover, it is recommended to organisations to employ AI for automatic lead engagements since the results of this study show that fuelling lead engagements via AI enables potential sales activity all the time.

The study focused on the role of Artificial Intelligence in integrated marketing communications of one organisation in Ghana (Jumia Online Ghana), whereas looking into other organisations based on a survey design or comparative study would produce a better understanding of the application of AI in marketing towards generalisation in respect of the country Ghana.

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