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The Digitalization in Insurance Broker Industry: How Artificial Intelligence Affect This Industry

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ABSTRACT: This qualitative research explores the impact of digitalization, with a particular focus on artificial intelligence (AI), on the insurance broker industry. In-depth interviews and focus group discussions were conducted with eight senior-level employee and eight younger participants from technology and operations departments, also from client-facing positions. The research aimed to analyze the impact of digitalization, especially artificial intelligence, to the insurance broker industry and to explore whether artificial intelligence is capable to replace an insurance broker role. The findings indicate that digitalization, including the adoption of AI, has brought about significant advancements in the industry. Digitalization efforts have led to streamlined processes, reduced costs, improved data analysis, and enhanced customer experiences. The findings of this research highlight the importance of taking a deliberate and strategic approach to digitalization and AI adoption in the insurance broker industry. Companies should use technology to increase efficiency while maintaining the human-centric elements that are essential for developing strong client relationships and providing tailored insurance solutions.

Keywords: Digitalization, Artificial Intelligence, Insurance Broker Industry, Technology Impact, Business Transformation.

INTRODUCTION

In this globalization era, the usage and the advance of technology has increase which makes a business needs to adapt and fit-in in this new environment. In order to compete in this current situation, businesses have to integrate its system and processes effectively, efficient integration can only be achieved through digital processes and collaborative tools (Angel, 2022). Technology has become a part of human's life, and nowadays everything will be done easier with technology, hence the importance of digital transformation has increased and become a crucial part of the businesses' success. Besides, the COVID-19 pandemic has made this transformation significantly accelerated.

Digital transformation can be defined as strategic transformations targeting organizational changes implemented through digitalization projects, with the goal of enabling major business improvements. Through digital transformation, companies will embed technology to integrate their business and achieve fundamental changes. Organization tends to having difficulties in implementing several changes into their system, but prior research said that successful business transformation is achieved by simultaneously exploiting and exploring what it offers to achieve organizational agility. Digital transformation becomes a big challenge not only for companies, but for nation economy. Although it becomes a new challenge to implement digital transformation into organizations, we can't deny the fact that to be able to stay competitive and maintain the existence in this new era, each business requires new strategies and practices. Among many changes in the industries, 70% of them are develop into the digital world. Digital transformation will influence three main parts of the organization there are customer experience, operational processes, and business models. There are two concepts related to digital transformation, digitization and digitalization. Digitization is the process of translating, convert, or taking analog information into digital form, or widely known as digital enablement and it has been underway since the 1960s. Digitization usually involves several processes such as scanning, optical character recognition (OCR), recording, or sampling. Through digitization, the information can be easily accessible and the most important thing is reducing the needs of paper usage (paperless). On the other hand, as explained by the Gartner Glossary, digitalization is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities. Digitalization also provides productivity improvements, cost reductions, and innovations that also influence digital transformation. One of the digitalization examples is by teaching employee in using technology and make technology is their medium to do their work. In a simple way, digital transformation includes the digitalization effort and digitization support. There are several digital transformation technologies that we can use in order to make the business' process easier, such as cloud technology, the 5G data, robotic process automation (RPA), artificial intelligence (AI) and machine learning. McKinsey says that less than 30% of digital transformation projects succeed and one of the big reasons is because companies don't adequately leverage artificial intelligence (AI). According to the 2022 report by Research and Market, it is predicted that artificial intelligence (AI) able to achieve 52% of compound growth rate by 2025 and expected to increasingly used in diverse organizational practices (Mohammad, 2020; Plekhanov et al., 2022; Smith & Jones, 2020).

One the significant breakthrough in this digitalization era is the invention of Artificial Intelligence (AI). Researcher and scientist have developed this technology from early 1940 which they've explored the possibilities in building artificial brains. Artificial intelligence builds from various concepts such as software creation, data transmissions, and computing (Mohammad, 2020), and it has an important role in integrating the business proven by the increased of AI usage in industry practices due to its function in creating new types of human-machine configurations (Bloomberg, 2018; Deloitte, 2010). Artificial intelligence breaks the majority's statement that previously stated some things seems impossible to be replaced by technology for example a copy writer, in the past 10 years people will find it doesn't make sense that a technology can create an interesting caption for their Instagram business, but now we can easily use an AI (Gartner, 2022b; Hanna, 2022). AI has been used in such diverse areas such as in management decision making, manufacture, and design. Artificial intelligence also famous in the field of cyber related, such as cyber security and cyber-attacks issues. Computer hacking, email phishing, loss of data are the examples of cyber-

attacks that currently often happen and become the worldwide issues, and one of the advantages of using artificial intelligence is AI able to play a critical role in prevention and ensuring the hackers can't access the confidential information in the cloud storage system (Holmstorm, 2022; Huang et al., 2019; Jenskin, 2023; Kaput, 2022). There are several examples from the implementation of using AI technology such as machine learning that can be used to make a decision, robotics which able to perform human job, robotics who understand the humans' instruction and prevent the accident that might happen, chatbot services, and programmatic advertising and emotional. Artificial Intelligence aims at creating machines that can think and work like a human brain, that's why AI is closely connected with the idea of personalization. Previously, personalization can be done only by 'real' human because it needs deeper understanding to understand people, but now a technology also able to do it and even the deliverable is closely similar to what the human can deliver because the AI was built to able absorb as many information as possible through the database or internet, hence one of the reason artificial intelligence is popular among organizations because it can cut costs and enhance the quality of services, coordination, productivity, and practice efficiencies. Artificial intelligence also closely related to customer relationship management (CRM), CRM plays with billions of customers' data and since the organizations' interest started to change from sales-focused to customer satisfaction focused then it needs extra effort and strategy to be able to implement both, managing and analyzing customers' data and understanding the customers' need and implement personalization in our business for the customer. Customer relationship management (CRM) needs technology support for their activity (collecting, managing and analyzing) to develop the personalization strategy which meets the customers' need to be able to increase the customers' retention through the exceptional customer experience. With the intelligence of AI, the companies can create finely-tuned segmentation which lead to a good CRM system. The AI technology is enjoyed not only for the companies who implemented the CRM systems, but also for the customers' who use the CRM system and it becomes an essential tool to survive in the CRM context. The core benefits that AI can give for the CRM implementation are it can help to improve the customer services for example call center, live chat, personalized recommendation, and even in the cosmetic industry there are online try-on for makeup, through the integrated and high-quality customer services it can increase the customer retention which lead to the increase of company's revenue. Secondly, AI can help the company create the precise customer segmentation based on the customers' data, it would be very useful if the company can classify their similar or look-a-like customer into the same group, and it makes the personalization of their needs become easier. Thirdly, AI can help improve the customization of marketing, it will help the company to create the right marketing strategies to the right target of audiences (Kouroupis et al., 2021). It is predicted that in future years AI will dominate the business operation, and some years later, companies will deliver goods using robots purchased by the people. If it is really happening, then in the future the existence of AI become a threat for human, it will lead to the loss of human labor since it can be replaced by technology and people have to be aware and prepare on how to survive in the future because people will compete with AI who has lots of advantages. Some company and occupation that work with lots of data, mostly has embedded AI to make their work easier, one of them is in the insurance industry (Latorre & Emilio, 2015; Liu et al., 2018; Mittelstadt et al., 2016; Yaneva, 2022).

As explained in the Indonesian Financial Services Authority or OJK report, insurance is an agreement between the insurance company and the policy holder which forms the basis for the

receipt of premiums by the insurance company as an imbalance . The insurance industry is closely related to risk management, it manages the risk in the form of insurance policy. The first American insurance industry was founded in the 1752, and since then the insurance industry has evolved to become a global industry which helps people and organizations in managing their risk using sophisticated techniques (Brown & Milliman, 2017). The Association of British Insurers stated that the insurance company creates insurance product to cover the client's risks in return for the premium that the client's paid. In the insurance industry, the core players are the insurer or insurance company and the client (corporate or individual). In leveraging the business, insurance company usually has an insurance agent to increase the number of sales and the insurance agent will work on behalf of the insurer. Besides, there is also an insurance broker industry who works on behalf of the client and often called as the client's representative, they may be engaged in consulting, wholesale or reinsurance activities, alternative risk financing, risk analysis and human resource consulting activities. Over the last few years, insurance industry has shown their remarkable improvement and resilience in overcoming obstacles, it is in line with the evolving of insurance broker industry (Briggs et al., 2020; Taylor, 2020; Zeier, 2018). However, during the pandemic COVID-19 and conflict between Russia and Ukraine there's a significant negative impact on the insurance broker industry which the growth of this industry is hampered due to the economic issue. In general, its impact is varied depends on the products and type of coverage but in overall there is a similar change in every line of business which is on the rate of insurance and the share or capacity that the insurance can give to cover the risk. This changes really give new challenges to the insurance broker industry because they are closely related to the insurance company, once the insurance company facing difficulties in searching for the backup from reinsurance market which leads to the increase of rate, then it requires an insurance broker to search and negotiate for the best terms with the best price harder. Besides if we look at the bright side, through the COVID-19 pandemic, the insurance customers now value their health and insurance plans more than ever and now, they are willing to spend their money to protect themselves . The conflict from Russia and Ukraine also gives impact on the organizational and corporate level, they suffer from loss and economic issue because of the conflict, it raises their awareness on protecting their assets more hence their awareness on the importance of using insurance coverage is arising. In this challenging situation, the increase number of corporate who wants to buy the insurance coverage is accompanied by the abundant data they give for the insurance broker to proceed further and find the best terms of coverage for them, and those insurance broker who are able to stand and grow during this time are those who are embracing technology and applying it throughout their product and customer lifecycles (Jacobs, 2022). There is no doubt that the industry is under pressure from digitalization, but to be able to stand out in this era the industry has to increase and implement their autonomy using technology in the development of their activity within the distribution channel. Insurance broker need to have a good understanding of how technology can boost the insurance industry growth rate. To be able to compete with other insurance broker, they have to evaluate and improve their processes because the operational gaps and undefined sales processes can drag down the entire business. In order to keep up with the sales target and retaining their client, insurance broker needs to optimize their workflows. With the born of Artificial Intelligence (AI), it really makes the insurers' work become easier such as it enables them to proceed big data, automate the underwriting process, analyzing the claims request, and smoothen the whole process.

The insurance broker industry surely seeing the impact from this digitalization process, currently AI can work as a human brain, can do the personalization, even processing big data, hence this comes up with worries if the AI can replace the role of insurance broker. And that is the reason why the researcher wants to do deeper research on how deep the AI can impact the insurance broker industry, moreover it is predicted that in the future there will be more robots as an employee than human (Ali, 2010). The research objectives are to analyze the impact of digitalization, especially artificial intelligence, to the insurance broker industry and to explore whether artificial intelligence is capable to replace an insurance broker role. This research will give new insight to the reader and the researcher regarding the digitalization specifically AI impact to the insurance broker industry which will be useful for the researcher who works in the insurance broker industry to find out then implement the added value as an insurance broker compare to what the technology which is AI can give. This research's timing and relevance are critical in comprehending the industry's future transition since it is at the forefront of upcoming technology developments. However, artificial intelligence (AI) in the insurance broker sector is an important advancement which brings along both intriguing possibilities and difficult challenges (Herrmann, 2023; Jadli et al., 2023; Sharma & Sarode, 2023).

There are opportunities and challenges associated with the potential for artificial intelligence (AI) to replace some functions, including those carried out by insurance brokers. Researchers examining the effects of AI on the insurance industry must comprehend the implications, ethical issues, and changing role of human brokers in this context. The following are the issues on why the researcher is interested in conducting this research:

Table 1. Problem Identification during the Research

Problem	Explanation
Repetitive tasks can be simplified through automation using AI	In the insurance brokerage sector, insurance brokers are typically responsible for handling repetitive tasks in certain straightforward cases. This entails processing claims, analyzing data, and coming up with policy recommendations based on predetermined standards. In the meantime, routine tasks can be automated by AI, and this automation can boost productivity and cut expenses.
The awareness of AI usage to enhance data processing	AI enables more complex risk assessments due to its rapid large dataset analysis. AI can enhance insurance brokers' data-driven recommendations, leading to more precise risk assessments and personalized policy offerings.
Industry adaptation to technology and digitalization	Companies may need to make investments in staff development and training in order to

	adjust to the shifting environment. To stay relevant in an AI-driven world, insurance brokers might need to pick up new knowledge in data analytics, artificial intelligence, and customer relationship management. as carried out by Marsh McLennan, who began utilizing AI - machine learning called LenAI for their employees.
Public perception on reducing human with technology	The public's perception of artificial intelligence (AI) replacing human labor is vital, particularly in delicate fields like insurance. Researchers could look at how public perceptions affect AI adoption in the insurance industry and whether worries affect market acceptance.

From the previous research done by (Kumar et al., 2019) with the title "Artificial Intelligence in Insurance Sector", it has aims to understand the advantages of using artificial intelligence (AI) in the insurance industry and to know the market penetration of artificial intelligence in insurance services to address continuing issues and improve customer happiness in the hospitality industry. The researcher created a conceptual model based on AI notions, and using empirical quantitative research to verify the model. This research brought talked about several study cases, with a sample of multinational companies and InsurTechs. This research shows that artificial intelligence helps insurance industry to speed up the process of developing product innovation, also can bring new innovative products and services to the market. Secondly, artificial intelligence can help the insurer to optimize the sales and marketing process by creating the personalized services and insurers can utilize machine-learning algorithms to construct complicated models to improve client lifetime value and increase potential for cross-selling and product suggestion, as seen in the retail industry. Thirdly, artificial intelligence can help insurer to improve the customer experience by automatized the operational of claims processing and customer engagement using live chat customer services. Artificial intelligence can optimized and speed up the underwriting process, by help with redundant incompatible old systems clunky-scattered, diverse data by analysing multiple types and amounts of data in less time. It also said that artificial intelligence can optimize the risk pricing by enhancing pricing models with data supplied by next-generation telematics. With the advance of technology, artificial intelligence can help fighting the insurance fraud. Moreover, artificial intelligence will shifting the cyber insurance into solutions by understanding the new vulnerabilities in the system infrastructure and operations by anticipating risk more precisely than an actuary. Artificial intelligence can help quantify the risk of autonomous vehicles because current statistical models can't handle abundance amounts of data, then we must employ AI to underwrite, assess risk, and plan for the future growth of autonomous vehicles.

The second research done by (Zeier, 2018) with the title "Digital Insurance Brokers—Old Wine in New Bottles? How Digital Brokers Create Value". The aims of this research is to provide a better understanding of the digital insurance broker business model in Germany, Switzerland, and Austria, or also known as the DACH region, and to characterize the business model aspects and

propose potential alterations and future opportunities. This research done by analysing the business model of digital brokers through the literature study. This research shows that the retail customers in the DACH region targeted by the investigated digital brokers previously predominantly used aggregators, direct insurer channels, and bound insurance agents to compare, purchase, and manage their insurance portfolio. It is found that digital brokers are appealing because they can provide better and more convenient service at lower rates than traditional brokers and insurers can. In the DACH region, digital brokers' business models are now extremely comparable to those of conventional brick-and-mortar brokers, according to a review of the business model on the four levels of who, what, how, and value, the primary distinction is in how the service is delivered digitally and how it is communicated and the provision of increased convenience was the key goal. Efficiency and complementarity are the core value that current company models produce. Besides, there also another potentials that haven't been utilized such as the researcher has been concerned regarding the use of large amounts of client data to provide new knowledge that improves risk management and comparison shopping which this point becomes advantageous to the digital brokers since they have a thorough consumer profile that covers all risk levels. The second possibility relates to platform growth in order to produce new content and services with added value, providing the new added value to the customers can increase the number of customer retention. To summarize, the conclusion of this research is that the key success elements include critical mass, high levels of automation, and utilizing data and infrastructure to create novel, value-adding content and services that go beyond conventional intermediation.

The third research article is done by Dr. Ben Kajwang (2021) with the title "Challenges Faces Insurance Broker in Kenya". The purpose of this research is to identify and explore the issues that insurance brokers face in Kenya and their influence on the insurance sector, like other industries, the insurance broker industry has encountered challenges that have jeopardized its efficiency, profitability, and ability to compete. This research will be analyzed qualitatively through a desktop literature review. The findings of this study are that the majority of the issues that insurance brokers confront are created by the insurance industry's ever-changing technology or digitalization, which this impacts the contact between insurance brokers and consumers, which is critical to enhancing the company's efficiency and profitability. These evidences triggered the insurance broker industry in order to increase client experience and workflow efficiency, they must devise easy and convenient digitalization methods that will allow the insurance industry to retain an adaptive strategy for making informed judgments on each situation that arises. One of them is by increasing the cyber security, since in nowadays era insurance brokers utilize the online platform to attract and effectively communicate with their customers. The researcher recommendation for the insurance broker industry in order to fit in in this current situation is that Insurance brokers should consider to develop the digital technologies that enable purchasing insurance products, managing policies, submitting and tracking claims, and establishing long-term connections with their consumers quicker and more convenient.

METHOD

The theoretical foundation of AI in the context of broker insurance is based on several of fundamental subfields of artificial intelligence. Firstly, machine learning, the creation of algorithms and statistical models that allow computer systems to gradually get better at a task without explicit programming is known as machine learning, and it is a subset of artificial intelligence. Machine learning is utilized to risk assessment, fraud detection, and predictive modelling in the insurance sector. With the use of algorithms, insurance brokers can make better decisions by identifying patterns and trends in historical data. Secondly, Natural Language Processing, it has to do with computers' capacity to comprehend, translate, and produce human language. It is a subfield of artificial intelligence that focuses on natural language communication between computers and people. Insurance brokers can improve document handling and client communication efficiency by using natural language processing (NLP) to extract insightful information from unstructured textual data. Thirdly, by utilizing statistical algorithms and machine learning methods, predictive analytics determines the probability of future events based on past data. In the insurance brokerage industry, predictive analytics able to help with pricing strategies, trend forecasting, and risk identification. This makes it possible for brokers to provide clients with more precise and affordable insurance products. Next is leveraging AI to do the algorithmic decision making, by using algorithms to automate and improve the decision-making process. Algorithmic decision-making can help with underwriting, claims processing, and risk assessment in the insurance brokerage sector. By automating repetitive decisions, it increases efficiency and gives up human brokers to concentrate on more strategic and complex work.

The qualitative research conducted for this study utilized a combination of in-depth interviews and focus group discussions to explore the impact of artificial intelligence (AI) on the digitalization of the insurance broker industry. The research participants were selected based on their expertise and involvement in the insurance broker sector and their knowledge of AI implementation. In-depth interviews are a type of data collecting approach in which the researcher interacts directly with the informant in order to gain a full grasp of the examined issue. The researcher hopes to get deep insights and a complete picture of the informant's viewpoints, experiences, and beliefs through these interviews. This strategy allows the researcher to dive deeply into the informant's ideas and feelings by participating in intimate and in-depth dialogues, gathering rich and nuanced information that leads to a full study of the research issue. In-depth interviews were conducted with key stakeholders and industry experts, including senior executives, insurance brokers, technology specialists, and AI developers. The questions covered a wide range of topics, such as the challenges and opportunities of AI implementation, the effects on business operations, customer experiences, and the potential for AI to shape the future of insurance broker services.

Participants from various parts of the insurance broker business were invited to participate in focus group talks in order to generate participatory and dynamic interactions. These dialogues permitted the investigation of shared ideas and experiences, as well as the identification of common themes and trends regarding AI's impact on digitalization in the insurance broker market. This method are especially valuable for eliciting information about group dynamics, social norms, and shared ideas, as well as detecting common themes and patterns among members. Data from interviews and focus groups showed AI's significant impact on the insurance broker industry's digital

transformation. Thematic analysis revealed recurring patterns, and triangulation confirmed the findings' reliability, providing valuable insights for informed decision-making.

Sixteen participants from a variety of roles within the insurance broker industry participated in focus groups and in-depth interviews that were used in this research. The selection of the participants was done carefully to ensure that there was a fair mix of younger and senior professionals. In-depth interviews and focus group discussions were conducted with eight senior-level employees (Manager, Assistant Vice President, and Vice President from Operation and Technology Division, Technology and Service Division, Client Facing Division), their extensive experience and leadership positions within these divisions gave them a thorough understanding of the technological and operational environments of the industry. Also, eight younger participants from Technology and Operations Division, Placement Division, and Client Facing Division, insights into the experiences and viewpoints of the younger workforce were provided by the active participation of individuals in the operational and client-facing aspects of the industry. By adopting a qualitative research approach, this study aimed to provide a nuanced and in-depth exploration of the role of AI in shaping the digital landscape of the insurance broker industry. The findings generated from this research contribute valuable insights to industry practitioners, policymakers, and academics, helping to navigate the opportunities and challenges brought forth by AI's integration into the insurance broker domain.

The difference between this research and previous research, this research intends to shed light on the complicated interplay between AI and insurance brokers through a complete analysis that includes changing industry trends, difficulties, and prospects. The research attempts to provide a strong foundation for its assertions by giving empirical evidence, such as data from surveys, case studies, and interviews. An important area of focus is the investigation of whether AI is capable of replacing insurance brokers, as well as the exploration of the limitations and complexities involved, as well as the consideration of hybrid models that combine human expertise with AI tools.

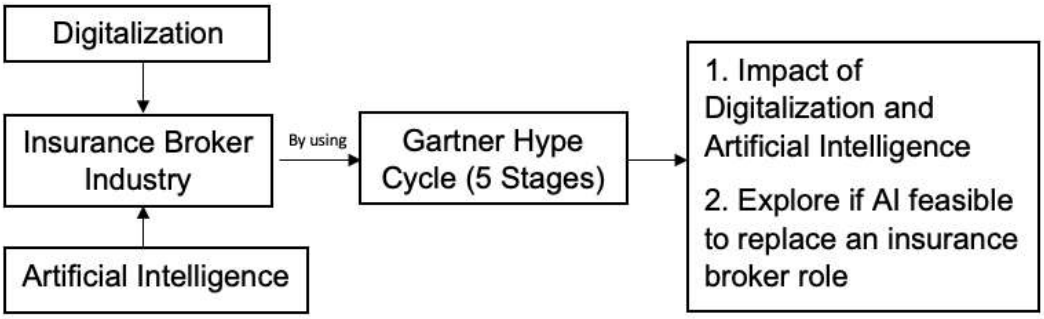

Figure 1. The Conceptual Framework Of This Research

To investigate the influence of digitalization and AI on insurance brokers, the conceptual framework blends the ideas of digitalization, AI, and the insurance broker sector with the Gartner Hype Cycle. This framework assists in identifying the potential and problems that occur along the road towards a digitized and AI-driven insurance broker market by comprehending the many stages of technology adoption, from early excitement to mainstream integration. The five stages

of the Gartner Hype Cycle theories are technology trigger, peak of inflated expectations, trough of disillusionment, slope of enlightenment, and plateau of productivity (Gartner, 2021, 2022a, 2022c).

RESULT AND DISCUSSION

This research was conducted using a qualitative approach, employing in-depth interviews and focus group discussions with a diverse set of participants. Eight senior-level managers and eight younger participants from departments with strong ties to technology and operations participated in the study, also who came from departments with less strong ties to technology and more emphasis on client-facing positions. These conversations and interviews were conducted in order to gather important insights into the viewpoints of the younger generation and the more seasoned senior management, who each have different positions and experiences within the firm. The research attempted to acquire a thorough grasp of the organization's dynamics and how technology influences various areas of the company by collecting information from these various groups.

a. Technology Trigger

The insurance broker industry has shown a proactive approach to digitalization in the "Technology Trigger" phase, emphasizing the integration of modern digital technologies into their business processes. Based on the interview with Senior-Level employees, especially those from the Operation and Technology Division, here are several key findings:

- **Paperless Document Management**
  The industry's intentional move to move away from paper-based paperwork like invoices and slips is in line with digital transformation. This move demonstrates a dedication to sustainability by streamlining internal procedures and following to eco-friendly standards.
- **Digital Signature**
  The use of digital signatures is a major development in technology. Through the removal of the need for physical signatures and the reduction of tedious documentation procedures, this implementation has increased the speed and security of contracts and transactions.
- **Customer-Focused Approach**
  The extensive digitalization plan demonstrates the industry's commitment to staying current and competitive. This not only improves internal efficiency but also makes it possible for the sector to respond to the shifting needs of customers by offering a more seamless and customer-focused experience.

This stage is indicative of the industry's proactive approach, as it has embraced modern digital technologies to streamline internal operations and establish itself as an environmentally conscious and technologically advanced player in the broader insurance market. The following theoretical analysis that support these advancement:

- **Theories of Technology Adoption:** The industry's successful use of digitalization is consistent with the theories of technology adoption, which hold that businesses should

strategically adopt new technologies in order to obtain a competitive edge. Adopting digital signatures and moving toward a paperless environment are consistent with the advantages of technology adoption as seen by many.

- **Theories of Environmental Sustainability:** A commitment to environmental responsibility is reflected in the move toward digital documents as part of the digitalization plan. This is in line with theories that highlight how technology can help promote sustainability by decreasing the amount of paper used and the ecological impact of the industry.

Overall, the industry's ability to develop and adapt is demonstrated by the effective deployment of digitalization, which strengthens their position as a progressive and tech-savvy sector within the larger insurance market. The insurance broker industry has demonstrated a proactive and well-planned approach to the digital transformation by effectively navigating the "Technology Trigger" phase. This initial phase of digitalization emphasizes the industry's capacity to develop and maintain its leadership position in technological innovations within the insurance broker industry, setting the groundwork for later stages.

b. Peak of inflated expectations

The insurance broker industry observes the significant effects of digitalization on business procedures during the "Peak of Inflated Expectations" stage. This revolutionary change shows up as more efficient operations, lower expenses, better client response times, and the possibility of increased productivity. Based on the interview with Manager and Assistant Vice President from Client Facing Division also four younger participants from Client Facing Division, here are several key findings:

- **Advantages of Digitalization**
  Digitalization is crucial for streamlining processes, cutting expenses associated with operations and storage, and improving performance which it increased the efficiency of operation. At the same time that operating costs are declining, the industry is becoming more responsive to client demands.
- **Data Insights and Analytics**
  Digitalization makes data analytics and insights possible, giving organizations the ability to assess risks and make well-informed decisions.
- **Flexible Working Hours**
  Digitalization gives workers the option to work from home (WFH) or the office (WFO), which promotes work-life balance and increases productivity according to scientific studies.
- **Communication Advancements**
  Digitalization makes it easier to communicate both internally and externally with clients and insurance companies, which boosts business agility and makes transactions possible from any place.
- **Artificial Intelligence (AI) Exploration**
  The industry is taking a cautious "wait and see" approach to evaluate the possible benefits and limitations of AI, rather than fully embracing it. Applications of AI, like Marsh's policy checks, were deemed experimental and their implementation was halted, probably because

of budgetary limitations. Even though some efforts have been made, like Marsh McLennan's LenAI (Machine Learning) experiments, the full impact of AI has not yet been felt, particularly in Indonesia.

- **Combining AI with Other Digitalization Elements**
  Although the adoption of AI is still in its early stages, other aspects of digitalization, such as the use of robotic processors for mail delivery in Japan and bridge screening for client background checks, indicate ongoing efforts to increase productivity and efficiency.

This phase is characterized by an obvious move toward cost containment, increased responsiveness to customer needs, and improved operational efficiency. The industry, which has embraced digitalization, is witnessing improvements like better communication and flexible work schedules, which demonstrate its dedication to remaining at the forefront of technological advancement. As we enter this critical phase, theoretical analysis is essential to understanding the underlying dynamics of the impact of digitalization and the industry's nuanced approach to adopting AI, such as:

- **Technology Hype Cycle:** The industry's experiences are consistent with the theory behind the cycle, which states that after the initial "Peak of Inflated Expectations" of excitement and expectations, a more clean evaluation of the advantages and difficulties arises.
- **Innovation Adoption Theories:** The cautious approach to adopting AI is consistent with innovation adoption theories, in which organizations assess possible risks and benefits prior to implementing AI widely.
- **Theories of Productivity and Technology:** Theories emphasizing the effects of technology on workforce dynamics and efficiency are consistent with the focus on flexible work arrangements and the corresponding increases in productivity.

Overall, despite the fact that digitalization has already had a positive effect in a number of areas, AI adoption and integration are still in the early stage. Companies are taking a cautious stance as they wait to see how AI develops and how it can be successfully used to progress the sector. The sector is anticipated to experience even more revolutionary developments and advances in the near future as technology develops. The "Peak of Inflated Expectations" phase sheds light on how the digital transformation has revolutionized the insurance broker industry, improving operations and reducing costs. This stage lays the groundwork for future developments, which should see an evolution in the adoption and integration of technology, resulting in additional advancements and efficiencies for the insurance broker sector.

c. Trough of disillusionment

The insurance broker industry's "Trough of Disillusionment" phase offers a nuanced viewpoint on the effects of digitalization and the difficulties involved in implementing and ending artificial intelligence (AI). The adoption of AI has been fatigued, which is explained by difficulties with data and the need for meticulous planning. However, the potential effects of AI on relationship management and negotiation give rise to worries about the loss of human interaction. Based on the interview with Manager, Assistant Vice President, and Vice President both from Client Facing Division and Technology related division, also eight younger participants from Client Facing

Division and Operation and Technology Division, along with the focus group discussion between those eight younger participants, here are several key findings:

- **Digitalization's Twofold Effect**
  Innovations and increased productivity brought about by digitalization have improved accessibility and efficiency for both consumers and enterprises. By taking advantage of digitalization, *insurtech* companies put traditional brokers at risk by providing competitive, creative insurance solutions more quickly.
- **Implementing AI Presents Difficulties**
  The difficulties in gathering and combining data for AI capabilities could prevent its successful application. AI systems' high maintenance and development costs could lead to their eventual discontinuation.
- **Reduced Effect of AI on Relationship Management and Negotiation**
  The use of AI in automation and data analysis contrasts with its limited impact on the art of relationship management and negotiation in the insurance broking industry, this highlights the necessity of the human element. Besides, if AI is used exclusively, it could result in standardized solutions, which would limit its ability to adapt to unique customer preferences and conditions.
- **Importance of Human Touch**
  The industry's dependence on enduring alliances highlights the value of a human touch in fostering connections and trust with customers. Meanwhile, artificial intelligence's limited capacity to replicate in-person interactions could compromise the industry's capacity to offer innovative and customized insurance solutions.

Financial concerns, integration difficulties, and data acquisition complexity are the main reasons for the reluctance to fully adopt AI. The limited impact of artificial intelligence on the human-centered elements of insurance broking negotiation and relationship management has drawn particular attention, prompting concerns about the preservation of the crucial human element. In order to understand the underlying dynamics of this phase, which include industry disruption, technology adoption theories, and the complex interactions between technology and the essential human element in the insurance broker sector, a theoretical analysis is essential such as:

- **Theories of Technology Adoption**
  The difficulties in implementing AI are consistent with these theories, highlighting the necessity of meticulous preparation, data synchronization, and continual improvement for a successful integration.
- **Theories of Industry Disruption**
  The rise of *insurtech* disruptors is consistent with theories of industry disruption, in which cutting-edge technologies upend conventional business models.
- **Human-Computer Interaction Theories**
  The limited effect of artificial intelligence on relationship management and negotiation brings to light theories of human-computer interaction that emphasize the value of human instincts, emotions, and interpersonal skills in particular contexts.

The impact of AI on the insurance broker sector is a major contradiction. While AI has showed extraordinary skills in a variety of domains, including data analysis and automation, its influence on the art of negotiation and relationship management in this business has been limited. Insurance broking entails complicated transactions that necessitate expert negotiators who can comprehend customers' individual needs and create arrangements that are in their best interests. Human touch and interpersonal skills are critical in developing trust and connection with clients, recognizing their specific needs, and providing customised solutions that satisfy those needs. Experienced brokers' instinctive ability to interpret body language, emotions, and nonverbal clues during negotiations is an invaluable component of their skill. If artificial intelligence were to replace human negotiators, the nature of these human-to-human interactions would be lost, resulting in uniform and less flexible conclusions. Every negotiation would be conducted in accordance with a pre-set formula, resulting in a lack of flexibility to specific conditions and individual customer preferences. This loss of personalisation may reduce customer satisfaction and loyalty because customers may believe that their specific problems and preferences are not being effectively addressed. Furthermore, the insurance broker sector is based on long-standing partnerships. Face-to-face encounters, which AI cannot completely reproduce, are frequently used by brokers to develop trust and trustworthiness. The personal connection a customer has built with their broker is important to them when they need insurance advice or help, and they rely on their broker's expertise and comprehension of their needs. By depending only on AI, the sector risks becoming excessively reliant on standardized solutions, thus jeopardizing its ability to supply clients with creative and tailored insurance products. A lack of human touch may also limit brokers' capacity to manage more complicated or delicate agreements that need emotional intelligence and sensitivity.

d. Slope of enlightenment

The insurance broker industry goes through a transformative shift in the "Slope of Enlightenment" phase when successful digitalization initiatives show to be appropriate and effective. Digitalizing documents, digitizing data faster, and incorporating automation improves overall productivity and puts the sector on the path to enlightenment. Based on the interview with Senior-Level employees (Vice President), especially those from the Operation and Technology Division, here are several key findings:

- **Benefits of Digitalizing Documents**
  Decrease in paper-based system, digitizing documents helps to speed up, improve efficiency, and protect the environment by reducing the need for antiquated paper-based systems.
- **Accelerated Data Entry**
  Digitalization speeds up the acquisition and handling of input data, leading to more accurate analyses and well-informed choices.
- **Increasing Efficiency with Automation**
  Process and ticketing tasks are much more efficient when automated and digitalized, freeing up staff to concentrate on more strategically and value-added tasks.
- **Recognizing Enlightenment Slopes**

The industry has reached a point of enlightenment where it understands the complete advantages of implementing innovative technologies through effective digitalization initiatives.

- **Opportunities for small and medium-sized businesses**
  By embracing digitalization in insurance products, SMEs can improve their insurance operations, obtain real-time data, and make well-informed coverage decisions, ultimately reducing long-term risks.
- **Obstacles and Undiscovered Opportunities**
  In spite of alluring benefits, the insurance industry's digitalization has not yet reached its full potential for SMEs. Innovations are required to handle special challenges, enhance platform usability, increase product offerings, and guarantee excellent customer support.

Within the ever-changing insurance broker industry, the "Slope of Enlightenment" denotes a critical juncture at which transformative benefits have been brought about by successful digitalization initiatives. This stage illustrates how the industry's relationship with technology is changing, but it also shows how untapped digitalization's potential is for improving operations and lowering risk, especially for SMEs. In order to understand the underlying dynamics of this phase, a theoretical analysis is essential such as:

- **Theories of Technology Adoption**
  The effective digitalization projects support the theories of technology adoption, showing how implementing cutting-edge technologies improves operational effectiveness.
- **Theories about Innovation and SME Growth**
  The investigation of unexplored opportunities for SMEs is consistent with theories that highlight how strategic digitalization adoption can foster innovation and growth opportunities for smaller businesses.
- **Theories of customer relationship management**
  The demand for enhancements in customer support and platform usability is consistent with these theories, which highlight the significance of seamless customer experiences in the digital age.

The insurance broker industry's shift to fully embracing digitalization is represented by the "Slope of Enlightenment". Acknowledging the accomplishments, attention turns to unrealized potential, especially for small and medium-sized enterprises (SMEs), where digitalization can be a game-changer in terms of risk mitigation and operational improvement. More advancements and improvements in the industry are required to solve unique difficulties and meet the different demands of SMEs, this involves improving the usability of digital platforms, growing the selection of insurance products accessible, and offering strong customer assistance for a smooth experience.

e. Plateau of productivity

The insurance broker industry demonstrates a workforce in the "Plateau of Productivity" phase that is not only tech-savvy but also actively using digital tools to increase efficiency. A more effective and productive work environment has been achieved through the streamlining of operations, reduction of manual labor, and simplification of workflows through automation and digital technologies. Based on the interview with Manager, Assistant Vice President, and Vice

President both from Client Facing Division and Technology related division, also eight younger participants from Client Facing Division and Operation and Technology Division, along with the focus group discussion between those eight younger participants, here are several key findings:

- **Employee Technology Knowledge**
  Most staff members show that they are knowledgeable about and flexible with new developments in technology, which suggests that they are open to utilizing digital tools and solutions.
- **The Effect of Digitalization on Efficiency**
  Digital and automation technologies reduce labor-intensive manual labor, accelerating operations and boosting output. Digitalization streamlines processes, which helps staff members accomplish their jobs more quickly and efficiently, increasing output as a whole.
- **Improved Cooperation and Exchange of Information**
  The availability of technology-driven solutions makes team members more cooperative and communicative, which promotes a responsive and adaptable work environment.
- **Making Well-Informed Decisions**
  Digitalization makes it easier to analyze and interpret data, which supports more intelligent decision-making and boosts output.
- **Attained Productivity Plateau**
  The industry's outstanding technological integration has led to a plateau in productivity, exhibiting more productivity overall, improved performance, and efficient processes.

Within the insurance brokerage industry, the "Plateau of Productivity" represents a stage in which employees' technological proficiency blends in with the incorporation of state-of-the-art digital solutions, resulting in increased output and operational effectiveness. Examining how the sector's skill at utilizing technology has advanced it to a point where productivity, performance, and efficiency are now synonymous with the teamwork of an experienced workforce and cutting-edge digital solutions that link it to theoretical analysis is crucial.

- **Organizational Technology Adoption Theories**
  These theories highlight the significance of employee readiness for successful implementation and are consistent with the workforce's familiarity with and openness to technology.
- **Theories of Human-Computer Interaction**
  Human-computer interaction theories align with the enhanced cooperation and communication that arises from technologically driven solutions, highlighting the beneficial effects of technology on social dynamics.
- **Theories of Technology Productivity**
  The development of a productivity plateau is consistent with theories emphasizing the role of technology in process optimization and raising overall productivity levels within businesses.

The "Plateau of Productivity" phase reveals how the insurance broker industry has skillfully incorporated technology into its operations, producing a workforce that efficiently uses digital tools to boost productivity. Because of the beneficial effects on teamwork, communication, and decision-making, the industry is now at a plateau where skilled workers and technology work

together to achieve maximum productivity. Overall, the industry has reached a productivity plateau because to the excellent integration of technology, where efficient processes, enhanced performance, and overall productivity have been achieved via the combined efforts of knowledgeable staff and cutting-edge digital solutions.

CONCLUSION

Conclusively, the insurance broker industry has effectively adopted digitalization, experiencing advantages like optimized procedures, increased effectiveness, and a transition to sustainable data retrieval. Automation and the use of digital tools have significantly enhanced data processing and collection, enabling better informed decision-making. Still in its early stages, artificial intelligence (AI) integration in the insurance broker sector is being carefully explored by organizations as they weigh the advantages and disadvantages.

The research objectives aimed to analyze the impact of digitalization, particularly AI, on the insurance broker industry and explore the possibility of AI replacing the role of insurance brokers. According to the findings, while AI excels at data analytics and automation, it falls short in critical areas such as negotiation and relationship management. The human touch and interpersonal skills required to understand customer needs and provide tailored solutions cannot be fully replicated by AI. Despite AI's promise in areas such as data analysis and process simplification, it is clear that AI cannot fully replace insurance brokers. Insurance brokers' unique expertise, interpersonal skills, and personalized service are essential for building trust, understanding individual client needs, and providing tailored insurance solutions. The research emphasizes the significance of recognizing both digitalization and human expertise in shaping the future of the insurance broker industry.

REFERENCE

Ali, N. (2010). *Internal marketing: an exploratory study of the implementation of internal marketing in small insurance brokers in the UK.*

Angel, M. (2022). *Insurance Brokers' Behavior: The Effect of Policy Collection on Management Decisions*. Catholic University of Valencia.

Bloomberg, J. (2018). *Digitization, Digitalization, And Digital Transformation: Confuse Them At Your Peril.* https://www.forbes.com/sites/jasonbloomberg/2018/04/29/digitization-digitalization-and-digital-transformation-confuse-them-at-your-peril/?sh=5df12abb2f2c.

Briggs, G., Campbell, M., & Crowther, S. (2020). *COVID-19: Implications for insurance brokers*. Dac Beachcroft Blogspot.

Brown, Z., & Milliman. (2017). Improving Communication in the Insurance Industry. In *International Insurance Society in 2017 Leaders of Tomorrow Program*.

Deloitte. (2010). *Impact of COVID-19 on the Insurance Sector*. https://www2.deloitte.com/content/dam/Deloitte/ie/Documents/FinancialServices/Impact_of_COVID-19_on_the_Insurance_Sector.pdf.

Gartner, I. (2021). *Understanding Gartner's Hype Cycles*.

Gartner, I. (2022a). *Hype Cycle for Compute*. https://www.gartner.com/en/information-technology/glossary/hype-cycle.

Gartner, I. (2022b). *Hype Cycle for Infrastructure Strategy*. Dawson, P., & Hill, N. https://www.gartner.com/en/information-technology/glossary/hype-cycle.

Gartner, I. (2022c). *Hype Cycle for Workload and Network Security*.

Hanna, T. (2022). *Digitization*. https://www.techtarget.com/whatis/definition/digitization.

Herrmann, B. (2023). The perception of artificial-intelligence (AI) based synthesized speech in younger and older adults. *International Journal of Speech Technology*, *26*(2), 395–415. https://doi.org/10.1007/s10772-023-10027-y

Holmstorm, J. (2022). *From AI to digital transformation: The AI readiness framework*. Kelley School of Business.

Huang, C., Chan, H., & Han, L. (2019). The Role of Artificial Intelligence in Financial Services: A Framework for Financial Institutions. *Journal of Financial Services Research*, *55*(2–3), 137–160.

Jacobs, J. (2022). How insurance brokers can adapt to post-pandemic challenges. *Pacific Prime Insurance Blog*. https://www.pacificprime.com/blog/how-insurance-brokers-can-adapt-to-post-pandemic-challenges.html.

Jadli, A., Hain, M., & Hasbaoui, A. (2023). Artificial intelligence-based lead propensity prediction. *IAES International Journal of Artificial Intelligence*, *12*(3), 1281–1290. https://doi.org/10.11591/ijai.v12.i3.pp1281-1290

Jenskin, A. (2023). Artificial Intelligence and Insurance Broking. *Russell Scanlan Blog*. https://www.russellscanlan.com/blog/artificial-intelligence-and-insurance-broking/.

Kaput, M. (2022). *AI for Digital Transformation: The Complete Starter Guide*. Marketing Artificial Intelligence Institute.

Kouroupis, K., Vagianos, D., & Totka. (2021). *Artificial Intelligence and Customer Relationship Management. East European Yearbook in Human Rights*.

Kumar, N., Srivastava, J. D., & Bisht, H. (2019). Artificial Intelligence in Insurance Sector. *Journal of The Gujarat Research Society ISSN*, 374–8588.

Latorre, M. A., & Emilio, J. (2015). Ethical Behaviour and Operating Performance of Insurance Broker Firms. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2553164.

Liu, J., Kong, X., Xia, F., & Lee, I. (2018). *Artificial Intelligence in the 21st Century*. Institute of Electrical and Electronics Engineering.

Mittelstadt, B. R., C., W., & S. (2016). Explaining Explanations in AI. *Proeeding of the 30th AAAI Conference on Artificial Intelligence*.

Mohammad, S. (2020). Artificial Intelligence in Information Technology. *International Journal of Innovations in Engineering Research and Technology*.

Plekhanov, D., Franke, H., & Netland, T. H. (2022). Digital transformation: A review and research agenda. *European Management Journal*.

Sharma, N. K., & Sarode, S. C. (2023). Artificial intelligence vs. evolving super-complex tumor intelligence: critical viewpoints. *Frontiers in Artificial Intelligence*, *6*. https://doi.org/10.3389/frai.2023.1220744

Smith, A., & Jones, B. (2020). Navigating the Landscape of Data Privacy in AI-Driven Industries. *Journal of Privacy and Security*, *15*(2), 123–145.

Taylor, Z. (2020). *Digital Transformation Offers Strength for Insurance Broker's Relationships and Business*. https://anvl.com/blog/digital-transformation-offers-strength-for-insurance-broker-relationships-and-business/

Yaneva, T. (2022). *Digital Transformation of Insurance Sector*. University of Economic.

Zeier, A. (2018). *Digital insurance brokers—old wine in new bottles? How digital brokers create value*. Zurich University of Applied Science. https://doi.org/10.1007/s12297-018-0413-6.