Artificial intelligence, marketing management, and ethics: their effect on customer loyalty intentions: A conceptual study

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ABSTRACT

The purpose of this study was to address ethical issues of privacy, information security, discrimination, and diversity concerns in the Artificial intelligence context, and to show how they relate to customers' loyalty intentions. The outcome sought was the development of a conceptual model that relates these themes to the actions of marketing management practitioners. An extensive review of literature on Persuasive technology, Social penetration, and Transforming wellbeing theories formed the basic structure for this study. After reviewing and synthesizing empirical literature on the major themes, and linking them to the constructs extracted from the grounding theories, the author generated a list of propositions that relate them to each other and the constructs. These propositions led to the development of a conceptual model. Researchers that deal with ethical issues and new technology can empirically test this model. The conceptualized model extends the explanatory powers of these grounding theories, by showing how they can improve business practices under the fourth industrial revolution era. This can aid management practitioners on artificial intelligence management strategies, and mitigate negative consequences related to the application of advanced technologies in business. This study is based on the literature, and, therefore, carries with it all the limitations that are inherent in the articles accessed. Generalizing the proposals need to take into account the fact that the proposed framework has not yet been subjected to empirical testing.

Keywords: Artificial intelligence, management practices, ethical behavior, customer loyalty

INTRODUCTION

Artificial intelligence (AI) technologies are entering many areas of our daily life, and have rightfully caught public attention (Cai, Shen, Liu, Yu, Han, Ji, McKeown, Leung, and Miao, 2014; Shi, Zhang, Cao, and Li, 2016; Pan, Yu, Miao, and Leung, 2017; Zheng, Apthorpe, Chetty, and Feamster, 2018). It has ushered in a time of tectonic change in the world (Brynjolfsson, and Mcafee, 2017), via its' entrance into the educational system (Heffernan, and Heffernan 2014; Mohammed, and Watson, 2019), health care systems (Maddox, Rumsfeld, and Payne, 2019), the farming industry (Chen, and Li, 2019), and the manufacturing sector (Kusiak, 2018). AIs' entrance has affected both the economic growth outlook (Aghion, Jones, and Jones, 2017; Agrawal, Gans, and Goldfarb, 2017), and people's social interactions in general (Feng, Sequeira, Carstensdottir, Seif El-Nasr, and Marsella, 2018). The adoption of AI creates new challenges by implementing the operations in tasks that usually require a human touch (Aylett, Louchart, Dias, Paiva, and Vala, 2005). Due to AI systems' intelligence and problem-solving skills that exceed even human skills, AI brings potential risks for society and ethical complexities (Keskinbora, 2019). It has placed pressure on public values such as privacy, autonomy, security, human dignity, and justice concerns (Yu, Shen, Miao, Leung, Lesser, and Yang,

2018). As these technological systems become increasingly ubiquitous, the topic of ethical governance increasingly becomes imperative (Wallach, and Allen, 2008). Consequently, AI is currently one of the most controversial matters in the world.

Further, the impact of the AI revolution is expected to be more pronounced in developing countries than in advanced ones (Seong, Manyika, Chui, and Joshi, 2018). Computers will replace unskilled and semiskilled labor and robots, thus increasing the trend towards "reshoring" back to advanced countries (Ford, 2016). Also, developing countries will be at a disadvantage by not being able to invest in expensive AI technologies, particularly since such technologies will reduce the demand for human labor, thus further increasing unemployment (Makridakis, 2017). Of particular interest to the present study is the increasing importance of these technologies in marketing. AI is reshaping marketing by offering several benefits and challenges (Kaličanin, Čolović, Njeguš, and Mitić, 2019). It is predicted that marketing in the future will make increasing use of AI technologies (Thirayiyam, 2018). These technologies can be leveraged to target market segments (Rekha, Abdulla, and Ashraf, 2016), to anticipate customers' next moves (Thirayiyam, 2018), and to customize brand offerings (Zeyad, Kishad, Norailis, Wahab, and Mustafa, 2017Li, Hou, and Wu, 2017). AI also brings into sharp focus the issue of customer loyalty. It can either enhance or negatively affect customer loyalty, depending on how organizations deploy it (Zeyad, Kishad, Norailis, Wahab, and Mustafa, 2017), and how customers perceive it, as will be shown below.

In light of AI's powerful transformative force and profound impact across various societal domains, it has sparked ample debate about the principles and values that should guide its development and use (Jobin, Ienca, and Vayena, 2019). There is, therefore, both merit and a greater urgency to take a serious look into incorporating ethical and societal considerations into AI systems (Yu, et al., 2018; Winfield, and Jirotka, 2018). Given the novelty and potential benefits of AI in marketing, and the lack of research in this area, a meta-analysis to synthesize and systematize available research evidence and to investigate the inter-relationships between different aspects of ethical AI marketing practice is worthwhile. The relevance of this topic is further justified by the increased development and widespread introduction of other new information technologies (Trapeznikov, and Varepo, 2019).

PROBLEM STATEMENT AND THE PURPOSE OF THE STUDY

When discussing AI, one needs to also refer to Big data (BD) (Obsschanka, and Audretsch, 2019), because these two are members in a family of related concepts (Kirbia, Nguyen, Villardi, Zhao, Ishizu, and Kojima, 2018). AI is a BD driven technology (Balthazar, Harri, Prater, and Safdar, 2018), which makes use of unstructured behavioral data to uncover patterns of behavior (Erevelles, Fukawa, and Swayne, 2016; Zhou, Fu, and Yang, 2016), and thus transforming BD into knowledge (Yunhe, Pam, 2016). BD involves big volumes of heterogeneous, complex, and dynamic information (Palanisamy, and Thirunavukarasu, 2019), which is generated at high velocity (Allam, and Dhunny, 2019; Chen, Chiang, and Storey, 2012).

The combination of AI and big data implies that firms have a lot of information about their customers (Wilson 2018), which raises the risk to their privacy. Use of the AI technology brings into sharp focus issues of the control of technology (Larson, 2019), and the balance of power between those who control it and the consumer (Royakkers, Timmer, Kool, and Van Est, 2018). Columbus (2019) declares that AI will be the technology most adopted by marketers. As a functional division, marketing stands to benefit the most out of AI (Syam, and Sharma, 2018). The following advantages illustrate the point. AI technologies afford marketing efficiencies and competitive advantages by, amongst others, offering the opportunity to understand what customers want (Schonberger, and Murray, 2014), creating tailored advertisements, creating the potential for revenue increase and costs reduction, enhancing customer engagements and improving customer service (Castello, and Ward, 2016).

However, dependence on artificial intelligence (AI) comes with significant social welfare concerns and risks to the business. Application of AI technology has the potential to inadvertently perpetuate gender, ethnic, or other biases, breach privacy, and information security boundaries, and to inflict unfair and unjust outcomes for some population groups based on race, gender, and socioeconomic class (Jin, 2019; Lloyd, and Hamilton, 2018). The above argument shows that AI is also "dangerous" (Metz 2018). The risks and dangers arise out of the information asymmetry between

the industries that design AI and the larger public (Katyal, 2019).

Due to these challenges and many others, AI might not deliver on its' promises of improved marketing success (Larson, 2019). One of the important marketing issues relates to customers' loyalty intentions, a key element of marketing success. Loyal customers are more likely to concentrate on long term benefits of their relationships with brands; give a competitive advantage to brands, and result in larger market share and profitability (Bayraktar, Tatoglu, Turkeyilmaz, Delen, and Zaim, 2012). This technology can influence customer loyalty (Kangu, Wanjan, Kasimbe, and Arasa, 2017). Using AI technology, customers can access information and reference standards on any product and service (Lechner, and Paul, 2019), and thus increasing the likelihood of switching suppliers (Choi, Kim, and Jang, 2017). This technology, therefore, can either enhance or negatively affect customer loyalty (Iqbal, Hassan, and Habibah, 2018).

In light of the benefits and the dangers inherent in the application of AI, responsibility should be one of the core stances underlying all research in this field (Dignum, 2018). Regardless of the growing importance of the AI technology in marketing and the growth in the number of studies that address ethical issues related to the technology, the effects of AI marketing systems on customer privacy, information security, possible discrimination on customers, and diversity concerns have not received attention in the extant literature. To the author's knowledge, no prior study has covered these specific ethical issues. As a result, there is a lack of AI-specific best practice guidance for academics and marketing management regarding these aspects (Vollmer, Mateen, Bohner, et al. 2018). Against this background, the purpose of this study was to investigate how AI technologies' use by marketers influence customers' ethical concerns, and how, in turn, these concerns affect their loyalty intentions. The objectives of the study are, firstly, to investigate the possible effects of marketing management practices (those who use AI technologies) on customer's information privacy concerns, on perceptions of discriminatory practices, on perceptions of diversity by those organizations, and on the perceptions of the security of the information they give to these organizations. The second objective is to investigate how these concerns and perceptions influence their loyalty intentions toward a brand or organization. The study uses Persuasive technology theory, Transforming well-being theory, and Social penetration theory as a base for a novel conceptual framework proposal. No prior studies have sought guidance from these three theories to evaluate the impact of ethical/unethical management practices on customers' perceptions of the risks involved, and on their resultant loyalty intentions.

This study, therefore, makes the following important contributions to knowledge. It provides generalizable theoretical insights on ethical practice in the contexts of the three theories. The proposed conceptual framework also provides new insights into the applicability of these theories into other functional areas of business affected by rapid technological changes in this fourth industrial revolution (4IR) era. These new insights are important because they suggest a model that can be empirically tested in the future. For management practitioners, the study enhances the understanding of the influence of ethical concerns of customers on the use of technology by functional divisions that closely interact with customers via technology. When adopting AI technologies, marketing managers will have available additional tools to allay customers' ethical concerns. This will go a long way towards the improvement of information policy decisions for organizations. The remainder of this article contains the methodology of the study, the conceptual foundations of the study, the development of research propositions, and the conceptual framework. It concludes with a discussion of the theoretical and managerial implications, the limitations of the study, and the suggestions for future research.

THE METHODOLOGY OF THE STUDY

Scholarly journals are the most valid sources in the literature review (Rowley, and Slack, 2004), because, using existing knowledge is necessary for developing a conceptual paper (Botes, 2002). For purposes of this study, the researcher identified, evaluated, and synthesized the existing body of completed works (Okoli, and Schabram, 2010), on AI, and on the relevant Grounding theories. The articles were checked for scholarly suitability and relevance. The researcher used the Systematic literature review approach (see Kekale, Weerd-Nederhof, Cervai, and Borelli, 2009; Tranfield, Denyer, and Smart, 2003), which is a transparent, reproducible criterion, that applies objective criteria to the inclusion or rejection of articles (Bordeleau, Mosconi, and De Santa-Eulalia, 2018; Denyer, and Tranfield,

2009; Tranfield, et al., 2003). This approach also helps to overcome or minimizes researchers' biases (Roehrich, Lewis, and George, 2014).

In line with the above concerns and scholarly recommendations, a criterion for exclusion and inclusion of articles was adopted (see Denyer, and Tranfield 2009; Roehrich, Lewis, and George, 2014). The exclusion criteria for articles were as follows. Unavailable related papers, those whose abstracts did not relate to the major constructs, and duplicated articles did not form part of this article. From the selected articles, a combination of search terms with truncations (as recommended by Igwe, Charlton, Probst, Kent, and Netzel, 2019) led to the key descriptors for the study which are the management practices/actions, privacy concerns, discriminatory practices concerns, diversity concerns, information security concerns, and customer loyalty intentions.

The evaluation of the articles consisted of reading the studies through the technique of content analysis as recommended by Camargo and Camargo (2019). From all the selected journal articles, data were extracted and content analysis was undertaken by distilling the commonalities in themes (Malshe, and Sohi, 2009) and converting those themes into a concept-centric format. This was done in order to establish the most common concepts that could be utilized in the conceptual framework formalization (Doherty, Carcary, and Conway, 2017). This led to the summarization of the major issues in a concept-matrix (see Table 1 below). The integration and synthesis of the relationships between the identified themes are followed by a string of propositions and a conceptual framework.

LITERATURE REVIEW

Marketing is about changing people's behavior (Stibe, and Cugelman, 2016). Behavioral theories can offer insights and an in-depth understanding of how to achieve successful behavior changes (Brindal, Hendrie, and Freyne, 2016). However, behavior research is very complex (Lambe, Rana, Jürisoo, Holmlid, Muhoza, Johnson, and Osborne, 2020), and oftentimes, no single theory can adequately address all aspects of interest (Dwivedi, Rana, Jeyaraj, Clement, and Wlliams, 2017). Therefore, integrating several theories help mitigate their limitations and broadens the perspective on the constructs of interest. This approach, in turn, can provide new insights into the applicability of these theories into other functional areas. This approach has other academic merits, such as the synthesis of different theories to produce a new framework (see Venkatesh, Morris, Davis, and Davis, 2003; Dwivedi, et al., 2020). Given the above considerations, this section is composed of two subsections. The first section describes the three theories that ground this study and briefly discuss their contexts and relevance to marketing management. The second one deals with the empirical literature review, provides a concept matrix and concludes with a list of propositions and a conceptual model.

Grounding theories

The study adopts three grounding theories, namely, persuasive technology theory (PTT), Transforming Wellbeing Theory (TWT), and social penetration theory (SPT). In this section, we review these theories to develop a theoretical framework that aims to embed ethical marketing practices for businesses within their (theories) domains. The resultant framework guides the synthesis of the major themes about the protection of consumer privacy, security, diversity, and possible discriminatory practices.

PTT is a major strategy for influencing people to change their attitudes or behaviors (Yeo, Rahim, and Ren, 2008; Schätzl, 2015), through persuasion and social influence (Bogost, 2007; Fogg, 2002). In the context of AI applications, the influence is achieved via computerized software or information systems (Oinas-Kukkonen and Harjumaa, 2008). According to Lin (2016), the technology is persuasive if it makes target behaviors easier or more efficient to perform, guides people through a predetermined sequence of actions that motivate them, enables people to explore the causal relationships between a behavior and its outcome, and rewards them with positive feedback, modeling a target behavior or attitude or providing social support. The major themes of PTT are interactivity, the efficiency of target behaviors, guidance to follow the sequence of actions, the link between actions and outcomes, motivation, and giving of feedback to participants (Schätzl, 2015). These themes are relevant to both marketing academics and practitioners. Marketing is about persuading customers to change both their attitudes and behaviors (Hoffman,

Inderst, and Ottaviani, 2019), obtaining customer feedback, eliciting lasting relationships, and promoting customer satisfaction (Johnson, Warkentinis, Dennis, and Siponen, 2019). Further, customer information can aid customer-targeting, which is a useful tool for marketers (Hoffman, et al., 2019). Johnson et al (2019) further reveal that PTT has been applied in other marketing studies. This study, therefore, extends knowledge by increasing application domains for this established theory (Yeo, Rahim, and Ren, 2008).

The rapid evolution of AI requires people to reconsider their effects on other people's wellbeing (Orji, and Moffatt, 2016; Stibe, and Larson, 2016). SPT is the theory that describes how people deal with costs, rewards, satisfaction or dissatisfaction gained from interactions with other people and with technology. According to SPT, people assess interpersonal rewards and costs, satisfaction, or dissatisfaction, gained from interaction with others, and that the advancement of the relationship is heavily dependent on the amount and nature of the rewards and costs (Tang, and Wang, 2012). The costs may take the form of increased vulnerability and risks (Tang, and Wang, 2012). SPT has extensively been applied in many other contexts such as personal information disclosure in the customer-seller relationship-building process (Mangus, Back, Jones, and Folse, 2020), social media communication context (Liu, Min, Zhai, and Smythe, 2017), teacher-pupil relationships contexts (Avilla, 2019), computer-mediated communications (Carpenter, and Greene, 2015), and in the direct marketing context (Anderson, and Ararwal, 2011; Dinev, and Hart, 2006). All these areas are directly or indirectly related to marketing. However, the above-mentioned studies did not attempt to address the ethical implications of AI technologies.

According to Stibe, Röderer, Reisinger, and Nyström (2019), technology-supported environments design should be both proper and ethical. This issue is the major focus of the Transforming Wellbeing Theory (TWT), which deals with the design, and use of novel transformative technology for the benefit of the general populace (Stibe, 2018).

Ideally, AI and machine learning should offer an alternative model for optimization (Tan, Rollins, Israel, Benrimoh, 2019). According to this theory, technology should result in a better education system, better health, safety, equality, and should lead to sustainable transformation (Stibe, 2018). TWT also addresses issues of computer-supported (computer-mediated persuasion system), social influencing systems (influential to shift behavior and attitude (Stibe, 2015), and highlights the possibilities of the backfiring of technological aided persuasive communication (Persuasive Backfiring) (Stibe, Cugelman, 2016). According to the TWT, behavior change Interventions can trigger unintended negative outcomes (Stibe, and Cugelman, 2016). In a marketing context, this can occur after a product or service failure (Birau, and Faure, 2018), when organizations do not disclose purposes of the data they gather from customers (Hoffman, Inderst, and Ottaviani, 2020), and when celebrity endorsement contracts go awry (Jang, and Leem 2018).

From the discussion above, it is evident that these theories complement each other. As an illustration, PTT does not deal with the costs/benefits assessments that customers engage in when moving into unknown technological terrain and it does not address the possibilities of failure in the use and adoption of new technology. Collectively, these theories offer an adequate basis for the present study by suggesting enough possible variables for a new conceptual model. The present study deals with the perceptions of the nature of AI, and how marketing managers use it in their engagements with customers. Specifically, the study investigates how these perceptions are likely to shape concerns about privacy, security, diversity, and possibilities of discrimination. This is an important issue, especially for developing countries with unfortunate histories of racial and gender discrimination. This article contends that businesses that use AI do not give these ethical issues the attention they deserve.

Empirical literature review and propositions

This section deals with AI in general, the use of AI in marketing, ethics, possible implications of AI applications, a concept matrix, propositions, and a conceptual model.

Artificial intelligence in general

The terms "big data" and "AI" can summarize the fourth industrial revolution advances. Big data refers to a large volume of transaction-level data that could identify individual consumers by itself or in combination with other datasets

(Jin, 2018). AI algorithms take big data as input to understand, predict, and influence consumer behavior (Ajay, Agrawal, Gans, and Goldfarb, 2019). AI is not a specific technology, but rather an assemblage of innovations in robotics, both organic and inorganic; big data analytics and cloud computing; algorithmic development; and machine learning, sensing, imitating, and processing (Birtchnell, 2018). Different authors define AI in different ways, depending on their areas of expertise. It is a field of computer science that aims to mimic human behavior and intelligence with computer systems (Huang, and Rust, 2018; Syam, and Sharma, 2018; Maddox, Rumsfeld, and Payne, 2019). Others define it as the science of making machines do things that would require intelligence if done by men (such as face recognition or language translation) (Tasioulasa, 2019), and as programs, algorithms, systems, and machines that demonstrate intelligence (Shankar, 2018). This technology can support important marketing needs: automating business processes, gaining insight through data analysis, and engaging with customers (Davenport, and Ronanki, 2018), improve management efficiency, motivate innovations, and better match demand and supply (Jin, 2019).

Artificial intelligence in marketing management practice

AI will be the technology most adopted by marketers in the coming years (Columbus, 2019), as the greatest potential value of this technology pertains to the marketing function (Chui, Manyika, and Miremadi, 2018; Davenport, Mule, and Lucker, 2011; Parekh, 2018). The use of AI customer analytics can yield better customer insights (Ramaswamy, and Ozcan 2018), which can lead to an improvement in predicting customer requirements (Harding, and Hersh, 2018). The system can also be used to trigger desired reactions from customers (Contissa, Lagioia, Lippi, Micklitz, Pałka, Sartor, and Torroni, 2018), and thus augment salespeople capabilities (Agrawal, Gans, and Goldfarb, 2018). AI is useful for better consumer classifications, and better product design (Jin, 2018). Lastly, AI can also enhance all of the above via the use of digital advertisements (Parekh, 2018). However, through the improper use of big data analytics, the inherent and potential power of AI can also be a source of ethics violations by marketers. New technologies often alter customer behavior (e.g., Giebelhausen, Robinson, Sirianni, and Brady, 2014; Groom, Srinivasan, Bethel, Murphy, Dole, and Nass, 2011; Hoffman, and Novak, 2018; Moon, 2003). The synergy between AI and big data enhances the power of organizations, and greatly increases their dominance over consumers. By improper and unethical use of AI, they can outwit, manipulate, and induce customers into suboptimal purchases (O'Neil, 2016; Giuseppe, Lagioia, Lippi, Micklitz, Pałka, Sartor, and Torroni, 2018). Analysis of the literature on technologies revealed several recurring concerns about privacy, information security, justice, human dignity, possible technology-enabled discriminating practices (Royakkers, Timmer, Kool, and Van Est, 2018), and identity fraud (Sandhya, and Prasad, 2017). It is therefore important to understand the ethical impact of this technology (Dignum, 2018).

Management practices and ethical/unethical deployment of AI

All Human-AI interactions can give rise to ethical dilemmas (Beauchamp, and Childress, 2019). According to Cointe, Bonnet, and Boissier (2016), ethics is a normative practical philosophical discipline of how one should act towards others which encompasses three dimensions, namely: consequentialism, utilitarian, deontological dimension (social norms), and the virtue dimension (moral values). People train and provide updates for AI systems. AI algorithms, might, by design, be subject to errors that can lead to negative consequences (Keskinbor, 2019), and create possibilities for abuse (van Riemsdijk et al., 2015), fraud, and deception (Jin, 2019). Because of these possibilities, principles of non-violation of people's autonomy, ethics, and the fair distribution of risks and benefits amongst users should follow (Yu, Shen, Miao, Leung, Lesser, Yang, 2018; Luckin, 2017; Yu, Shen, Miao, Leung, Chen, Fauvel, Salmon, 2017). However, ethical rules and moral values differ by region with ethnic groups, nations, and countries holding different norms. Fortunately, all agree on honesty, truthfulness, transparency, benevolence, non-malevolence, and respect for autonomy (Strand, and Kaiser, 2016; De Jesus, 2019; Keskinbora, 2019). Presently, there are several guidelines for the ethical application of technology which address issues of confidentiality, privacy, benefits/risk assessments (Ilse van Liempt, Veronika Bilger, 2018), beneficence, non-maleficence, autonomy, justice, explicability, transparency, accountability (Valcke, and Bertels, 2019). This study addresses some of these guidelines concerning their application in marketing management. The effects of AI and the ethical/unethical deployment thereof are, to a large extent, determined by management practices.

Management is responsible for the way data gets collected, stored, and transferred (Collet, and Dillon, 2019). They determine data handling and disclosure policies (Martins, et al., 2017). Managers can, for instance, determine data protection protocols and who gains access to the data (Beersma, and Van Kleef, 2012). Possibilities, therefore, exist for the unintended use and effects on customers. Managers can, for instance, take advantage of the existence of information asymmetry and deliberately create possibilities of abuse in data collection contracts (Van Riemsdijk, Jonker, and Lesser, 2015). Organizational data management practices may heighten consumers' vulnerability worries or create real vulnerability. As an illustration, disclosure of personal information can lead to strong negative responses, and feelings of emotional betrayal (Marcus, and Davis, 2014). Breach of customers' confidence can lead to the deterioration of trust and loss of confidence (Schlosser, White, and Lloyd, 2006). Armesh, Salarzah, Yaghoob, and Heydari (2010) state that there is a significant correlation between the trustworthiness of management and the perceptions of security and privacy of information. Armesh et al., (2010) further state that trust and trustworthiness are also significantly correlated with loyalty and loyalty intention. Management actions, therefore, matter in the ethical/unethical application of AI marketing technologies. Their actions can precipitate customers' privacy concerns, perceptions of being discriminated against, perceptions of a lack of diversity, and feelings of vulnerability, after sharing their personal information.

Ethical consideration for AI marketing: Privacy of consumers (PC)

Data is the key input into AI to make predictions about individuals. The combination of AI and big data implies that firms know much about their customers (Wilson, 2018; Martin, and Murphy, 2017; Martin et al., 2017), and this is reshaping the risk in consumer privacy (Jin, 2019). The collection and usage of this data have the potential to harm individuals (Ajay, Agrawal, Gans, Goldfarb, 2019). A need, therefore, exists for the controlled access to this information (Rohringer, Budhkar, Rudzicz 2018; Almer, 2013), and the assurance that the information will be used only for the purposes owners agree to (Solove, 2004; Almer, 2013). This issue forms the crux of privacy concerns. Extant literature defines privacy in different ways. It is seen as the restricted access to personal information; data protection, defense of personal integrity, immunity from unknown undesirable access in one's identity; control of information about oneself, sustain of personal space from interferences by other people or organizations; control over an aspect of the identity one projects to the world" (Allmer, 2019). In many countries, people have privacy rights, but they do not have the time and ability to exercise those rights, and often find it overwhelming to make use of those rights (Contissa, Docter, Lagioia, Lippi, Micklitz, Palka, Sartor, Torroni, 2018). Oftentimes, they lack that control, especially over the ways organizations might use their data in the future, which might carry disastrous consequences to them. Further, people need to properly weigh the privacy risks against perceived benefits before exercising those rights (Zheng, Apthorpe, Chetty, Feamster, 2018). Privacy is a quality issue that affects customers' value perceptions (Kilburn, Kilburn, and Gates, 2014; Mininol, 2017), and shapes post-incident behavior such as word-of-mouth (Choi, Kim, and Jiang, 2016). Further, information privacy is positively related to customers' loyalty intentions (Wong, Tan, Inkgo, and Lim, 2019).

Ethical consideration for AI marketing: Discriminatory practices concerns (PD)

People should not be discriminated based on their backgrounds such as race, gender, and religion. However, AI threatens to do just that against groups within societies (Hacker, 2018) and achieves that both with human involvement (Keskinbor, 2019), and without a direct human involvement (Tschider, 2018). AI can aid citizen profiling and judgments about the probability to commit crimes or default on financial obligations (Keskinbor, 2019) and can use biographical information to over-charge for products or services (Angwin, Larson, Kirchner, & Mattu, 2017). As an illustration, some AI applications rate black people as more likely to be future criminals and as higher recidivism risks than white people (Angwin, Larson, Mattu, and Kirchner, 2016; Yu, Shen, Miao, Leung, Lesser, and Yang, 2018). AI systems can inherit hidden biases from the designer and from the data provided to train the system and may inadvertently learn to perpetuate their racial, gender, ethnic, or other biases (Brynjolfsson, and Mcafee, 2017; Keskinbor, 2019). Management actions can affect customers' concerns about discrimination possibilities.

Perceptions of any discriminatory practices (PD) by organizations are antecedents of customers' purchase intentions

(Jamaludin, Sam, Sandal, and Adam, 2016). Jamaludin et al (2016) further state that exposure to discriminatory practices leads to active consideration of alternatives. Therefore, any perceptions of discriminatory practices by organizations can severely damage loyalty intentions (Özer, and Günlük, 2010).

Ethical consideration for AI marketing: Consumer diversity concerns (CPC)

The AI system can perpetuate the ideology represented in the system's creation stage (Leavy, 2018). Humans originally create the programming that drives the way AI analyzes data (Miller, Katz, and Gans, 2018), and systems learn what they are taught (Merler, Ratha, Feris, and Smith, 2019). Consequently, the ideological outlook the AI application creators hold ultimately reflect in the system (Crrawford, 2016). The creator's biases' can be baked' right into the language and the language-usage data AI systems learn from (Caliskan, Bryson, and Narayanan, 2017). The AI can contain prejudices on gender, race, and sexual orientation with severe consequences for consumers (Daugherty, Wilson, and Chowdhury, 2019). Due to these possibilities, there should be a deliberate attempt to have sufficient balance and coverage even at the systems training stage to reflect the diversity of consumers (Merler, et al., 2019). AI applications should take into account societal values, moral and ethical considerations; weigh the respective priorities of values held by different stakeholders in various multicultural contexts (Dignum, 2018). This can go a long way towards the fair distribution of both risks and benefits of AI applications amongst the diverse population groups (Luckin, 2017; Yu et al., 2017). As shown earlier, one of the uses of AI in marketing is the accurate prediction of behavior. To fairly achieve that in today's diverse environment, a universally non-biased AI is necessary (Kamulegeya, Okello, Mark, Bwanika, et al. 2018). Lack of diversity concerns does impact intentions to purchase (Samshul, 2016). This study proposes that diversity concerns are prevalent amongst different population groups who use AI technology, both as marketers and as consumers.

Ethical consideration for AI marketing: Information security concerns (ISC)

One of the main features of AI is that its' developments lend itself to rapid diffusion and suffer the novel unresolved vulnerabilities (Shahar, et al., 2018). Its' widespread implementation, therefore, brings into sharp focus issues related to personal and informational safety and security and requires special attention to the protection of people's personal information (Trapeznikov, and Varepo, 2019). Malicious use of AI such as identity theft, blackmail, selling of information to third parties (Akkerman, 2019), could threaten digital security (Brundage, Avin, Clark, et al. 2018). The technology itself can search for security flaws in software (Fay, and Trenholm, 2019). In that way, people's information may get into the wrong hands, and there may be no way to track it back to the origin (Akkerman, 2019). Cyber-attackers can poison the data (tampering with the data used to train AI) to make them do their wishes (Fay, and Trenholm, 2019). They can also be used for spear-phishing (use of personal information gathered about an intended target to send them individually tailored messages (Fay, and Trenholm, 2019). To mitigate this risk some organizations use data anonymization (dissociation of persons with their dataset-making the data subject unidentifiable) (De Montjoye, AFarzanehfar, Hendrickx, and Rocher, 2017; Akkerman, 2019). Ojeniyi, Edward, and Abdulhamin (2019) and Hagan (2019) state that information security improves business integrity and overcome users' security fears. Information security breaches give rise to customers' feelings of vulnerability and reduce trust for any brand or organization (Chen, and Jai, 2019), and negatively impact customer loyalty intentions (Choong, Hutton, Richardson, and Rinaldo, 2017). In addition to the concerns about information privacy, lack of diversity, and possible discriminatory practices, this study proposes that customers exposed to AI also have real concerns about the security of the information they share with organizations.

The concept-matrix

Management actions can influence customers' perceptions and reactions. Literature shows that all the concerns discussed above have the potential to impact customer loyalty. A concept matrix that summarizes the above discussion is shown in Table 1 (below).

TABLE 1
CONCEPT-MATRIX

Concept	Characterization	Examples of sources
Management action	Data collection, storage, handling, disclosure, transfer, and determining who gains access to it/.	Collet, and Dillon, 2019; Beersma, and Van Kleef, 2012; Martins, et al., 2017; Van Riemsdijk, et al., 2015
Privacy	Use of personal information, control of undesirable access to personal information, and the possibility of future selling and use of this information	Allmer, 2019; Solove, 2004; Rohringer, et al., 2018; Almer, 2013
Discrimination	Biases use of biographical information to profile, make judgments, and discriminate based on gender, ethnic grouping or on race	Angwin et al., 2017; Hacker, 2018; Bryjolfsson, and Mcafee, 2017
Diversity	Biased data training without any diversity concerns, does not take multi-cultural contexts and lead to prejudices	Kamulegeya, et al., 2018; Yu, et al., 2017; Daugherty, et al., 2019; Dignum, 2018
Information security	Information protection, making information source unidentifiable to prevent threats of malicious usage	Brundage et al., 2018; De Montjoye, et al., 2017; Akkerman, 2019; Trapenikov, and Varepa, 2019
Loyalty intentions	Trust relationship characterized by high-value perceptions, that leads to intention to repeatedly purchase the same brand and positive Word of Mouth,	Amri, and Latif, 2016; Chen, and Jai, 2019,

The above discussion as summarized in the concept matrix table (Table 1) can be synthesized to generate the following propositions.

Propositions

a)   Customer perceptions of management practices have a positive impact on customer privacy

b)   Customer perception of management practices has a positive impact on the feeling of being discriminated against

c)   Consumer perception of management practices has a positive impact on diversity concerns

d)   Consumer perception of management practices has a positive impact on informational security perceptions

e)   Privacy protection has a significant positive effect on the loyalty intentions of customers.

f)   Concerns of possible discriminatory practice by marketing managers have a positive effect on customers' loyalty intentions

g)   Diversity sensitivity has a positive impact on the loyalty intentions of customers

h)   Information security perceptions have a positive impact on customers' loyalty intentions

These propositions can be summarized in the form of a model as shown in Figure 1.

CONTRIBUTION OF THE STUDY TO ACADEMIC AND MANAGEMENT PRACTICE

As a market-facing technology, AI stands to benefit from any attempt to improve its' image and its' usefulness in the marketplace. This can reduce customers' anxiety and improve their early adoption (Chuawatcharin, and Gerdsri, 2019). This conceptual paper offers a notable contribution to the emerging research on the ethical application of AI technologies. It addresses the issue of ethical deployment of the novel AI technology in marketing management, the area largely ignored by previous studies. It integrates three theories with empirical literature to explain how managers can deal with the ethical use of the new technology, whose implications are not yet fully known. For academics, this article provides another approach to dealing with the integration of new technology and balancing it with concerns of ethical practice. It extends the understanding of how issues of privacy, information security, discriminatory practices,

FIGURE 1
PROPOSED ETHICS MODEL
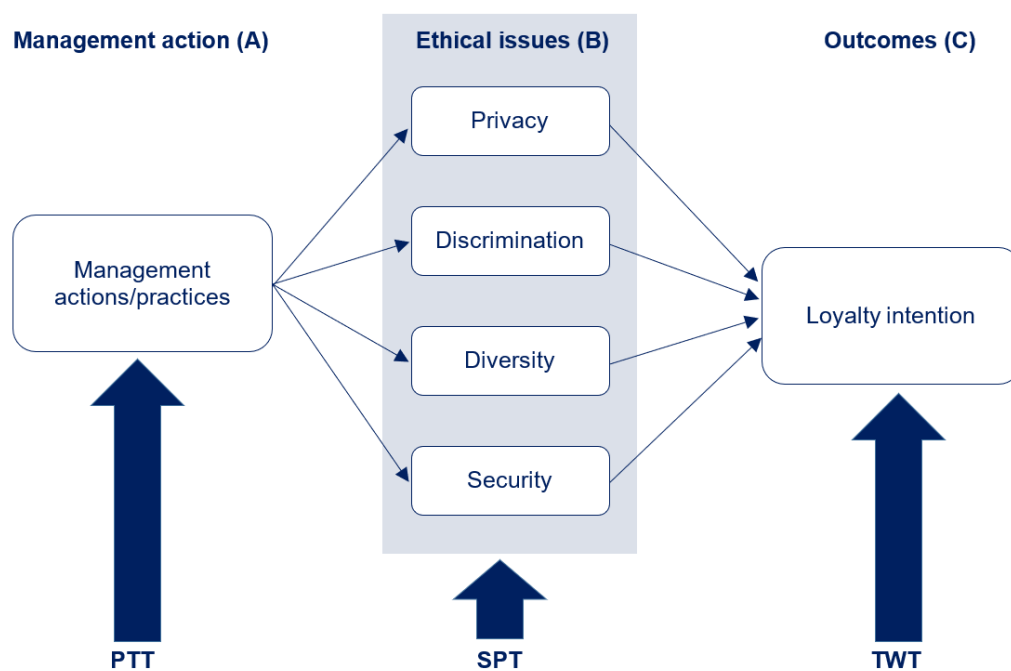
and diversity concerns can be addressed by future researchers. The conceptual model proposed can serve as a springboard for a further empirical study to deliver a generalizable research framework. From this study, there is potential in applying current findings to other company functional areas. For management practitioners, it has practical implications for organizations that contemplate introducing any other fourth industrial revolution (4IR) technology, which can raise issues similar to AI. It will sensitize managers to these concerns and allow companies to explore ways of mitigating the negative consequences associated with the use of any novel technology. Lastly, the study also offers assistance to information policy management by highlighting proper ways of information collection, information integration, information sharing and preservation, and how to strengthen privacy and information security in ways that respect human rights and freedoms.

LIMITATIONS OF THE STUDY

The study contains limitations that also provide opportunities for future research. As a product of the review of literature, it carries with it all the limitations that are inherent in the articles accessed. Further, the choice of grounding theories limits the discussion to those variables extracted from them. As a conceptual study, the article also suffers from a lack of empirical testing of the proposed model (Mgiba, 2019). When generalizing the proposals, future researchers need to take into account that the proposed framework has not been subjected to empirical testing. The author hopes, however, that the article opens up more areas for consideration whenever ethical concerns arise with the introduction of new technology.

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