



UHASSELT

KNOWLEDGE IN ACTION

Faculty of Business Economics

Master of Management

Master's thesis

The algorithm sells itself: how companies market their artificial intelligence solutions

Ebrahim Navab

Thesis presented in fulfillment of the requirements for the degree of Master of Management, specialization International Marketing Strategy

SUPERVISOR :

Prof. dr. Patrizia ZANONI



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I. Preface

I would like to present to you my master thesis, which represents the end of my journey at Hasselt University. Over the last two years, I've become fascinated by information, new insights, and experiences related to organizational studies, which I obtained from UHasselt's knowledgeable, experienced, and valuable instructors. Furthermore, in addition to knowledge enhancement, I had the opportunity to improve my skill sets in research, teamwork, communication, presentation, and, finally, commitment to my individual goals.

I would like to thank everyone who helped me write this thesis. Their assistance is greatly appreciated, as the road to accomplishing this mission was not always easy. First, I would like to thank Prof. Dr. Patrizia Zanoni, my academic supervisor, for inspiring me to challenge myself through this research study. Second, my gratitude goes to Drs. Jannes Zwaenepoel, my co-supervisor, whose valuable feedback has helped me throughout the entire process of developing the thesis and completing it. Furthermore, I would like to thank the respondents who took part in this research for providing me with worthwhile information and new insights into the research topic. I will never forget some of the fascinating conversations I have had with them.

My appreciation goes to my beloved wife, Zahra Besharati, for her continuous encouragement, interest, and motivation in completing this thesis in a way that I could not have done without her.

Finally, I would like to convey my gratitude to Hasselt University for providing an appealing academic environment where students can improve their knowledge and skillsets and be proud of being a member of the Hasselt University family.

I hope the study's findings will be useful to those who read it.

Ebrahim Navab

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i. Summary

1. Research purpose

The algorithm as a form of AI is transforming numerous business sectors such as manufacturing, commerce, transportation, banking, health care, law, advertising, insurance, entertainment, and education in the brand business sector. The projected AI revolution will accelerate technological development, creating a wealth of growth and profit prospects also new challenges and competition. While few researchers have written on how organizations and AI solution providers may market their algorithms since there are negative perceptions regarding algorithms. The current study aims to fill that gap by looking at how firms that offer AI-based, machine learning algorithm solutions promote their products and services. This study will address the following research questions in order to carry out this investigation:

- i. What are the narratives surrounding algorithms?
- ii. What methods do companies use to market these algorithmic solutions?

2. Research methodology

An exploratory study was conducted to answer the research topic, in which qualitative data was obtained through interviews utilizing a semi-structured interview guide. An exploratory study was chosen because it focuses on an area with relatively little previous research.

3. Findings

The findings regarding the first research question revealed that customer hesitation in employing algorithms stems from different reasons: Some people refer to algorithms as "black boxes." besides, there is a possibility of Manipulation, Privacy Concern, bias, unfairness, and uncertainty regarding algorithms' functionality. And the Risk of robotization and future unemployment.

Regarding the second research question, We explored that customer reference marketing, case studies, and presenting algorithms functionality are all applicable approaches to respond to customers' uncertainty. the finding showed that firms must tailor the sales pitch to different buyers' profiles: C-levels / technical profiles. Furthermore, they must link algorithms to concrete customers' needs. They capture customer needs and motivations for purchasing decisions in their marketing activities. firms can benefit from prior knowledge of the specific industry in which they are experts and are active.

4. Value of the study

Due to the advancement in the digitalization of Machine Learning algorithms, we have witnessed the high potential of these innovative solutions that motivate businesses to take advantage of ML algorithms in their business process. As a result, the market rivalry will increase, and marketing strategies to sell these products or services will become increasingly important. Previous research has looked into several facts about these innovative products and services. However, fewer scholars disclosed how firms can market their algorithms despite the fact that there are negative perceptions in the marketplace regarding the algorithms. This study effort contributes to a better understanding

of the customer concerns about the algorithms and the marketing strategies that are applicable to market them. The findings of this study will benefit entrepreneurs, marketers, salespeople, business managers, and others involved in marketing and sales processes.

5. Research limitations, Research implications

Because all of the interviewees were on the provider side of the algorithms, their perceptions from the perspective of their clients may have been biased. They may also accidentally misunderstand the question and give an incorrect answer. I have not interviewed with the customers therefore this might involve omitting essential questions, prejudice, inappropriate, insufficient, or needless questioning.

This study aims to assist companies that provide algorithms in understanding the businesses' concerns regarding algorithms and in knowing various approaches to respond to those concerns. The research findings examined in this study will aid companies in designing and implementing their marketing strategies in an uncertain market of algorithms.

1. INTRODUCTION

The past decade has seen significant advancements in computer science and Machine learning; a method of artificial intelligence is enabling computers to become an ever more powerful and valuable complement to human capabilities (Atkinson, 2016). through higher computing power and the possibility to process a large amount of data (Krauss, 2019). The speed of technological change from the expected AI revolution will open enormous opportunities for growth and profitability (Makridakis, The forthcoming Artificial Intelligence (AI) revolution: Its impact on society and firms, 2017) also new challenges and competition from new garage-type start-ups. While fewer scholars contribute to how organizations and AI solution providers can market their algorithms, The present study attempts to address this gap by exploring how companies market their algorithmic products and services. As a result, this research aims to discover first what are the negative perceptions of people and customers regarding algorithmic technologies. and second, investigate how do firms attempt to convince customers to buy their algorithms.

With the twenty-first century, more aspects of our lives are being mediated, augmented, produced, and regulated by software-enabled technologies that are fundamentally composed of algorithms (Kitchin, 2014). Rise of big data and advanced analytics arise the historical question for calculating with algorithmic decision procedures. Indeed, increase in volume, variety, velocity, and veracity of data elements demand new kinds of calculation and new kinds of human and machine interaction to make these possible (Amoore, 2015) . This argument expresses the type of embedded nature of algorithms and their potential role in social processes (Beer, 2017). We can see algorithmic processes go through without being informed about them. The algorithmic processes such as sorting, filtering, searching, prioritizing, recommending or deciding shape our social and everyday life (Beer, 2017). It is expected that algorithms carry on more responsibilities in our lives . Although it is used in thousands of companies worldwide, the most significant opportunities are still uncovered due to the uncertainty and concerns surrounding the algorithms. Researchers expect that every other industry will transform its core processes and businesses to machine learning algorithms in the future decades (McAfee, 2017). So, management approach, implementation, and business vision could be a bottleneck for this transformation (McAfee, 2017) . In marketing content, many studies also discussed the impact of algorithms in the marketing field that giving the relationship between two different scientific approaches to marketing science and computer science. All these scholars studied how marketing could benefit from algorithm capture, analyzing categorizing, and predicting customers' needs (Davenport, 2020). However, fewer scholars discussed on what are the obstacles in front of algorithms and how firms can attempt to market their offering despite those obstacles.

Before machine learning, computer scientists had to program a wide array of functions into a system to mimic intelligence. This capability has emerged for many reasons, including better hardware, faster processors and sufficient storage, more data, and better algorithms (Castro, 2016). For example, Google detects how to automatically translate content into different

languages based on translated documents found online. Facebook determines how to identify people in photos based on its database of known users (Castro, 2016). Thus, most computer users employ these ingenious ideas every day, often without even realizing it! One of the significant applications of the algorithms could be found in the COVID-19 crisis. The rapid spread of the Coronavirus indicates that it is necessary to develop robust mathematical basis algorithms for tracking its spread and automation of the tracking tools for online dynamic decision making (Tuli, 2020). The entire world endeavors innovative solutions to develop, manage, and analyze big data on infected subjects' growing network, patient details, their community movements, and integrate with clinical trials and pharmaceutical, genomics, and public health data (Tuli, 2020). Despite the algorithms' merits, the critics who fear of technology warn policymakers about the drawbacks of Artificial intelligence development, such as mass unemployment, abuse from "algorithmic bias," the end of privacy, and atrophying of human agency, and even the destruction of humanity. These frightening concerns are critical obstacles that cause mistrust to algorithms and hesitation for the firms to employ algorithms in their business process (Atkinson, 2016).

By setting aside criticisms, the digital revolution utilized computers to substitute, supplement and amplify the routine mental tasks performed by humans, improving productivity. Technological advancement will continue to critical factor for succeeding in the future and will depend significantly on people's decisions and actions to implement them. Thus, Firms must take the negative perceptions and narratives regarding the algorithms into consideration for their marketing purposes in order to be able to convince the prospects to purchase their offerings (Makridakis, The forthcoming Artificial Intelligence (AI) revolution: Its impact on society and firms, 2017).

It has been discussed a lot in scholars that automation-oriented applications such as robotics and algorithms, which are the forms of artificial intelligence, significantly impact the invention method that can directly influence both the production and the characteristics of a wide range of products and services, with important implications for productivity, employment, and competition (Cockburn, 2018). But from the marketing perspective, a new technological innovation is not enough to make it in the marketplace and firms must consider the barriers in the market place to respond for technology adaption. However, the high-tech industry has a market full of companies that thought innovation could win the world, they failed because they did not have the marketing ability to connect their innovative offer with the markets' actual needs (Viardot, 2004). According to Mario Mazzola, Cisco's chief development officer: "Innovation is more than just a new idea; it is about taking a new idea and developing it into customer value and positive business impact (Viardot, 2004)." There are many people who are afraid of robotics, AI, and technology, lack understanding of how these cutting-edge goods operate, suffer from anxiety-related mental disorders, and worry about losing their jobs and facing financial instability (McClure, 2018). The claim indicates concern about the progress ingrained in technological advancements is reflected in fears of robots, artificial intelligence (AI), and new technologies that are not fully understood (McClure, 2018). Consequently, conflicting stories about the promises and concerns that technology may bring exist in the

narratives of many people (McClure, 2018). Robots and computers may soon surpass the millions of years of evolutionary development that gave rise to our vision and intelligence (Dobrescu, 2018). Robotics research institutes work to uncover potential dangers, from the possibility of widespread unemployment to the use of autonomous robots by organizations or criminal governments, according to a United Nations Inter-regional Crime and Justice Research Institute warns (Dobrescu, 2018). The World Economic Forum (WEF) issued a warning in its most recent report for 2017 that economies throughout the world are still susceptible to fresh shocks and unprepared for the upcoming wave of "automation and robotization" (Dobrescu, 2018). Hence, among the success determinants, the degree of market orientation, the efficient functioning of marketing departments, and the need to monitor the technological environment's evolution are the key (Abeele, 299--308). Therefore, marketing plays a fundamental role in this process by distinguishing the market's fears and hesitation and assuring that the company's products respond precisely to these narratives (Viardot, 2004).

Thus, despite the fact that some narratives and discourses discuss technological fear, this study tries to fill the gap in how businesses might market their algorithms. This study's major questions are first, What are people's and consumers' unfavorable impressions of algorithmic technologies? Second, look into the marketing strategies used by businesses to get buyers to buy their algorithms. An exploratory study was conducted in which business individuals involved in the marketing and sales of algorithmic products and services were interviewed to gather qualitative data. Second, more focused research studies have looked into narratives about algorithms and practical marketing tactics for these goods and services.

2. LITERATURE REVIEW

2.1 What do algorithms bring?

2.1.1 What does algorithm do?

Much research in management and economics indicates the impact of algorithms in terms of economic value derived through greater efficiency, revenue, and innovation. Algorithms can improve allocation and coordination in complex markets and facilitate firms' efficiency in decision-making by inspiring organizational learning (Kellogg, 2020). They can significantly reduce costs and increase turnover and profit through automation and creating new products and services (Kitchin, 2014). Algorithms such as recommendations, reviews, or search engine results provide almost free of charge services, that may direct the demand towards specific goods (Colangelo, 2019). Firms can also use that internally to improve their decision-making processes and offer personalized products and services to the benefit of consumers (Colangelo, 2019). These 'algorithm machines' undertake extensive and complex tasks that would be impossible by human or analog machines. They can perform millions of operations per second; minimize human error and bias while performing a task. Machine learning algorithms address the question of how to build computers that improve automatically through experience. It is one of today's most rapidly growing technical fields, lying at the interaction of computer science and statistics, which is the core of artificial intelligence and data science. Recent progress in machine learning has been driven both by developing new learning algorithms and theory and the ongoing explosion in the availability of online data and low-cost computation. The adoption of data-intensive machine-learning methods can be found throughout science, technology, and commerce, leading to more evidence-based decision-making across many walks of life, including health care, manufacturing, education, financial modeling, policing, and marketing (Jordan, 2015).

As previously stated, an increasing number of mundane tasks, as well as work previously performed by humans or analog machines, are being subjected to computation; that is, being translated into pseudo-code and sets of algorithms, which are then built into software that mediates those tasks. According to the theory, "almost everything we do, from driving a car to trading stocks to choosing a marriage, can be broken down into a string of binary judgments based on binary information." That is, all actions have logic, and all activities and systems can be disassembled into component parts and reassembled as a series of interwoven algorithms that compute and accomplish a task using relevant data (Kitchin, 2014).

From a computational and programming perspective, an algorithm consists of two parts; one "Logic" part clarifies the solution (what should be done). It focuses on the problem domain and specifies abstract formulation and expression of a solution. The second part is "Control," followed by a control component, which is the problem-solving system and the codes for processing the logic under different scenarios (how it should be done). Coding thus consists of two fundamental translation difficulties linked to producing algorithms. The first is translating a task or problem into a structured formula with an appropriate ruleset. The second is translating these rules into source code that will perform the task or solve the problem when compiled

(Kitchin, 2014). So if the problem or solution definition is wrongly translated, the outcome would be uncertain and not precise (Kitchin, 2014). Therefore, designing an algorithm is not just a technical aspect. In the real-world context, the efficiency of applying an algorithm in practice to perform a specific task is considered a social and rational concern (Kitchin, 2014).

2.1.2. Algorithm promises

Algorithms as a form of artificial intelligence promises to improve existing goods and services by enabling the automation of many tasks to enhance the efficiency of production (Cockburn, 2018). It may help solve complex problems and save computation time. It may also facilitate the learning and reproduction of technologies across firms, sectors, and activities and increase the scope for knowledge externalities for business-stealing (Aghion, 2017). This idea indicates the algorithms' power which is the policy of algorithms in sorting, ordering, and prediction. This argument emphasizes the power of algorithms to make hidden areas visible and usable (Beer, 2017). A large amount of raw data without algorithms only takes up space, is expensive to maintain, and provides an attraction for hackers. What makes data valuable is algorithms. We are likely familiar with these types of applications, such as Netflix's recommendation algorithm, which analyzes users' viewing histories, stated preferences, and other factors to suggest new titles that they might like (Castro, 2016). This relates to the algorithm's capacity to create, maintain, or bond patterns and perceptions of abnormality. This indicates how algorithms form what is found or how algorithms prioritize and make things visible. This explores how prediction algorithms feed people, shape what they know, whom they know, what people notice, and what they experience. The power of algorithms here relevant to their ability to make choices, classify, sort, order, and rank. They can decide what matters and what should be most visible. As the algorithms can form how we understand the world and make the world through their execution as software, they are incredibly performative as they cause things to happen (Kitchin, 2014). The last discussion regarding algorithms' power is that the algorithms' particular value could produce "truth" in two specific ways, first, through the material interventions that algorithms make and second through the algorithm's operational system. It means through the results; it maintains or produces certain truths. Algorithms might be understood to create truths around things like riskiness, taste, choice, lifestyle, health, and so on. Hence this argument indicates that algorithms are reliable due to their precision and objectivity and that algorithms are trustworthy systems acting beyond human capacity (Beer, 2017).

Eventually, perhaps AI will exceed human creativity in inventing new ideas and new technologies, substituting for even the most skilled researchers (Aghion, 2017). In extreme versions, some observers have argued that AI can become rapidly self-improving, producing "singularities" that feature unbounded machine intelligence or unbounded economic growth infinite time (Aghion, 2017). Like other innovations, AI will likely raise average incomes and improve well-being, but it may also disrupt labor markets, raise inequality, and drive non-inclusive growth (Goldfarb, 2018). Apart from AI's merits, recent public concern about the disadvantageous employment effects of new workplace. Over the last two centuries, scholars, political leaders, and social activists have issued periodic warnings that advancing automation

threatened to make labor unnecessary and skills obsolete. The best-known early example is the Luddite movement of the early 19th century. A group of English textile artisans protested textile production automation by seeking to destroy some of the machines (Goldfarb, 2018). The other major drawback is privacy concerns. Artificial intelligence can use an individual's data to make predictions about what they might desire, how they can be influenced by or do (Tucker, 2018). Therefore, several countries are currently negotiating international agreements that will necessitate superior governments' ability to regulate AI, such as NAFTA and TPP 11. Furthermore, governments around the world are freely spending public funds on new AI clusters designed to shift international comparative advantage towards their favored regions, including the Vector Institute in Toronto and the Tsinghua-Baidu deep learning lab around Beijing (Aghion, 2017). The European Union also adopted comprehensive regulations for collecting, storage, and using personal information. The General Data Protection Regulation (GDPR) in April 2016, giving citizens the right to receive an explanation for algorithmic decisions highlights the pressing importance of human interpretability in algorithm design (Goodman, 2017).

2.1.3. What Narratives surrounding algorithms?

Although tremendous scholarly interest in algorithms, we still know much less about firms attitudes and awareness towards the algorithms. Most companies feel that they are invaded by a growing dependency on automated systems taking human freedom and transparency out of the process. It is not possible to recognize how the systems are making their decisions. Is it based on gender? Age? ZIP code? It is hard to disclose their formulas as it has been mentioned, algorithms are somehow a black boxes their formulas algorithm-makers (Metz, 2020). Many of the most important algorithms that people come across on a daily basis and that (re)shape how they do tasks or get services are developed in closed environments with their source code locked behind impenetrable executable files. They're often 'black boxed,' heterogeneous, and reliant on hundreds of other algorithms, as well as embedded in complex socio-technical assemblages; ontogenetic and performative; and 'out of control' in their behavior (Kitchin, 2014). Moreover, for some specific subjects like medical treatment or people's taste for choosing foods, mostly they rely on human advice. People sometimes become against algorithmic advisors than human advisors after observing an error in the algorithm's functionality (Dietvorst, 2015). They also worry about the possibility of bias concerning race, gender, age, and geography of the people (Metz, 2020). These negative impressions are referred to as algorithm aversion (Logg, 2019). This debate suggest some initiatives and checklists like FATML (Fairness, Accountability, and Transparency in Machine Learning) to address responsibility, accountability, accuracy, suitability, and fairness of any algorithms to demonstrate the trustworthiness of algorithms (Spiegelhalter, 2020).

This argument shows that Algorithms are not purely a set of abstract and mathematical codes. Different dimensions such as political, social and ideological aspects involve informing and shaping the instruction of algorithms (Kitchin, 2014). Approaching algorithms like a line of codes or objects or further as a social phenomenon will inspire to explore the power of algorithm as a decision-making process without (or with little) human involvement which is at the heart of

discussions about algorithms' potential power (Beer, 2017). Algorithms as a decision-maker process or object make choices how to provide, analyze, and perform the mathematical computation to give and shape a choice. However, the human contribution to design the algorithm is notable, and whose designs reveal how the decision-making process forms and desire results are modeled into the system(Beer, 2017). This argument poses the question about the term responsibility. what is someone responsible for when it comes to algorithmic decisions? Do the firms are responsible for the algorithms they develop, sell, and use (Martin, 2019)?

2.2 what should firms consider to convince customers for buying algorithms

Marketing is an increasingly demanding function in industrial high-technology companies due to the expanding complexity and uncertainty faced by the customers. Several factors such as rising technological complexity, high knowledge strength, and systemic quality characterize the products of high-tech industries such as biotechnics, industrial electronics, and telecommunication systems. These characteristics encompass a high level of both technological and market uncertainty. In the case of algorithms as a form AI, media and popular fiction frequently portray terrifying dystopian futures when AI systems rule the planet and focus primarily on combat (Dignum, 2018). To prevent dystopian futures from becoming a reality, systems must be established to build respect, trust, and recognition of human and civil rights. In recent years, one of the most important and influential research fields has been the necessity for ethical considerations in developing intelligent interactive systems (Dignum, 2018). Perhaps the most crucial factor to consider as the capacity for autonomous decision-making increases is the requirement to reconsider responsibility. AI systems are objects created by people to achieve specific goals, regardless of their amount of autonomy, social awareness, or learning capacity. At all stages of development (analysis, design, building, deployment, and evaluation), theories, methods, and algorithms are required to incorporate societal, legal, and moral values into technological advances in AI (Dignum, 2018). As a result, marketing tasks in high-technology companies are becoming very knowledge-intensive. This development in knowledge intensity means that both supplier and customer companies are increasingly taking on professional organizations' roles, staffed by highly qualified and firms must be able to respond to customers concerns.

Furthermore, there are four vital distinctive characteristics of High tech services: intangibility, inseparability, variability, and perishability (Jobber, 2006) that need to be considered in marketing of high tech products and services.

Intangibility characteristics of an algorithm like the characteristics of service may cause a customer to find difficulty evaluating a service before purchase (Jobber, 2006). For example, it is virtually impossible to judge how enjoyable a holiday will be before taking it because it is impossible to judge before consumption. while through physical product, customers have an opportunity to pick up a product like a smartphone. Moreover, examine how it looks and feels (Jobber, 2006). The challenge for the service provider is to use tangible cues to service quality

in order to build trust for the customers. For example, a holiday firm may show pictures of the holiday destination, display testimonials from satisfied holidaymakers, and provide details in a brochure of the available entertainment (Jobber, 2006). Regarding the algorithms it is also difficult for the customer to evaluate the functionality of the algorithms. For instance, the demand to implement speech recognition, translation, object recognition, and face recognition into applications has increased due to improved pattern recognition accuracy. However, as automated inferences are frequently carried out in the face of ambiguity and can result in false positives and negatives, AI-infused systems may indicate unpredictable behaviors that can be upsetting, confusing, costly, and even dangerous. While specific applications of artificial intelligence (AI) are made clear and interactive, other developments are used invisibly in proactive services that act on behalf of consumers, such as automatically filtering content based on implied relevance or importance. While these personalization attempts may be enjoyable when in line with users' preferences, automated filtering and routing can lead to expensive information concealing and activities contrary to users' intentions (Amershi, 2019). In AI, a solution through an algorithm also could be applicable using tangible elements to coupling digital information to everyday physical objects and environments. This approach could be seen in Augmented Reality cases, coupling an AR visual display to a tangible physical interface that each virtual object is registered to a physical object (Billinghurst, 2008). *Inseparability* means that services have simultaneous production and consumption. While a physical good is produced, stored, and distributed through intermediaries before consumption. Thus, the service provider is an integral part of the satisfaction gained by the consumer. How service providers conduct, themselves may have a crucial bearing on repeat business over and above the technical efficiency of the service task. Consequently, in one hand, the selection, training and rewarding of staff who are the front-line service people is of fundamental importance in the achievement of high standards of service quality. On the other hand firm should educate the clients to improve the knowledge of their clients regarding their products and services (Jobber, 2006). This is a problem since ordinary users frequently ask for AI explanations. These users may not have a deep technical understanding of AI, but they do have preconceived notions about what makes for good justifications for actions made in a known field. As an instance, a model that predicts a patient has the flu can provide an explanation such, "The symptoms of sneeze and headache are contributing to this prediction." It's debatable, nevertheless, if such an explanation meets a doctor's need to comprehend AI or significantly improves a clinical decision-support tool (Liao, 2020). This notion of the inseparability of production and consumption means that both internal marketing and relationship marketing are important in services. In such circumstances, managing buyer–seller interaction is central to effective marketing and can be fulfilled only in a relationship with the customer (Jobber, 2006). In terms of the customer–supplier interaction, intensive personal interaction is necessary for carrying out business. Therefore, cooperation between functional experts within both the supplier and customer organizations and between these organizations is crucial (Jobber, 2006).

The other service characteristics of high tech products and services is *variability*, which makes standardization difficult. Quality variations among physical products may be subject to tighter controls through centralized production, automation, and quality checking before dispatch.

Services, however, are often conducted at multiple locations, by people who may vary in their attitudes and need. Therefore, it would be difficult to meet the standard degree of the quality while providing services (Jobber, 2006). Comparing the algorithms, private corporations are encouraged to invest responsibly in developing their products in most industries. These consist of regulations, market incentives, and laws governing liability. It is contended that AI companies have the same motivations to develop AI systems ethically despite their apparent weakness compared to other industries. Competition among AI businesses may reduce each company's incentives to develop ethically by boosting incentives to build more quickly. Responsible AI development might therefore be viewed as an issue requiring collective effort if AI companies desire to make AI systems with risk levels closer to socially desirable. With, for example, biases learned from massive datasets distorting decisions in credit markets and the criminal justice system, facial recognition technologies upsetting expectations of privacy and autonomy, and auto-pilot functions in some cars causing new types of driving risk, dangerous scenarios associated with carelessly developing AI have already surfaced. (Askill, 2019).

The fourth characteristic of services is their *perishability* because consumption cannot be stored for the future. If a physical good is not sold; it can be stored for sale later. Therefore, it is essential to match supply and demand for services (Jobber, 2006). For example, Algorithms likewise SaaS (Software as service) solutions need for frequent updates. It provides service delivery by enabling on-demand network access to a shared pool of configurable platforms such as unified software and hardware, servers, storage, applications, and services, all of which can run on time and release with minimal management effort or service provider interaction (Dash, 2016). Thus, marketing must be as agile as keeping up with the pace of updates. The company should define a marketing framework to frequently update websites, announcements, sales presentations, and other promotional materials (Michelsonas, 2012) in order to engage the customers with latest update. According to scholars, this marketing tactic is an interactive process that builds, maintains, and develops relationships that align with the participants' goals, which is known as relationship marketing. This method is crucial for algorithms providers to identify profitable relationships and evaluate potential future customer bases (Tyrväinen, 2011). Embedded algorithm is typically created as a professional service or in-house for a single company's tailored enterprise systems. Because the algorithm to be delivered does not yet exist, trust is essential in a professional service business (Tyrväinen, 2011). Relationship management, seminars, fairs, and other forms of personal communication are relevant marketing means for software service businesses, as software product businesses rely more on direct sales (Tyrväinen, 2011). In value co-creation based on the service-dominant logic, algorithms service firms can also co-produce a service offering for customers. Instead, software companies rely on more wholesale and resale organizations (Tyrväinen, 2011). Admittedly, for AI solution, customers actively collaborate in operating and co-creating the service experience.

The characteristics of high-tech products and services stated above embody significant degree of market uncertainty. In addition, the terrifying stories about algorithms make it harder to persuade customers to buy the algorithms. To address these issues in the marketing process and persuade potential clients to purchase their products, this study has attempted to analyze

the unfavorable perceptions that customers may have after that express marketing strategy for the firms to convince their customers to buy their offerings.

3.METHODOLOGICAL FRAMEWORK

3.1. Research context

Exploratory research investigates an empirical phenomenon that has not yet been extensively researched to establish a foundation for future scientific research (Pandey, 2021). To answer the research question, an exploratory study was done in which qualitative data was collected with interviews using a semi-structured interview guide. Qualitative research may provide advantages such as: assisting the researcher in comprehending the nature and complexity of

Sector	Candidate position	ID	Sex	Duration
Molecular dignostics	North-West EU accountmanager	C1	F	72 min
	Global account manager	C2	M	55 min
	Marketing manager	C3	F	75 min
Health care(eye disease)	CEO	C4	M	56 min
	CTO	C5	M	50 min
Human resourse management	Marketing manager	C6	F	85 min
Digital transformation consulting	system integrator consultant	C7	M	58 min
	Sales and marketing employee	C8	M	68 min
	Technical manager	C9	M	74 min
	Sale employee	C10	M	65 min
	Business develoment manager	C11	M	58 min
Telecom	Innovation manager	C12	M	55 min
R&D	Business develoment manager	C13	M	67 min
	Technical project leader	C14	M	63 min

Table 3-1: Interview sample design

the phenomenon under consideration, permitting research in relatively new areas, and assisting the exploration of phenomena in their natural setting (Basias, 2018). Qualitative techniques may be used to explore crucial elements and phases across disciplines and in research fields such as economics, business, strategic management, and technology. For example, to uncover, comprehend, and analyze essential strategic management components and stages in a relatively new research topic that combines features from other study topics (Basias, 2018). Given the importance of strategic management of digital transformation as a study topic, an interpretative qualitative research method appears to be an effective way to examine and assess the current research topic (Basias, 2018).

3.2. Methodology approach

The research began with a literature study and Semi-structured interviews, during which information was gathered in the form of primary data to understand two subject areas; narratives surrounding AI and algorithms and marketing strategies Created by the firms to market their AI-based solutions. Certain issues, such as respondent feelings about their customer perceptions about algorithms, pros and cons of AI algorithms, unique realities in specific sectors, marketing experiments, and concerns about giving AI-based solutions, were discussed in practically every interview. The sample population was selected based on their position in an organization.

It was attempted to select those who are active in business-related functions such as marketers, business development managers, account managers, project leaders, CEOs, and consultants who are involved in the marketing and sales aspects of the business. All candidates were chosen using social media via LinkedIn. I reached them out by sending brief introduction regarding the study purposes and tried to approach them to participate in the interviews. In total, 14 interviews with the sample population were conducted in various sectors such as health care, human resource management, telecommunication, biotechnology, and digital transformation consulting (table 3-1)

This study was divided into three distinct phases. There was a pre-study phase, followed by an interview-based data collection phase, and finally, an analysis phase to process the data and answer the research question, which was to capture the social power of algorithms and how they take decision-making positions in our daily lives, how people think of them, what are the pros and cons of algorithms during the decision-making process and how companies go about marketing and persuading their target customers to buy these algorithms. The semi-structured in-depth interviews addressed topics highlighted by the interviewee during the interview. These consisted of a series of open-ended questions about the topics we would like to discuss. The open-ended character of the questions aids researchers to explore participant thoughts, feelings and beliefs about a particular topic. Furthermore, it allows both the interviewer and the interviewee to discuss the topic in more detail (Basias & Pollalis, 2018). The interviews were also recorded and transcribed with the consent of the participants. These transcripts were used to examine the data gathered. Semi-structured interviews were conducted in the second phase to elicit opinions on the public's perceptions of algorithms and marketing tactics for AI-based products and services. The goal of the interviews was to learn first how respondents who offer algorithmic AI solutions to their markets think about it and how they handle marketing efforts to sell their products and services. The third phase involved data analysis, which entailed processing the acquired data to produce an answer to the study question.

3.3. Data collection

Due to the COVID-19 pandemic during the study, most individuals were working remotely and from home. Face-to-face interviews were thus not possible and the interviews have been done through google meet and this study was conducted online. However, this way of communication than face-to-face could not give a firmer foundation for the development of a positive relationship between the interviewer and the participant. Face-to-face interviews aids in the creation of an environment in which the participant is open and the interviewer may consider the participant's nonverbal communication (Ritchie, 2013). However, the engagement was comparable to the onsite equivalent in terms of nonverbal and social indicators while using the web camera (Janghorban, 2014).

Name	Description	Interview fileFiles	Frequency
AI-based product and service	Product/service offering with specific characteristics	14	66
Benefits of AI	What sort of benefits generate through AI-based solution	14	70
Customer need	What are the values expected by the target customers	12	70
Channels	Reaching to target customers through channels	12	34
Concern	What concerns marketeers have while offering AI-based solution	10	52
Creating content	What contents do marketeers create to present product/service	12	32
Customer problem before using AI	What problems customers have currently	10	22
Differences marketing approach	What are the differences marketing AI-based products/services comparing other commodities	14	26
Drawback	Disadvantages of AI-based products/services	10	10
Educating customers	Educating customers for awareness about the AI	12	34
Ethic	Ethical subjects related to AI-based solutions	8	34
Marketer Knowledge About AI	Do marketeers need to have relevant knowledge about AI?	14	34
Marketing challenge	What are the marketing challenges while marketing AI-based products/services	8	40
Marketing function roles	Marketing functions role within the organization	10	24
Marketing message	What message marketeers try to convey to target market?	14	22
Marketing strategy	What strategies do marketeer use to market AI? online/offline marketing? Marketing campaigns,...	14	118
Narratives	What people think about AI	14	56
R&D role	How R&D cooperate with marketing	4	6
Respondent Feeling about AI	What are the respondents feeling about AI as a human being	14	58
STP	Segmentation, targeting, positioning	14	52
Target audience	Who are the target audience and contact points during marketing activities?	12	46

Table 3-2: Schematic codes

Apart from data collected through the interviews, existing academic literatures also were considered during data collection.

Because this research aims to discover fundamental beliefs, concepts, and conventions, a more open approach and semi-structured was chosen for these interviews. Participants in this study were encouraged to address issues of their choice and lend additional meaning to the concepts covered throughout the interview by using a less organized approach (Ritchie, 2013). In addition, an interview guide was used in these interviews to highlight the critical concerns and topics raised in theory to be discussed with the participants. Therefore a semi-structured questionnaire was created according to the criteria of the research questions. The interviews started with general and easier questions for convenience of the participants. After that the interviews continued with deeper question to dig into the major concepts. The use of a topic guide additionally improved the research's measurement validity. The items on the interview guide were not evenly discussed in each interview due to the exploratory, flexible nature of the research, resulting in a changeable priority during each interview dependent on the respondent's interaction with the core content of the research. However, the interview guide during these interviews was the same for the participants. All interviews were saved as audio files, transcribed and anonymized to then be coded during the data analysis.

3.4. Data analysis

The audio recordings had to be transcribed before the interviews could be analyzed and labeled, organized, and interpreted data regarding a set of 'codes,' 'concepts,' 'categories,' or 'themes.' (Ritchie, 2013). The data were then coded. The idea is to uncover interesting topics and/or concerns that recur across the data and are related to the research question. The procedure of tying categories to their subcategories and linking categories at the level of attributes and dimensions was completed once the coding scheme was defined. Thematic coding (Table 3-2),

also known as thematic analysis, is a type of qualitative data analysis that identifies themes in text by analyzing word meaning and sentence structure.

The information acquired during the interviews revealed customers' concern about the algorithms and marketing strategies they used to respond their clients concerns. Moreover, during the interviews, extra information about segmentation and targeting approaches, marketing channels, content creation, and marketing challenges to offer their product and service was gathered.

Step 1	Step 2	Step 3
Convincing customer to buy algorithm	Sales narratives	Discovering the narratives and responding to them
	Customer concern	Algorithm is black box
		Possibility of manipulation
		Privacy concern
		Possibility of bias
		Possibility of algorithm malfunction
	Marketing strategies	Risk of future unemployment
		Customer reference marketing
		Case studies
		Presenting algorithm functionality
		Tailoring marketing communication with different customer profile
		Linking the algorithm to customer need

Table 3-3: Coding Tree

Therefore, the process has been done in three steps. First, reading the text to find general content and hidden meaning to select relevance. After that, reducing the text by coding to show what this piece of text is about by using short words. These codes are called first-order codes.

Finally, copying the codes with corresponding quotes to excel in creating categories, scrap double codes, and ordering them to create the coding tree(Table 3-3). By Grouping codes in categories, the higher-order codes were defined. This evolved into codes that were more closely tied to the theory, particularly in terms of the categories, during this phase. To keep the data inside the theoretical framework that has been supplied. Finally, there was selective coding. It refers to the process of looking for connections across categories to understand what is going on in the field.

4. FINDINGS

This study aimed to find out the narratives surrounding algorithms and how AI solution vendors promote their algorithms. This chapter is organized around the qualitative themes presented and discussed according to the interviews outcome and academic literature. The structure of the results is based on the design of the shown interviews. The results on the narratives about algorithm are presented first, followed by marketing experience in offering algorithms products to the market. The quotes have also been pseudonymized to protect the people who provided them. The results and discussion will be the first topic of discussion. The practical applications are then examined, followed by limits and suggestions for future study.

4.1. Customers' Concerns about algorithms

While businesses are keen to employ machine learning algorithms, getting started is often a challenge. To increase productivity, profitability, and business outcomes, businesses are increasingly seeking ways to employ artificial intelligence (AI) technologies. However, there are also specific barriers that refer to organizations' concerns about machine learning algorithms. All of the businesses are distinct, as are their objectives. However, firms confront common challenges in machine learning, including corporate goals alignment, people's thinking, and more. The interviewees talked about the opinions of their clients regarding AI and algorithms. The research participants revealed major recognizable narratives about the following remarks. At first, algorithms are considered to be "black boxes." Furthermore, there is a potential for someone to manipulate them, which is risky. In addition, concerns about privacy, bias or fairness, and functionality can discourage them from buying the algorithms. Lastly, future unemployment may be affected by robotization. Our findings show that this hesitation stems from different reasons and these reasons will be debated in this chapter.

4.1.1. Algorithms are sometimes defined as black boxes

The algorithms used in machine learning and artificial intelligence are occasionally described as "black boxes." With gaining popularity and their successful application in many domains, Machine Learning (ML) and Artificial Intelligence (AI) are also faced with increased skepticism and criticism due to their complexity.

Research participants claimed that customer hesitation stems primarily from the complexity of algorithmic systems it's embedded in, making it difficult to comprehend. There has been much discussion about complexity in terms of understanding how a given model arrived at a specific decision. In more complex machine learning systems that use "black box" techniques like neural networks, this type of complexity can be difficult to achieve. It entails evaluating data, training data, and doing difficult mathematical computations, among other things. As a result, it's difficult to understand and know how it works. Participants in the research revealed that their clients' perceptions of AI and algorithms express a hesitation to use algorithms.

"So I think a few clients have the capacity to understand the algorithms, but most of them they don't know the details about it. I think what they know is what goes in, and they know what goes out. So what they can expect. But they have no idea what happens on and the tools that we make. So for them, it's completely a black box. When we talk to clients or prospects, they want to understand what's behind it and that is why they asking the difficult question. The difficult questions about how use and analyze data. . It scares them with to see how AI is used in social media and analyzing all these huge amounts of data ."- Technical project leader(C14)

The participant mentioned that because algorithms are so sophisticated, many organizations don't trust them. They find it extremely difficult to understand how algorithms collect the data, model it, and reach specific decisions, which creates a significant barrier to building trust in them. As a result, the participant stated that it is increasingly challenging to be accepted by prospects due to the negative perception of algorithms. admittedly, the clients felt the same way when the participant approached them to offer the algorithm. When talking to potential clients, the participant said that they are afraid of adopting algorithms since they do not grasp how they function or how to use data for decision-making. Somehow, similar arguments concerning the complexity of the algorithms were highlighted by other participants as well.

"And I think that realization still needs to see into society and organizations, actually, because they think there's still not a lot of information around the use or the setup of algorithms for how to select our data for teaching your algorithm and these kinds of things."- Technical Manager(C9)

According to the statement expressed by the research participant, many businesses are suspicious of algorithms because they don't fully understand how this form of technology uses codes that employ an input dataset and known outputs to learn underlying patterns. As it has been argued many algorithmic systems, particularly intense neural networks, are fundamentally regarded as black boxes since it is difficult to understand their internal workings after being thoroughly trained. This makes it challenging to comprehend and justify a model's behavior. Therefore, because the behavior of complex models, such as "Deep Neural Networks" with hundreds or even millions of parameters (weights), cannot be understood, they are referred to as "black boxes."

4.1.2. Possibility of Manipulation

Additionally, AI systems and algorithms can also be manipulated by the wrong person. This is also another point of concern found in the studies is whether algorithmic machines, like any other technology, may be employed in irresponsible ways. respondents expressed concern that it would spiral out of control because there is the possibility of being harmed by the change.

"one of our clients expressed that it's susceptible to being interfered with and change by wrong person. And that's where it's very dangerous. He said if the right people building the tech, and it starts with the right outcomes and success facts in mind, then I think it can massively benefit people otherwise it would be really risky. you still need human input to teach your algorithms. Although having watched things like Terminator. we should think about. I think that something like Terminator will happen"- Technical project leader(C14)

As the participant stated, the people who create algorithms, are another obscure consideration that could affect customers' faith in the algorithm. If the right people build the algorithms, they will almost certainly yield the desired results, greatly benefiting clients. Even though they strive for

inclusivity, impartiality, and neutrality, algorithm creators (code writers) develop their own opinions and ideas into their works according to the concept.

Because users believe algorithms are difficult to identify, responsibility for the developers who construct the algorithm is critical. Algorithms are also tricky to describe because the algorithm's narrative as an autonomous agent is a black box. Therefore, according to what the participant mentioned, if a decision-making algorithm is created to assist people with a certain action, In that circumstance, the algorithm creator must be responsible for the program's ethical implications. The idea of responsible artificial intelligence and ethics in AI is how firms incorporate to prevent irresponsible algorithms, and how this must be embedded in the company before these algorithms and software are produced.

4.1.3. Privacy Concern

Customers are concerned about privacy issues, as stated by the participant. Much of the privacy debate revolves around data being collected everywhere, from medical records to social media, payment gateways, and government services.

Data collected by algorithms can pose privacy concerns such as freely supplied informed consent, opt-out, data collection limits, the nature of algorithms processing, and even the ability to remove data on demand. How would human subjects of the obtained data, potentially due to a spillover effect, even be aware that data was collected on them, allowing them to inquire about their data or request that it be deleted?

"Our clients were hesitant about whether or not I'm being fully informed about how much data they have on me. And whether that data is still mine, or whether or not, I have the right to delete that data, or whether that data is shared with the parties, that's where I think that we aren't informed. There is undoubtedly some sort of cross-party or cross-app tracking going on, and we have no idea what they are doing with our personal information like images and messages" - Sales and marketing employee (C8)

As the participant mentioned the clients expressed they are not well-informed enough on their rights and regulations. They have no idea if that data is still theirs, if they have the authority to handle it, or if a certain website or app has the authority to share their personal information with a third party. This concern is more sensitive in a specific domain such as health care.

"No, of course, privacy is always an issue in healthcare. our clients are physicians and the patients. In our case we do annual screening for patients eye disease linked to diabetes and people always afraid of the privacy and using their information"-CEO(C4)

This statement reveals that Privacy concern is more sensitive in some areas such as health care. Using patient information in algorithms could be challenging for the healthcare industry, which must protect vast amounts of confidential and sensitive data. It's used in a variety of applications, including diabetes monitoring, radiology for identifying various types of pathologies and chest x-rays, and mental health for identifying depression. Access to patient medical data is frequently critical to the use of AI in health care delivery. As the exchange of medical information between patients, physicians, and the care team via AI products becomes more common, protecting an

individual's knowledge and privacy becomes increasingly important. Patients don't want their health conditions breached without their permission, so protected health information has become extremely valuable.

The idea is modern technologies such as surveillance cameras, smartphones, and the internet have made collecting private data much easier. Thus, companies that feed massive amounts of data into AI-powered algorithms are also vulnerable to data breaches. Algorithms may generate personal data that was created without the individual's permission. Undoubtedly, users' private data helps AI systems perform the desired tasks in a better way, but this private data collection is not without associated risks. One of these risks is using the users' data for non-intended purposes, about which users don't even know how it will be processed, where it will be used, or even sold. In general, this private data is used in programmatic advertisements to make people purchase a product.

4.1.4- Possibility of bias and unfairness

The possibility of bias is one of the factors that cause customers to raise ethical concerns about the algorithm. These systems can be biased depending on who builds them, how they're developed, and how they're ultimately used. This is known as algorithmic bias.

"I think the biggest concerns of our clients is circling back to regulations, for example, for data sets, that there is often a strong bias. In the data sets that are used, if you look in health care, it's often white males from the age of 30, to 40. So it's not really applicable for people from other regions for women for different age groups. So, collecting the data, and getting good data is a big concern, you have actually a lot of bad algorithms out there because of this."-Marketing Manager (C3)

However, it is difficult to pinpoint precisely how systems may be vulnerable to algorithmic bias since this technology frequently operates in a black box. Organizations often don't know how a specific artificial intelligence or algorithm was created, what data was used to make it, or how it works. Both design and data can be biased, either intentionally or unintentionally. Some critical aspects of an issue, may not be programmed into the algorithm or may be programmed to reflect and replicate structural biases. Furthermore, using numbers to represent complex social reality may make the AI appear factual and precise when it is not. Organizations are hesitant to implement systems that could result in biased. If algorithms are not properly deployed, data on race, gender, and age may be used to affect hiring and firing choices, lending decisions, and even criminal procedures. Therefore, the datasets are inadequate since they do not include all inputs or a representative sample of everyone. Even billions of data are insufficient to capture the depth and diversity of people's lives and experiences. For instance, some data sets, are only valid for a specific generation, gender, or age group as mentioned by the respondent earlier. As a result, the algorithms may not be appropriate for persons from other areas, genders, or ages. Bias is a source of unfairness that can be attributed to data collection, sampling, and measurement. Aside from the training data, algorithmic design solutions such as the use of specific optimization functions or regularizations on the data and regression models can all lead to biased algorithmic decisions, resulting in biased algorithmic outcomes.

According to one of the participants people are more afraid of discrimination in human resource management than in other industries. People in fields such as human resource management have more ethical concerns about algorithms because they are afraid that the algorithmic machine will lead to discrimination against fairness, sexism, or racism.

"One type of product is for enterprises. So really, for HR and enterprises, that's a tool for staffing and employment at agencies. It's like a smart matching system, to match jobs to people, and to match companies to people to really just do the AI matching. Our clients think there are a lot of software's out there, and algorithms out there that are not explainable, or like very blackbox, and very unfair. And I think that's still a problem right now. They major concern about matching systems jobs to people that are very, like, racist or sexist, and they found it very bad. And I completely understand that people are sometimes scared of it or like don't really trust it entirely" -Marketing Manager(C6)

While companies use algorithmic decision-making advice in HR recruitment and development to save money and improve efficiency and objectivity, the participant revealed that there is a big concern in the human resource management field regarding algorithmic decision-making that can lead to unfair treatment of specific groups of people, implicit discrimination, and perceived unfairness. Discrimination is described as unequal treatment of various groups based on characteristics such as gender, age, or ethnicity rather than qualitative differences such as individual performance. Because the algorithm is difficult to comprehend, biases and prejudice are typically only discovered after the algorithm has made a decision, further complicating the situation. As a result, potential difficulties with algorithmic decision-making include the lack of transparency and accountability of the input data, the algorithm itself, and the factors influencing algorithmic conclusions.

4.1.5- Uncertainty regarding algorithms' functionality

Another reason that has led to mistrust of the algorithm is its functionality. There are numerous instances where AI fails miserably; When people see algorithm errors, they are less likely to trust and use them than when they see human errors; this is known as algorithm aversion.

"Yeah, we definitely had customers that were skeptical. They said I cannot believe that your algorithm can do this accurately. So many stories we hear are like, well, what you're trying to do with AI, I don't believe in it, because we have a similar program from another provider and it doesn't work. They think our solution will not work because another AI solution did not perform accurately. So, for them AI is one thing. And if it didn't work previously, so it won't work now. And so yeah, these are stories that we tested it and it didn't turn out very nice."- Technical Manager (C9)

According to the respondent, their client's prior use of a poor algorithm led them to shape negative opinions of all algorithms. Clients frequently expressed questions about the efficacy of presented algorithms, according to the participant, because of previous unpleasant experiences. Customers consider AI/Algorithm as a product, similar to other commodities, and if they had a terrible experience with one AI solution, they believe others will be useless.

Despite the potential benefits of algorithms, implementing them in business cases is difficult. First, developing an AI project and building/training an algorithmic model is an experimental process that may necessitate a lengthy trial-and-error period. Second, machine learning models attempt to solve

probabilistic business problems, which means that the results may differ depending on the use case. Data is an essential resource for algorithm development. Developers must ensure that the data used in their algorithm is available, of high quality, integrity, and secure. Working with outdated, insufficient, or biased data can result in project failure and resource waste.

4.1.6. Risk of robotization and future unemployment

Another reason that causes doubt is the possibility of future unemployment due to the possibility that a robot takes over a human job. One of the most reasons revolves around machine learning and AI solutions and how they transform the industry and allow humans to perform previously impossible tasks. The primary concern of the organizations is that artificial intelligence (AI) will soon be able to replace a wide range of human jobs, resulting in mass unemployment, rising inequality, and societal instability.

"there are many concerns, of course, around replacing human jobs with an AI machine. I mean, okay, I work in the telco sector, and they're the proponent of ML algorithm But of course at the working level, you know, they do think that this is substituting their roles. So, yes, in some ways, it is, you know, even in the NOC environment, for example, You know, they always have this concern that, you know, it's doing them out of the job."-Innovation Manager (C12)

The issue is that the algorithm may also make a few jobs obsolete. Back to the participant, the clients believed that the use of Algorithms in the workplace as a form of AI is expected to eliminate a large number of jobs. For example, as the participant mentioned, On the one hand, machine intelligence technologies – advanced analytics, deep learning, machine reasoning – are being used to drive intelligent operations assistance that will enable systems to be extremely performant on the other hand will impact some roles and functions by delegating those tasks to machines. On the other hand, some opposing viewpoints assert that technical breakthroughs increase productivity. As we have seen in the past, a positive technology shock results in a fall in the unemployment rate that lasts for several years.

4.2 How do firms convince clients to purchase algorithms?

During the interviews, participants discussed how they used marketing techniques to counteract these negative impressions of algorithms. According to the respondents, in order to address their clients' pain points discussed in the first part of the findings and offer solutions to those problems, they tried to focus on customer reference marketing strategy, case study as well as the functionalities or advantages of their solutions to respond their prospects' concerns.

4.2.1- Customer reference marketing

As has been discussed earlier The complexity of the algorithms is a significant barrier that leads to mistrust of algorithms. The respondents employed customer reference as a significant applicable marketing approach to persuade potential customers to trust their algorithms.

"we invited our customer ..., to be there with us to explain to the audience what we did for ..., and actually the guy from ..., took over the whole conversation and pitch our product. Like he was our colleague. And that's what you want customers that are very happy and very enthusiastic about your products"-Business Development Manager (C11)

"So we really try to have that expert role, to also show to the outside world that we know what AI is, and we have the best AI to put our experts there to. And what we also did is like for the government. Well, there was a governmental project, but that was a year ago. that's also something that we do like to show as well to the outside world that we are credible, and we can show the trust that we need, and the reputation"-Business development consultant(C13)

Because algorithms are not well understood, any purchase choice entails some risk and uncertainty for the customer. As the participant stated, they took the advantage of their existing customers by requesting them to be presented to explain what they did to the audience; as a result, their customers seized control of the conversation and pitched their products like brand ambassadors. As a result, their positive testimonial can be effective in answering some of the prospect's queries or concerns. As it has been stated in the second quote, furthermore, customer reference marketing may provide the social proof and reassurance that a potential consumer seeks. When companies refer to the project they have done for the government they show they are credible therefore, customer references can be used to achieve status-transfer effects from reputable customers, represent an improved market position, concretize and demonstrate products, and provide indirect evidence of experience, previous performance, technological functionality, and customer value.

"we do with webinars is always try to put our existing users in front of the audience so they can tell to his or her peers how they have experienced artificial intelligence and how this artificial intelligence solve their problems and have good results"-Innovation Manager (C12)

The customer reference may also be used by people involved in networking activities to keep in touch with their networks for marketing and sales purposes. As the participant stated throughout the seminars they can bring their existing customers in front of the prospects to share their experience which would also be beneficial for their marketing efforts. In this way, they integrated their marketing strategy to guarantee that they have enough high-level and technical information to keep audiences interested in the short term. However, in the long run, it will produce a significant number of touchpoints whom their marketing efforts have educated.

As mentioned by the participants, customer reference marketing is the art of telling these stories in a dynamic, compelling way, showcasing one customer's experience with the firm's products. This helps other prospects and customers learn more about offerings and their capabilities, credibility, and benefits.

"Yeah, I asked. laboratory project manager, who recently started working with the product. And two months later, she was very enthusiastic. So I said, What is the biggest benefit for you? And that's he said, and this was also around COVID-19. Testing, I can easily do three times more than I could do before. So I said, Do you want to write it down? So I can use this for your colleagues in other laboratories? They said, Yes, of course. Of course, I wanted it. So I had a testimonial. And I could use that to sell more. So I had a preferred marketing communication tool to sell more another government and other laboratory. So yeah, so that's very useful. So you should really use those positive feedbacks Of

course, to use your communication to other so referrals are very important. "-
Marketing Manager (C3)

Customers' referrals helped the participants sell their algorithms to more prospects and explain their product's benefits, usefulness, and efficiency to the prospects. This way, consumer referrals help businesses overcome future customers' mistrust or uncertainty. Other prospects would be motivated to acquire the algorithms if the prior customer indicated their appreciation of how the algorithms contributed to their business objectives through a referral pitch.

Referral marketing strengthens a company's credibility. Hearing about their company from a third party instills confidence and boosts social proof. It establishes its company's credibility in the eyes of potential customers and carries more weight than simply advertising its services.

4.2.2- Building trust through case studies

Another useful approach mentioned by respondents was using a case study. A case study examines a specific instance or case of something to establish quantifiable consequences due to its use. Case studies are used in marketing as social proof to provide context for purchasers to assess whether they're making the right decision. A marketing case study enables companies to demonstrate and explain how they achieved significant success in a specific situation and how they confronted and conquered a difficulty on behalf of a customer or client.

"we're doing a case study, which is normally a written piece with a video, use cases, that is also enough technical interest in there to engage maybe the younger, technical, why this is brilliant, I need to get convinced my manager, this is what we need to be doing. showing them how to use these tools, teach them how getting them involved, getting educated getting them interested"-
Business Development consultant (C13)

According to the participant case studies like customer referrals can help buyers who are uncertain. Companies use case studies to provide content in their marketing activities to give useful information to their prospects about their products and services in order to gain some advantages. First, potential customers would be familiar with the products and services. Furthermore, there is an opportunity to educate people about the technology they used, how they performed, and how the outcomes benefited customers. In the same way, any firm can make extravagant promises about its products or services, but the customers want to see the proof. Firms will acquire clients' trust if they demonstrate that their algorithms provide complete results.

Case studies assist algorithm providers in positioning themselves as technologists at the cutting edge of technology. It's all about revolution, technology, and innovation. They can convey this message by creating a sense of pushing boundaries, exploring what is currently capable and possible, balancing human responsibilities with machine capabilities while integrating algorithms into the customer business process, and becoming a type of fortress for the next generation. As a result, they focused more on solving consumer problems and providing genuine benefits.

4.2.3. Presenting worthwhileness through the algorithm's functionality

The participants attempted to represent the values of the algorithms through the functionalities of their algorithms by disclosing how the algorithms were developed to show that their algorithms are trustworthy.

So I said, well, I can offer it much faster. and 100%. sure. I'll show you how. So and then I showed him in our software. And I said, well, can show you now that you will have 100% reliable results, not in one hour, but in 20 seconds. and he was convinced"-Global account manager (C2)

"in my opinion, if you say artificial intelligence to HR people, you can do that. But you have to explain what it exactly does and how it is not taking away all their jobs or that it is fair. The algorithm works like this, we take text, and we see what, which things are related to each other, we see how they, are categorized, we see how they cluster, and we enrich it and then we can go a bit further into detail. we take the data from it, and we push it back so they can see it within the tool itself."-Marketing Manager (C6)

To achieve an optimal result, a user must be confident in the decisions made by these learning systems, which may include his perception of both the intelligent model and his knowledge. The participants attempted to explain to their clients how algorithms are created, how algorithms work, and how they revolutionize the industry by allowing humans to execute previously impossible tasks. They tried to reveal that algorithms' functionality help individuals make better decisions rather than making those decisions for them.

And that we use think one of the main advantages that'll be markets or talk about is that algorithms can do a huge amount of work that we can do, and also that they bring sort of an they remove part of the bias. And so I mean, every human can synthesize and summarize large amounts of the documents, but it will be a summary through my eyes. And so it will be I will buy the reports, AI can remove the bias and bring sort of an unbiased approach. And that's something we really stress on that this is very important thing."-Technical Manager(C9)

The participant tried to explain to their customer that because algorithms do not have emotions, it is feasible to go faster and better than humans and make fewer mistakes. As a result, they can be pretty valuable and successful when performing a repetitive task. They produce far higher-quality, more consistent, and less-prone-to-error results. When developing the algorithm, the developers do not consider humans; instead, they look at facts and data. When developers apply algorithms to humans, they make them up and do not eliminate the human factors. In contrast, they use algorithms for scientific data, where there is a better chance of removing human factors.

"For me in the narratives that I've seen from the customers, so many organizations are stuck in this sort of trust, vicious circle and which public mistrust sort of ethics in AI leads them to be more secretive about the actual algorithms that they're using. So we watch about promoting very open, you know, research into algorithms be very open about what tools we're using. I can share them a few documents we are using AI, ethically."-CTO(C5)

As the participant stated they tried to disclose their algorithm openly to their clients in order to show them their algorithm functions in a responsible way. Thus transparency is essential in addressing ethical issues regarding the functionality of the algorithms. As a result, firms admit their responsibility for recommending whom to contact if something goes wrong. The algorithm could be

able to describe itself to stakeholders in non-technical terms. There should also be possible to audit, allowing other parties to evaluate and criticize the system and identify areas of inaccuracy and uncertainty. If firms want to create trust between humans and machines, they must be able to disclose algorithms' functionality and how algorithms can contribute to customers' objectives.

4.2.4. Tailoring the sales pitch into different buyers profiles: C-levels / technical profiles

The participants revealed that they personalized the marketing and selling procedure to the target audience in the customer buyers' decision group. They looked for distinct target audience groups from the broad to the bottom floor for targeting purposes. The way the participants modify their marketing message or sales pitch based on the intended audience was a major topic among the participants. Businesspeople or C-level executives, for example, are less interested in understanding how AI works and more interested in knowing what outcomes it can produce and how it can be monetized. On the other hand, technical professionals like innovation managers, technical leaders, and engineers who are passionate about technology and innovation want to learn more about the algorithms, how they are built, how they work, and how they may help them in their day-to-day work.

"They (C-levels) might not have time to get to this webinar or have time to read articles. They don't really want to hear how the AI works, or how the machine learning part of our product works. They want to scale up see more profit, seeing the return of investment. I know how much margin they want to have for their shareholders. So if they're not reaching it, I should go in there. Message like create higher margins, and then they will listen"-Business Development Manager(C11)

"the technology people or the innovation people of a company like to know more in technical detail because it's something new, and it's something great . So I can explain to client technical teams that we use a lot of unsupervised algorithms. And to gain insight and large amounts of text data. This is basically unsupervised clustering and barbecuing"-Technical Manager (C9)

The critical point is that in the marketing and sales process, we deal with a group of decision-makers. Everyone, depending on their roles and responsibilities, may have different purchasing motivations. The high C level is interested in margins and profitability. While On the work floor, They are more about how the test is performing. As a result, they have different interests, and algorithm solution providers must adapt marketing communication.

"We held about 350 webinars as a company last year and got in front of clients. It is critical to hold conversations, dialogues, and roundtables over the weekend. We need an open discussion, and we want to come in and speak and ask questions because we have subject matter experts to consult with."-System integrator consultant (C7)

They stated they reached their target audience through holding discussion panels, peer-to-peer sessions, attending conferences, and events, and hosting webinars. These types of marketing techniques, in their experience, allowed them to reach prospects, build brand credibility, and finally communicate with the target audience.

As the participant mentioned, their technical specialists might come up with something that solves the audience's most pressing problems, is presented interestingly, and possibly even presents new ideas that no one has thought of before. Aside from that, while marketers work for these goals, the engagement of a subject matter expert may be one feature that distinguishes popular content from material that goes undetected. Participating with technical specialists can improve the legitimacy and value of content, resulting in increased audience engagement.

These communication channels can send both verbal and nonverbal cues simultaneously, allowing for real-time engagement and feedback. During round table interview sessions, face-to-face interaction is possible, allowing for simultaneous observation of signs such as body language, facial expression, and voice tone, which transmit information beyond the stated word and can communicate a wide range of thoughts. Firms may have an instant connection with customers, responding quickly, reducing ambiguity, and probing for information on the essential requirements required to complete the customer picture.

4.2.5. Linking algorithm to concrete customers' needs

The respondents disclosed multiple techniques for collecting the requirements of the target clients. These techniques can help them to put themselves in the shoes of their customers, depending on which segment and target audience they were targeting.

First of all, the participants indicated that they were industry-focused so they concentrated solely on the field in which they are experts and active. They had networks and connections because they were experts in their field. As a result, they communicated with potential clients they knew through their network directly.

"So we have two segments. segmentation is done based on for houses and hospital on hospital sizes and the fact that we target certain physicians within the hospitals. So we customize based on the target signature. we are targeting specialists in hospitals and innovation managers in hospitals. Since I know our target segment , I do direct approach to my network to market our offering"-CEO(C4)

"I don't have any marketing background, but I have a strong technical connection with our customers. So our customers are laboratories, or companies that sell into the laboratories, who perform molecular diagnostics. So I know what they're doing. the laboratories are having challenges I know because of the knowledge of my product, but also the knowledge of the old world of other laboratories. I know where we can be of use so I can identify that their pain points and then I can paint him a picture of a better world."-Global account manager(C2)

According to what participants explained they were industry-focused thus they focused exclusively on the field in which they are experts and active. This shows two things: first, their segmentation tactics, and second, the target population for that segment. They will be able to better distinguish the target purchasing motivations because they have a prior knowledge of the industry.

"CTO went to Cambridge. And really there his thesis was the start of the company, actually. And the company was founded on top of actually a student project from computer engineers. we really try to focus our efforts on certain

accounts in human resource management. Our focus is on solutions for the staffing and employment agencies. we look at HR maturity, if they have somewhat of analytics department, or a strategic workforce planning department. we do sometimes works with companies with low HR maturity. we try to focus more on people that interested in analytics or departments that are really already know that skills and HR analytics are important”-Marketing Manager(C6)

findings indicated that research participants benefit from their prior knowledge of the domain in which they were experts and are active in distinguishing various customer demands based on their experience to tailor their sales pitch. Prior industry experience aids in developing a deeper and more hands-on understanding of the algorithms in the marketing and selling process. It will also help them align with their industry, size, and business objectives. This industry knowledge also assists firms in analyzing their competitors in order to show potential clients the benefits and drawbacks of the competitors' algorithms as well as their competitive advantages.

They also developed an account-based strategy for additional segmentation tactics such as regional or client organizational scale based on firm size, corporate brand recognition, and competitors in their specialized domain.

“we segment two geographical areas. In first instance, because we are still in a startup phase for us, it's important to go where the money is. So I would say, and also because of history, we started in Europe. So Europe is important, then I would say North America is important for us, Australia. And then later on, it's Middle East, and Asia and South America. I would say Africa, unfortunately, will come at last. Yeah. So that's how I segment now. And then, it should be diagnostic companies, because we are focusing on molecular diagnostic world.” - Global account manager (C2)

Apart from industry knowledge, the participant noted that geographical segmentation is a proper complementary strategy since it assumes that people in the same place have similar needs, wants, and cultural concerns. Brands may focus more relevant marketing messages and acceptable items on customers who are more knowledgeable and likely to buy by understanding what people in that area require. Additionally, because regional segmentation enables businesses to target specific groups and provide targeted marketing efforts, they can increase profits faster while saving time and money.

“we will start a UK based campaign based on the success stories that we have there during the pandemic, within the Benelux we do the same but then we take a success story from Belgium. it's more likely that they know somebody involved in the project that we're you know, Showing them as a showcase like, Hey, did you know we were involved in this in this project”

Participants who were active in different countries also mentioned that they tailored their case studies to a particular region or country. Because it is more probable to find people who are involved in the project or who know someone who was involved in the project within the same market.

5. DISCUSSION

This study aimed to find out how AI solution vendors promote their algorithms. This chapter argues the outcomes by interpreting the data gathered during the field study and academic literatures. The following chapter is organized around the qualitative themes to improve readability and make it simpler for readers to follow the arguments based on the research questions. As a result, it gave insight into what narratives the respondents associated with algorithms and how those narratives led to marketing activities to promote the algorithms.

5.1- Customers concerns about the algorithms

The results show that the argumentative practices stated by the respondents support that the complexity of the algorithmic systems it is embedded in, which makes it difficult to understand, is the main cause of client reluctance. Even though AI is increasingly being used in many industries, there is concern about the difficulty of understanding what AI is. What effects does it have on humans, and to what extent is it intended to replace humans, especially in light of controversial prospects for AI that can act autonomously and even without human intervention (Aoki, 2021)? Because of the societal fear of AI, the customers, in general, has to be well-informed on how it is employed. The customer's faith in AI-driven technologies depends on such communication. The way critical pieces of information are communicated, such as whether humans are still engaged in decision-making and what advantages AI-driven technology will provide, makes a difference in the public's initial trust (Aoki, 2021). Because there is no clear information of how algorithms used their power over humans, they became a black box that could not be queried or questioned. Whose source code is stored behind inaccessible executable files and is not available for examination. Coding is frequently done in private settings, such as within firms or government organizations. It can be challenging to gain access to coding teams to see them at work, interview programmers, or analyze the source code they create (Kitchin, 2014). Indeed, concerns regarding algorithms' complexity frequently revolve around their ability to make judgments without (or with minimal) human participation (Beer, 2017). This concern expresses apprehension that algorithms are becoming uncontrollable. In fact, algorithms are not formulated or work in isolation; they are part of a technology stack that includes infrastructure/hardware, code platforms, data, and interfaces. They are framed and constrained by forms of knowledge, legalities, governmentalities, institutions, marketplaces, finance, and other factors (Beer, 2017).

The study's results acknowledged that algorithmic systems, like any other technology, may be manipulated for bad or irresponsible purposes. Being negatively impacted by the change is a possibility. It becomes risky at that point. Therefore, by raising ethical concerns, more individuals are working on the ethics of algorithms, artificial intelligence, and machine learning than on the technology itself (Martin, 2019). Algorithms influence individuals' access to social goods and rights, and how algorithms are designed and applied in management decision-making is crucial for corporate ethics. Algorithms structure our lives invisibly in different ways, including affecting our search results, the advertisements we see online, and the prices we pay. However, it is unclear whether developers are accountable for their algorithms after being used or whether businesses are

liable for the normative underpinning for such duty (Martin, 2019). Algorithms, for example, are built to do a task with a particular moral delegation in mind. Designers' moral delegation influences other actors' moral behavior. When developing an algorithm, designers decide on delegating duties and responsibilities between people and algorithms. The engineer chooses how roles and responsibilities are distributed between humans and algorithms. On the other hand, businesses may be held liable for incomprehensible systems. Inscrutable algorithms that were supposed to reduce the influence of people in the choice have taken on more responsibility for the conclusion (Martin, 2019). In essence, the companies are accountable for two main reasons. Because the firm is knowledgeable of the design decisions, a firm's liability for the ethical consequences of an algorithm is generated initially. Apart from that, developers are the most capable of executing the change in the design, and they are sometimes the only ones who can modify the algorithm. As argued above, the more incomprehensible and autonomous the algorithm is built, the more accountability is given to the algorithm and the corporation that produced it. Second, an obligation is generated when the algorithm developer voluntarily joins the decision environment by selling the algorithm for a specified purpose. Firms that design algorithms are members of the community they sell the algorithm, such as criminal justice, medical, education, human resources, and the military. They must respect the community's values as members (Martin, 2019). Transparency is therefore critical in order to address ethical problems. As a result, Firms must take responsibility for suggesting whom to contact if something goes wrong. The algorithm should be able to describe itself in non-technical terms to stakeholders. There should also be auditable, allowing other parties to evaluate and criticize the system and uncover areas of inaccuracy and uncertainty (Spiegelhalter, 2020).

The Responses demonstrated that today, machine learning and algorithmic decisions drive much of the most sensitive data analysis, such as search algorithms, recommendation engines, and advertisement tech networks. Privacy is one of the negative aspects of AI. Privacy has been examined in the literatures and research as well. According to researchers and the findings of this study, much of the privacy argument revolves around the fact that information is collected everywhere, from medical records to social media, payment gateways, and public services. Second, who has access to this data (Amoore, 2015)? The idea is people need to be assured that they are not being observed. Despite their increasing pervasiveness, usefulness, and capacity to behave in autonomous, automatic, and automated ways, there is a pressing need for critical attention to algorithms and forms of algorithmic governance throughout the social sciences and humanities (Kitchin, 2014).

According to the research findings, algorithms can have biases or make mistakes owing to bugs or miscoding. Bias may come from various places, including data sources, collecting, and processing. Because most AI systems and algorithms are data-driven and require training data, with biases, the algorithms trained on them will learn these biases (Mehrabi, 2021). Apart from the training data, algorithmic design solutions such as the employment of specific optimization functions or regularizations and regression models on the data can all lead to biased algorithmic decisions, resulting in biased algorithmic outcomes. The ranking algorithm might illustrate how the top-ranked results are the most relevant and significant, attracting more clicks than others. This bias has an impact on search engines or social media. The more popular an item is, the more it is exposed.

However, popularity numbers might be skewed by fraudulent reviews or social bots, for example (Mehrabi, 2021). As a result, bias may be considered a source of unfairness resulting from data collection, sampling, and measurement. Furthermore, bias may be viewed as a cause of injustice resulting from human prejudice and stereotyping, such as discrimination (Mehrabi, 2021).

There are many instances exist of how algorithms and computation have resulted in widespread unemployment in some industries (Kitchin, 2014). The public's most significant concern is that artificial intelligence (AI) will soon be able to replace a wide range of human employment, resulting in mass unemployment, rising inequality, and societal instability. At a far lower cost per unit, AI systems can replace people in performing tightly specified jobs, such as physical and mental everyday duties. However, automation is unlikely to be used to completely replace jobs that need human adaptability to changing problem-solving contexts, social intelligence, and collaborative decision-making (Goodman, 2017). On the other hand, some opposing viewpoints assert that technical breakthroughs increase productivity. As we have seen in the past, a positive technology shock results in a fall in the unemployment rate that lasts for several years. Historically, productivity growth and unemployment rates have always had a negative association. More production means decreased unemployment (Atkinson, 2016). Although statistics on the influence of AI on the labor market should be interpreted with caution, policymakers must be aware of the many scenarios and be prepared to handle short- or even long-term impacts of technological unemployment, which AI breakthroughs may play a key role in causing. To safeguard people whose skills become outdated and to reduce the amplification of power imbalances and inequalities caused by rising automation, welfare and education institutions will need to adapt (Goodman, 2017).

5.2. Convincing the customers to buy algorithms

Findings of the study shows that the usefulness of customer references in minimizing the risk of a potential buyer and enhancing the supplier's reputation (Jalkala, 2010). Other intangible marketing assets like reputation, market position, and industrial brand may benefit from customer referrals (Jalkala, 2010). Companies have been able to practice customer reference marketing thanks to the opportunities provided by modern information and communication technologies, such as displaying success-story videos and podcasts on their websites or scheduling reference calls during which multiple potential customers interact with a single reference customer (Jalkala, 2010). Returning to the participants, because algorithms are not well understood, any purchase choice entails some risk and uncertainty for the customer. As a result, a positive testimonial can be effective in answering some of the customer's queries or concerns. Furthermore, a testimonial may provide the social proof and reassurance that a potential consumer seeks. Customer references have long played an essential role in marketing complicated process technology in the form of reference visits to current customers' sites and reference lists accompanying the offer. For example, customer references are used internally by the provider through case studies and the usage of a customer reference database (Jalkala, 2010). In the technology-legitimization process, customer references were crucial. Potential adopters wanted to examine sites at well-known companies to ensure that the technology was a good fit for their business. Corporate customers confront a variety of uncertainties while making purchasing choices, the most common of which are whether the solution will meet the customer's

needs, function as expected, be delivered effectively, and generate a return on investment (Jalkala, 2010). Participants who were active in different countries also mentioned that they tailored their case studies to a particular region or country. Because it is more probable to find people who are involved in the project or who know someone who was involved in the project within the same market. Customer references may be utilized to achieve status-transfer effects from reputed customers, signify an improved market position, concretize, and show products, and provide indirect evidence of experience, previous performance, technological functioning, and customer value. It may also improve organizational learning, generate a better knowledge of client demands and internal skills, promote offering development, and inspire and train employees by sharing success stories internally (Jalkala, 2010). Customer references can be used as a sales and promotional tool, a template for organizational learning, a knowledge base for customer needs and market sensing and understanding of internal competencies, a foundation for developing credible value propositions, a schema for offering and new product development, an internal motivation tool, and a tool for training and educating personnel (Jalkala, 2010).

According to the study, it is critical to first understand the demands of the clients and then build the product to meet those expectations. Customers acquire value through market exchanges, according to this viewpoint. This underlines the need to define the value of a company's offering from the customer's perspective. The buyer will choose whether or not a company's offering is worthwhile (Macdonald, 2011). The supplier and customer engage in collaborative processes and exchange valuable insights and resources. The supplier and customer work together to specify the initial value offering and work together to deliver value (Macdonald, 2011). Figure 4.1 shows more in detail which activities are involved in value co-creation. Suppliers apply their specialized professional skills, methods, tools, and vital competency. The essential competency of the supplier is needed because the customer may have initial information about their needs. Then it is the supplier who has judgmental view because of the expertise to make the customer's needs clearer. On the other side, the customer contributes to value creation by sharing business knowledge and information and giving initial information to the supplier about the needs and goals. In this way, the supplier knows what solution the customer is seeking. On the contrary, the supplier can create optimal benefits from the offering (Macdonald, 2011).

According to the study case studies like other techniques such as holding discussion panels, peer to peer sessions, attending conferences, events, and hosting webinars, as these types of marketing technique, in their experience, allowed them to reach prospects, to build brand credibility, and finally to communicate with the target audience in order to mobilize them to the sales funnel. Furthermore, can help them to put themselves in the shoes of their customers, depending on which segment and target audience they were targeting. According to the academic studies these communication channels are capable of transmitting both verbal and nonverbal cues simultaneously, as well as providing real-time engagement and feedback. Face-to-face interaction is possible during round table interview sessions, allowing simultaneous observation of signs such as body language, facial expression, and voice tone, which transmit information beyond the stated word and can communicate a wide variety of thoughts and concepts. Firms may have an instantaneous connection

with customers with quick response, reducing ambiguity and probing for information on the essential requirements needed to complete the customer picture (Stringfellow, 2004).

Findings also illustrated that presenting the algorithms functionality would be applicable for convincing the customers. This might be accomplished through scholars as it has been argued an algorithm's capability to learn, cope with new situations, comprehend and manage complex concepts, and alter one's surroundings using knowledge (Paschen, 2019). Algorithms are capable of receiving and processing data, transforming it into information and, eventually, knowledge, and then applying that knowledge to goal-directed action. Perceiving one's environment, problem solving, reasoning, learning, memory, and acting to attain goals are only a few of the activities that go into effective intelligence adaptation (Paschen, 2019). In fact, Algorithms are computational agents that act intelligently, which means that, on the one hand, algorithms focus on working intelligently, which refers to performing the processes mentioned earlier, such as perception, learning, memorizing, reasoning, and problem-solving, to achieve goal-directed behavior. On the other hand, In contrast to humans, who see the world via their eyes, ears, and other sense organs and act with their hands and legs, algorithms as computational agents employ data to receive inputs and perform on the environment through statistical computing (Paschen, 2019). This approach evaluates the algorithm's performance not in faithfulness to human behavior but rather in terms of rationality, an ideal performance. With the notion of the algorithm holding great and compelling sway in how things are done or should be done, we are likely to uncover larger rationalities, knowledge-making, and norms. According to the rational perspective of algorithms, they function to obtain the best result or the best-predicted result in the case of uncertainty (Beer, 2017).

As it has been stated in the scholars each company can devise practical methods for segmenting target clients into market categories with comparable demands. Demographic characteristics such as vertical industry, firm size, and geography may be utilized as criteria. Also included are the technology and techniques employed and buying methods (Tyrväinen, 2011). This may be used to not only discover profitable partnerships but also to assess prospective consumer bases (Tyrväinen, 2011). Firms, as described in the literature study section, must focus on fulfilling customer needs rather than just selling products (Shah, 2006). Large numbers of buyers have similar demands in a consumer market. Transactions are generally tiny in value, goods can be mass-manufactured, customers' perceptions determine product value, and companies focus on keeping brands. A corporate market, in contrast, frequently require a tailored product or pricing, and the value of a product or service is perceived by its use (Narayandas, 2005). As a result, organizations in business markets must focus on advantages, such as how a product or service may assist address specific problems, rather than characteristics, such as how better a product is (Narayandas, 2005).

The study results indicated that algorithms service providers also tailor their communication based on specific target audience. They looked for distinct target audience groups from the broad to the bottom floor for targeting purposes. According to the literature, the purchase choice is made by a group of individuals rather than an individual. Several functions are engaged in the buying process when purchases have an impact on the whole organization. In these instances, the crucial factor is to remember that each buying group member is often only interested in one or a few advantages (Narayandas, 2005). Companies may systematically address each decision maker's concerns and

convey how they will be met (Narayandas, 2005). For example it is helpful for executives to consider a product's value by identifying its benefits, such as tangible financial benefits that sellers can express, and purchasers can verify (Narayandas, 2005). Measurable financial benefits may be easily confirmed prior to acquiring products. Rival, on the other hand, can provide similar advantages. Therefore, price wars are unavoidable. Hence, Other intangible benefits (financial or non-financial) might bind the seller to the buyer in this way. On the other hand, technical professionals like innovation managers, technical leaders, and engineers who are passionate about technology and innovation want to learn more about the algorithms, how they are built, how they work, and how they may help them in their day-to-day work (Narayandas, 2005).

6. CONCLUSION

In this study, we looked at how algorithm providers can promote their products despite client concerns that might make them hesitant to buy these algorithms. Today's developments have pushed businesses to embrace digitalization, and artificial intelligence has made its way into the mainstream. On the other hand, there are frightening stories about them. According to the results of the research, Algorithms have a disruptive and transformative effect on societal aspects because they are enormously disciplining and controlling every domain in which they are deployed and governed. Because of the lack of public clarity, the mysterious power of functioning and decision-making, boding this hesitation, the algorithms become black boxes. Algorithms are a black box. Access to their formulation is difficult. Besides, they are complex and embedded in larger systems contextually and contingently. Besides this there is the possibility of manipulation by wrong person. Therefore, transparency, openness, and responsible AI algorithms are what consumers expect. Privacy is critical concern raised by the customers. The algorithm can use an individual's data to predict what they want and how they might be influenced or act. Much of the privacy debate revolves around data being collected everywhere, from medical records to social media, payment gateways, and government services. Second, who has access to this information? The idea is that customers expect to know they are not being observed. The other concern causes firms hesitation to purchase algorithm is the possibility of bias. This entire realm of responsible official intelligence and ethics in AI, how corporations incorporate to prevent inbuilt bias algorithms, and how this must be embedded in the company before these algorithms and software are produced are all part of the experience. The point is that the solutions are in high demand. AI and machine learning vision are becoming increasingly popular. However, all ethical implications expected be considered. As a result, prospects have skepticism toward algorithms. AI and machine learning are useful for generating ideas. However, when it comes to the heart and intellect, machines may not be able to infer as authentically and heartfully as humans.

Another point of contention in the research is whether algorithmic machines, like any other technology, can be used unethically or irresponsibly. Transparency is thus essential in addressing ethical issues. As a result, businesses must accept responsibility for recommending whom to contact if something goes wrong. The algorithm should be able to describe itself to stakeholders in non-technical terms. There should also be possible to audit, allowing other parties to evaluate and criticize the system and identify areas of inaccuracy and uncertainty.

Another concern consequence of the algorithm under consideration is the possibility of future unemployment. The public's primary concern is that artificial intelligence (AI) will soon be able to replace a wide range of human jobs, resulting in mass unemployment, rising inequality, and societal instability. However, Those who hold opposing views claim that technological advancements boost productivity. As we have previously observed, a positive technological shock causes the unemployment rate to decline and has a long-lasting effect. Productivity growth and unemployment rates have historically been negatively correlated. One of the most famous narratives revolves around machine learning and AI solutions and how they transform the industry and allow humans to perform previously impossible tasks.

The findings revealed how companies provide algorithms respond to the negative perception of their customer to convince them to purchase their offerings. Firm benefit from Customer reference marketing approach to respond buyers uncertainty. These marketing techniques allow firms to reach prospects, build brand credibility, and finally communicate with the target audience to mobilize them to the sales funnel. The value of customer references is to reduce a potential buyer's risk, respond to negative connotations about algorithms, and enhance the supplier's reputation. In the form of reference visits to current customers' sites and reference lists accompanying the offer, customer references have long played an essential role in marketing complex process technology. By customer referral, firms can take advantage of existing customers by requesting them to be presented to explain what they did. In addition, they would also deliver marketing messages to them. Customer references can be used to achieve status-transfer effects from reputable customers, represent an improved market position, concretize and show products, and provide indirect evidence of experience, previous performance, technological functionality, and customer value. It would also be helpful to their efforts in content marketing and networking. Customer references can also be used as a sales and promotional tool, a learning template for organizations, a knowledge base for customer needs and market sense, a foundation for developing credible value propositions, a schema for offering and new product development, an internal motivation tool, and a tool for training and educating personnel. The other practical approach stated by the firms is case study. According to the interviewees, case studies like testimonials can help buyers who are uncertain. Sharing case studies may also have other advantages. First, potential customers would be familiar with the products and services. Furthermore, there is an opportunity to educate people about the technology they used, how they performed, and how the outcomes benefited customers. As participants stated, they also referred their customer to the computational capacity of the algorithms as a significant advantage of algorithms function. They explained how algorithms can improve processing and decision-making by observing and improving their method, implementation, and detecting errors.

We found also that because artificial intelligence goods and services are a highly knowledge-based market, the segmentation process would focus on industry-oriented segments. firms can initially benefit from prior knowledge of the specific industry in which they are experts and are active in addressing various types of values based on their experience. Furthermore, the firms would be able to acquire their target audience's demands through interactive process that builds, maintains, and develops relationships following the participants' goals . Firms organized discussion panels, peer-to-peer sessions, attending conferences and events, and hosting webinars and through this dialogue, The supplier and the customer collaborate on processes and share valuable insights and resources. Therefore, firms understand client needs, such as the specific pain point or where it provides value. They also tailor their marketing communication according to the specific buys groups on the client sides. Businesspeople or C-level executives, for example, are less interested in understanding how AI works and more interested in knowing what outcomes it can produce and how it can be monetized. On the other hand, technical professionals are passionate about technology and innovation want to learn more about the algorithms.

Because all of the interviewees were on the provider side of the algorithms, their perceptions from the perspective of their clients may have been biased. They may also accidentally misunderstand the question and give an incorrect answer. I have not interviewed with the customers therefore this might involve omitting essential questions, prejudice, inappropriate, insufficient, or needless questioning.

This study aims to help firms who offer algorithms understand customers worries about algorithms and learn different ways to tackle such worries. The study's research findings will help businesses build and carry out their marketing plans in the ambiguous world of algorithms.

REFERENCES

- Abeele, P. V. (299--308). Strategies of Belgian high-tech firms. *Industrial Marketing Management*, 1986.
- Aghion, P. a. (2017). The social origins of inventors. *National Bureau of Economic Research*.
- Amershi, S. a. (2019). Guidelines for human-AI interaction. *Proceedings of the 2019 chi conference on human factors in computing systems*, (pp. 1-13).
- Amoore, L. a. (2015). Life beyond big data: Governing with little analytics. *Economy and Society*, 341--366.
- Aoki, N. (2021). The importance of the assurance that “humans are still in the decision loop” for public trust in artificial intelligence: Evidence from an online experiment. *Computers in Human Behavior*.
- Askill, A. a. (2019). The role of cooperation in responsible AI development. *arXiv preprint arXiv:1907.04534*.
- Atkinson, R. D. (2016). 'It's Going to Kill Us!' And Other Myths About the Future of Artificial Intelligence. *Information Technology \& Innovation Foundation*.
- Basias, N. a. (2018). Quantitative and qualitative research in business \& technology: Justifying a suitable research methodology. *Review of Integrative Business and Economics Research*, 91--105.
- Beer, D. (2017). The social power of algorithms. *Information, Communication \& Society*, 1--13.
- Billinghurst, M. a. (2008). Tangible augmented reality. *Acm siggraph asia*, 1--10.
- Castro, D. a. (2016). The promise of artificial intelligence. *Center for Data Innovation*, 32--35.
- Cockburn, I. M. (2018). *The impact of artificial intelligence on innovation: An exploratory analysis*. University of Chicago Press.
- Colangelo, G. a. (2019). From fragile to smart consumers: Shifting paradigm for the digital era. *Computer Law \& Security Review*, 173--181.
- Dash, S. &. (2016). E-Governance paradigm using cloud infrastructure: Benefits and challenges. *Procedia Computer Science*.
- Davenport, T. a. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, 24--42.
- Dietvorst, B. J. (2015). Algorithm aversion: people erroneously avoid algorithms after seeing them err. *Journal of Experimental Psychology: General*, 114.
- Dignum, V. (2018). Ethics in artificial intelligence: introduction to the special issue. *Ethics and Information Technology* (pp. 1-3). Springer.
- Dobrescu, E. M. (2018). Artificial intelligence (Ai)-the technology that shapes the world. *Global Economic Observer*, 71--81.
- Goldfarb, A. a. (2018). AI and international trade. *National Bureau of Economic Research*.
- Goodman, B. a. (2017). European Union regulations on algorithmic decision-making and a “right to explanation”. *AI magazine*, 50--57.

- Jalkala, A. a. (2010). Practices and functions of customer reference marketing—Leveraging customer references as marketing assets. *Industrial Marketing Management*, 975--985.
- Janghorban, R. a. (2014). Skype interviewing: The new generation of online synchronous interview in qualitative research. *International journal of qualitative studies on health and well-being*.
- Jobber, D. a. (2006). *Foundations of marketing*. London: McGraw-Hill Education .
- Jordan, M. I. (2015). Machine learning: Trends, perspectives, and prospects. *Science*, 255--260.
- Kellogg, K. C. (2020). Algorithms at work: The new contested terrain of control. *Academy of Management Annals*, 366--410.
- Kitchin, R. (2014). Thinking critically about and researching algorithms.
- Krau{\ss}, J. a. (2019). *Selection and application of machine learning-algorithms in production quality*. Springer.
- Liao, Q. V. (2020). Questioning the AI: informing design practices for explainable AI user experiences. *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, (pp. 1-15).
- Logg, J. M. (2019). Algorithm appreciation: People prefer algorithmic to human judgment. *Organizational Behavior and Human Decision Processes*, 90--103.
- Macdonald, E. K. (2011). Assessing value-in-use: A conceptual framework and exploratory study. *Industrial Marketing Management*, 671--682.
- Makridakis, S. (2017). The forthcoming Artificial Intelligence (AI) revolution: Its impact on society and firms. *Futures*, 46--60.
- Makridakis, S. (2017). The forthcoming Artificial Intelligence (AI) revolution: Its impact on society and firms. *Futures*, 46--60.
- Martin, K. (2019). Ethical implications and accountability of algorithms. *Journal of business ethics*, 835-850.
- McAfee, A. a. (2017). *Machine, platform, crowd: Harnessing our digital future*. WW Norton \& Company.
- McClure, P. K. (2018). "You're fired," says the robot: The rise of automation in the workplace, technophobes, and fears of unemployment. (pp. 139-156). *Social Science Computer Review*.
- Mehrabi, N. a. (2021). A survey on bias and fairness in machine learning. *ACM Computing Surveys (CSUR)*, 1--35.
- Metz, C. a. (2020). An algorithm that grants freedom, or takes it away. *The New York Times*, 6.
- Michelsonas, N. a. (2012). Assessment of factors influencing marketing strategies of Software as a Service or SaaS.
- Narayandas, D. (2005). Building loyalty in business markets. *harvard business review*, 131--139.
- Pandey, P. a. (2021). *Research methodology tools and techniques*. Bridge Center.
- Paschen, J. a. (2019). Artificial intelligence (AI) and its implications for market knowledge in B2B marketing. *Journal of Business \& Industrial Marketing*.

- Ritchie, J. a. (2013). *Qualitative research practice: A guide for social science students and researchers*. sage.
- Shah, D. a. (2006). The path to customer centricity. *Journal of service research*, 113--124.
- Spiegelhalter, D. (2020). *Should we trust algorithms?* PubPub.
- Stringfellow, A. a. (2004). CRM: Profiting from understanding customer needs. *Business Horizons*, 45-52.
- Tucker, J. A. (2018). Social media, political polarization, and political disinformation: A review of the scientific literature. *Political polarization, and political disinformation: a review of the scientific literature (March 19, 2018)*.
- Tuli, S. a. (2020). Predicting the growth and trend of COVID-19 pandemic using machine learning and cloud computing. *Internet of Things*.
- Tyrväinen, P. &. (2011, June). How to sell SaaS: a model for main factors of marketing and selling software-as-a-service. *International Conference of Software Business*. Berlin.
- Viardot, E. (2004). *Successful marketing strategy for high-tech firms*. Artech House.

Appendices

Interview Guide
a. Introduction questions
b. Company AI product
c. Marketing the algorithm
Duration of this interview: 1Hour
A. Introduction questions
1. What is your position and title?
2. can you describe to me your time at this company?
3. How do you define marketing departments roles and responsibilities in you company?
4. As a marketer how much do you have relevant knowledge and expertise about AI and algorithms?
5. What is your idea those who are marketing or selling algorithms to have to some extend related knowledge and expertise?
6. What is your idea about the close cooperation of marketing with other functions, especially algorithm development function?
7. Have you had similar role as a marketer in other sectors?
8. Are there any differences regarding sales and marketing of algorithms comparing other products(commodities) and services? If yes, these differences refer to the algorithm characteristics or market characteristics?
9. What are the pros and cons of Algorithmic AI-based system from your point of view?
B. Company AI product
10.What are the top business priorities in your company now?
11.What kind of products or service do you offer to your customers?
12.What is your algorithmic product/service characteristics? How do you express it to the customers in terms of tangible or intangible elements?
13.How are customers currently solving the problem that your product addresses?
14.How do your solutions solve the client’s problems?
15.What features do the clients like most about your product or service?
16.How do you feel about algorithms?
17.How do you define tangible or intangible elements of the algorithms in selling process?
C. Marketing the algorithm
C.1. Customer need
18.Who is your audience (product managers, R&D, board members,) during marketing or selling process of your products or services?
19.How do you tailor your marketing and selling process according to your audience?
20.What emotions drive your customers’ buying decisions? Fear? Aspirational desire? Does your messaging align with these emotional needs?
21.How do you capture customer-perceived value?
22.How do you assess the term value-in-use? (field assessment, survey, focus group...)
23.What is your approach to increase value-in-use?

24.How do you get feedback about your service, so you know what to improve, and what to highlight in sales and marketing messages?
25.What changes will customers likely want in the future that algorithm can provide?
26.Have you identified the milestones in the customer journey, and what customers looking for at each milestone? Are you addressing the milestones?
27.Did the customer purchase any ancillary products or services such as training, customizations, etc.?
28.How do you educate and persuade prospects?
C.2.STP (Segmentation, Targeting, Positioning)
29.What is your segmenting method for finding the prospect customers? (organizational size, industry, geographic location, choice criteria or purchasing behavior)
30.How do you identify specific company in the target segments?
31.Did you target the right industries with needs and pain points you can solve?
32.What is your target marketing strategy? Do you use Undifferentiated marketing (company develops a single marketing mix for the whole market), Differentiated marketing (company develops specific marketing mixes to appeal to all or some of the segments), Focused marketing (company develops a single marketing mix aimed at one target (niche) market) or Customized marketing (company develops a discrete marketing mix for each customer)?
33.Do you develop a set of customer personas to understand ideal target customers? What do they look like?
34.How do you collect your prospect customers relevant information?
35.what calls (who is contact point in customer side?) do you make when marketing the algorithm and why?
36.How do you position products and services to link them to the solutions that consumers seek?
37.how they approach companies that you can best convey your benefits? What are the reason customers should choose you?
C.3.Offline marketing techniques
38.There are some offline communications techniques such as Advertisement, sales promotion, Sponsorship, direct marketing, and exhibitions. Which of these techniques are applicable according to your products and services?
39.What kind of message do you want to convey through these channels?
40.How do you use marketing communication tools to deliver clear, consistent, credible, and competitive message about your product and services?
41.How do you develop advertisement strategy? What are your advertising objectives? What messages do you want to convey through advertisement? What is your media choice to deliver the advertising messages?
42.Have you ever used sponsorship as a marketing strategy? What was the objectives of using this strategy? (Gain publicity, Foster favorable brand and company associations, Improve community relations)

43. Have you ever used direct marketing? What methods do you use (direct mail, phone, catalogue)?

44. Exhibitions are unique in that, of all the promotional tools available, they are the only one that brings buyers, sellers, and competitors together in a commercial setting. It can also provide different opportunities like building relationship, collecting competitive information, and identifying prospects. What is your experience?

C.4. Online marketing techniques

45. Content Marketing has been defined as a strategic marketing approach focused on creating valuable, relevant, and consistent content to attract and retain a clearly defined audience. Have you ever used this technique? If yes in which channels, do you share the contents with your audience?

46. Have ever used online advertisement techniques such as display advertisement (Banner advertising, Pop-up advertising, Rich-media advertising like skippable video (popular on YouTube))?

47. Social advertising refers to adverts placed on social media platforms like Facebook, Instagram, Twitter, YouTube, and Snapchat. What is your experience using this advertisement method

Schematic coding

Sector	Candidate position	ID	Sex	Duration
Molecular diagnostics	North-West EU accountmanager	C1	F	72 min
	Global account manager	C2	M	55 min
	Marketing manager	C3	F	75 min
Health care(eye disease)	CEO	C4	M	56 min
	CTO	C5	M	50 min
Human resource management	Marketing manager	C6	F	85 min
Digital transformation consulting	system integrator consultant	C7	M	58 min
	Sales and marketing employee	C8	M	68 min
	Technical manager	C9	M	74 min
	Sale employee	C10	M	65 min
	Business development manager	C11	M	58 min
Telecom	Innovation manager	C12	M	55 min
R&D	Business development manager	C13	M	67 min
	Technical project leader	C14	M	63 min

Interview sampling

Name	Description	Interview fileFiles	Frequency
AI-based product and service	Product/service offering with specific characteristics	14	66
Benefits of AI	What sort of benefits generate through AI-based solution	14	70
Customer need	What are the values expected by the target customers	12	70
Channels	Reaching to target customers through channels	12	34
Concern	What concerns marketeers have while offering AI-based solution	10	52
Creating content	What contents do marketeers create to present product/service	12	32
Customer problem before using AI	What problems customers have currently	10	22
Differences marketing approach	What are the differences marketing AI-based products/services comparing other commodities	14	26
Drawback	Disadvantages of AI-based products/services	10	10
Educating customers	Educating customers for awareness about the AI	12	34
Ethic	Ethical subjects related to AI-based solutions	8	34
Marketer Knowledge About AI	Do marketeers need to have relevant knowledge about AI?	14	34
Marketing challenge	What are the marketing challenges while marketing AI-based products/services	8	40
Marketing function roles	Marketing functions role within the organization	10	24
Marketing message	What message marketeers try to convey to target market?	14	22
Marketing strategy	What strategies do marketeer use to market AI? online/offline marketing? Marketing campaigns,...	14	118
Narratives	What people think about AI	14	56
R&D role	How R&D cooperate with marketing	4	6
Respondent Feeling about AI	What are the respondents feeling about AI as a human being	14	58
STP	Segmentation, targeting, positioning	14	52
Target audience	Who are the target audience and contact points during marketing activities?	12	46

Coding Tree

Step 1	Step 2	Step 3
Convincing customer to buy algorithm	Sales narratives	Discovering the narratives and responding to them
	Customer concern	Algorithm is black box
		Possibility of manipulation
		Privacy concern
		Possibility of bias
		Possibility of algorithm malfunction
	Marketing strategies	Risk of future unemployment
		Customer reference marketing
		Case studies
		Presenting algorithm functionality
		Tailoring marketing communication with different customer profile
		Linking the algorithm to customer need