VALUATION AND APPLICATION OF METAVERSE TO CRM FOR B2B SALES IN THE MANUFACTURING INDUSTRY

by

RYOSUKE NAKAJIMA, MBA

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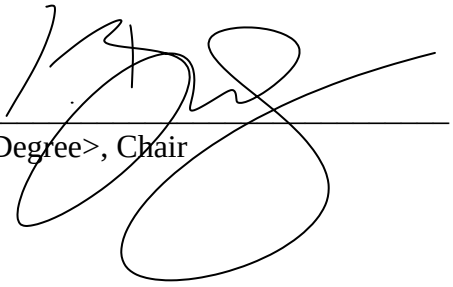

<Chair's Name, Degree>, Chair

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ABSTRACT

VALUATION AND APPLICATION OF METAVERSE TO CRM FOR B2B SALES IN THE MANUFACTURING INDUSTRY

RYOSUKE NAKAJIMA
2024

Dissertation Chair: <Chair's Name>

Throughout this research, the valuation and application of Metaverse service to CRM for the B2B Sales market in the manufacturing industry are executed to clarify the Problem Statement "How can we develop Metaverse services/products to CRM for B2B Sales market in the manufacturing industry?".

As the Research Methodology, Survey, Interview, and Proof of Concept (PoC) are executed. There are 22 questions in the research survey, and 540 respondents answered to this research survey. Then, interviews were conducted with 5 B2B marketing or sales representatives in the manufacturing industry. Lastly, the Proof of Concept (PoC) was executed with CROSSCO Co., Ltd, which is a Metaverse EXPO/Tradeshow vendor, to prepare Prototypes of B2B Metaverse EXPO as a trial and execute User Trial with 5 participants who joined in the interview sessions of this research.

In conclusion, the following are the key elements to develop Metaverse services/products to CRM for the B2B Sales market in the manufacturing industry.

- Key Industries: Manufacturing Machinery, Industrial Machinery, Electronics, Food & Beverages, Medical, Factory Automation, and Automotive industries
- Key Technology: Augmented Reality (AR), Mixed Reality (MR), and Virtual Reality (VR)
- Marketing Field: B2B enterprises in the manufacturing industry will effectively generate prospects/leads through EXPO/Tradeshow in the metaverse, including AR, MR, and VR.
- Sales Field: Metaverse is practical and beneficial for promoting sales activity. Showing how the product/service works through AR or MR as a product demonstration is effective in the B2B industry.

Also, the following are how to overcome the barriers.

- Technical Barrier: If an employee can access the Metaverse environment via the Internet (without using VR goggles), it would not be a big difference from the current working environment.
- Privacy/Security Issue: Based on the current technology, Metaverse platform providers protect the integrity of the virtual world and users by user authentication, data encryption, and access control to ensure that only authorized users can access the virtual world and its data.
- High Development Cost: Based on current technology, Metaverse service is provided as pay-as-you-go without high initial costs. Also, if Metaverse

is provided online/on the Internet without VR goggles, companies can reduce costs to start using Metaverse.

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CHAPTER I:
INTRODUCTION

1.1 Introduction

Metaverse has received a lot of attention in recent years, and many companies spend Research & Development expenses and execute Proof of Concept regarding Metaverse. A recent study shows that In the Metaverse, people can go shopping, to musical concerts, meet their friends, and more. Based on the experience as a management consultant, recently, Metaverse has been mainly used in the B2C market, including gaming, retail, automobile, etc. Many B2C companies use Metaverse for consistent Customer Relationship Management (CRM) structures from lead generation to customer support. The B2C company uses Metaverse for CRM to generate and nurture potential leads, promote and sell their products/services to their client, and provide customer support to deal with customers' problems, retain their customers, and increase their customer's Life Time Value (LTV). Recent research by McKinsey & Company shows that the economic impact of the Metaverse, including consumer and enterprise use cases, may generate up to $5 trillion by 2030. (Tarek et al., 2022) Also, other research by Bain & Company shows that the Metaverse market could reach up to $900 billion by 2030. (Chris, 2023) The other research by Kearney shows that 60% of the telco and consumer goods executives responded the Metaverse could have a major impact on their businesses. (Jesper et al., 2023)

On the other hand, in the B2B market, there are not many Metaverse services and products related to CRM recently. Based on the experience as a management consultant, some companies provide the "Metaverse Exhibition" for B2B enterprises to generate leads and provide a business negotiation environment in Metaverse. Recently, Metaverse

services related to the B2B CRM are inconsistent and completed compared to the B2C market. There are less than 10 researches worldwide regarding this topic as of May 2023. However, recent research by Accenture shows that 89% out of 9,000 C-suite executives believe the Metaverse will have an important role in their organization's future growth (Quentin & Jenn, 2023), and other recent research by PricewaterhouseCoopers shows that 66% out of 1,000 executives are actively engaged in using Metaverse. (Roberto et al., 2022) Other research by Ernst & Young shows that 47% out of 501 executives are already investing or soon to be active in the Metaverse (Harvey, 2023), and other research by Deloitte shows that said that 92% out of 350 executives in the manufacturing industry said their company is experimenting with or implementing at least one Metaverse-related use case and, on average, they are currently running more than six. (Paul et al., 2023) Other research by Arthur D. Little shows that the current Industrial Metaverse (B2B Metaverse) market is around US $100-$150 billion, with a conservative 2030 forecast of around $400 billion but with a potential upside of more than $1 trillion. (Albert et al., 2023)

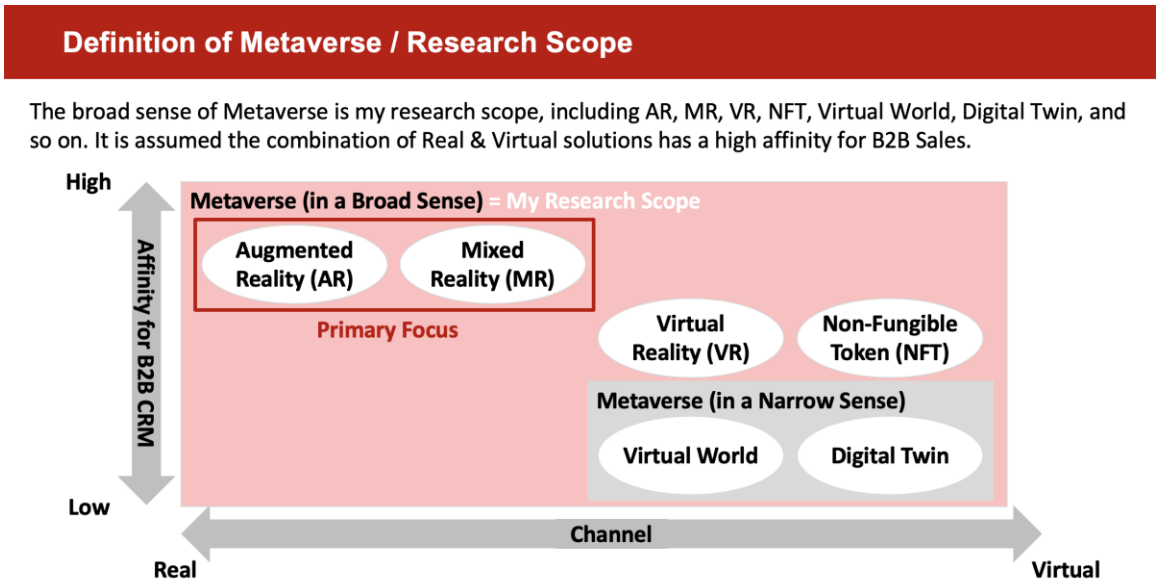
Based on this background, this research will evaluate/consider how to apply the Metaverse service to CRM for B2B Sales in the manufacturing industry. The objective is to clarify why the CRM for B2B Sales market is not so developed (due to low demand, technology barriers, operational barriers, etc.) and evaluate the application of Metaverse to CRM for B2B Sales in the manufacturing industry.

1.2 Definition of Metaverse & Research Scope

Based on Figure 1, this research scope includes the broad sense of Metaverse, including Augmented Reality (AR), Mixed Reality (MR), Virtual Reality (VR), Non-

Fungible Token (NFT), Virtual World, Digital Twin, and so on. It is assumed that the combination of Real and virtual solutions has a high affinity for B2B Sales.

Figure 1 – Definition of Metaverse / Research Scope



One of the recent studies shows that the definition of each Metaverse technology in Figure 1 is the following.

- Augmented Reality (AR):
    - Augmented reality is that aspect of the Metaverse that gives new eyes to see the material world in an entirely different way. It is similar to lifelogging in that it seeks to add an additional layer of perception to the current experience of reality, and it is similar to mirror worlds in that it continually communicates with sensors in

the environment and faces outward to an external world. (Asli, 2022)
    - Digital content from the virtual world on top of a real environment provides information. (Po-Han, 2021)

- Mixed Reality (MR)
    - Mixed reality applications use virtual spaces in which both local and remote users can collaborate. In most cases, such space would contain a photospherical background image or video stream of a real location in which users are placed, and optionally such data as real-world coordinates and the time and date of when the space was created. (Asli, 2022)
    - Virtual and Real environments mix and interact with each other. (Po-Han, 2021)

- Virtual Reality (VR)
    - Virtual Reality (VR) is an advanced, human-computer interface that simulates a realistic environment. (Asli, 2022)
    - Immersive virtual environments shut out the real world. (Po-Han, 2021)

- Non-Fungible Token (NFT)
    - NFTs are cryptographically unique, non-replicable digital assets created through smart contracts. (Asli, 2022)

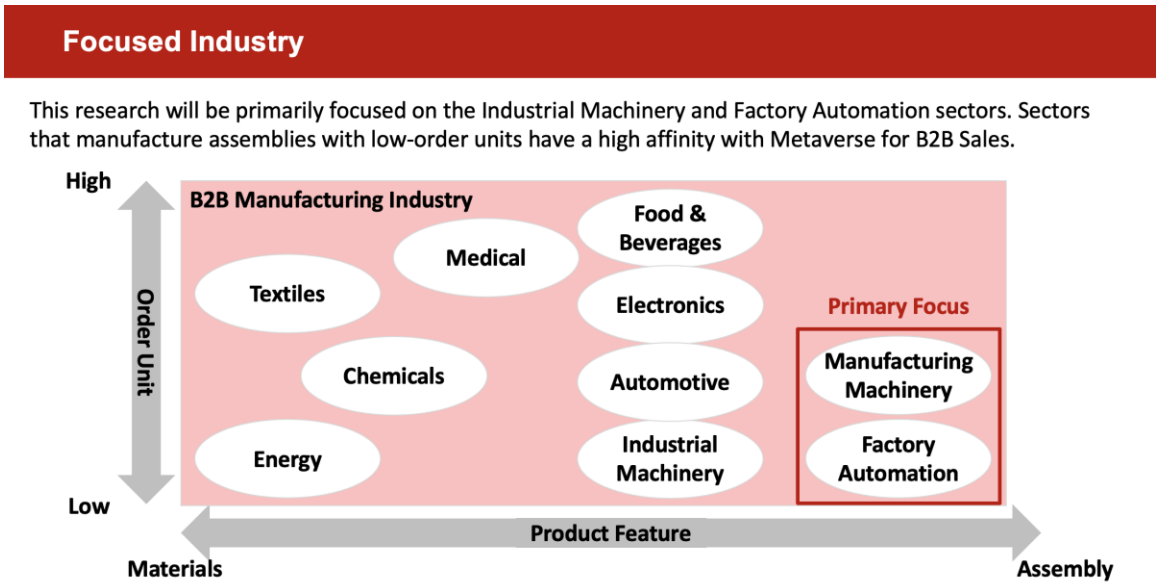
- Virtual World
    - In contrast to the existing virtual worlds, the newly-emerging virtual worlds gradually stimulate the economic and social life of physical world communities. The extreme simulation opens up the possibility that individuals can have a second identity in a virtual world. (Asli, 2022)

- Digital Twin
    - A digital twin is a virtual model of a physical object. It spans the object's lifecycle and uses real-time data sent from sensors on the object to simulate the behavior and monitor operations. (Asli, 2022)

1.3 Focused Industry

Based on Figure 2, this research will primarily focus on the Industrial Machinery and Factory Automation sectors. It is assumed the sectors that manufacture assemblies with low-order units have a high affinity with Metaverse for B2B Sales.

Figure 2 – Focused Industry for the Research

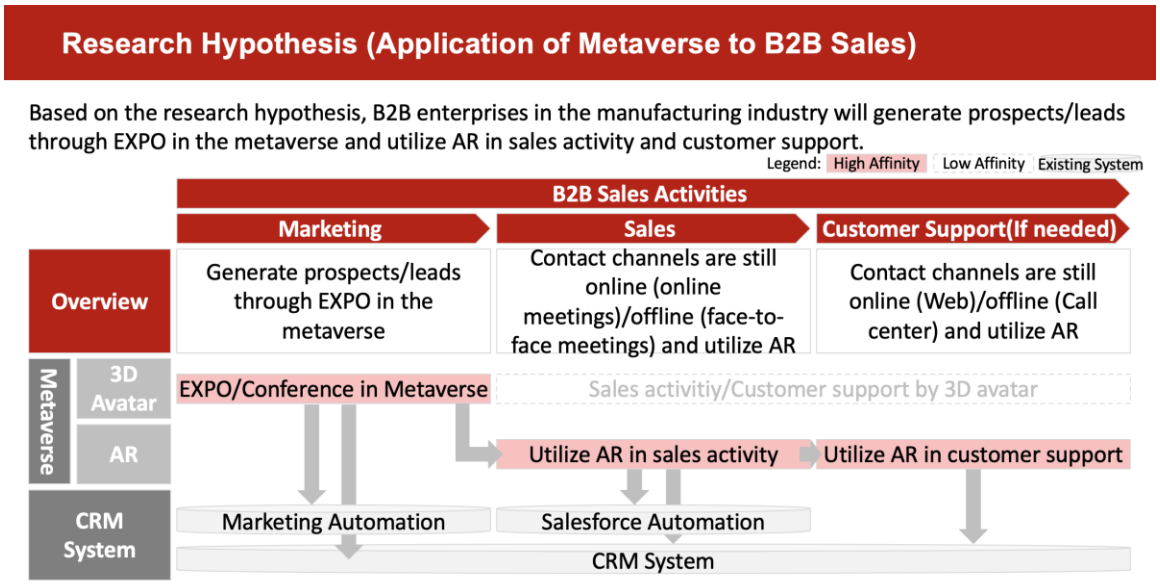


1.4 Research Hypothesis

Based on Figure 3, regarding the research hypothesis, B2B enterprises in the manufacturing industry will generate prospects/leads through EXPO in the Metaverse environment and utilize Augmented Reality (AR) in sales activity and customer support. As use cases in the marketing field, it is assumed that joining an EXPO/tradeshow in the Metaverse world/environment to penetrate their product/services will work for the manufacturing companies. In the marketing field, the 3D avatar can be adapted to get prospects/leads as well. On the other hand, in the sales field, it is assumed that 3D avatars will not work in B2B negotiation. Online or offline channels are not critical, and utilizing AR will work for showing how their products/services work to their customers. In the customer support field, it is assumed that using AR will totally work in supporting/answering customers' inquiries with visual instructions using AR

technologies. In this Literature Review, the related theories and evidence of past research will be presented.

Figure 3 – Hypothesis regarding the application of Metaverse to B2B Sales



1.5 Significance of this Research

This research is essential because there is not much research regarding Metaverse in the B2B Sales market in the manufacturing industry (less than 10 researches worldwide as of May 2023). Also, there are not many Metaverse services/solutions for the B2B Sales market in the globe as of May 2023 (approximately 10-20 services/solutions worldwide based on desktop research). Also, it is vital for the advancement of the manufacturing industry because the Metaverse technology is highly associated with the B2B Sales practices in the manufacturing industry based on the research hypothesis in Figure 1. This research will contribute to creating new insight and

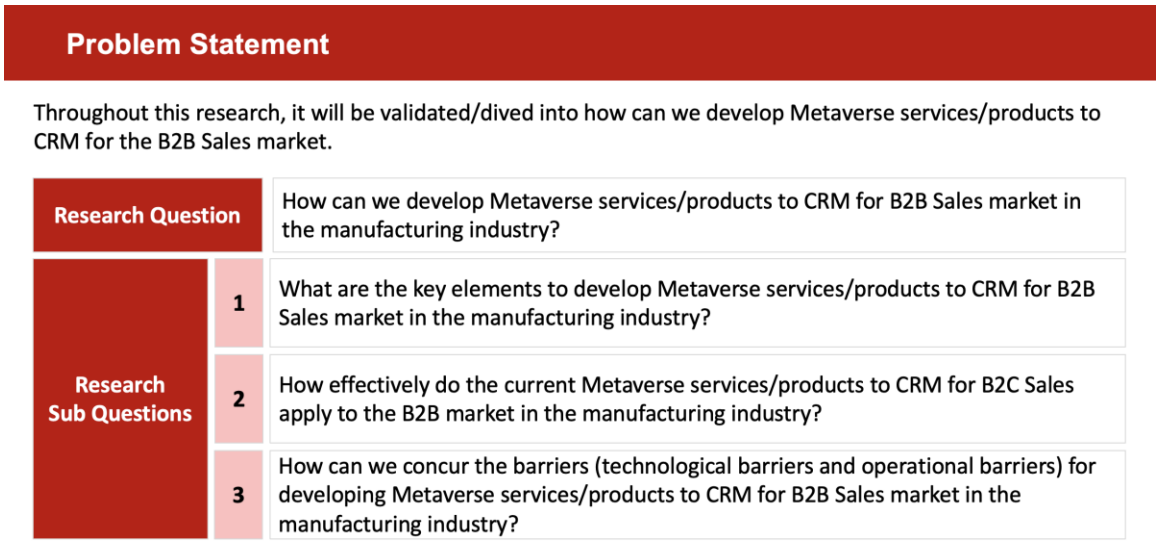
development in the manufacturing industry, including the survey, interviews with professionals, and Proof of Concept (PoC).

1.6 Problem Statement

The problem statement is that Metaverse services/products to CRM for the B2B Sales market have yet to be developed recently. As a Research Question, “How can we develop Metaverse services/products to CRM for the B2B Sales market in the manufacturing industry?” will be set (Refer to Figure 4). Also, there are the following three Research Sub Questions below. In the Research Proposal, the detailed research questions and who are the assumed respondents and interviewees will be shown.

1. What are the key elements to develop Metaverse services/products to CRM for the B2B Sales market in the manufacturing industry?
2. How effectively do the current Metaverse services/products to CRM for B2C Sales apply to the B2B market in the manufacturing industry?
3. How can we concur the barriers (technological barriers and operational barriers) for developing Metaverse services/products to CRM for the B2B Sales market in the manufacturing industry?

Figure 4 – Problem Statement



1.7 Research Objectives

The long-term goal of the research is to evaluate the application of Metaverse to CRM for B2B Sales in the manufacturing industry. The objective of the current study is to clarify the reason why CRM for the B2B Sales market is not so much developed. (Due to low demand, technology barriers, operational barriers, etc.) Based on this objectives, the problem statement will be answered throughout this research.

This research has greatly impacted the Metaverse industry and the manufacturing industry because there is not much research regarding Metaverse in the B2B Sales market in the manufacturing industry (less than 10 researches worldwide as of May 2023). Also, there are not many Metaverse services/solutions for the B2B Sales market in the globe as of May 2023 (approximately 10-20 services/solutions worldwide based on desktop research). Also, it is vital for the advancement of the manufacturing industry because the Metaverse technology is highly associated with the B2B Sales practices in the manufacturing industry based on the research hypothesis in Figure 1. This research will

contribute to creating new insight and development in the manufacturing industry, including the survey, interviews with professionals, and Proof of Concept (PoC).

CHAPTER II:

REVIEW OF LITERATURE

2.1 Literature Review Objectives

A preliminary literature review shows that past studies are primarily focused on understanding related research about the valuation and Application of Metaverse to CRM for the B2B Sales market in the manufacturing industry. In conclusion, there are six past studies related to the research theme in Google Scholar. This section will provide a summary of previous related research and a justification of the research.

2.2 Market View for Metaverse (including B2B and B2C)

Based on the research hypothesis, B2B enterprises in the manufacturing industry will generate prospects/leads through EXPO in the Metaverse and utilize AR in sales activity and customer support. This Literature Review will present the related theories and evidence from past research. In conclusion, from the market point of view, Metaverse technology could affect the whole supply chain. Like with the Internet of Things and Industry 4.0, the whole supply chain process could be adapted to the Metaverse. The world will be more digitized with the Metaverse. (Asli, 2022)

This study specifically shows that in the Metaverse, people can go shopping, concerts or meet their friends. It will be made up of NFT (non-fungible tokens), Blockchain Technology, AI (Artificial Intelligence), VR (Virtual Reality), augmented reality (AR), Mixed Reality (MR), and Extended Reality (XR). The important question is how these phenomena will affect the market. To explain these effects more clearly, the market as business-to-business (B2B) and business-to-consumer (B2C) will be discussed. The Metaverse will affect every player in the supply chain. Starting from raw and semi-

raw materials, logistics, production, marketing, an after-sales, services will change. To keep pace, companies will add more value to their processes for the supply chain surplus. As such, the value chain will be more valuable. For example, the Metaverse needs specific tools like virtual reality glasses, headsets, etc. For these tools, production processes have to be flexible and adaptable, and logistics activities and suppliers must be more agile. It can be predicted that consumer needs and wants will change, which will affect demand. For effective marketing strategies, companies should find new methods. Firstly, these Metaverse products will increase competition, so businesses will need to provide an enjoyable experience to the customer. The physical experience will change, and this will affect both products and services. For instance, if a company sells clothes, they will have to adapt their store to the Metaverse so that people can shop in the new digital world. Likewise, if a business provides concert experiences, they will have to adapt their concert stage to the Metaverse. For example, one company adapting to these changes is Nike, which has started investing in the Metaverse and has seven trademark applications. According to the definition of the Metaverse, people will reduce outside activities, so companies should start to prepare for this transition. (Asli, 2022)

Throughout this research, it can be confirmed that Metaverse can be used in the supply chain, including B2B and B2C. The concept of supply chain transformation by Metaverse is applicable because it is similar to this literature's research concept. The supply chain is usually a B2B process, and there is a high affinity between Metaverse and B2B Sales. The supply chain and B2B Sales are actually different, but there are many applicable viewpoints on the concept. On the other hand, this concept is too much broad. This cannot be directly applied to the research, and the breakdown of the detailed elements in terms of industry, type of technology, etc, are required.

This hypothesis setting is adaptable to the research, but this research focuses on applying Metaverse to general B2B business. The research will focus on B2B sales in the manufacturing industry.

2.3 Metaverse in B2B Market / Challenges in B2B Market

Now, the B2B market should be focused on. In conclusion, the CRM for the B2B Sales market is not developed now compared to the B2C Sales market as of now. Therefore, throughout this research, the reason why CRM for the B2B Sales market is not so developed (due to low demand, technology barriers, operational barriers, etc.) and evaluate the application of Metaverse to CRM for B2B Sales in the manufacturing industry will be clarified.

One research shows that most of the research on Metaverse is aimed at marketing and investment purposes, emphasizing social utility. The domains where Metaverse is popularly serviced are games and some office applications. The author argued that there is a separation between the present reality and virtual reality of virtual heritage and conducted a study of existence and realism within virtual reality. The author introduced mixed reality, real-world modeling, and real-world modeling. For better Metaverse applications, an approach is needed to model and distinguish the differences and the same points between virtual reality and reality. (SANG-MIN & YOUNG-GAB, 2021)

Regarding Metaverse services/products to CRM for B2B Sales market, in order to supplement the sense of space lacking in online solutions in B2B solutions and conferences, some companies introduced and supplemented the offline concept. In this way, the sound occurring in the office and physical elements (e.g., desks and conference rooms) is given a sense of space. Representative examples of office applications include

solutions (e.g., Branch, Gather, and Teamflow) and use spatial audio technology to provide speech and footstep sounds according to distance. The Branch is given a game element that offers virtual currency and experience. Teamflow has the advantage of using work-related tools (e.g., file sharing in conjunction). (SANG-MIN & YOUNG-GAB, 2021)

As you can see, CRM for the B2B sales market is not yet developed compared to the B2C sales market. The concept of Utilizing Metaverse to Resolve the Space Lacking Issues is applicable because there is a commonality with this Literature's research concept. The research hypothesis is especially that B2B enterprises in the manufacturing industry will generate prospects/leads through EXPO in the Metaverse. It is related to resolving the space-lacking issues offline. On the other hand, it should be categorized as to which technologies can be applied to the space lacking issues. There might be Virtual Reality, Augmented Reality, Mixed Reality, and each technology applies to different cases.

This technological perspective and hypothesis are adaptable to the research, but this research focuses on applying Metaverse to general B2B business. The research will be focused on B2B Sales. The research will evaluate/consider how to apply the Metaverse service to CRM for B2B Sales in the manufacturing industry.

2.4 Application of Metaverse to Marketing Fields in B2B Sales

Now, B2B Sales fields, including Marketing, Sales, and Customer Support, will be focused on. In this section, the Marketing field will be focused on. As mentioned in the hypothesis, the B2B prospects/leads will be able to be generated through EXPO in the metaverse. There has been no recent research regarding EXPO in Metaverse, but the

effectiveness of using Metaverse technology in the Marketing field in past research is applicable.

One study shows that the Augmented Reality Marketing (ARM) experiences can also play a significant role during a sales process. For instance, research is needed on how ARM can facilitate construal level between a buyer and a seller during a sales negotiation to achieve a 'visual contract' (e.g., for placing a vending machine in a retail store). This research also shows that extending research on embedded ARM experiences across a customer's purchase journey, B2B markets, and marketing strategy in general is needed to develop a deeper understanding of how it can create and deliver value to customers in ways that are different to existing marketing approaches. (Chylinski et al., 2020) Based on this research, the author analyzed the effectiveness of Augmented Reality Marketing (ARM) in the B2C market as below. (Refer to Figure 4)

Figure 5 – Application of Augmented Reality Marketing (ARM) (Chylinski et al., 2020)

Table 1 (cont.)

Applications		
Name	Company	Usage scenario
Snapchat	Snap Inc.	Social messaging application for mobile devices that allows the exchange of stylized photos or videos ("snaps"), as well as text messages ("chats").
Doodle Your World	Ribena	Adding humorous AR to videos and sharing videos with peers
Virtual mirror	Mr. Spex	Allows customers to virtually try on sunglasses using their webcam, allowing life comparison of two models and sharing with peers
Converse shoe sampler	Converse	Virtual try-on of shoes
LCST Lacoste AR	Lacoste	Virtual try-on of shoes
AR American Apparel	American Apparel	Scan signage in-store and receive additional product information such as customer reviews, colour variants, and pricing
TopShop AR Mirror	TopShop	Virtual try-on of products inside of the store
Uniqlo Magic Mirror	Uniqlo	Virtual try-on of products inside of the store
Timberland AR Mirror	Timberland	Virtual try-on of products facing outside of the store to make customers stop on the street
HoloBeam	Valorem Reply	Generates digital avatars of people that then appear as real-life, interactive holograms for communication software such as Microsoft Skype

This research concept that Augmented Reality Marketing experiences can play a significant role during a sales process is applicable. Especially, Augmented Reality is one of the critical technical elements of Metaverse. So, there is a similar commonality with this Literature's research concept. On the other hand, Augmented Reality is not only for Marketing fields. The research hypothesis is that Augmented Reality will apply to B2B Sales in the Sales and Customer Support fields. So, the lesson learned is that it should be verified which fields in B2B Sales will be appropriate to apply Metaverse and Augmented Reality technology throughout the research. This technological perspective and solution grooming are adaptable to the research, but this research focuses on Augmented Reality (AR) and marketing/sales fields. The research will focus on Metaverse, including AR and B2B sales.

2.5 Application of Metaverse to Sales Fields in B2B Sales

Now, the Sales field will be focused on. As mentioned in the hypothesis, the contact channels are still online (online meetings)/offline (face-to-face meetings) and utilize AR in the B2B Sales field. In the following recent research, the author mentioned the effectiveness of a hybrid model of both virtual and face-to-face negotiations.

One research specifically shows that the proper preparation, an increased communication with negotiation counterparts, the establishment of rules and guidelines as well as offering virtual negotiation training were identified as the key success factors to master virtual negotiations. Conducting pre-meetings begore the negotiation, proactive research about the negotiation partners, being reliable and transparent throughout the entire process, connecting with negotiation partners on social media in advance, as well as doing follow ups and being consistent throughout the entire negotiation process are

ways of how negotiators can establish trust in a virtual environment. A hybrid model of both virtual and face-to-face negotiations is predicted to become the future way of negotiating. In the mid-to long-term future, the Metaverse, seen from the collective concepts perspective and utilizing a fully decentralized infrastructure with Avatar set ups, will revolutionize even more the virtual negotiations research field. (Laura & Harald, 2022) (Refer to Figure 5)

Figure 6 – Proposed Hybrid-Metaverse Negotiation Model (Proposed by the author)

This research also shows that virtual negotiations are an efficient tool, helping keep business operations running even during a global pandemic. Companies can save a lot of time and costs, mostly related to travel expenses that no longer occur. The key success factor is outpacing competition through continuous cost-efficiency management and simultaneous 24/7 hours availability for negotiation partners. Nevertheless, various challenges are associated with virtual negotiations, which make negotiators want to

switch back to face-to-face negotiations. Therefore, a hybrid negotiation model, including both virtual and face-to-face negotiations in combination with the Metaverse, seems to be most reasonable for the future of intercultural business negotiations. (Laura & Harald, 2022)

This research concept that a hybrid model of both virtual and face-to-face negotiations is predicted to become the future way of negotiating is applicable. Especially the research hypothesis is that B2B enterprises in the manufacturing industry will generate prospects/leads through EXPO in the Metaverse and utilize AR in sales activity and customer support. There is a commonality with this Literature's research concept. On the other hand, it depends on the B2B/B2C, industry, product/service features, etc., which negotiation method (virtual or face-to-face) is appropriate. So, the lesson learned is that the proper criteria should be clarified to embody the research concept.

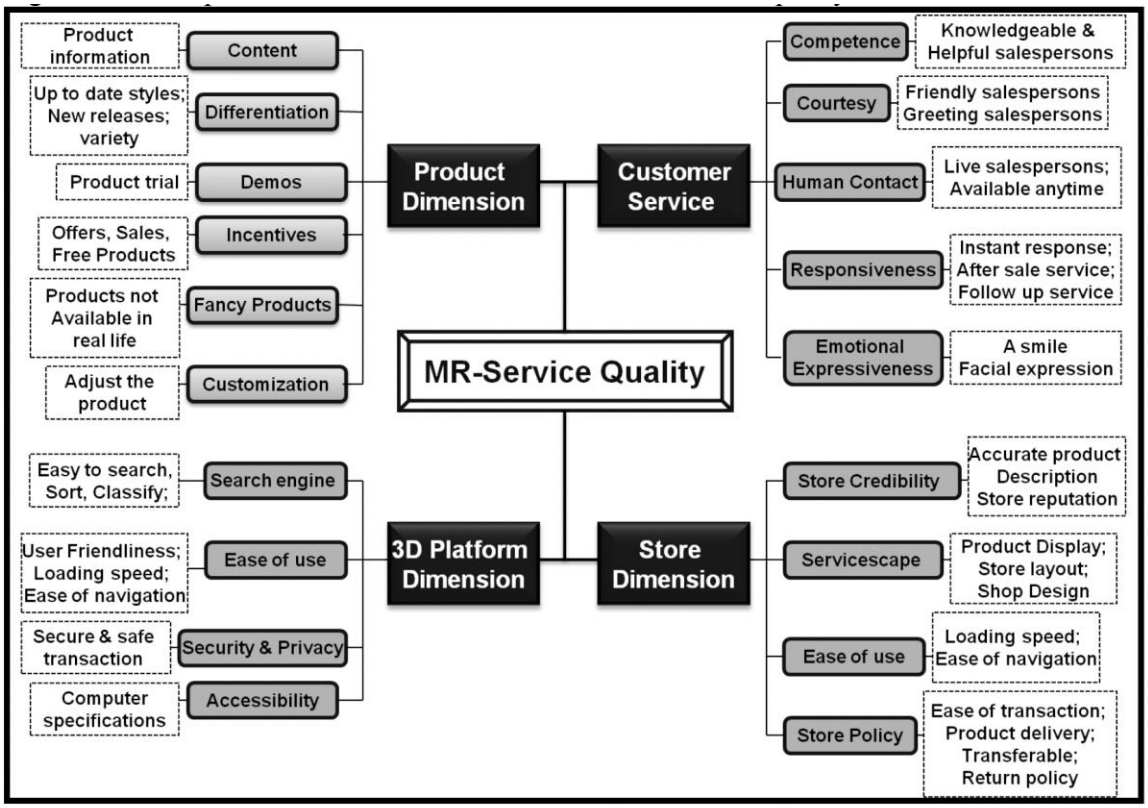
2.6 Application of Metaverse to Customer Support Fields in B2B Sales

Now, the Customer Support field is focused on. As mentioned in the hypothesis, contact channels are still online (web)/offline (call center) and utilize AR in the B2B Customer Support field. Recently, there has been no research regarding using Augmented Reality (AR) in the Customer Support field, but it is understandable that the effectiveness and flexibility of using Metaverse technology in the Customer Support field in the past research.

The first research shows the customer service perspective with Metaverse, and it shows that participants identified several elements of customer service in Metaverse Retailing that have parallels in 2D e-retail service, including competence, courtesy, human contact, and responsiveness. However, the particular features of 3D virtual stores

provide a distinct meaning for responsiveness in comparison to 2D, as the availability and type of interaction with sales persons or other avatars provides greater flexibility and convenience, as well the reassurance of a friendly, courteous greeting. (Gadalla et al., 2013)

Figure 7 – A Conceptual Model of the Determinants of Service Quality



Based on Figure 6, 3D customer support has to realize user-friendly functionality, accessibility, and high security & privacy. Also, customers expect competence, courtesy, human contact, responsiveness, and emotional expressiveness to customer support. (Gadalla et al., 2013) So, we need to consider all the factors for the solution design of customer support in Metaverse.

The other study shows that the effectiveness of using 3D Avatar in the online store. This study shows that participants had the desire to interact with 3D animated avatars as salespeople for a fashion-related company to welcome them on the homepage of a web site, respond to product and service related questions, and make product recommendations. (Refer to Figure 7) However, the results found that only a small subgroup of participants wanted an avatar to assist them with the checkout process and when the transaction was complete. The results imply online retailers should utilize avatars to welcome a consumer to the online store once the consumer gains access to the web sites, answer questions related to products and services, and make product recommendations. Considering there was little support for using avatars during the checkout process or when the transaction was complete, it can be concluded that retailers should refrain from using 3D animated avatars during the purchase transaction. The duality of the online consumer, as both an internet user and as a traditional shopper, makes understanding the consumer's behavior more complicated. Thus, managers and graphic designers need to gather more specific information to understand the online consumers' complex behaviors. The findings in this study will assist retailers in finding appropriate solutions for their online business. (Ian et al., 2014)

Figure 8 – 3D Animated Avatars

The advantage of customer service with virtual 3D avatars is applicable. Avatars are entirely flexible regarding time (providing services for 24 hours 365 days) and training (no need to spend much time for the staff training term). There is a commonality with this Literature's research concept because 3D avatars will be able to apply to the B2B marketing fields as the hypothesis. On the other hand, it is necessary to analyze more about the advantages of 2D or offline services. In this way, the improvement of customer services through 3D avatars will be clarified.

2.7 Agreement & Disagreement for the Literature

In this Literature Review, the following 6 literatures are analyzed. Agreements and disagreements with each piece of literature are below.

- Literature 1: Digital Transformation in the Digital World the Metaverse (Asli, 2022)
    - Agree with the concept of Supply Chain Transformation by Metaverse because there is a similar commonality with this Literature's research concept. The supply chain is usually a B2B process, and there is a high affinity between Metaverse and B2B Sales. The supply chain and B2B Sales are actually different, but the viewpoint of the concept is beneficial.
    - On the other hand, this concept is too much broad. This cannot be directly applied to the research, and we need to break down the details in terms of industry, type of technology, etc.

- Literature 2: A Metaverse: Taxonomy, Components, Applications, and Open Challenges (SANG-MIN & YOUNG-GAB, 2021)
    - Agree with the concept of Utilizing Metaverse to Resolve the Space Lacking Issues because there is a commonality with this Literature's research concept. Especially, the research hypothesis is that B2B Sales in the manufacturing industry will generate prospects/leads through EXPO in the Metaverse. It is related to resolving the space-lacking issues offline.
    - On the other hand, it should categorize which technologies can be applied to the space lacking issues. There might be Virtual Reality, Augmented Reality, Mixed Reality, and each technology applies to different cases.

- Literature 3: Augmented Reality Marketing: A Technology-Enabled Approach to Situated Customer Experience (Chylinski et al., 2020)
    - Totally agree with this research concept that Augmented Reality Marketing experiences can play a significant role during a sales process. Especially, Augmented Reality is one of the critical technical elements of Metaverse. So, there is a similar commonality with this Literature's research concept.
    - On the other hand, the Augmented Reality is not only for Marketing fields. The hypothesis is Augmented Reality will apply to the B2B Sales field as well. So, it should verify which B2B Sales fields will be appropriate to apply Metaverse and Augmented Reality technology throughout the research.

- Literature 4: The new Way to seal the Deal? A Comparison of virtual B2B Negotiation Developments between Europe and China (Laura & Harald, 2022)
    - Totally agree with this research concept that a hybrid model of both virtual and face-to-face negotiations is predicted to become the future way of negotiating. Especially, the research hypothesis is that B2B Sales in the manufacturing industry will generate prospects/leads through EXPO in the Metaverse and utilize AR in sales activity. There is a commonality with this Literature's research concept.
    - On the other hand, it depends on the B2B/B2C, industry, product/service features, etc., which negotiation method (virtual or

face-to-face) is appropriate. So, it should consider the proper criteria to embody the concept.

- Literature 5: Metaverse-Retail Service Quality: A Future Framework for Retail Service Quality in the 3D Internet (Gadalla et al., 2013)
    - Agree with the advantage of customer service with virtual 3D avatars. Avatars are entirely flexible regarding time (providing services for 24 hours 365 days) and training (no need to spend much time for the staff training term). There is a commonality with this Literature's research concept because it is assumed that 3D avatars will be able to apply to the B2B marketing/Sales fields as the hypothesis.
    - On the other hand, it should be analyzed more the advantages of 2D or offline services. Then, we will be able to clarify how 3D avatars can improve customer services.

- Literature 6: An exploratory study of using 3D avatars as online salespeople (Ian et al., 2014)
    - Agree with the concept of utilizing avatars in online stores. avatars are entirely flexible regarding time (providing services for 24 hours, 365 days) and training (no need to spend much time on the staff training term). There is a commonality with this Literature's research concept because it is assumed that 3D avatars will be able to apply to the B2B marketing/sales fields as the hypothesis.

- On the other hand, it should be analyzed more the advantages of 2D or offline services. Then, we will be able to clarify how 3D avatars can improve customer services.

CHAPTER III:

METHODOLOGY

3.1 Overview of the Research Problem

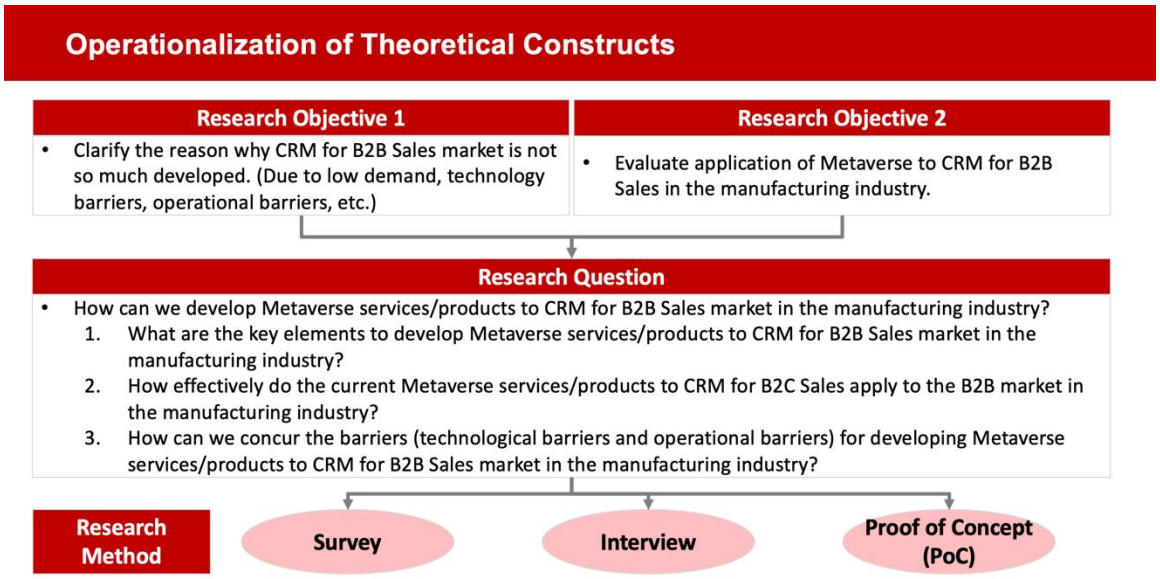
The problem statement is that Metaverse services/products to CRM for the B2B Sales market have yet to be developed recently. As a Research Question, “How can we develop Metaverse services/products to CRM for the B2B Sales market in the manufacturing industry?” will be set. Also, there are the following three Research Sub Questions below. In the Research Proposal, the detailed research questions and who are the assumed respondents and interviewees will be shown.

1. What are the key elements to develop Metaverse services/products to CRM for the B2B Sales market in the manufacturing industry?
2. How effectively do the current Metaverse services/products to CRM for B2C Sales apply to the B2B market in the manufacturing industry?
3. How can we concur the barriers (technological barriers and operational barriers) for developing Metaverse services/products to CRM for the B2B Sales market in the manufacturing industry?

3.2 Operationalization of Theoretical Constructs

Regarding the Operationalization of Theoretical Constructs, this research will be structured with the following elements and processes. (Refer to Figure 9)

Figure 9 – Operationalization of Theoretical Constructs



In a nutshell, to achieve two Research Objectives, one Research Question and three Sub-Research Questions are set. To measure these Research Questions, this research will involve Survey, Interview, and Proof of Concept (PoC) as Research Methods.

- Research Objective

  In this research, the following two objectives are set.

  - Clarify the reason why CRM for the B2B Sales market is not so much developed. (Due to low demand, technology barriers, operational barriers, etc.)
  - Evaluate the application of Metaverse to CRM for B2B Sales in the manufacturing industry.

- Research Question

  In order to achieve Research Objectives above, Research Questions are set.

  - How can we develop Metaverse services/products to CRM for B2B Sales market in the manufacturing industry?

  The following Research Sub Questions are the breakdown of the Research Question above.

  - What are the key elements to develop Metaverse services/products to CRM for B2B Sales market in the manufacturing industry?
  - How effectively do the current Metaverse services/products to CRM for B2C Sales apply to the B2B market in the manufacturing industry?
  - How can we concur the barriers (technological barriers and operational barriers) for developing Metaverse services/products to CRM for B2B Sales market in the manufacturing industry?

- Research Method

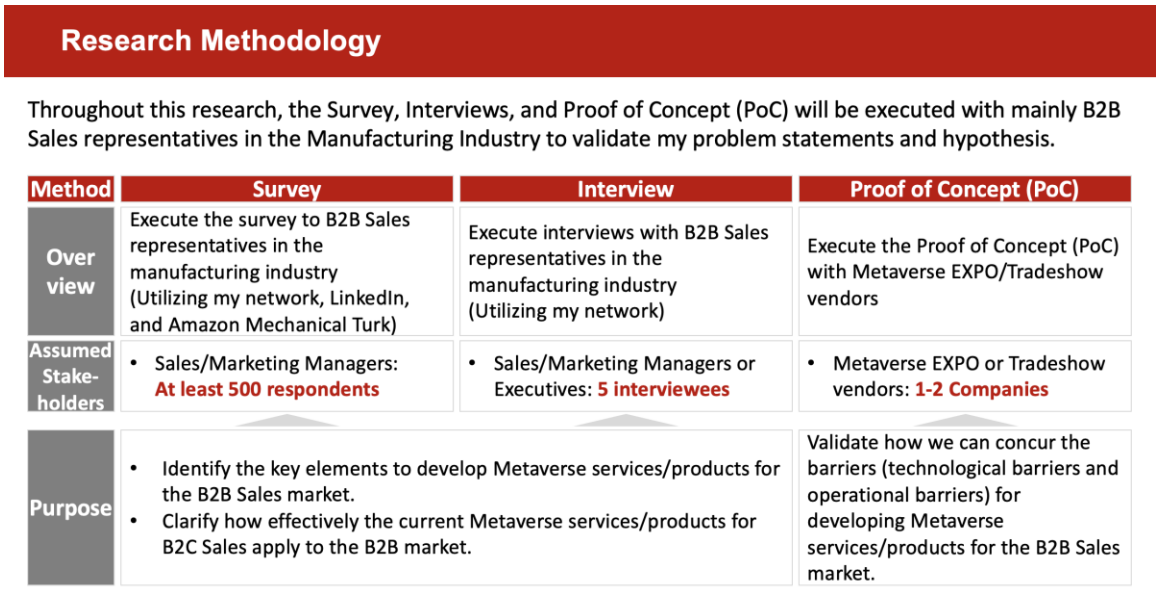
  In order to get the answers to the Research Questions above, the following methods will be executed.

  - Survey
  - Interview
  - Proof of Concept (PoC)

3.3 Research Purpose and Design

Regarding the data collection method, the existing Metaverse for the B2B CRM market based on desktop research, the survey, and interviews with B2B Sales representatives in the manufacturing industry will be executed. Also, the Proof of Concept (PoC) with Metaverse EXPO/Tradeshow vendors will be executed to evaluate its effectiveness. Based on Figure 10, the research methodologies including the Survey, Interview, and Proof of Concept are mentioned below.

Figure 10 – Research Methodology



- Survey
    - Overview:

      Execute the survey for B2B Sales in the manufacturing industry (Utilizing LinkedIn, and Amazon Mechanical Turk).

- Assumed Stakeholders:

  - Sales/Marketing Managers: At least 500 respondents

- Purpose:

  Identify the key elements to develop Metaverse services/products for the B2B Sales market. Then, clarify how effectively the current Metaverse services/products for B2C Sales apply to the B2B market.

- Interview
  - Overview:

    Execute interviews with B2B Marketing and Sales representatives in the manufacturing and related industries.

  - Assumed Stakeholders:

    - Sales/Marketing Managers or Executives: 5 interviewees

  - Purpose:

    Identify the key elements to develop Metaverse services/products for the B2B Sales market. Then, clarify how effectively the current Metaverse services/products for B2C Sales apply to the B2B market.

- Proof of Concept (PoC)
  - Overview:

    Execute the Proof of Concept (PoC) with Metaverse EXPO/Tradeshow vendors.

- Assumed Stakeholders:

  - Metaverse EXPO or Tradeshow vendors: 1-2 Companies

- Purpose:

  Validate how we can concur the barriers (technological barriers and operational barriers) for developing Metaverse services/products for the B2B Sales market.

3.4 Research Questions

The survey/interview items for this research are as follows: There are 22 questions in the research survey.

Table 1 – Survey/Interview Items

#	Category	Question	Multiple-choice / Descriptive	Choices
1	General	Which industry are you currently working in?	Multiple-choice	1. Factory Automation 2. Industrial Machinery 3. Manufacturing Machinery 4. Electronics 5. Automotive 6. Food & Beverages 7. Medical 8. Textiles 9. Chemicals 10. Energy 11. Others

#	Category	Question	Multiple-choice / Descriptive	Choices
2	General	If you choose "11. Others" in Q1, please describe your industry.	Descriptive	-
3	General	What is your current employment status?	Multiple-choice	1. Full-time 2. Part-time 3. Retired
4	General	What sort of division/department are you in?	Multiple-choice	1. Marketing 2. Sales (Field Sales) 3. Sales (Inside Sales) 4. Customer Support 5. IT 6. Manufacturing 7. Others
5	General	If you choose "7. Others" in Q4, please describe your division/department.	Descriptive	-
6	General	What is your current position?	Multiple-choice	1. Executive 2. Management 3. Staff 4. Others
7	General	If you choose "4. Others" in Q6, please describe your current position.	Descriptive	-
8	Key Element to Develop Metaverse for B2B Sales	Are you interested in using Metaverse for B2B Sales activities in your industry/company?	Multiple-choice	1. Yes 2. No
9	Key Element to Develop Metaverse for B2B Sales	If you answered "Yes" in Q8, why are you interested in it? If you answered "No" in Q8, why aren't you interested in it?	Descriptive	-

#	Category	Question	Multiple-choice / Descriptive	Choices
10	Key Element to Develop Metaverse for B2B Sales	When do you expect to use Metaverse in B2B Sales as usual in your industry/company?	Multiple-choice	1. Within next year 2. Within 2-3 years 3. Within 4-5 years 4. More than 5 years
11	Key Element to Develop Metaverse for B2B Sales	Which are the effective Metaverse technologies for improving the B2B Sales activities in your industry/company? *Multiple answers allowed	Multiple-choice	1. Augmented Reality (AR) 2. Mixed Reality (MR) 3. Virtual Reality (VR) 4. Non-Fungible Token (NFT) 5. Virtual World 6. Digital Twin (Avatar) 7. Others
12	Key Element to Develop Metaverse for B2B Sales	If you choose "7. Others" in Q11, please describe the effective Metaverse technologies.	Descriptive	-
13	Key Element to Develop Metaverse for B2B Sales	Is the EXPO/Tradeshow in the Metaverse world/environment effective for B2B Sales in your industry/company?	Multiple-choice	1. Yes 2. No
14	Key Element to Develop Metaverse for B2B Sales	Please describe the reasons behind your answer for Q13.	Descriptive	-
15	Key Element to Develop	Is showing how your product/service works through Augmented Reality (AR) or	Multiple-choice	1. Yes 2. No

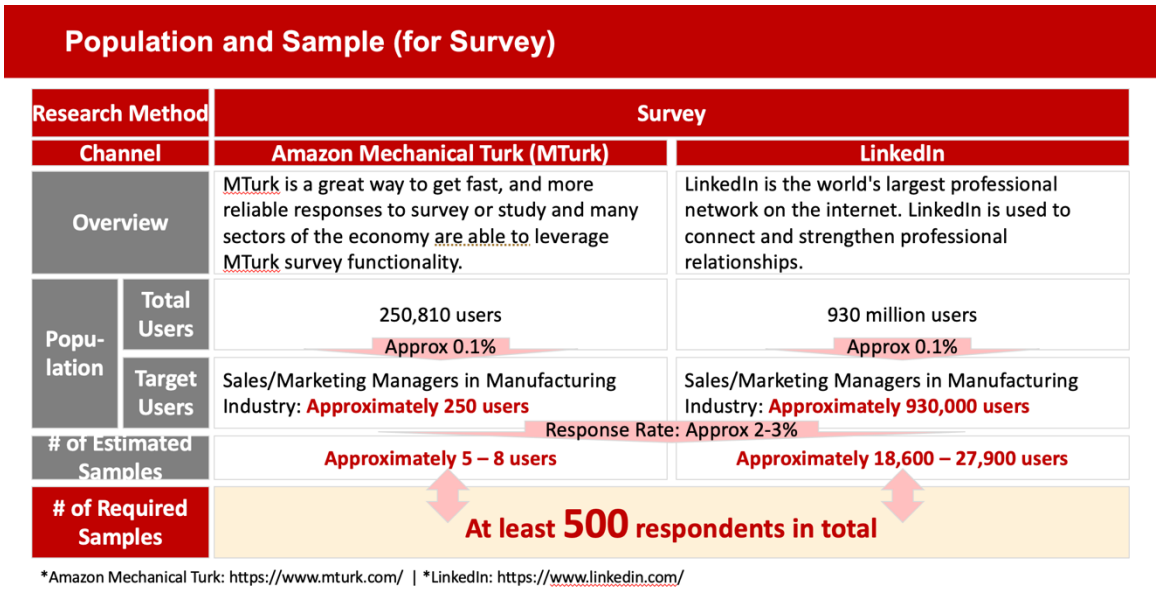
#	Category	Question	Multiple-choice / Descriptive	Choices
	Metaverse for B2B Sales	Mixed Reality (MR) effective for B2B Sales in your industry/company?		
16	Key Element to Develop Metaverse for B2B Sales	Please describe the reasons behind your answer for Q15.	Descriptive	-
17	Key Element to Develop Metaverse for B2B Sales	Is using Augmented Reality (AR) or Mixed Reality (MR) practical for customer support in B2B Sales in your industry/company?	Multiple-choice	1. Yes 2. No
18	Key Element to Develop Metaverse for B2B Sales	Please describe the reasons behind your answer for Q17.	Descriptive	-
19	Key Element to Develop Metaverse for B2B Sales	Please describe the other ideas (except for Q13, Q15, and Q17) using Metaverse for B2B Sales.	Descriptive	-
20	Barriers/Issues	What would be the assumed barriers/issues if your company uses Metaverse? *Multiple answers allowed	Multiple-choice	1. It is challenging to align Metaverse with the current business operations 2. Several employees might not be able to use Metaverse very well due to the technological/IT capability

#	Category	Question	Multiple-choice / Descriptive	Choices
				3. Maintenance cost issues would occur 4. Others
21	Barriers/Issues	Please describe the further barriers/issues after your company determined to use Metaverse. If you choose "4. Others" in Q20, please describe the other assumed barriers/issues.	Descriptive	-
22	Barriers/Issues	If you have any suggestions or ideas, please kindly let me know.	Descriptive	-

3.5 Population and Sample

Regarding the population and sample for the research survey, two channels including Amazon Mechanical Turk and LinkedIn will be used. (Refer to Figure 11).

Figure 11 – Population and Sample (for Survey)



Amazon Mechanical Turk (MTurk) is a great way to get fast and more reliable responses to surveys or studies, and many sectors of the economy are able to leverage MTurk survey functionality. On the other hand, LinkedIn the world's largest professional network on the internet. LinkedIn is used to connect and strengthen professional relationships.

Regarding the total users, target users, number of estimated users, and number of required samples are the following.

- Total Users
    - MTurk: 250,810 users
    - LinkedIn: 930 million users

- Target Users
    - MTurk: Approximately 250 users

- LinkedIn: Approximately 930,000 users

  *Sales/Marketing Managers in the Manufacturing Industry

- Number of Estimated Users
  - MTurk: Approximately 5 – 8 users
  - LinkedIn: Approximately 18,600 – 27,900 users

- Number of Required Samples
  - MTurk & LinkedIn: At least 500 respondents in total

Figure 12 – Amazon Mechanical Turk Survey Creation Dashboard

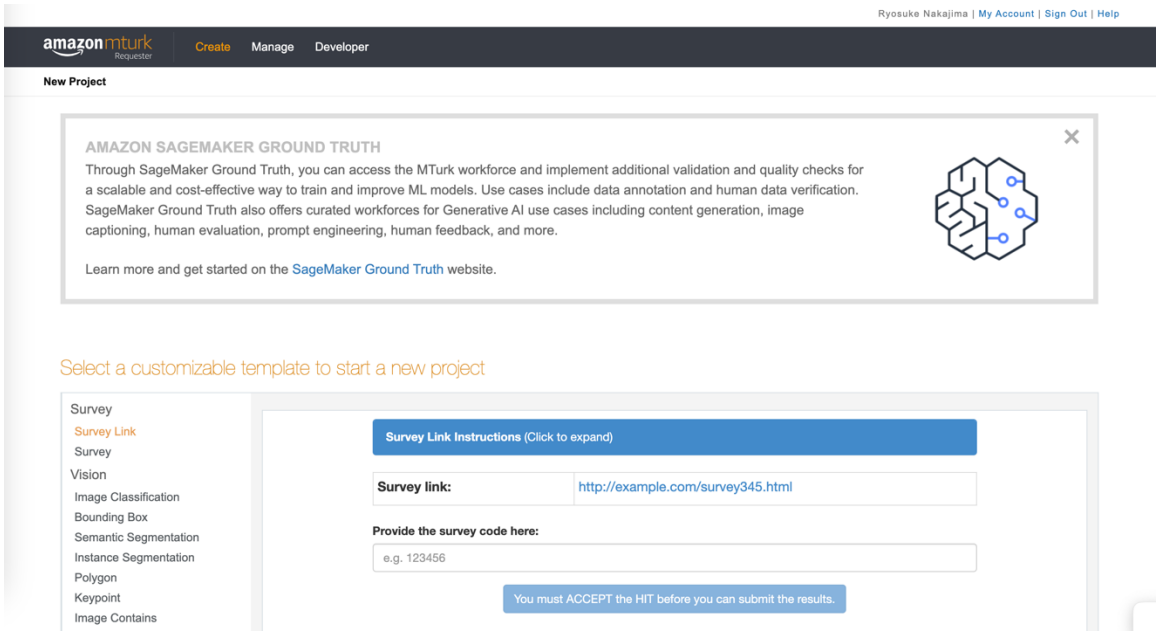
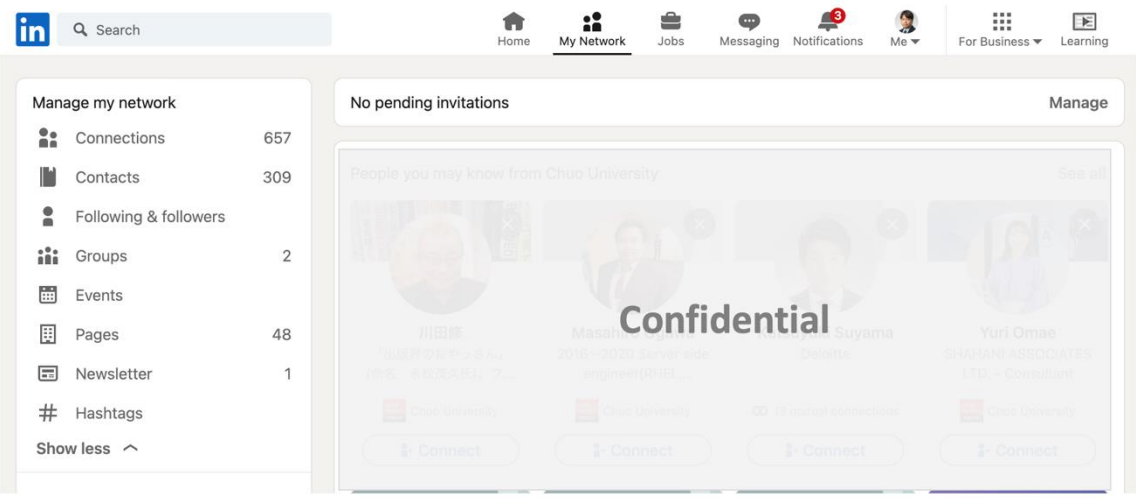


Figure 13 – LinkedIn Dashboard



3.6 Participant Selection

Regarding the participant selection, focused survey participants are Sales/Marketing Managers in Factory Automation or Manufacturing Machinery Industry based on Figure 14.

Figure 14 – Participant Selection – Survey Participant Priority

Participant Selection – Survey Participant Priority

Focused survey participants are Sales/Marketing Managers in Factory Automation or Manufacturing Machinery Industry. Second priority is executives and Sales/Marketing Reps in the same industry.

		Position				
		Executive (CxO)	Sales Dept		Marketing Dept	
			Manager	Representative	Manager	Representative
Industry	Factory Automation	Medium	High	Medium	High	Medium
	Manufacturing Machinery	Medium	High	Medium	High	Medium
	Other Manufacturing Industry	Low	Medium	Low	Medium	Low

- High Priority

  - Sales Managers in Factory Automation industry

  - Marketing Managers in Factory Automation industry

  - Sales Managers in Manufacturing Machinery industry

  - Marketing Managers in Manufacturing Machinery industry

- Medium Priority

  - Executives (CxOs) in Factory Automation industry

  - Executives (CxOs) in Manufacturing Machinery industry

  - Sales Representatives in Factory Automation industry

  - Sales Representatives in Manufacturing Machinery industry

  - Marketing Representatives in Factory Automation industry

  - Marketing Representatives in Manufacturing Machinery industry

  - Sales Managers in the other manufacturing industry

- Marketing Managers in the other manufacturing industry

- Low Priority

  - Executives (CxOs) in the other manufacturing industry

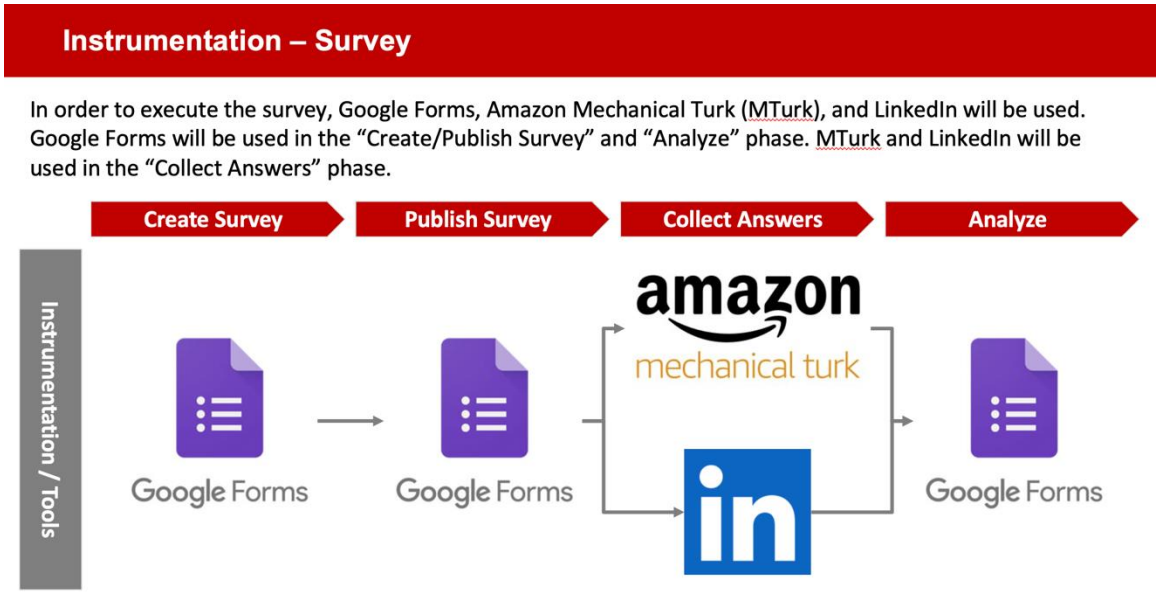
  - Sales Representatives in the other manufacturing industry

  - Marketing Representatives in the other manufacturing industry

3.7 Instrumentation

Regarding the instrumentation, to execute the survey, Google Forms, Amazon Mechanical Turk (MTurk), and LinkedIn will be used. Google Forms will be used in the "Create/Publish Survey" and "Analyze" phases. MTurk and LinkedIn will be used in the "Collect Answers" phase. (Refer to Figure 15)

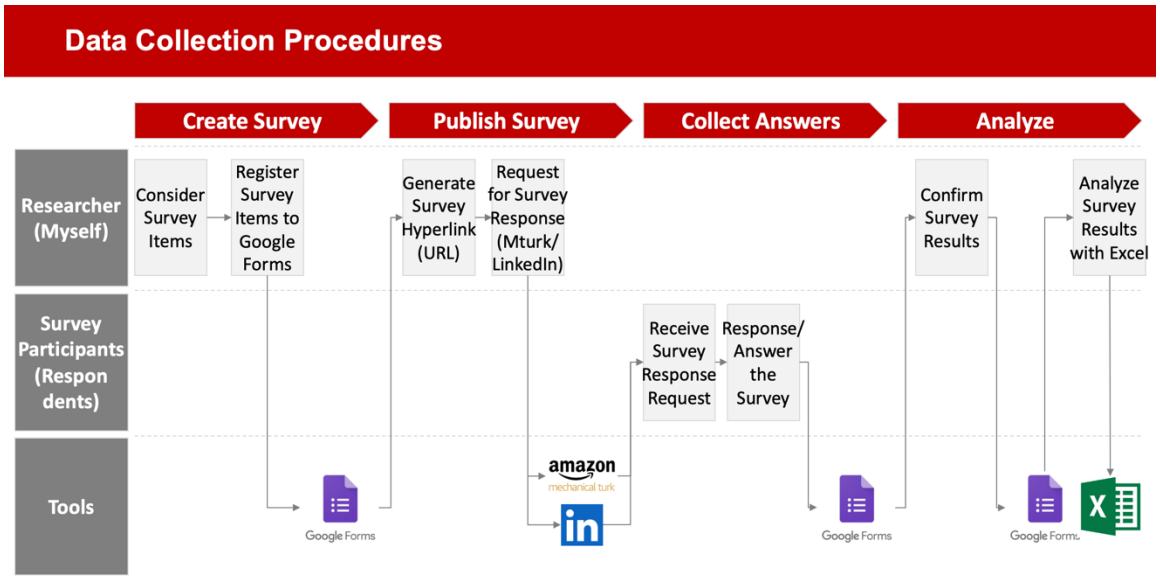
Figure 15 – Instrumentation – Survey



3.8 Data Collection Procedures

Based on Figure 16, there are four processes for the data collection, including Create Survey, Publish Survey, Collect Answers, and Analyzing.

Figure 16 – Data Collection Procedures



- Create Survey phase
    - The researcher considers the survey items.
    - The researcher registers survey items to Google Forms.

- Publish Survey phase
    - The researcher generates the survey's hyperlink (URL).

    - The researcher requests the survey responses from the survey participants through Amazon Mechanical Turk and LinkedIn.

- Collect Answers phase
    - The survey participants receive the survey response requests.
    - The survey participants respond/answer the survey items.

- Analyze phase
    - The researcher confirms the survey results from Google Forms.
    - The researcher analyzes the survey results with Excel.

3.9 Data Analysis

As for the data analysis, three kinds of analysis will be executed in this research. It includes “1. Result/Fact of Each Item”, “2. Cross-Sectional Analysis”, and “3. Validation of the Hypothesis”. (Refer to Figure 17)

Figure 17 – Overview of Data Analysis

Data Analysis – Overview

As the data analysis, three kinds of analysis will be executed in this research. It includes "1. Result/Fact of Each Item", "2. Cross-Sectional Analysis", and "3. Validation of the Hypothesis".

Overview of Data Analysis		
1	Result/Fact of Each Item	Based on Table 1, there are 22 survey items to the survey participants. Data analysis for each question will be executed.
2	Cross-Sectional Analysis	Demographic questions and Metaverse-related questions are included in the survey questions. Cross-Sectional Analysis between the demographic and Metaverse-related questions will be executed.
3	Validation of the Hypothesis	Throughout the survey, validation of the research hypothesis will be executed. Based on the survey results, the research hypothesis will be updated.

- Result/Fact of Each Item:

  Based on Table 1, there are 22 survey items for the survey participants. Data analysis for each question will be executed.

- Cross-Sectional Analysis:

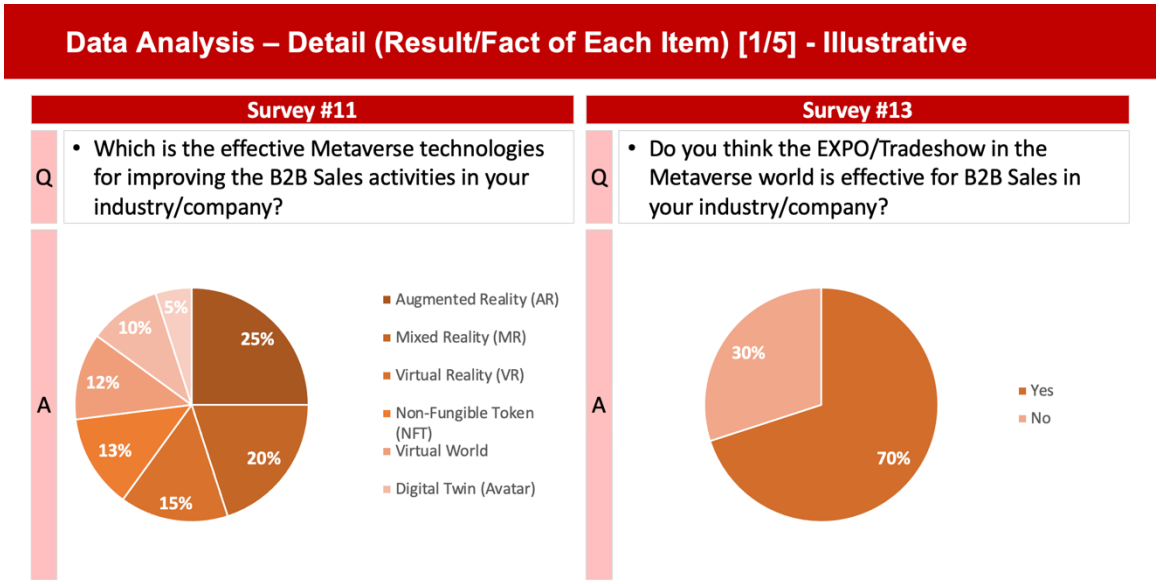
  Demographic questions and Metaverse-related questions are included in the survey questions. Cross-Sectional Analysis between the demographic and Metaverse-related questions will be executed.

- Validation of the Hypothesis:

  Throughout the survey, validation of the research hypothesis will be executed. Based on the survey results, the research hypothesis will be updated.

First of all, the illustration of "Result/Fact of Each Item" is shown below. There are 22 survey items for the survey participants. Data analysis, such as Figure 18 for each question, will be executed.

Figure 18 – Detail of Data Analysis (Result/Fact of Each Item)



Second, the illustration of "Cross-Sectional Analysis" is shown below. Demographic questions such as industry, division, position, and so on and Metaverse-related questions are included in the survey questions. A Cross-Sectional Analysis between the demographic and Metaverse-related questions, such as Figure 19 – 21, will be executed.

Figure 19 – Detail of Data Analysis (Cross-Sectional Analysis): Difference by Industry

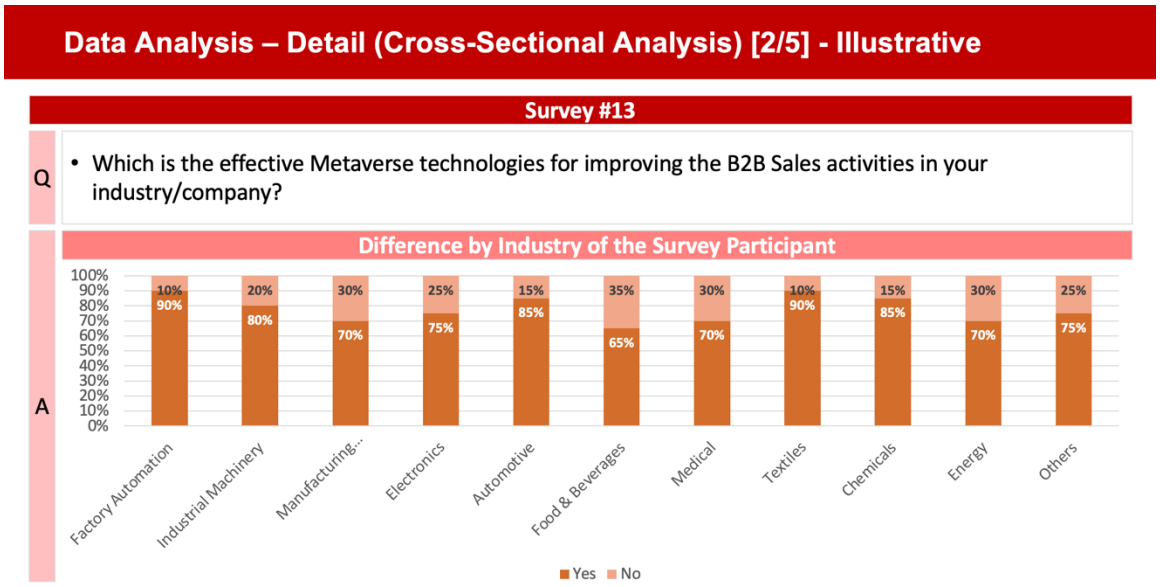


Figure 20 – Detail of Data Analysis (Cross-Sectional Analysis): Difference by Division

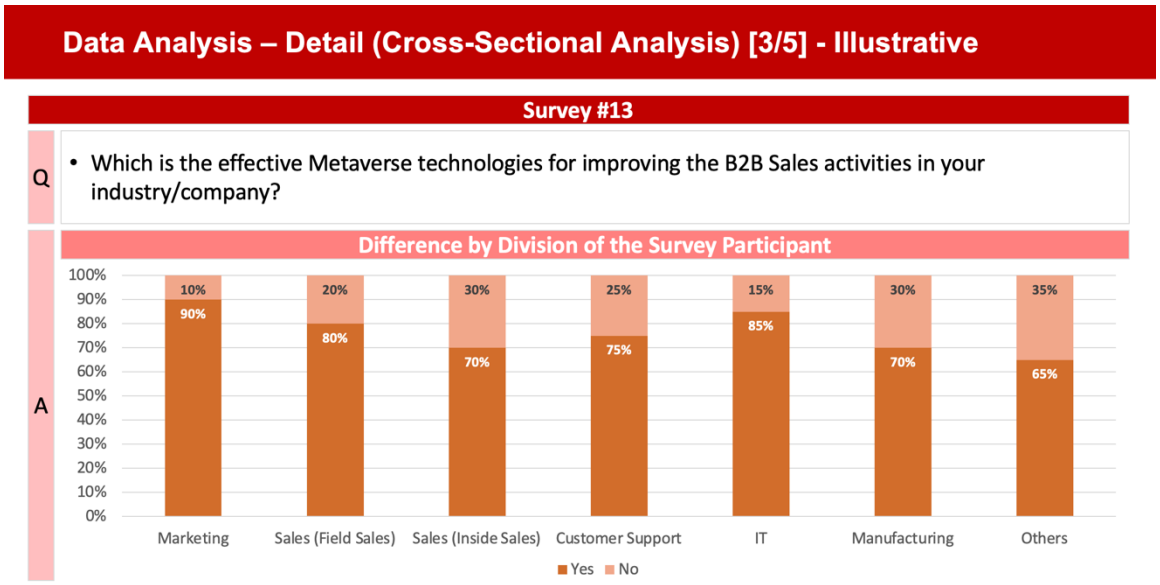
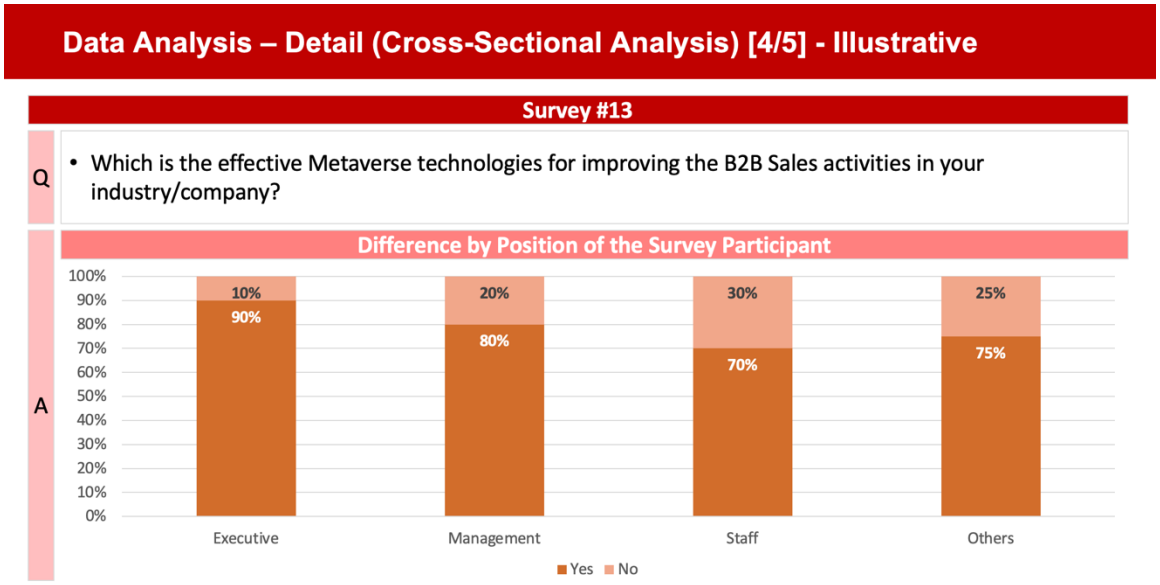
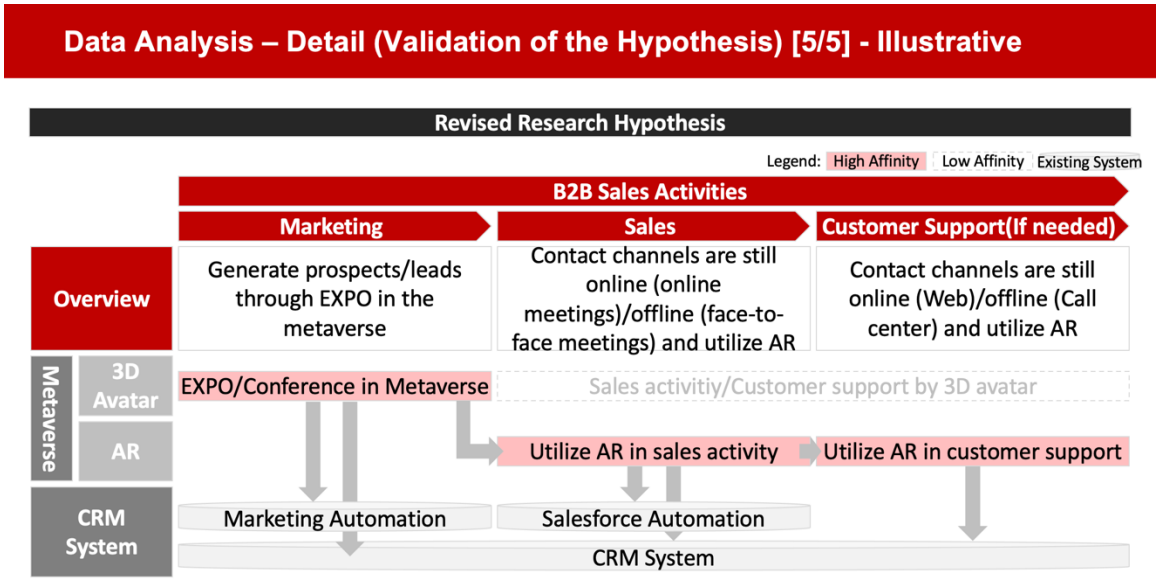


Figure 21 – Detail of Data Analysis (Cross-Sectional Analysis): Difference by Position



Finally, “Validation of the Hypothesis” is illustrated below. Throughout the survey, the research hypothesis will be validated, and barriers and issues for adapting Metaverse to the participants’ business will be examined. Based on the survey results, the research hypothesis will be updated, as shown in Figure 22.

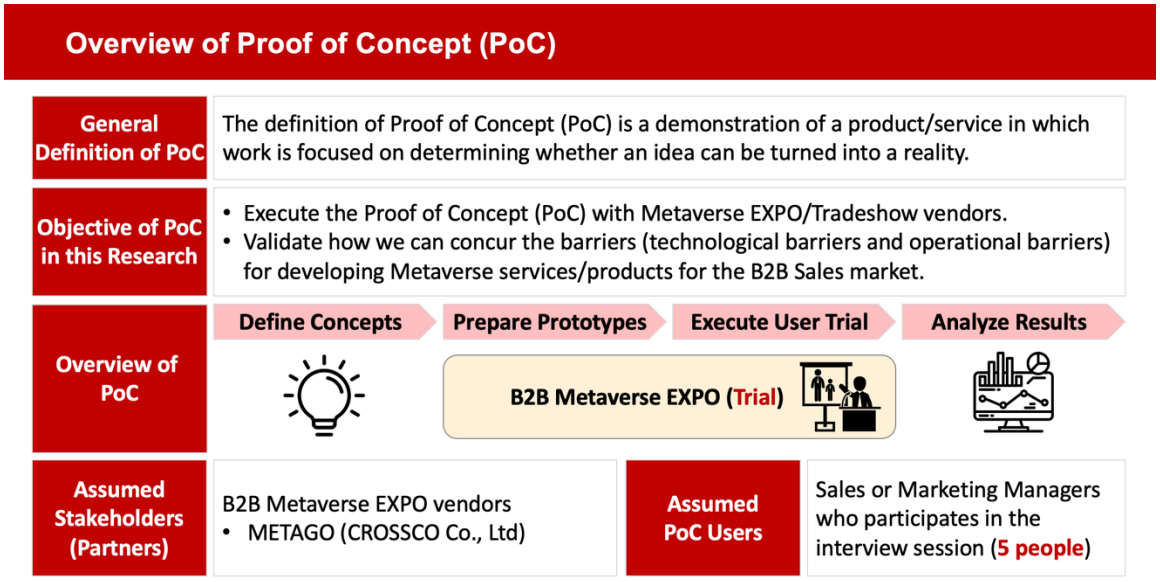
Figure 22 – Detail of Data Analysis (Validation of the Research Hypothesis)



3.10 Overview of Proof of Concept (PoC)

Generally, Proof of Concept (PoC) is executed for the trial as a prototype. The general definition of Proof of Concept (PoC) is a demonstration of a product/service in which work is focused on determining whether an idea can be turned into a reality. In this research, PoC regarding B2B Metaverse will be executed with the Metaverse vendor in Japan. (Refer to Figure 23)

Figure 23 – Overview of Proof of Concept (PoC)



- The objective of PoC in this research:
    - Validate how to concur the barriers (technological barriers and operational barriers) for developing Metaverse services/products for the B2B Sales market.

- Process overview of PoC:
    - Define Concepts through the survey and interviews.
    - Prepare Prototypes of B2B Metaverse EXPO as a trial with Metaverse EXPO/tradeshow vendors.
    - Execute User Trial with 5 participants who joined in the interview sessions of this research.
    - Analyze the PoC results to validate how to concur the barriers (technological barriers and operational barriers) to developing

Metaverse services/products for the B2B Sales market.

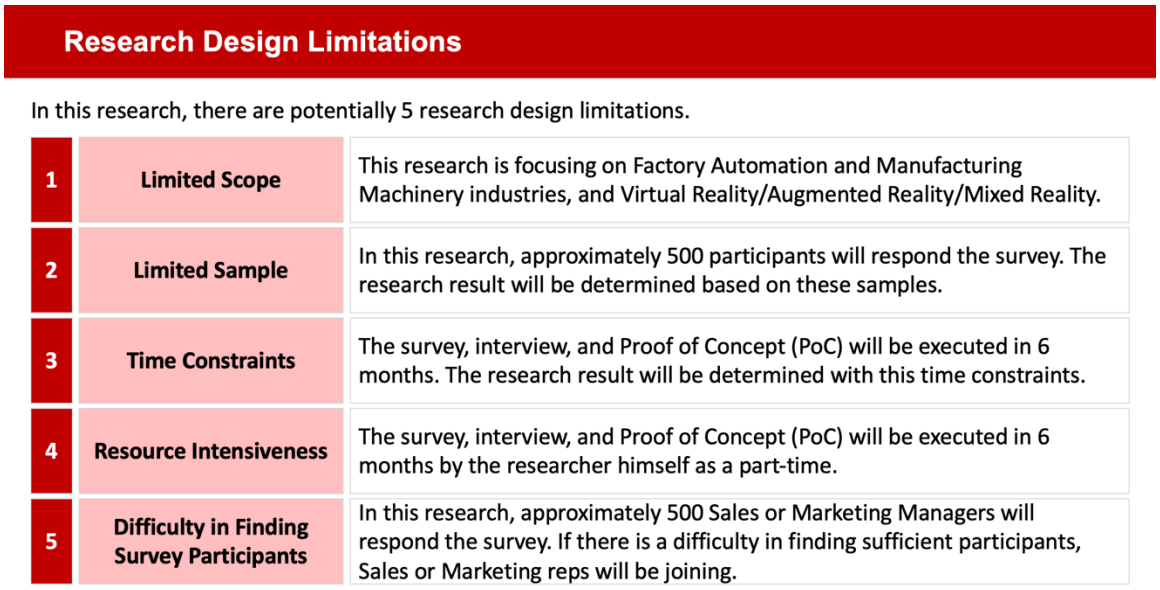
- Assumed Stakeholders (B2B Metaverse EXPO vendors)
    - METAGO (CROSSCO Co., Ltd)

- Assumed PoC Users:
    - Sales or Marketing Managers who participate in the interview session (5 people)

3.11 Research Design Limitations

Based on Figure 24, there are potentially five research design limitations in this research.

Figure 24 – Research Design Limitations



Research Design Limitations

In this research, there are potentially 5 research design limitations.

1	**Limited Scope**	This research is focusing on Factory Automation and Manufacturing Machinery industries, and Virtual Reality/Augmented Reality/Mixed Reality.
2	**Limited Sample**	In this research, approximately 500 participants will respond the survey. The research result will be determined based on these samples.
3	**Time Constraints**	The survey, interview, and Proof of Concept (PoC) will be executed in 6 months. The research result will be determined with this time constraints.
4	**Resource Intensiveness**	The survey, interview, and Proof of Concept (PoC) will be executed in 6 months by the researcher himself as a part-time.
5	**Difficulty in Finding Survey Participants**	In this research, approximately 500 Sales or Marketing Managers will respond the survey. If there is a difficulty in finding sufficient participants, Sales or Marketing reps will be joining.

- Limited Scope:

  This research focuses on Factory Automation and Manufacturing Machinery industries as well as Virtual Reality, Augmented Reality, and Mixed Reality.

- Limited Sample:

  In this research, approximately 500 participants will respond to the survey. The research result will be determined based on these samples.

- Time Constraints:

  The survey, interview, and Proof of Concept (PoC) will be executed in 6 months. The research result will be determined with these time constraints.

- Resource Intensiveness

  The survey, interview, and Proof of Concept (PoC) will be executed in 6 months by the researcher as a part-time.

- Difficulty in Finding Survey Participants:

  In this research, approximately 500 Sales or Marketing Managers will respond to the survey. If there is difficulty finding sufficient participants, sales or marketing reps will be joining.

3.12 Conclusion

Throughout this research, the Survey, Interviews, and Proof of Concept (PoC) will be executed with mainly B2B Sales representatives in the Manufacturing Industry to validate the problem statements and hypothesis.

The research objectives are to clarify the reason why CRM for B2B Sales market is not so much developed. (Due to low demand, technology barriers, operational barriers, etc.) and evaluate application of Metaverse to CRM for B2B Sales in the manufacturing industry. In order to achieve the research objectives above, research questions are set.

- Research Question
  - How can we develop Metaverse services/products to CRM for B2B Sales market in the manufacturing industry?
- Research Sub Questions
  - What are the key elements to develop Metaverse services/products to CRM for B2B Sales market in the manufacturing industry?

- How effectively do the current Metaverse services/products to CRM for B2C Sales apply to the B2B market in the manufacturing industry?
- How can we concur the barriers (technological barriers and operational barriers) for developing Metaverse services/products to CRM for B2B Sales market in the manufacturing industry?

The research survey has 22 questions. Approximately 500 survey participants will be compiled on Amazon Mechanical Turk and LinkedIn, and the survey itself will be created with Google Forms. Focused survey participants are Sales/Marketing Managers in Factory Automation or Manufacturing Machinery Industries. The second priority is executives and Sales/Marketing Reps in the same industry.

After the survey results are compiled, three kinds of data analysis will be executed in this research. They include “1. Result/Fact of Each Item,” “2. Cross-Sectional Analysis,” and “3. Validation of the Hypothesis.”

In this research, there are potentially 5 research design limitations, including “Limited Scope”, “Limited Sample”, “Time Constraints”, “Resource Intensiveness”, and “Difficulty in Finding Survey Participants”.

CHAPTER IV:

RESULTS

4.1 Overview of Survey

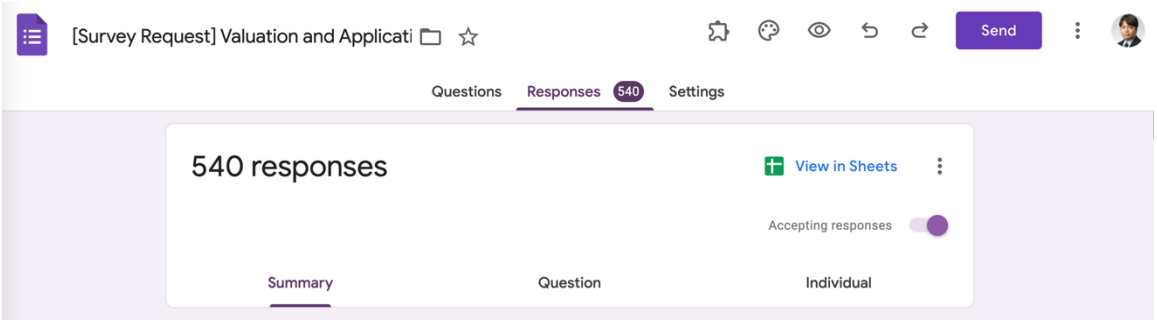
As mentioned in the previous chapter, there are 22 questions in the research survey, and the survey was created with Google Forms. (Refer to Figure 25)

*Survey link: https://forms.gle/jNvTG6wY9GJ91S8K7

Figure 25 – Research Survey with Google Forms

As a result, 540 respondents from the USA, Canada, France, Germany, Netherlands, New Zealand, Singapore, Indonesia, Malaysia, India, and Japan answered this research survey. These survey respondents were compiled from Amazon Mechanical Turk, LinkedIn, and Cloud Research.

Figure 26 – Evidence of the Survey Respondent Collection



In this chapter, the survey results, including “1. Result/Fact of Each Item”, and “2. Cross-Sectional Analysis,” are described.

4.2 Research Question 1 & 2

The questions are the following.

- Q1: Which industry are you currently working in?
- Q2: If you choose "11. Others" in Q1, please describe your industry.

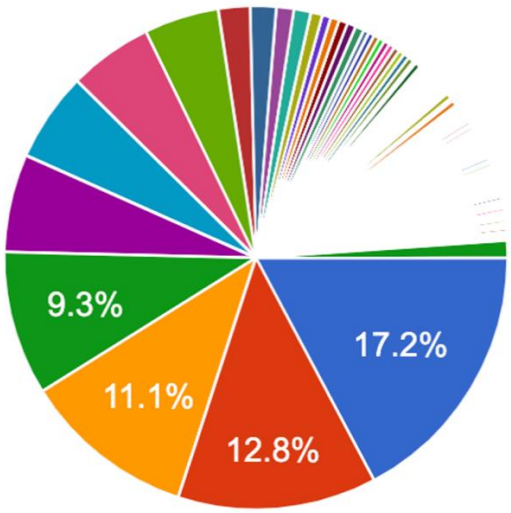
Regarding the result, based on Figure 27, the major industries in which survey respondents work are the following.

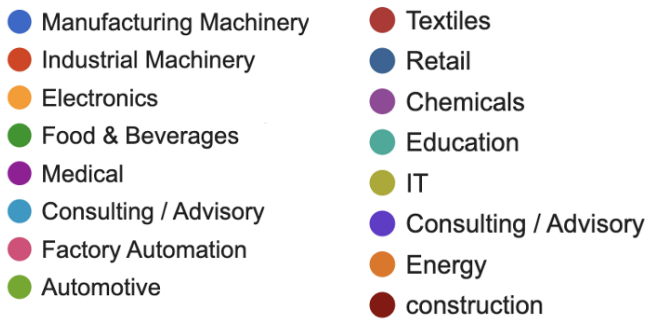
- Manufacturing Machinery industry: 17.2%
- Industrial Machinery industry: 12.8%
- Electronics industry: 11.1%

- Food & Beverages industry: 9.3%
- Medical: 6.5%
- Factory Automation: 5.4%
- Automotive: 4.8%

The coverage by the above six industries is over 67%. Based on the research hypothesis, Manufacturing Machinery, Industrial Machinery, Electronics, Factory Automation, and Automotive industries are included in the manufacturing industry, and these are one of the research priorities. Therefore, the survey results from these clusters would be meaningful in validating the research hypothesis.

Figure 27 – Survey Result (Q1 & Q2)





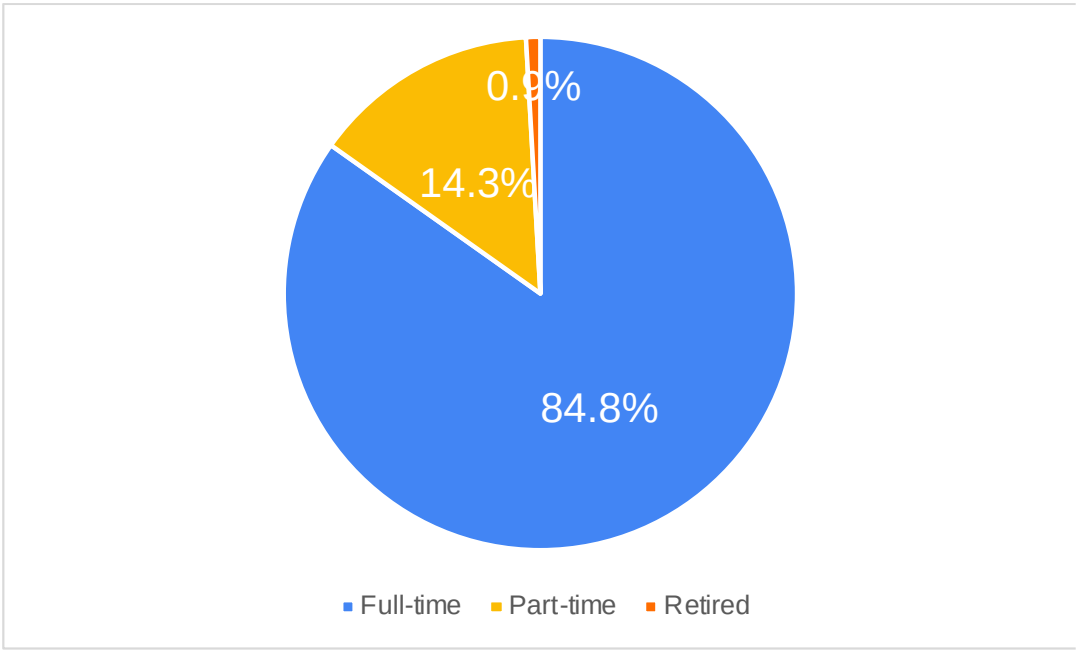
4.3 Research Question 3

The question is below.

- Q3: What is your current employment status?

Regarding the result, based on Figure 28, the current employment status of survey respondents is as follows.

Figure 28 – Survey Result (Q3)



Based on this result, 84.8% of respondents are currently working as full-time employees. Opinions and insights from the full-time employee are critical for this research, so these respondent samples are sufficient for the analysis.

Figure 29 – Cross-Sectional Analysis (Industry & Employment Status)

Count of Timestamp	Column Labels			
Row Labels	Full-time	Part-time	Retired	Grand Total
Manufacturing Machinery	84	9		93
Industrial Machinery	67	2		69
Electronics	55	8		63
Food & Beverages	44	7	1	52
Medical	28	7		35
Customer Support/ Advisory	27	6	1	34
Factory Automation	29			29
Automotive	24	3		27
Textiles	8	4		12
IT	7	5		12
Retail	8	3		11
Excerpted				

In addition, Figure 29 is the result of a Cross-Sectional Analysis between Q1 (Industry) and Q3 (Employment status). The major respondens (approximately 61.3% in total) are Full-time in the research priority, including Manufacturing Machinery, Industrial Machinery, Electronics, Factory Automation, and Automotive industries as below. Therefore, these respondent samples are sufficient for the analysis.

4.4 Research Question 4 & 5

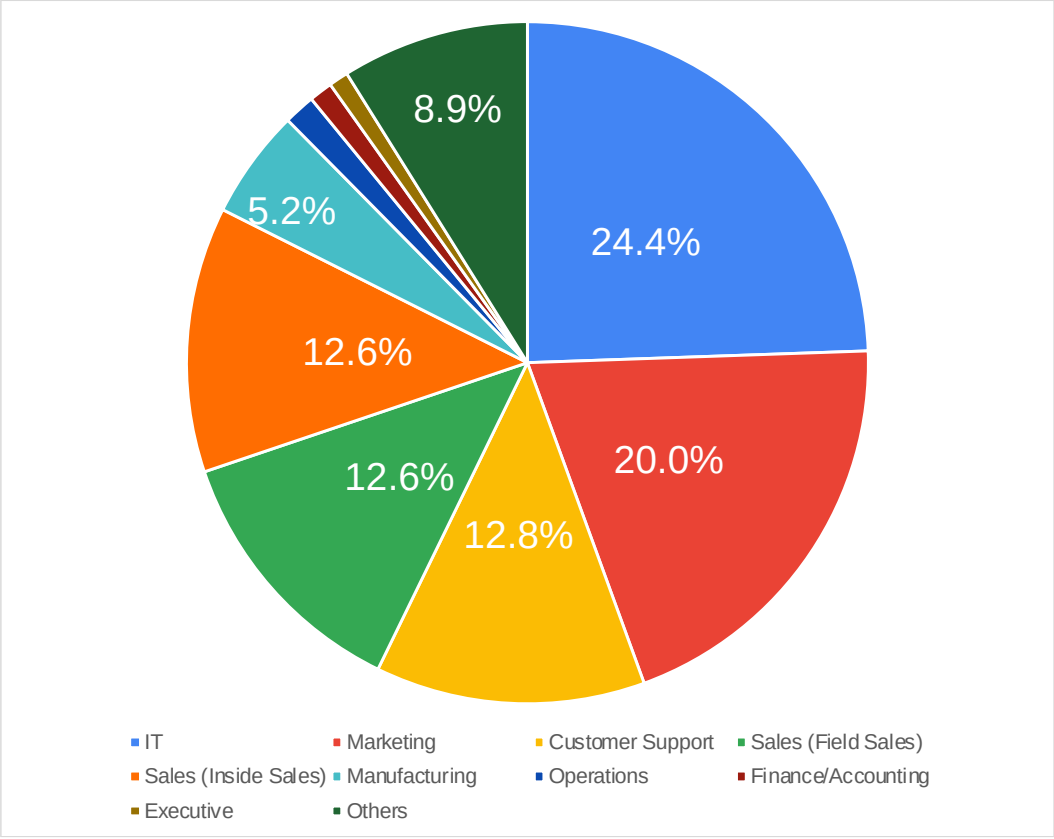
The question is below.

- Q4: What sort of division/department are you in?

- Q5: If you choose "7. Others" in Q4, please describe your division/department.

Regarding the result, based on Figure 30, the current division/department of survey respondents is the following.

Figure 30 – Survey Result (Q4 & Q5)



In this research, the priority target respondents are the employees in the Marketing, Sales (Field Sales), Sales (Inside Sales), and Customer Support departments, and the coverage by these departments is 58.0% in total. Therefore, these respondent samples are sufficient for the analysis.

Figure 31 – Cross-Sectional Analysis (Industry & Division/Department)

Count of Timestamp	Column Labels				
Row Labels	IT	Marketing	Customer Support	Sales (Field Sales)	Sales (Inside Sales)
Manufacturing Machinery	16	24	3	20	16
Industrial Machinery	31	14	1	15	6
Electronics	30	7	8	3	10
Food & Beverages	9	15	9	7	9
Medical	7	7	8	2	3
Customer Support/ Advisory	5	8	6	2	3
Factory Automation	3	12	2	5	3
Automotive	7	6	8	2	3
Textiles	1	1	2	5	3
IT	8	1	2		1
Retail	1	1	1		5
		Excerpted			

In addition, Figure 31 is the result of a Cross-Sectional Analysis between Q1 (Industry) and Q4 (Division/Department). The respondents are scattered in each priority industry and department. Hence, this research result covers all required combinations, such as the Manufacturing Machinery industry and Marketing department, the Industrial Machinery industry and Customer Support department, etc.

Figure 32 – Cross-Sectional Analysis (Employment Status & Division/Department)

Count of Timestamp	Column Labels			
Row Labels	Full-time	Part-time	Retired	Grand Total
IT	118	13	1	132
Marketing	98	9	1	108
Customer Support	51	17	1	69
Sales (Field Sales)	58	10		68
Sales (Inside Sales)	57	11		68

Excerpted

In addition, Figure 32 is the result of Cross-Sectional Analysis between Q3 (Employment Status) and Q4 (Division/Department). Based on Figure 32, the major respondents are full-time in the research priority departments, including Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales). Therefore, these respondent samples are sufficient for the analysis.

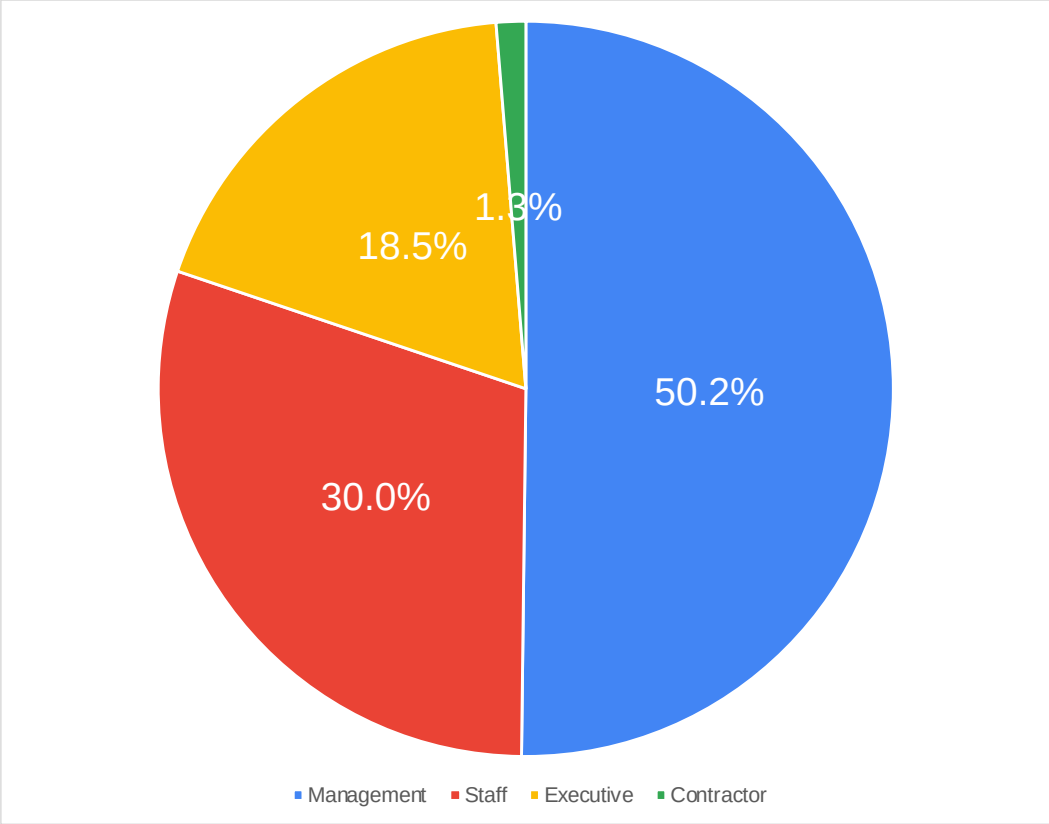
4.5 Research Question 6 & 7

The question is below.

- Q6: What is your current position?
- Q7: If you choose "4. Others" in Q6, please describe your current position.

Regarding the result, based on Figure 33, the current position of survey respondents is as follows.

Figure 33 – Survey Result (Q6 & Q7)



In this research, the priority target respondents are Management and Executive, and the coverage by these positions is 68.7% in total. Therefore, these respondent samples are sufficient for the analysis.

Figure 34 – Cross Sectional Analysis (Industry & Position)

Count of Timestamp	Column Labels				
Row Labels	Management	Staff	Executive	Contractor	Grand Total
Manufacturing Machinery	61	12	20		93
Industrial Machinery	45	9	15		69
Electronics	30	20	13		63
Food & Beverages	28	16	8		52
Medical	15	12	8		35
Customer Support/ Advisory	13	14	6	1	34
Factory Automation	18	2	9		29
Automotive	18	4	5		27
Textiles	6	3	3		12
IT	6	5	1		12
Retail	5	5	1		11

Excerpted

In addition, Figure 34 is the result of a Cross-Sectional Analysis between Q1 (Industry) and Q6 (Current Position). Based on Figure 34, the major respondents are Management and Executives in the research priority manufacturing industry, including Manufacturing Machinery, Industrial Machinery, Electronics, Factory Automation, and Automotive. Therefore, these respondent samples are sufficient for the analysis.

Figure 35 – Cross-Sectional Analysis (Employment Status & Position)

Count of Timestamp	Column Labels				
Row Labels	Management	Staff	Executive	Contractor	Grand Total
Full-time	238	119	97	4	458
Part-time	32	39	3	3	77
Retired	1	4			5
Grand Total	**271**	**162**	**100**	**7**	**540**

Furthermore, Figure 35 is the result of a Cross-Sectional Analysis between Q3 (Employment Status) and Q6 (Current Position). Based on Figure 35, the major respondents are Management and Executives with the full-time employee, which is the research priority. Therefore, these respondent samples are sufficient for the analysis.

Figure 36 – Cross-Sectional Analysis (Division/Department & Position)

Count of Timestamp	Column Labels				
Row Labels	Management	Staff	Executive	Contractor	Grand Total
IT	78	33	20	1	132
Marketing	60	17	30	1	108
Customer Support	23	37	7	2	69
Sales (Field Sales)	39	13	16		68
Sales (Inside Sales)	44	14	10		68
Excerpted					

Moreover, Figure 36 results from a Cross-Sectional Analysis between Q4 (Current Division/Department) and Q6 (Current Position). Based on Figure 36, the major respondents are Management and Executives with the Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales) divisions/departments, which are the research priorities. Therefore, these respondent samples are sufficient for the analysis.

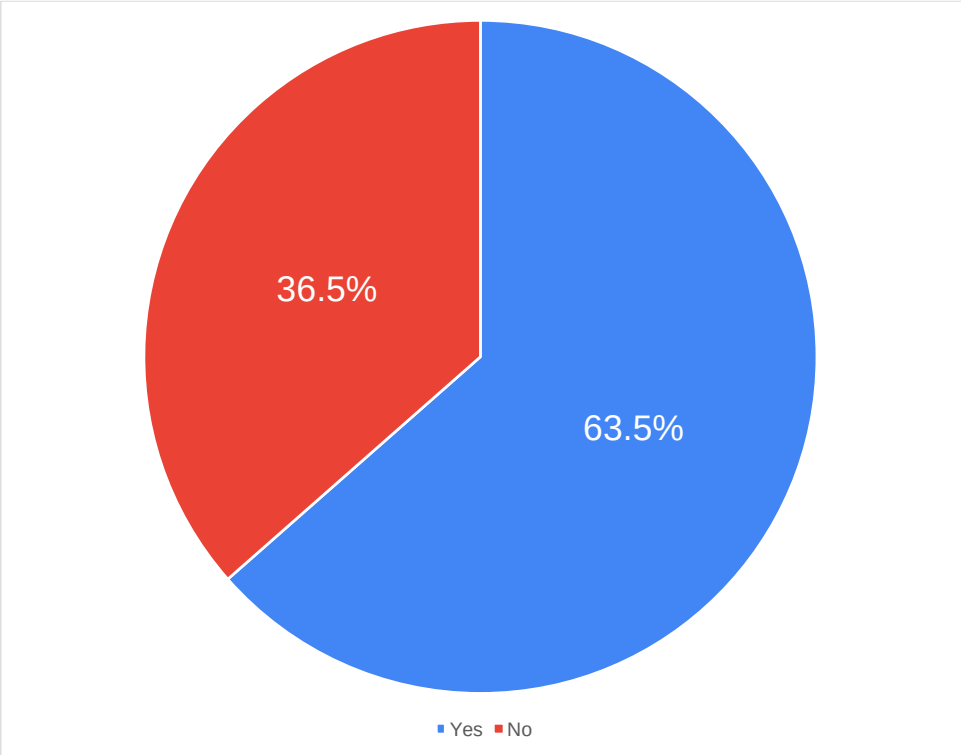
4.6 Research Question 8

The question is below.

- Q8: Are you interested in using Metaverse for B2B Sales activities in your industry/company?

Regarding the result, based on Figure 37, the interest in using Metaverse for B2B Sales activities in survey respondents' industry/company is the following.

Figure 37 – Survey Result (Q8)



Based on the result in Figure 37, the majority of the survey respondents (63.5%) are interested in using Metaverse for B2B Sales activities. By using the cross-sectional

analysis, the result will be deep-dived into which industry/division/position is exactly appropriate for using Metaverse.

Figure 38 – Cross-Sectional Analysis (Industry & Interest)

Count of Timestamp	Column Labels		
Row Labels	Yes	No	Grand Total
Manufacturing Machinery	71	22	93
Industrial Machinery	63	6	69
Electronics	44	19	63
Food & Beverages	35	17	52
Medical	18	17	35
Customer Support/ Advisory	19	15	34
Factory Automation	20	9	29
Automotive	22	5	27
Textiles	7	5	12
IT	6	6	12
Retail	6	5	11

Excerpted

In addition, Figure 38 is the result of a Cross-Sectional Analysis between Q1 (Industry) and Q8 (Interest). Based on Figure 38, the major respondents who are interested in using Metaverse for B2B Sales activities are working in the research priority manufacturing industry, including Manufacturing Machinery, Industrial Machinery, Electronics, Food & Beverages, Medical, Factory Automation, Automotive, and Textiles. Based on the result, both Manufacturing Machinery industry and Industrial Machinery industry especially have a high affinity with using Metaverse.

Figure 39 – Cross-Sectional Analysis (Employment Status & Interest)

Count of Timestamp	Column Labels		
Row Labels	Yes	No	Grand Total
Full-time	307	151	458
Part-time	35	42	77
Retired	1	4	5
Grand Total	**343**	**197**	**540**

Furthermore, Figure 39 results from a Cross-Sectional Analysis between Q3 (Employment Status) and Q8 (Interest). Based on Figure 39, the major respondents who are interested in using Metaverse for B2B Sales activities are working full-time. As full-time employees usually have more knowledge and experience in their industry and business than part-time employees, Metaverse could be a possible solution for B2B Sales activities.

Figure 40 – Cross-Sectional Analysis (Division/Department & Interest)

Count of Timestamp Row Labels	Column Labels Yes	No	Grand Total
IT	101	31	132
Marketing	78	30	108
Customer Support	34	35	69
Sales (Field Sales)	48	20	68
Sales (Inside Sales)	44	24	68
Manufacturing	16	12	28
Operations	3	5	8
Finance/Accounting	3	3	6
Executive	2	3	5
Freelance		4	4
N/A		4	4
Admin	1	3	4
Teacher	2	1	3
Healthcare	1	2	3
HR	1	2	3
R&D		2	2
Project Management	2		2
Engineering	1	1	2
Accounting		2	2
Homemaker		1	1
Quality Control	1		1
Product		1	1
Investigations		1	1
Retail	1		1
Contract work		1	1
Writing	1		1
Law		1	1
Carpentry		1	1
Assistant	1		1
Construction		1	1
Distribution		1	1
Consulting	1		1
Business controller		1	1
Security		1	1
Business development		1	1
Content creation		1	1
Owner	1		1
Hospitality		1	1
Grand Total	**343**	**197**	**540**

Moreover, Figure 40 results from a Cross-Sectional Analysis between Q4 (Division/Department) and Q8 (Interest). Based on Figure 40, the major respondents who are interested in using Metaverse for B2B Sales activities are working in the priority

segments for this research, including Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales). The hypothesis of this research is that there is high affinity between Metaverse and B2B sales activities (including Marketing, Sales, and Customer Support), so this hypothesis is totally validated by this survey results.

Figure 41 – Cross-Sectional Analysis (Position & Interest)

Count of Timestamp	Column Labels		
Row Labels	Yes	No	Grand Total
Management	214	57	271
Staff	60	102	162
Executive	69	31	100
Contractor		7	7
Grand Total	**343**	**197**	**540**

Also, Figure 41 results from a Cross-Sectional Analysis between Q6 (Current Position) and Q8 (Interest). Based on Figure 41, the major respondents (39.6%) interested in using Metaverse for B2B Sales activities are working in the Management position. This would assume that the Management thinks they need to transform their business by using cutting-edge technologies due to the recent VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business environment.

On the other hand, approximately 18.9% of the survey respondents are staff and do not have an interest in using Metaverse for B2B Sales activities. They are specialists

in their day-to-day operations and might think that using Metaverse for their operations would be a long way off. Therefore, filling a gap between management and staff when using Metaverse for B2B sales activities is critical for implementation.

4.7 Research Question 9

The question is below.

- Q9: If you answered "Yes" in Q8, why are you interested in it? If you answered "No" in Q8, why aren't you interested in it?

The following is the accepted feedback from the survey respondents regarding why and why not they are interested in using Metaverse for B2B Sales activities.

- The major reasons why they are interested in using Metaverse for B2B Sales activities (Excerpted)
    - Its potential impact on organizational dynamics is significant, offering new ways to connect, collaborate, and conduct business in increasingly digital and interconnected environments.
    - Metaverse provides a dynamic and immersive platform for B2B companies to engage with potential clients, which allows virtual product demonstrations, interactive experiences, and personalized simulations, businesses can create a captivating environment that captures customers' attention and enables them to explore products or services in greater depth. This heightened engagement fosters a

stronger connection between businesses and clients, leading to increased brand awareness and potential sales.

- The metaverse is important for organizations as it revolutionizes collaboration, communication, and the way business is conducted. Embracing the metaverse can lead to increased efficiency, creativity, and a competitive edge in the modern digital landscape.
- Adds another layer to our company and helps to boost innovation and productivity.
- Advertising in the metaverse sounds cool to me.
- As tech evolves, so does the opportunity to reach targets in new ways- including Metaverse.
- Because it could help in predicting the patient diagnosis faster.
- Because it provides opportunities for virtual trade shows, immersive product demonstrations, global reach, collaborative workspaces, training, enhanced communication, brand engagement, data analytics, and innovative marketing.
- Because it seems like an inevitable progression in our field, and it is best to get a start on it.
- Because it was easy to make sale and also very helpful in my business.
- Because it would make the job more interesting and could help the company.
- Because Metaverse is new trend and advance.
- Because, using metaverse in B2B sales makes profit highly and everyone interesed about it to buy.

- Can help with mutitple aspects.
- Create more immersive buyer.
- Differenciation and appeal for the learning process.
- Effective communication.
- Expanded marketing.
- Getting good Collaborative Workspaces.
- Good relevance for the industry by intruding new ideas.
- I am always looking for interactive and innovate ways to increase sales and boost productivity. I think it would help us communicate with our partners and showcase our products. We can hold interactive events without having people travel. We can more directly communicate and I think it will show we are on the cutting edge.
- I am curious in how I can interact with other businesses in my field outside the normal methods of communication. How would this reach change our interactions?
- I am excited about this position because it aligns perfectly with my experience and skill set.
- I am interested because it will enhance my productivity.
- I am interested in learning more about about how it could be used for marketing.
- I am interested in Mataverse for B2B sales activities simply because I enjoy pretty much anything to do with the technology overall.
- I am interested in Metaverse because it is the future.

- I believe every industry are progressing and Metaverse will help make our company more accessible and grow much faster.
- I believe it improves productivity.
- I believe it will help reduce stress at work and also help attract more customers.
- I feel it would enable me to much more effectively showcase our product.
- I feel like Metaverse has a very large customer base and can reach a lot of people. I feel that most people use them and the ads would reach a wide range of people.
- I hate doing the phone call aspect of my job and I think technology could replace me in that way.
- I might be interested in it if I understood the benefits of it other than entertainment.
- I thin it will unlock new opportunities for us to grow.
- I think it can increase business and exponentially.
- I think it can potentially advance the business.
- I think it could expand our reach and simplify ways marketing is done.
- I think it could expand us in a brand new way. Everything feels a little stagnant right now growthwise.
- I think it might take over jobs.
- I think it would be great actually. You can show off the product that you looking to sell in VR, or 3d. I think that it would entice the customer more and help you make the sell, its more exciting. It

is alot more exciting then showing a picture, or regular video. Our new customers 70% of the time go through the basic steps. Search online, click through websites until they find what there looking for. In the world of electronics, which is what i work in, there are many competitors. Metaverse would help us stick out.

- I think it would help with our sales.
- I think it would open another channel and it can be very effective to increase our sales.
- I think that it allows us to tap into a younger generation for potential sales though the metaverse.
- I think that it offers a great chance to build greater relationships with my customers. In addition, it has the chance to expand the amount of clients that I aquire on any given day.
- I think that the metaverse is the next level and those who spot the trend early will make bank.
- I think the Metaverse could bring more customers in by providing a different but more direct way to communicate between the consumer and seller.
- I want to use all available technology to help improve my sales and service experiences.
- I was working in a B2B software app development company a few years ago and we used SecondLife for all our business meetings with one of our customers rather have conference calls. Once we all got familiar with it, it was quite effective for both teams as we felt as if we were meeting in person to a certain extent. It would

depend on the partner but I think that would work well again to use some form of the metaverse.

- I would be interested in how it is able to help expand and grow awareness about my business. I was not aware of Metaverse for B2B sales.
- I would like to see how it would be used and how it can make it efficient for the company.
- I would love to explore the possibility that exist between reality and augmentation.
- I would need to learn more about it, but I think it has the potential to help grow my business in a unique way.
- I would like to see if it would make my job more efficient.
- I am interested because it seems like it'll have a positive effect on my career.
- I am interested in it because i love to try out new technology.
- I am interested in it cause I have heard a lot of good things about it so I would love to try it myself.
- I am interested in utilizing the Metaverse for B2B sales in our industry because it presents a unique, immersive platform for business interactions and presentations. In the Metaverse, we can create realistic, engaging environments to showcase our products and services in ways that are not possible in traditional digital formats or even in-person meetings.
- Increase sales from a different potential revenue source, a untapped market potential.

- Interacting each others and interacting might gets more good ideas.
- Interesting and learning more knowledge.
- It can be used to speed up procurement processes for project deliverables.
- It can be useful and has applications in alot of markets and positions based on the future it offers.
- It can be very helpful, convenient and useful.
- It can develop our marketing worldwide.
- It could help work flow and give a heads up display of tasks and other work related things.
- It could increase my performance.
- It has a high potential for number of people addressed in an innovative way while being a low cost for early introduction relative to other online advertising.
- It has the potential to dramatically increase sales.
- It helps grows sales to more people.
- It increases work population.
- It is a good way to expand sales, another way to reach a larger audience.
- It is a niche form of marketing we would love to engage in, but know little about.
- It is another platform on which to obtain work.
- It is fun and interesting.
- It is interesting, innovative, and engaging.
- It is of cost savings.

- It is quite useful for future usage and executions.
- It makes sales easier.
- It may allow a easier demo of the product for far away clients.
- It seems like a new area to dive into.
- It seems nice and I believe it will be effective.
- It sounds cool and might be a fun way to get new customers.
- It sounds like a new technology that will be helpful.
- It was a very smart and useful technology.
- It was very helpful for a improvement.
- It will benefit growth.
- It will heighten social connections and lifelike interactions which are essential for human beings.
- It will speed up training.
- It would be useful to reach out to other businesses.
- It would put us on the cutting edge.
- It is an excellent way to build a network with other businesses that need our product (In my case electricity, since I work with an energy company).
- It is exciting and fun.
- It is a good plateform to enhance your business.
- It is potential impact on organizational dynamics is significant, offering new ways to connect, collaborate, and conduct business in increasingly digital and interconnected environments.
- It is very high profit.
- Make things easier.

- Metaverse could add another dimension of learning to teaching and education.
- Metaverse is the future of internet.
- Metaverse is the future so I will like to be a part of the future.
- Metaverse was the very improvised industry to experiment.
- More helpful and informative.
- Mostly all technology has been helpful so far.
- Perform business and form partnerships in new and innovative ways.
- Save traveling time.
- Since I work in Environmental Nonprofit, it would be great to have a metaverse world that shows the ideal earth that we want to live in, and then when I meet with clients I can virtually show them what they would be giving us money for, so they can have a tangiable idea.
- Teams will be able to test ideas as well as train and practice in the metaverse with computer code instead of physical resources.
- The added efficiency that it promises.
- The business applications for the metaverse are very interesting to me. Both in sales and other areas.
- The Metaverse can provide immersive and interactive environments for virtual meetings and collaboration. This can be particularly beneficial for B2B sales, as it allows for more engaging and personalized client interactions, even when participants are geographically dispersed.

- The world is advancing and I will like to be a part of it.
- The world is evolving, businesses that wants to thrive must evolve with it.
- They are very useful in sale industry and their development.
- This is a good way to make contact with likely clients.
- To increase my productivity.
- To know about new technologies.
- To strategies and improve my marketing skills in my company.
- To explore the different possibilities the Metaverse can give.
- Using the Metaverse for B2B sales in a business management industry offers benefits like immersive presentations, global collaboration, personalized experiences, virtual events, and valuable data insights. It enhances engagement, expands reach, and drives business growth.
- We are a law firm. We sell only services to clients but we expect to use Metaverse for marketing and to contract other necessary professional services ourselves, such as court reporters and process servers.
- We are always looking to try out new things to improve our workplace.
- We create 3D assets that could be sold in a metaverse.
- We currently use VR and AR as part of the sales process when showing potential customers our plans and ideas for new Construction and renovation projects. We are always looking for

potential ways to innovate and differentiate ourselves from our large base of competitors.

- We do work with businesses to support their employees.
- Yes, it is a well growth technology so it is interesting.
- Yes, I am interested in using the metaverse for B2B sales activities. I believe that it has the potential to revolutionize the way that businesses sell to each other I am interested in it because it can Virtual product demonstrations.
- Yes, I am interested on its potential applications for it in my workplace, which is in the engineering field. I would need to do further R&D to see if it could be implemented into my work/industry.

- The major reasons why they are NOT interested in using Metaverse for B2B Sales activities (Excerpted)
    - At the current conditions I do not feel the Metaverse is a relevant platform to focus on.
    - Because it has not been proven to be reliable.
    - Because it is new technology and I feel that we must keep current.
    - Company is not big enough to even see a use to utilize such services.
    - Does not suit our product.
    - Does not need to be used in my company for now.
    - Do not know how it would help.
    - Do not see the need or how it would enhance my profession.

- Do not think our software and services would translate well into this space currently.
- Extremely lame and unnecessary tech.
- I already have enough clientele to fulfill my needs.
- I am not currently working, so I do not see the need for it.
- I am not familiar with its benefit and applications.
- I am not interested in it yet because I do not know the extent of how beneficial it would be to my company.
- I am not quite confident in using Metaverse for B2B Sales activities yet, as other AI have suggested incorrect prices for what I am selling.
- I am not sure how it applies to hotels.
- I am not sure how using the Metaverse could improve Construction of a building.
- I answered "No" because we do not have many B2B sales. We mostly deal with our customers directly but I am interested in the topic.
- I do not believe the metaversa is that advanced yet. Not do i observe the added value.
- I do not know too much about it.
- I do not need it.
- I do not think the metaverse would benefit us as we are a provider to patient service. Perhaps I’m another lockdown happens that a lot more intense than the one from 2020, metaverse could be more

beneficial than telehealth. The only issue is that majority of our patients would even be able to afford such a service.

- I do not have anything to do with B2B sales or purchases.
- I do not intend to use the metaverse at all.
- I do not know enough about it, and metaverse kind of scares me due to data collection.
- I do not see any future in the Metaverse. I personally see it as a gimmick.
- I do not see how it would apply to the auto Insurance industry.
- I do not see it as a viable and mainstream option.
- I do not think I know enough about it yet.
- I do not think it adds any special value, I do not think enough outside organizations or customers use it and I would not expect it from them, and it seems like a gimmick that will not really take off.
- I do not think it would be effective. We do have an AI on board, though.
- I do not think it would be useful for the industry that I am in.
- I do not think that the usage of technology like this would come easily to the majority of our clients. It seems more like a gimmick than anything else.
- I do not think the metaverse is that useful for my work.
- I do not think other companies I sell to would be on it.
- I do not control if we use that, we also dont sell things.
- I do not know much about B2B sales.

- I feel it goes along with how AI is going to takeover. Not interested in virtual reality for real life processes.
- I have a very hands-on job with specific tasks that need to be accomplished. I do not see how the use of the Metaverse would be helpful to me.
- I have no control of the department.
- I personally do not see how it is something I need for sales.
- I personally prefer to see product in the physical world.
- I prefer face-to-face interaction.
- I see no need at this time.
- I think it would be complicated to use.
- I want to be in the real world.
- I would have to sell clients on the Metaverse and sell them on my product, no thank you.
- I would not need it in my field of work.
- I am not interested because I don't know how to work in the metaverse or how to properly use it. I am not trained.
- I am not sure how it would benefit my company.
- I am not sure what this is. I need more information.
- I am unsure what all it could offer and am unfamiliar in general.
- I am not in an industry that would require this.
- I am not interested because I am not familiar in the meta verse so I prefer not to.

- It does not appeal to be or seem to have a purpose for my job. Maybe if I understood it more and what it could provide I would feel differently.
- It has not been brought up or thought about as an option.
- It is because I would not want to work in the Metaverse as it would be dull.
- It is just not my interest.
- It is not needed at this time.
- It is not very useful in my opinion.
- It seems like it would be extra work and effort for something that our customers would not really care about.
- It seems no one is interested in the Metaverse, we would not get many students through that medium.
- It serves no current purpose here as all the interactions are face-to-face and nearby.
- It would not apply in a courthouse.
- It is not something yet that meets my needs. I am in the future, but not in 2023.
- It is not very effective for what we manufacture.
- It is the way of the future.
- Just starting out and could potentially use it to brooding my customer base.
- Meta's technology, currently, is far from the maturity it needs, for us to consider it a viable alternative to simply talking on the phone, or teleconferencing.

- Metaverse does not interest me; I am not inclined in any way to explore it.
- Metaverse is a gimmick – it is not fully fleshed out technology and the benefits are dubious.
- Metaverse is interesting, but building the business using old techniques is our focus.
- Metaverse is overhyped and a gimmick. I do not see anyone who actually uses it beyond its marketing strategy.
- My business is not big enough.
- My buyers do not use the metaverse.
- My customers are not using the metaverse.
- No time for learning about it, the characters do not look that nice, issues for older collegues.
- No, I get motion sickness when using VR.
- Not applicable to my industry needs.
- Not applicable to my project scopes.
- Not my department and I do not understand it.
- Not really sure how the metaverse can be helpful. Not sure what it is.
- Not sure about it. I do not know it.
- Not sure how it can be used for currently.
- Not sure how it would be useful.
- Not sure if I will attract the right audience.
- Not sure its applicable, or how.
- Not sure what the advantage would be.

- Our aging consumer population.
- Provides no incremental value.
- Seems too abstract.
- The Metaverse does not effect the Operationsin my job at all. I do not see how it could be integrated with my sort of work.
- There is current demand in this area, but the platforming is too new and unsteady for me.
- To give customers a tour of cars that may not necessarily be in our lot. Have them explore the features, tour the outside of the car, simulate how fast it could drive, etc.
- We already sell worldwide on numerous platforms.
- We are a restaurant in an art museum, our costumer base is not high tech enough for that.
- We are old fashioned.
- We do not currently see any value in advertising in the Metaverse.
- We do not need B2B sales.
- We do not really have a demand or use for it at the moment.
- We keep our own applications not going to expand to others.
- We are just putting it into consideration.

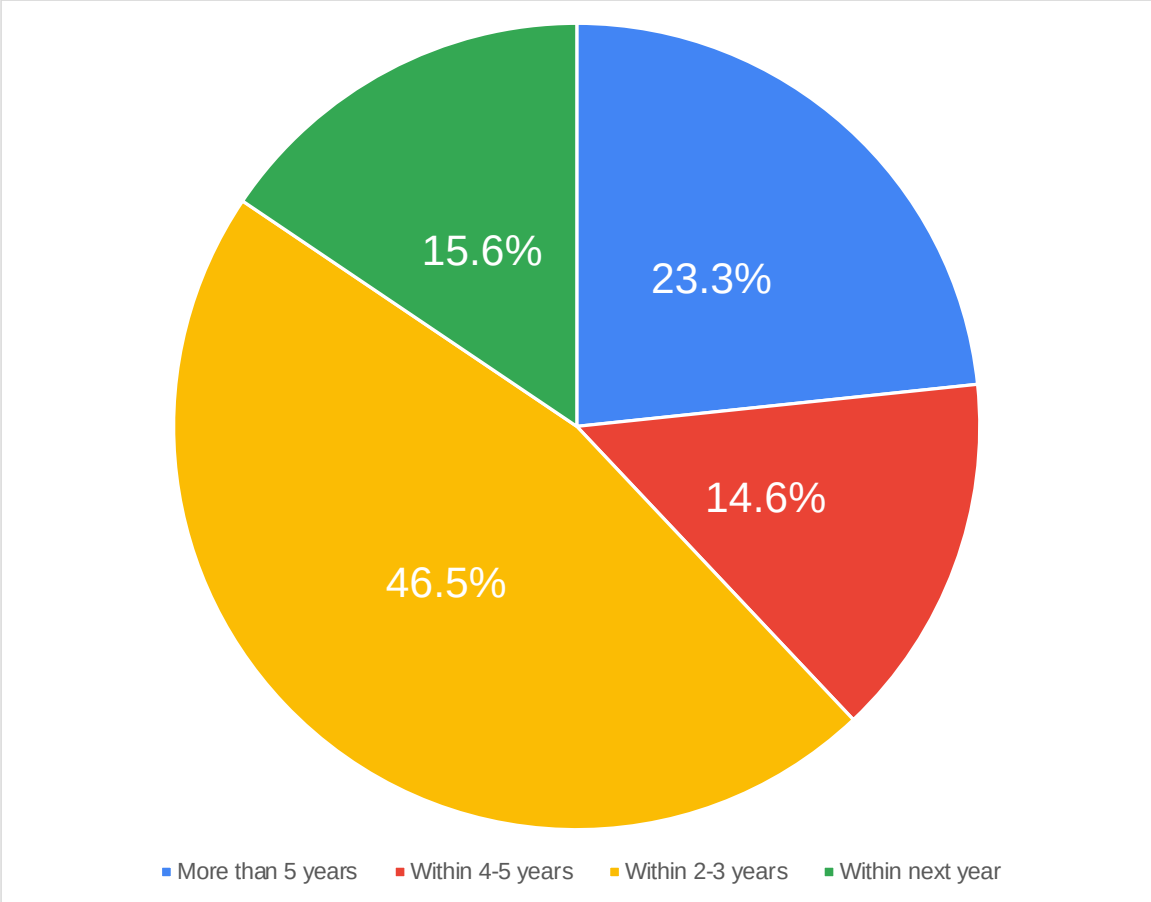
4.8 Research Question 10

The question is below.

- Q10: When do you expect to use Metaverse in B2B Sales as usual in your industry/company?

Regarding the result, based on Figure 42, the expected timing to use Metaverse in B2B Sales as usual in the survey respondents' industry/company is the following.

Figure 42 – Survey Result (Q10)



Based on Figure 42, 46.5% of respondents expect to use Metaverse in B2B Sales as usual in their industry/company within 2-3 years. 15.6% of respondents expect it within next year. Therefore, a lot of respondents expect to use Metaverse in B2B Sales in the near future (within 3 years).

Figure 43 – Cross-Sectional Analysis (Industry & Expected timing to use)

Count of Timestamp	Column Labels				
Row Labels	More than 5 years	Within 4-5 years	Within 2-3 years	Within next year	Grand Total
Manufacturing Machinery	5	12	60	16	93
Industrial Machinery	1	8	53	7	69
Electronics	14	10	30	9	63
Food & Beverages	9	10	21	12	52
Medical	15	2	9	9	35
Customer Support/ Advisory	10	6	11	7	34
Factory Automation	2	5	16	6	29
Automotive	3	5	17	2	27
Textiles	1	5	5	1	12
IT	5	3	3	1	12
Retail	3		6	2	11

Excerpted

In addition, Figure 43 is the result of a Cross-Sectional Analysis between Q1 (Industry) and Q10 (Expected timing to use). Based on Figure 43, the many respondents expect to use Metaverse in B2B Sales as usual within 2-3 years in their industry, including Manufacturing Machinery, Industrial Machinery, Electronics, and Food & Beverages. On the other hand, many respondents who work in the Electronics and Medical industry expect to use Metaverse in B2B Sales as usual for more than 5 years.

Figure 44 – Cross-Sectional Analysis (Employment Status & Expected timing to use)

Count of Timestamp	Column Labels				
Row Labels	More than 5 years	Within 4-5 years	Within 2-3 years	Within next year	Grand Total
Full-time	90	64	232	72	458
Part-time	32	15	19	11	77
Retired	4			1	5
Grand Total	**126**	**79**	**251**	**84**	**540**

Furthermore, Figure 44 results from a Cross-Sectional Analysis between Q3 (Employment Status) and Q10 (Expected timing to use). Based on Figure 44, 232 full-time employees (43.0%) expect to use Metaverse in B2B Sales as usual within 2-3 years in their industry/company.

Figure 45 – Cross-Sectional Analysis (Division/Department & Expected timing to use)

Count of Timestamp	Column Labels				
Row Labels	**More than 5 years**	**Within 4-5 years**	**Within 2-3 years**	**Within next year**	**Grand Total**
IT	23	23	71	15	132
Marketing	7	20	57	24	108
Customer Support	32	11	21	5	69
Sales (Field Sales)	9	3	44	12	68
Sales (Inside Sales)	9	11	35	13	68
Manufacturing	12	4	7	5	28
Operations	4		3	1	8
Finance/Accounting	2		1	3	6
Executive	3		2		5
Freelance	4				4
N/A	3			1	4
Admin	1	1	2		4
Teacher	1		1	1	3
Healthcare	2			1	3
HR		2		1	3
R&D	2				2
Project Management		1	1		2
Engineering	1	1			2
Accounting	1		1		2
Homemaker				1	1
Quality Control	1				1
Product		1			1
Investigations			1		1
Retail			1		1
Contract work	1				1
Writing		1			1
Law			1		1
Carpentry	1				1
Assistant	1				1
Construction	1				1
Distribution	1				1
Consulting			1		1
Business controller			1		1
Security	1				1
Business development	1				1
Content creation	1				1
Owner				1	1
Hospitality	1				1
Grand Total	**126**	**79**	**251**	**84**	**540**

Moreover, Figure 45 results from a Cross-Sectional Analysis between Q4 (Division/Department) and Q10 (Expected timing to use). Based on Figure 45, the major respondents interested in using Metaverse in B2B Sales as usual are working in the priority segments for this research, including Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales) as below. Also, the survey respondents in Marketing,

Sales (Field Sales), and Sales (Inside Sales) expect to use Metaverse within the next year or 2-3 years. On the other hand, the survey respondents in Customer Support expect to use Metaverse after more than 5 years. This result shows that Metaverse and the Marketing/Sales divisions have a high affinity in the short term.

- Expect to use Metaverse after more than 5 years (Excerpted)
    - Marketing: 7 respondents (1.3%)
    - **Customer Support: 32 respondents (5.9%)**
    - Sales (Field Sales): 9 respondents (1.7%)
    - Sales (Inside Sales): 9 respondents (1.7%)
- Expect to use Metaverse within 4-5 years (Excerpted)
    - Marketing: 20 respondents (3.7%)
    - Customer Support: 11 respondents (2.0%)
    - Sales (Field Sales): 3 respondents (0.6%)
    - Sales (Inside Sales): 11 respondents (2.0%)
- Expect to use Metaverse within 2-3 years (Excerpted)
    - **Marketing: 57 respondents (10.6%)**
    - Customer Support: 21 respondents (3.9%)
    - **Sales (Field Sales): 44 respondents (8.1%)**
    - **Sales (Inside Sales): 35 respondents (6.5%)**
- Expect to use Metaverse within next year (Excerpted)
    - **Marketing: 24 respondents (4.4%)**
    - Customer Support: 5 respondents (0.9%)
    - **Sales (Field Sales): 12 respondents (2.2%)**
    - **Sales (Inside Sales): 13 respondents (2.4%)**

Figure 46 – Cross-Sectional Analysis (Position & Expected timing to use)

Count of Timestamp	Column Labels				
Row Labels	More than 5 years	Within 4-5 years	Within 2-3 years	Within next year	Grand Total
Management	26	44	159	42	271
Staff	83	23	40	16	162
Executive	10	12	52	26	100
Contractor	7				7
Grand Total	**126**	**79**	**251**	**84**	**540**

Also, Figure 46 results from a Cross-Sectional Analysis between Q6 (Current Position) and Q10 (Expected timing to use). Based on Figure 46, the major Management respondents expect to use Metaverse in B2B within a maximum of 2-3 years. On the other hand, many staff respondents expect to use Metaverse in B2B after more than 5 years. It would be assumed that the Managements think they need to transform their business by using cutting-edge technologies as soon as possible due to the recent VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business environment. Staff are specialists in their day-to-day operations, and they might think that using Metaverse for their operation would be a long way off.

4.9 Research Question 11 & 12

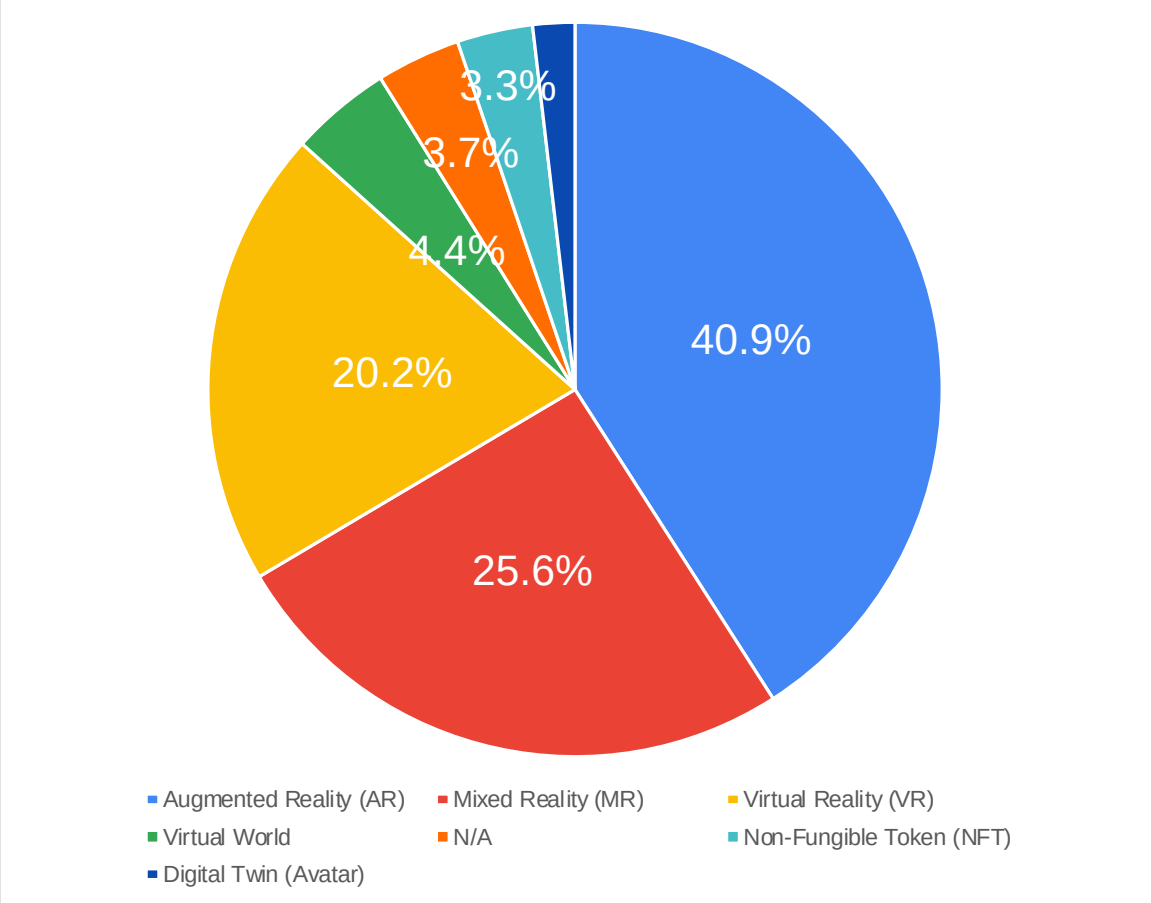
The question is below.

- Q11: Which are the effective Metaverse technologies for improving the B2B Sales activities in your industry/company?

- Q12: If you choose "7. Others" in Q11, please describe the effective Metaverse technologies.

Regarding the result, based on Figure 47, the effective Metaverse technologies for improving the B2B Sales activities in survey respondents' industry/company are the following.

Figure 47 – Survey Result (Q11 & Q12)



Based on Figure 47, approximately 40% of respondents think Augmented Reality (AR) improves the B2B Sales activities in their industry/company. In addition, the total coverage of Augmented Reality (AR), Mixed Reality (MR), and Virtual Reality (VR) is approximately 86.7% of respondents. Based on the research hypothesis, AR, MR, and VR are the prioritized technologies, so the hypothesis for these Metacerse-related technologies is proven with this survey results.

Figure 48 – Cross-Sectional Analysis (Industry & Effective Metaverse Technology)

Count of Timestamp	Column Labels							
Row Labels	Augmented Reality (AR)	Mixed Reality (MR)	Virtual Reality (VR)	Virtual World	N/A	Non-Fungible Token (NFT)	Digital Twin (Avatar)	Grand Total
Manufacturing Machinery	38	28	19	4	1	3		93
Industrial Machinery	22	32	14				1	69
Electronics	25	17	16	1	1	2	1	63
Food & Beverages	18	9	15	4	1	3	2	52
Medical	16	7	8	1	1		2	35
Customer Support/ Advisory	10	9	5	4	2	3	1	34
Factory Automation	17	5	6	1				29
Automotive	9	10	5	1	2			27
Textiles	3	4	3	2				12
IT	6	1	2	2	1			12
Retail	6	1	2	1		1		11
Education	6		1		1	1		9
Freelance	3	1	2		1			7
Construction	5		1					6
Chemicals	3	2				1		6
Insurance	1	1			2	1		5
Nonprofit	2					1		3
N/A		1		1	1			3
Finance/Accounting	1	1	1					3
Energy		2	1					3
Advertisement	1		1				1	3
Tourism	2			1				3
Government	3							3
Healthcare	1		2					3
Homemaker		1	1					2
Student	2							2
Engineering	2							2
Agriculture	1	1						2
Transportation	1	1						2
Accounting	1				1			2
Media	2							2
Psychology							1	1
Furniture	1							1
Animal rescue	1							1
Computer Science	1							1
Entertainment	1							1
Hospitality	1							1
Raw materials	1							1
Contracting		1						1
Security	1							1
Customer Support	1							1
Textbooks							1	1
Art & Design			1					1
Carpentry	1							1
Journalism	1							1
Public service					1			1
Legal				1				1
Real estate	1							1
Data Analytics					1			1
Sales			1					1
Marketing	1							1
Small business		1						1
Utilities		1						1
Telecommunication			1					1
Wellness/Fitness					1			1
Entertainment	1							1
Events			1					1
Content creation						1		1
Business management and administration.	1							1
Personal services					1			1
Writer		1						1
Arts and Media					1			1
Administration						1		1
(blank)								
Grand Total	**221**	**138**	**109**	**24**	**20**	**18**	**10**	**540**

In addition, Figure 48 results from a Cross-Sectional Analysis between Q1 (Industry) and Q11 (Effective Metaverse Technology). Based on Figure 48, many respondents think Augmented Reality (AR), Mixed Reality (MR), and Virtual Reality (VR) improve B2B Sales activities in the research priority industries, including Manufacturing Machinery, Industrial Machinery, Electronics, Food & Beverages, Medical, Factory Automation, and Automotive as below.

- Augmented Reality (AR)
    - Manufacturing Machinery: 38 respondents (7.0%)
    - Industrial Machinery: 22 respondents (4.1%)
    - Electronics: 25 respondents (4.6%)
    - Food & Beverages: 18 respondents (3.3%)
    - Medical: 16 respondents (3.0%)
    - Factory Automation: 17 respondents (3.1%)
    - Automotive: 9 respondents (1.7%)
- Mixed Reality (MR)
    - Manufacturing Machinery: 28 respondents (5.2%)
    - Industrial Machinery: 32 respondents (5.9%)
    - Electronics: 17 respondents (3.1%)
    - Food & Beverages: 9 respondents (1.7%)
    - Medical: 7 respondents (1,3%)
    - Factory Automation: 5 respondents (0.9%)
    - Automotive: 10 respondents (1.9%)
- Virtual Reality (VR)
    - Manufacturing Machinery: 19 respondents (3.5%)
    - Industrial Machinery:14 respondents (2.6%)
    - Electronics: 16 respondents (3.0%)
    - Food & Beverages: 15 respondents (2.8%)
    - Medical: 8 respondents (1.5%)
    - Factory Automation: 6 respondents (1.1%)
    - Automotive: 5 respondents (0.9%)

Figure 49 – Cross-Sectional Analysis (Employment Status & Effective Metaverse Technology)

Count of Timestamp	Column Labels			
Row Labels	Full-time	Part-time	Retired	Grand Total
Augmented Reality (AR)	189	31	1	221
Mixed Reality (MR)	119	17	2	138
Virtual Reality (VR)	95	14		109
Virtual World	19	4	1	24
N/A	12	7	1	20
Non-Fungible Token (NFT)	16	2		18
Digital Twin (Avatar)	8	2		10
Grand Total	**458**	**77**	**5**	**540**

Furthermore, Figure 49 is the result of a Cross-Sectional Analysis between Q3 (Employment Status) and Q11 (Effective Metaverse Technology). Based on Figure 49, 403 full-time employees (74.6%) think that Augmented Reality (AR), Mixed Reality (MR), and Virtual Reality (VR), which are the research priorities, improve the B2B Sales activities.

Figure 50 – Cross-Sectional Analysis (Division/Department & Effective Metaverse Technology)

Count of Timestamp	Column Labels							
Row Labels	Augmented Reality (AR)	Mixed Reality (MR)	Virtual Reality (VR)	Virtual World	N/A	Non-Fungible Token (NFT)	Digital Twin (Avatar)	Grand Total
IT	59	36	29	4	3	1		132
Marketing	46	33	19	5		4	1	108
Customer Support	21	9	20	6	7	4	2	69
Sales (Inside Sales)	24	25	11	3	1	2	2	68
Sales (Field Sales)	24	23	17	1	1		2	68
Manufacturing	19	3	2	1	1	2		28
Operations	2	2	2			1	1	8
Finance/Accounting	1	1	2		1	1		6
Executive	1		1	1	1	1		5
N/A		1	2		1			4
Admin	1		1	1	1			4
Freelance	1		1		1		1	4
Teacher	2				1			3
Healthcare	1	1					1	3
HR	2	1						3
R&D	2							2
Project Management	2							2
Accounting		1		1				2
Engineering	1				1			2
Carpentry	1							1
Quality Control	1							1
Product	1							1
Investigations						1		1
Construction	1							1
Consulting		1						1
Owner	1							1
Law	1							1
Homemaker		1						1
Retail						1		1
Hospitality				1				1
Business controller	1							1
Business development	1							1
Content creation			1					1
Security	1							1
Contract work	1							1
Writing			1					1
Assistant	1							1
Distribution	1							1
(blank)								
Grand Total	**221**	**138**	**109**	**24**	**20**	**18**	**10**	**540**

Moreover, Figure 50 results from a Cross-Sectional Analysis between Q4 (Division/Department) and Q11 (Effective Metaverse Technology). Based on Figure 50, the major respondents who think Augmented Reality (AR), Mixed Reality (MR), and Virtual Reality (VR) improve B2B Sales activities are working in the priority segments for this research, including Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales) as below. Based on the research hypothesis, AR, MR, and VR would be effective in the Marketing, Sales, and Customer Support fields, which is proven by the survey results.

- Augmented Reality (AR)
    - **Marketing: 46 respondents (8.5%)**
    - Customer Support: 21 respondents (3.9%)
    - **Sales (Field Sales): 24 respondents (4.4%)**
    - **Sales (Inside Sales): 24 respondents (4.4%)**
- Mixed Reality (MR)
    - **Marketing: 33 respondents (6.1%)**
    - Customer Support: 9 respondents (1.7%)
    - **Sales (Field Sales): 25 respondents (4.6%)**
    - **Sales (Inside Sales): 23 respondents (4.3%)**
- Virtual Reality (VR)
    - **Marketing: 19 respondents (3.5%)**
    - **Customer Support: 20 respondents (3.7%)**
    - Sales (Field Sales): 11 respondents (2.0%)
    - Sales (Inside Sales): 17 respondents (3.1%)

Figure 51 – Cross-Sectional Analysis (Position & Effective Metaverse Technology)

Count of Timestamp	Column Labels				
Row Labels	Management	Staff	Executive	Contractor	Grand Total
Augmented Reality (AR)	107	74	36	4	221
Mixed Reality (MR)	88	24	26		138
Virtual Reality (VR)	51	29	29		109
Virtual World	12	10	2		24
N/A	3	13	2	2	20
Non-Fungible Token (NFT)	7	7	4		18
Digital Twin (Avatar)	3	5	1	1	10
Grand Total	**271**	**162**	**100**	**7**	**540**

Also, Figure 51 results from a Cross-Sectional Analysis between Q6 (Current Position) and Q11 (Effective Metaverse Technology). Based on Figure 51, most of all Managements, Staff, and Executives think the Augmented Reality (AR), Mixed Reality (MR), and Virtual Reality (VR) improve the B2B Sales activities. There is no difference in the survey results depending on the current position.

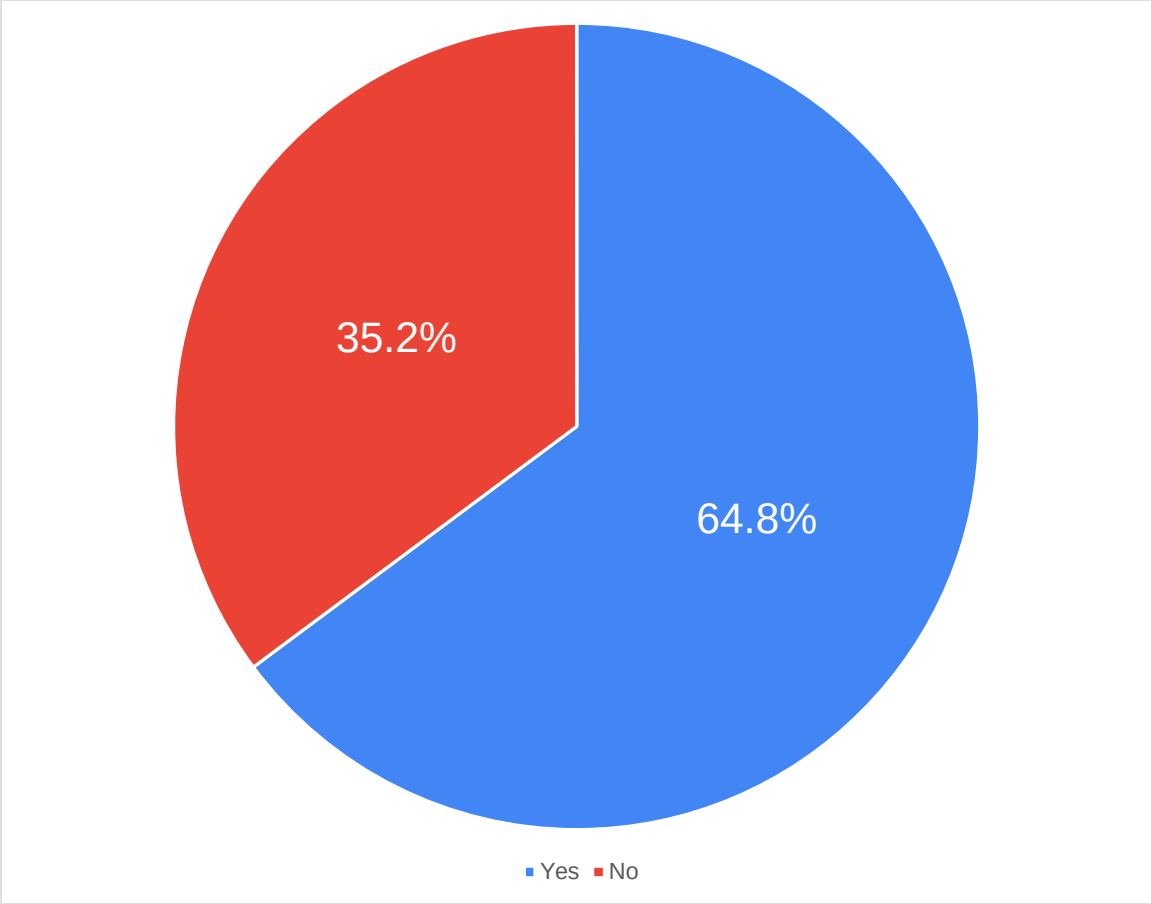
4.10 Research Question 13

The question is below.

- Q13: Is the EXPO/Tradeshow in the Metaverse world/environment effective for B2B Sales in your industry/company?

Regarding the result, based on Figure 52, the effectiveness of the Metaverse world/environment for B2B Sales in survey respondents' industry/company is the following.

Figure 52 – Survey Result (Q13)



Based on Figure 52, 64.8% of respondents think the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales in the survey respondents' industry/company. Based on the research hypothesis, the EXPO/Tradeshow in the Metaverse world/environment is effective in the marketing field, so the research hypothesis is proven by the survey results.

Figure 53 – Cross-Sectional Analysis (Industry & Interest in EXPO/Tradeshow in Metaverse)

Count of Timestamp	Column Labels		
Row Labels	**Yes**	**No**	**Grand Total**
Manufacturing Machinery	73	20	93
Industrial Machinery	66	3	69
Electronics	43	20	63
Food & Beverages	35	17	52
Medical	21	14	35
Customer Support/ Advisory	12	22	34
Factory Automation	21	8	29
Automotive	22	5	27
Textiles	7	5	12
IT	6	6	12
Retail	8	3	11
Education	2	7	9
Freelance	3	4	7
Construction	3	3	6
Chemicals	2	4	6
Insurance	2	3	5
Nonprofit	1	2	3
N/A		3	3
Finance/Accounting	2	1	3
Energy	3		3
Advertisement		3	3
Tourism	1	2	3
Government	2	1	3
Healthcare		3	3
Homemaker	1	1	2
Student		2	2
Engineering	1	1	2
Agriculture		2	2
Transportation	1	1	2
Accounting	1	1	2
Media	2		2
Psychology		1	1
Furniture	1		1
Animal rescue	1		1
Computer Science		1	1
Entertainment		1	1
Hospitality		1	1
Raw materials		1	1
Contracting		1	1
Security		1	1
Customer Support	1		1
Textbooks		1	1
Art & Design		1	1
Carpentry		1	1
Journalism		1	1
Public service		1	1
Legal		1	1
Real estate	1		1
Data Analytics		1	1
Sales	1		1
Marketing		1	1
Small business		1	1
Utilities		1	1
Telecommunication	1		1
Wellness/Fitness		1	1
Entertainment	1		1
Events		1	1
Content creation	1		1
Business management and administration.	1		1
Personal services		1	1
Writer		1	1
Arts and Media		1	1
Administration		1	1
Grand Total	**350**	**190**	**540**

In addition, Figure 53 is the result of a Cross-Sectional Analysis between Q1 (Industry) and Q13 (Interest in EXPO/Tradeshow in Metaverse). Based on Figure 53, the many respondents think the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales in the research priority industries, including Manufacturing Machinery, Industrial Machinery, Electronics, Food & Beverages, Medical, Factory Automation, and Automotive as below.

- Interest in EXPO/Tradeshow in Metaverse (Excerpted)
    - Manufacturing Machinery: 73 respondents (13.5%)
    - Industrial Machinery: 66 respondents (12.2%)
    - Electronics: 43 respondents (8.0%)
    - Food & Beverages: 35 respondents (6.5%)
    - Medical: 21 respondents (3.9%)
    - Factory Automation: 21 respondents (3.9%)
    - Automotive: 22 respondents (4.1%)

Figure 54 – Cross-Sectional Analysis (Employment Status & Interest in EXPO/Tradeshow in Metaverse)

Count of Timestamp	Column Labels		
Row Labels	Yes	No	Grand Total
Full-time	306	152	458
Part-time	44	33	77
Retired		5	5
Grand Total	**350**	**190**	**540**

Furthermore, Figure 54 results from a Cross-Sectional Analysis between Q3 (Employment Status) and Q13 (Interest in EXPO/Tradeshow in Metaverse). Based on Figure 54, 306 full-time employees (56.7%) think the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales in the survey respondents' industry/company.

Figure 55 – Cross-Sectional Analysis (Division/Department & Interest in EXPO/Tradeshow in Metaverse)

Count of Timestamp	Column Labels		
Row Labels	**Yes**	**No**	**Grand Total**
IT	102	30	132
Marketing	80	28	108
Customer Support	35	34	69
Sales (Field Sales)	53	15	68
Sales (Inside Sales)	43	25	68
Manufacturing	13	15	28
Operations	2	6	8
Finance/Accounting	4	2	6
Executive	1	4	5
Freelance		4	4
N/A		4	4
Admin	1	3	4
Teacher		3	3
Healthcare	2	1	3
HR	2	1	3
R&D		2	2
Project Management	2		2
Engineering	1	1	2
Accounting	1	1	2
Homemaker	1		1
Quality Control	1		1
Product		1	1
Investigations		1	1
Retail	1		1
Contract work	1		1
Writing		1	1
Law		1	1
Carpentry		1	1
Assistant	1		1
Construction		1	1
Distribution	1		1
Consulting		1	1
Business controller	1		1
Security		1	1
Business development		1	1
Content creation		1	1
Owner		1	1
Hospitality	1		1
Grand Total	**350**	**190**	**540**

Moreover, Figure 55 results from a Cross-Sectional Analysis between Q4 (Division/Department) and Q13 (Interest in EXPO/Tradeshow in Metaverse). Based on Figure 55, the major respondents who think the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales are working in the priority segments for this research, including Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales) as below. Based on the research hypothesis, the EXPO/Tradeshow in the Metaverse world/environment is effective in the marketing field, so the research hypothesis is proven by the survey results.

- Interested in EXPO/Tradeshow in Metaverse
    - Marketing: 80 respondents (14.8%)
    - Customer Support: 35 respondents (6.5%)
    - Sales (Field Sales): 53 respondents (9.8%)
    - Sales (Inside Sales): 43 respondents (8.0%)
- Not interested in EXPO/Tradeshow in Metaverse
    - Marketing: 28 respondents (5.2%)
    - Customer Support: 34 respondents (6.3%)
    - Sales (Field Sales): 15 respondents (2.8%)
    - Sales (Inside Sales): 25 respondents (4.6%)

Figure 56 – Cross-Sectional Analysis (Position & Interest in EXPO/Tradeshow in Metaverse)

Count of Timestamp	Column Labels		
Row Labels	Yes	No	Grand Total
Management	209	62	271
Staff	66	96	162
Executive	73	27	100
Contractor	2	5	7
Grand Total	**350**	**190**	**540**

Also, Figure 56 results from a Cross-Sectional Analysis between Q6 (Current Position) and Q13 (Interest in EXPO/Tradeshow in Metaverse). Based on Figure 56, most of all, Managements, Staff, and Executives think the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales. In addition, Management especially thinks the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales, but on the other hand, over half of staff do NOT think that. It would be assumed that the Managements think they need to transform their business by using cutting-edge technologies as soon as possible due to the recent VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business environment. Staff are specialists in their day-to-day operations, and they might think that using Metaverse for their operation would be a long way off.

4.11 Research Question 14

The question is below.

- Q14: Please describe the reasons behind your answer for Q13 (Is the EXPO/Tradeshow in the Metaverse world/environment effective for B2B Sales in your industry/company?).

The following is the excepted feedback from the survey respondents regarding why and why NOT they are interested in the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales.

- The major reasons why they are interested in using Metaverse for B2B Sales activities (Excerpted)
    - A quick and easy way to find out how engaged your employees are at work.
    - Transactions between two businesses rather than between a business and an individual consumer for the consumer's personal use.
    - A tradeshow/expo type event could be useful in sharing different innovations or products that have been developed to the wider industry. It would also provide the opportunity for professionals to engage with each other.
    - A virtual expo could be beneficial for users to discover new brands.

- Absolutely, because we can easily be able to introduce our services. The setup of the showroom seems to be effective and functional.
- Expo is always helpful to any business. Helps get info out to potential customers/associates.
- As a seller, it is important to help the buyer make decisions quickly and provide all pertinent information to prove the value that will be contributed after purchase. Augmented reality is an effective tool for facilitating more effective sales meetings, quicker purchases, and happier customers.
- It allows us to be interactively promotional with our products without having people travel as much. It means we can have more people see things and "touch" them without huge expense. We can be incredibly creative in our presentations. We are not as beholden to world crises that might otherwise disrupt in person events.
- Because it can show the product in a way that is closer to reality than a picture can do.
- Because it helps me a lot of people in the sales, so it will definitely effective.
- Because this will enhance sales and the workplace generally.
- Because, it is highly effective for my industry and its attracts a new buyer to buy it.
- By showing what you can mean for the rescues more clearly.
- Can increase brand awareness and make the company innovative and attractive.

- Can put your company in the spotlight in the metaverse a untapped market has plenty of potential for sales increases.
- Communicate worldwide and communicate directly.
- Cost efficiency.
- Could be a way to do office meetings.
- Customers need to be physically in front of us to be efficient.
- Due to our organization being a non-profit, hosting a fundraising event digitally could offer us a wider range of individuals who may be willing to donate to our cause.
- Easy to use.
- Enrolled in different stages of work.
- Excellent branding and isometric collections.
- Expo is able to organization to growth scale easily to meet marketing.
- Expo makes Metaverse consumer attracted in terms of the trading tricks and easily marketing.
- Extended event.
- Find new tech that I am not aware off.
- For new modern construction concepts and materials.
- Give employees a new perspective on work.
- Given common interest in modern traits in business, Metaverse expos could be a unique, assertive approach for my industry.
- Global accessibility.
- Hosting and resivinng other members.

- I believe hosting an EXPO or tradeshow in the Metaverse is highly effective for B2B sales in our industry for several reasons. Firstly, the Metaverse provides an innovative and engaging platform that can attract and retain the attention of industry professionals and decision-makers. By leveraging the immersive and interactive capabilities of the Metaverse, we can showcase our products and services in a dynamic and memorable way, which is often more impactful than traditional digital presentations or static displays. Secondly, the Metaverse environment allows for a level of customization and scalability that is hard to match in physical events. We can create unique, branded virtual spaces that reflect our company's image and values, and adapt these spaces as needed for different products or services. This flexibility ensures that each event can offer a fresh and tailored experience for attendees. Additionally, the Metaverse transcends geographical and logistical limitations. It enables participants from all over the world to attend without the constraints of travel costs and time. This broader reach not only increases the potential customer base but also enhances networking opportunities with global industry players, suppliers, and partners.
- I believe it would be very effective to showcase our products to a wider audience.
- I believe that hosting an event in the metaverse can be effective for B2B sales because it can help increased reach and reduced costs.

- I believe there is no reason to believe it would not, and also it would bring to light what and how the technology works overall as well.
- I believe this would allow smaller companies to participate in trade shows that they couldn't otherwise afford to attend.
- I belive it could be for some. Making traveling and safety better for those who might not otherwise attend. Also a larger catalog of product could be brought to this realm with fewer logistical problems.
- I can see using this in the same way we would use tradeshows in real life to meet and talk with potential customers.
- I do not know that it is but I think it can be, absolutely.
- I had not really ever thought of it before, but it seems like a novel way to get information out there or recruit participants. That said, I do not think it is overly different from other forms of advertisement like websites or virtual meetings.
- I have attended virtual expos to get product information as well as required training for annual CEU's.
- I like this layout and think that this EXPO would do well for my promoting my business.
- I think it allows networking and exposure to businesses.
- I think it can show various items that my business could potentially invest in.
- I think it could be used to promote brands and give visibility to those who really need it.

- I think the tradeshows are great for marketing.
- I think this model would improve sales, as it is easy to walk past.
- I would like to learn more and see real life examples.
- I am not in marketing but it would seem that tradeshows are already popular. Hosting virtual tradeshows could be as popular without all the trouble of flights, rooms, and massive amounts of people. It would also allow people to attend who otherwise would not.
- If we cannot attend expo physically, we are able to experience virtually.
- Increased engagement and integrate with technology.
- It allows businesses to connect with clients and partners in a virtual, interactive space, providing opportunities for product demonstrations, networking, and collaborations.
- It allows for a good facsimile of an actual trade show and allows the business to connect with potential business partners we might not otherwise reach with a traditional trade show environment.
- It allows for people to have easier access to an event.
- It allows members to interact, communicate, and work together in immersive virtual environments. This can enhance productivity, creativity, and teamwork by providing a more engaging and interactive platform for discussions and project work.
- It can automate and make work more fun to do.
- It can help crete more sales prospects.

- It could be a way of presenting and showcasing upcoming services in a simulated way. It is cutting edge and allows for a different perspective on what our company offers.
- It could be helpful.
- It could be to get clients that are not able to come directly to us.
- It could be. The expo could be of vehicles. They can have the option to visit the type of car they would like to know more about. Explore different options before actually taking an actual car on a test drive. They can learn the specs at each station in the expo.
- It could bring more eyes to the business.
- It could increase food sales and promotion.
- It could show products to a new market.
- It gives people access to existing experiences that were shut off to them for reasons such as cost, distance or disabilities.
- It have a great impact in my company and the management are strategizing on how to implement the metaverse fully in my company.
- It helps improve. It is convenient and can be easily attended.
- It is effective for B2B sales due to its global reach, cost-effectiveness, increased engagement, flexibility, customizability, and valuable data insights.
- It is great to showcase what you have.
- It is more efficient and effective.
- It leads to increase our sales and services.
- It looks engaging, and engagement can potentially sell.

- It looks like it would be a viable event.
- It may be attractive to prospective clients.
- It properly displays B2B sales.
- It seems like a cost effective way to get people involve all over the world.
- It was a event branding as a trade show materials.
- It was easy process.
- It was the event of boost their product sale to customers.
- It was the very important focus of the edge group.
- It will be so effective because there was a time we needed it.
- It will bring about an increased reach/ awareness and kind of low cost too.
- It will create a means of connecting and communicating via the virtual world to customers.
- It will increase social interaction.
- It will make more people aware of this new technology and therefore help me with making sales.
- It will really help in bringing customers closer to the company and makes the world a smaller place to advertise our product and also share ideas.
- It will surely increase people interest if it is hosted in Metaverse.
- It would help bring more people together to view our products.
- It would allow an unhindered means to explore wide array of products at an expo.

- It would allow people to attend the event easily in the Metaverse without having to physically be at the event which would mean more attendance. With more attendance it may be effective for B2B sales in my company.
- It would be easy to demonstrate our products.
- It would be so much more convenient than traditional conventions, it would save time, energy - very efficient.
- It would be useful to reach out and get more clients for our business.
- It would enhance effective participation between the seller and the buyer creating unique experience.
- It would help a lot with networking.
- It would help me demonstrate our product to clients with more detail.
- It would increase awareness.
- It is a good way to meet, trade and interact with new clients (businesses) and an excellent method of learning more way to communicate, especially in the case of fielding workplace presentations, reports or virtual meetings.
- It is a maybe. There are many metaverse, not FB metaverse, opportunities. I might find leads that way, but there is not any guarantee.
- It is effective for my company because companies are leaning into new technology.
- It is good way getting customers.

- It is helpful to see how the meteverse and its technologies will function and see it firsthand.
- Knowing what is expected means that you are clear about what you need to do and when you need to do it. You gain a better understanding of your contributions to your team and the valuable role you play in the organization when you have clarity of your job expectations.
- Less travel expense.
- Might be effective to show off the warehouse itself.
- Mixed reality applications use virtual spaces in which both local and remote users can collaborate. In most cases, such space would contain a photospherical background image or video stream of a real location in which users are placed, and optionally such data as real-world coordinates and the time and date of when the space was created.
- More efficient in event logistics.
- Most people are remote so this would work great to reach out to all employees.
- NFTs are cryptographically unique, non-replicable digital assets created through smart contracts.
- People and coworkers could see what we do and they aware of what we are doing.
- Personalization and Customization: Metaverse technology can enable highly personalized and customizable sales pitches and

experiences for clients. You can tailor your presentations and demos to individual client needs and preferences.

- Seeing things through virtual reality may save time from traveling.
- The effectiveness of an EXPO/Tradeshow in the Metaverse world for B2B sales would depend upon factors like the industry, the target audience, and the quality of the event.
- The effectiveness of hosting events in the metaverse for B2B sales depends on various factors, including the industry, target audience, and the nature of the products or services offered. A thoughtful and strategic approach, considering both the advantages and challenges, is essential for maximizing the impact of metaverse events on B2B sales efforts.
- The environment will allow me want to learn more about it.
- The future of advertising.
- The model works well.
- The opportunity to work with a great team, the chance to learn new skills or the potential for growth and advancement within the company.
- They have people set up in different booths. Like they want to see something to you and virtually you just walk around looking and buying stuff.
- This helps to advertising an event trading for consumers.
- This helps to show products to customer.
- This is a good way to expand.

- Through this event we might be able to find some new and interesting prospects.
- To show how it can be used in everyday life.
- To target potential clients.
- Very effective on consumers.
- We can easily know about the metaverse by executive through this expo.
- We deal in a tangible product.
- We manufacture products that will genuinely support the use of B2B sales.
- Well laid out and informative.
- Yes, because it is a good way to reach out to others about these kinds of services.
- Yes, because the company can show their clients and other possible clientele what we as a company have and what they have to offer for their business.
- Yes, it is something other competition in our industry currently uses.
- Yes, it is increase customers and new buyers.
- Yes, it brings more sales output.
- You can talk about the opportunity to work with a great team, the chance to learn new skills or the potential for growth and advancement within the company. By highlighting these specific factors, you can show your genuine interest in the job and excitement about the potential for this opportunity.

- The major reasons why they are NOT interested in using Metaverse for B2B Sales activities (Excerpted)
    - I do not think we are set up for it at this point in time. Perhaps a few years down the line.
    - If a proposed starting material does not meet all of the general principles, a rationale should be provided explaining why the starting material
    - Advertisementand privacy.
    - Any place can yield potential clients, but most attendees would not actually be in the market for our services.
    - As far as I know, this does not do anything for us.
    - Because it is not useful.
    - Because we work in IT support for computers and networks, it is not really that good of a event for that.
    - Does not suit our service.
    - Does not seem like right fit.
    - Do not think my industry really thrives on tradeshows, as we typically network from outside our industry which makes it hard to bridge the gap between the hundreds of different companies feeling incentivized to come.
    - Duration and environmental concerns.
    - The platform is too new and unstable for me to feel comfortable investing my time and energy.

- Generally, people like to meet in person. The Metaverse was a short-time necessary evil, I expect its use to moderate.
- I am honestly not sure.
- I am not quite certain because I am Freelance, but if so, I would be interested in trying it.
- I am not sure how it could be implemented in my business yet.
- I am not sure we could find customers/clients in that setting.
- I believe our clients and partners also prefer in-person interaction.
- I do not think our target audience would be in attendance.
- I do not want to be in a fake world.
- I do not have any familiarity with the EXPO/Tradeshow Metaverse environment, I have only heard of the Metaverse in very general terms.
- I do not know if a trade show would be effective.
- I do not know if our customers would attend.
- I do not know if they are or not and there is not another choice other than yes.
- I do not see how it would work for my company.
- I do not think it will have that much effect in the legal sector.
- I do not think my business is big enough for this.
- I do not think people would seek help in this industry on this platform.
- I do not think there is a need.
- I do not know enough about this.
- I do not think it would generate anything for the business.

- I do not know any, not my department.
- I do not know much about metaverse and dont hear it as much in my indusry.
- I have never heard of that. I do not think it would be applicable to my current careeer at this time.
- I have never seen it done before.
- I have no idea what to say, it would be the same as doing it in the world, just with a lot of arbitrary nonsense added.
- I have no use for metaverse yet.
- I have not heard of any expo.
- I have not seen anything for the application of construction.
- I have not heard anything inside my industry about these events so I answered No.
- I only answered no because I have no experience with this show in relation to the business I operate in. Is it possible - I imagine yes it is but just have nothing to go by.
- I said "No" because we do not specialize in B2B sales at this time. If or when we do start, I think EXPO could be helpful.
- I see people seeing all the uses for AI.
- I think if you can show how it can help my industry then it can help others realize its utility.
- I think that the items I see are known well enough that there does not need to be a lot of complexity involved. The best part for me is that it would allow me to expand my business model and showcase other services to clients who are interested in the electronics I see.

I feel that this sort of environment is a lot more accessible since people do not have to set aside time for travel. As a result, more potential clients are likely to attend it.

- I work in events installation. We work in the real world and this does not really translate to a virtual world.
- I would not think that this technology would see any use in engineering, as sales are not the main focus of the industry.
- I would prefer to answer "Not sure/do not know."
- I would not need this in my line of work.
- I am not sure what that is, also I do not think it would fit our target demographic.
- In healthcare, demonstration is one of the main selling points. Convincing the medical staff this is something they cannot live without.
- It does not help my company in any way that needs help in.
- It is not needed and not valid.
- It is not something that would have any effect on my business.
- It may be effective in the future, but it is not yet useful for my industry.
- It is not effective for B2B sales in my industry.
- We do not have a tech based clients.
- It is something I have no direct experience with but given the market, established B2B relationships I do not think this is the way to reach those customers. In a different market perhaps but I find virtual tradshows to be some much cacophony.

- We do not provide products but service throughout our business.
- Lack of expertise and participation in this segment.
- Metaverse is not the way to reach clients because marketing is very important one for our business.
- Metaversa as a whole has not been widely adopted by consumers or busineses so it does not make good business sense to use it at all.
- Metaverse is not applicable to my industry.
- Metaverse is not prevalent in healthcare.
- Most of insurance sales can be do with basic forms or over the phone.
- Most presentations are about food and beverages, and do not need this kind of presentation.
- My company deals in software development and has no need for a tradeshow.
- My company does not do sales.
- My company is a nonprofit that doesnt need much virtual reality.
- My company is in services/SaaS/marketing so the metaverse is not relevant.
- My customers are not using metaverse technology.
- My industry does not require internet technology.
- My industry has large trade shows that I am not sure how someone could replace them.
- My industry is made up of older people that do not use the metaverse.

- My job is so hands-on that opportunities will be limited for some time. I can see perhaps evaluation as being useful but everything else requires direct handling.
- No, because we are an art museum.
- Nobody really cares about metaverse in my industry.
- Not at the current time, it is something we can look into in the future. This is still in its infancy, it will take for more companies to join.
- Not enough businesses are using it and thus the sales would not be worth the investment for using metaverse technology.
- Not even aware of this expo and again, do not know how metaverse would enhance my industry.
- Not really sure that many prospective students would even be using the technology.
- Not sure if it is the right audience.
- Not sure what advantage it would have.
- Not sure where it would be held and i dont think many students can be there to interact.
- Our company does not do this, we do not have enough knowledge of it.
- Our company would not have a need for something like this. It would not help with sales.
- Our industry relies on tech, but we are sort of slow adapters.
- People do not really have the hang of the metaverse yet so an expo might not be really effective.

- People need to actually taste the product.
- People rarely feel truly invested.
- People want to have in person connections with others, especially when it comes to giving their business to others.
- Since the place I currently work at is small in comparison, I do not believe it will make a difference. I do not find it useful in the mean time.
- The best part of a sales expo is the in-person connections created, both for business and for personal purposes.
- The effectiveness of metaverse expos/tradeshows for B2B sales in my industry (AI) is still under debate. Some experts believe that metaverse expos have the potential to be more effective than traditional expos, while others believe that they are not yet a viable option for B2B sales.
- The metaverse is rather childish; I think it would reflect poorly on the "seriousness" of a business to be doing this.
- The trade show does not impact our sales because we use the metaverse to directly interact with potential customers at the end sale.
- The virtual version cannot capture the energies created by an in-person expo.
- There are is no current interest in the industry for the Metaverse platform.
- There are no B2B sales benefits for teaching.

- There is no reason we'd need that. We cannot set our mik prices. Our cooperative sets them and sells the milk.
- There is no replacement for actual human contact when it comes to sales. People would not take a virtual sales expo as a serious endeavor.
- This would not be necessary for the field of education.
- Until the Metaverse is trending more with the public, I do not see it being popular for sales yet.
- We are not planning it right now.
- We are not using the metaverse at this time.
- We are yet to implement Tradeshow in Metaverse in my company, so it is not effective yet.
- We do not see the need to use this for such events.
- We have no need to expand our business into the virtual world.
- We have not heard of this or attended the expo.
- We have not tried it so it is not useful yet.
- We would rather just have a company rep walk us through.
- Were already a well established brand. Do not need a virtual world experience.
- While I am sure this is very effective in some environments, I do not see a future for it in our company.
- While it may be effective, it is unchartered territory so I cannot definitively say it is effective just yet.
- While the idea is interesting, I dont have anything in my company that would need to be sold in a trade show.

- While this would be a great idea, the organization is slow moving as they are tied down by multi-year contracts that they don't tend to get out of and they also have a long bureaucratic process to go through to vet new vendors to consider.
- Would not be needed but would be nice.
- You cannot see the actual product.

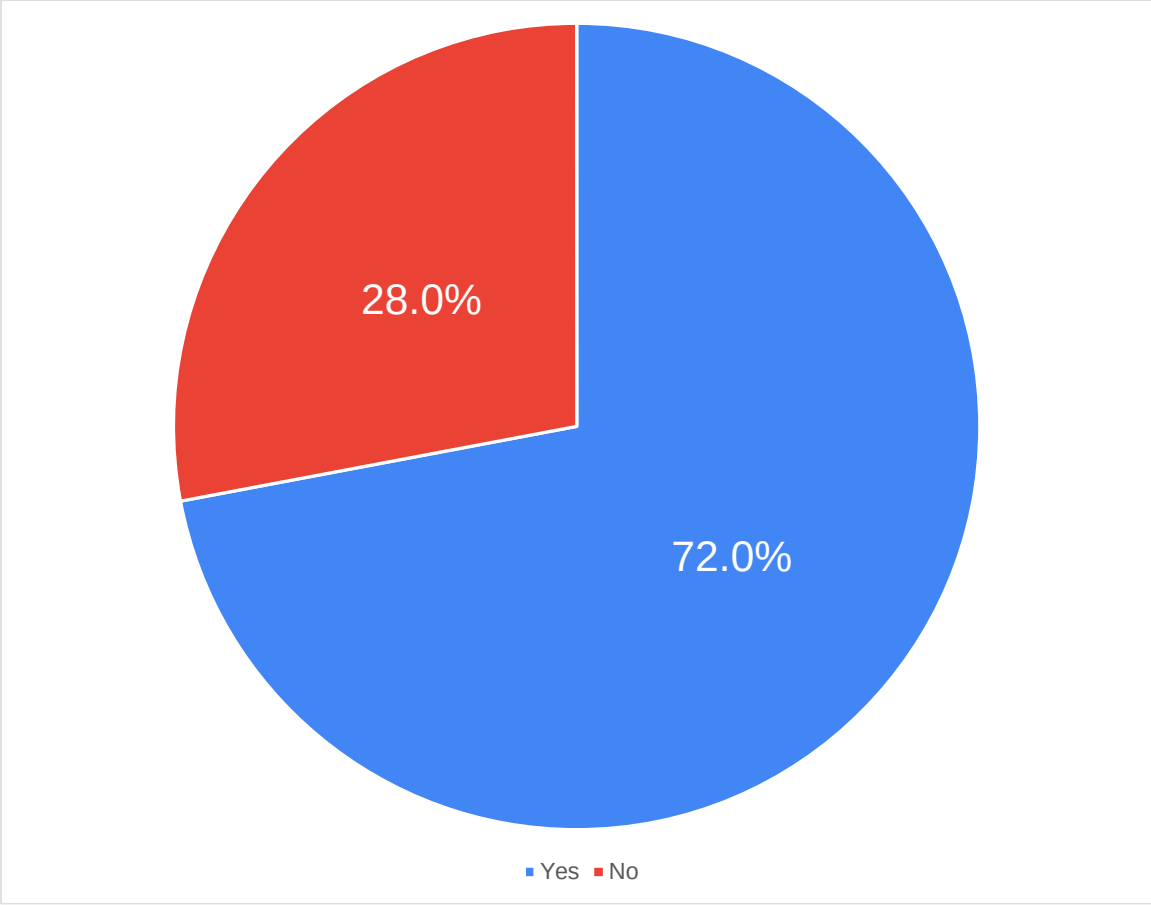
4.12 Research Question 15

The question is below.

- Q15: Is showing how your product/service works through Augmented Reality (AR) or Mixed Reality (MR) effective for B2B Sales in your industry/company?

Regarding the result, based on Figure 57, the effectiveness of showing how the product/service works through AR or MR for B2B Sales in survey respondents' industry/company is the following.

Figure 57 – Survey Result (Q15)



Based on Figure 57, 72.0% of respondents think that showing how the product/service works through AR or MR is effective for B2B Sales in the survey respondents' industry/company. This technology and use cases are effective in the sales field, so the research hypothesis is proven with these survey results.

Figure 58 – Cross-Sectional Analysis (Industry & Interest in showing how product/service works through AR/MR)

Count of Timestamp	Column Labels		
Row Labels	Yes	No	Grand Total
Manufacturing Machinery	72	21	93
Industrial Machinery	67	2	69
Electronics	53	10	63
Food & Beverages	35	17	52
Medical	23	12	35
Customer Support/ Advisory	12	22	34
Factory Automation	23	6	29
Automotive	25	2	27
Textiles	8	4	12
IT	9	3	12
Retail	8	3	11
Education	5	4	9
Freelance	4	3	7
Construction	5	1	6
Chemicals	1	5	6
Insurance	2	3	5
Nonprofit	2	1	3
N/A	1	2	3
Finance/Accounting	2	1	3
Energy	3		3
Advertisement		3	3
Tourism	3		3
Government	2	1	3
Healthcare		3	3
Homemaker	1	1	2
Student	2		2
Engineering	2		2
Agriculture	1	1	2
Transportation	1	1	2
Accounting	1	1	2
Media	2		2
Psychology		1	1
Furniture		1	1
Animal rescue	1		1
Computer Science		1	1
Entertainment		1	1
Hospitality	1		1
Raw materials	1		1
Contracting		1	1
Security		1	1
Customer Support	1		1
Textbooks		1	1
Art & Design		1	1
Carpentry	1		1
Journalism		1	1
Public service		1	1
Legal		1	1
Real estate	1		1
Data Analytics		1	1
Sales	1		1
Marketing	1		1
Small business		1	1
Utilities		1	1
Telecommunication	1		1
Wellness/Fitness	1		1
Entertainment	1		1
Events		1	1
Content creation	1		1
Business management and administration.	1		1
Personal services		1	1
Writer	1		1
Arts and Media		1	1
Administration		1	1
Grand Total	**389**	**151**	**540**

In addition, Figure 58 is the result of Cross-Sectional Analysis between Q1 (Industry) and Q15 (Interest in showing how product/service works through AR/MR). Based on Figure 58, many respondents think that showing how the product/service works through AR or MR is effective for B2B Sales in the research priority industries, including Manufacturing Machinery, Industrial Machinery, Electronics, Food & Beverages, Medical, Factory Automation, and Automotive as below.

- Interested in showing how product/service works through AR/MR (Excerpted)
    - Manufacturing Machinery: 72 respondents (13.3%)
    - Industrial Machinery: 67 respondents (12.4%)
    - Electronics: 53 respondents (9.8%)
    - Food & Beverages: 35 respondents (6.5%)
    - Medical: 23 respondents (4.3%)
    - Factory Automation: 23 respondents (4.3%)
    - Automotive: 25 respondents (4.6%)

Figure 59 – Cross-Sectional Analysis (Employment Status & Interest in showing how product/service works through AR/MR)

Count of Timestamp	Column Labels		
Row Labels	Yes	No	Grand Total
Full-time	339	119	458
Part-time	49	28	77
Retired	1	4	5
Grand Total	**389**	**151**	**540**

Furthermore, Figure 59 results from a Cross-Sectional Analysis between Q3 (Employment Status) and Q15 (Interest in showing how product/service works through AR/MR). Based on Figure 59, 339 full-time employees (62.8%) think showing how the product/service works through AR or MR is effective for B2B Sales in the survey respondents' industry/company.

Figure 60 – Cross-Sectional Analysis (Division/Department & Interest in showing how product/service works through AR/MR)

Count of Timestamp	Column Labels		
Row Labels	Yes	No	Grand Total
IT	112	20	132
Marketing	81	27	108
Customer Support	39	30	69
Sales (Field Sales)	54	14	68
Sales (Inside Sales)	51	17	68

Excerpted

Moreover, Figure 60 results from a Cross-Sectional Analysis between Q4 (Division/Department) and Q15 (Interest in showing how product/service works through AR/MR). Based on Figure 60, the major respondents who think that showing how the product/service works through AR or MR is effective for B2B Sales are working in the priority segments for this research, including Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales). Based on the research hypothesis, showing how the product/service works through AR or MR is effective in the marketing and sales fields, the research hypothesis is proven by the survey results.

Figure 61 – Cross-Sectional Analysis (Position & Interest in showing how product/service works through AR/MR)

Count of Timestamp	Column Labels		
Row Labels	Yes	No	Grand Total
Management	227	44	271
Staff	87	75	162
Executive	74	26	100
Contractor	1	6	7
Grand Total	**389**	**151**	**540**

Also, Figure 61 results from a Cross-Sectional Analysis between Q6 (Current Position) and Q15 (Interest in showing how product/service works through AR/MR). Based on Figure 61, most of all Managements, Staff, and Executives think that showing how the product/service works through AR or MR is effective for B2B Sales. In addition, Management especially thinks that showing how the product/service works through AR or MR is effective for B2B Sales, but on the other hand, 46% of staff do NOT think that.

It would be assumed that the Managements need to transform their business by using cutting-edge technologies as soon as possible due to the recent VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business environment. Staff are specialists in their day-to-day operations, and they might think that using Metaverse for their operation would be a long way off. However, in Q13 (Interest in EXPO/Tradeshow in Metaverse), over 50% of staff responded that they are not interested in EXPO/Tradeshow in Metaverse. Therefore, showing how the product/service works through AR or MR is highly related to staff-level rather than the EXPO/Tradeshow in Metaverse.

4.13 Research Question 16

The question is below.

- Q16: Please describe the reasons behind your answer for Q15. (Is showing how your product/service works through Augmented Reality (AR) or Mixed Reality (MR) effective for B2B Sales in your industry/company?)

The following is the excepted feedback from the survey respondents regarding twhy and why NOT they are interested in showing how the product/service works through AR or MR in theirindustry/company.

- The major reasons why they are interested in showing how the product/service works through AR or MR in the respondents' industry/company (Excerpted)
    - It conveniently explains the product or service to the customer.

- A Construction company could show a model of the building they are planning to construct, before the actual Construction begins. Similarly, a manufacturing company could showcase an industrial machinery plant with the help of AR or MR.
- A form of this is already being used for things like drawings for home renovations so clients can "see what a room will look like" when you have moved a wall or redone the kitchen or whatever. Hence, there may be an opportunity for this in architecture/engineering that is oriented towards consumers as end users. In my field (dam engineering) the clients are "knowledgeable" and are usually other engineers--they can read IT drawings just fine and would not be interested in this type of "bells and whistles". In fact, if it were offered, I think my clients would be offended.
- A virtual reality simulation could show a new product without having the finished item available for use.
- AR and MR and VR can provide a dynamic, immersive way to showcase the product/service.
- AR and MR can be used to create immersive and interactive experiences that allow potential customers to see and interact with your product/service in a way that is not possible with traditional sales materials. This can help you to Increase engagement and Improve understanding.
- AR and VR technologies facilitate new forms of collaboration and communication. Virtual meetings, conferences, and shared

workspaces in the digital realm enhance remote collaboration and break down geographical barriers.

- AR/MR would probably not help me much as I currently sell plush toys, but showcasing toys in a VR environment where people can look at all specific angles of the plush toy could be helpful.
- As one example, we use VR to take potential clients through a model of their new building based on the architectural drawings. This gives them a completely new perspective of what their project will look and feel like. We can even place them in the actual spot on Google Maps and give them an idea of what the view out their windows will look like. This gives us a differentiating advantage over many of our competitors who lack this ability.
- As tech producers, it allows us to really demonstrate in a very interactive manner. We can be imaginative in showing our products to our partners. We can take a variety of steps and reach our partners in a more effective manner and at different stages in R&D and development.
- Asking extra for customers to view your products.
- Augmented reality and mixed reality seem to be the best in presenting products to future buyers, showing them how the products work, and how products are made.
- Augmented reality could be another tool to teach in schools.
- Augmented reality is that aspect of the Metaverse that gives new eyes to see the material world in an entirely different way.
- Because it can help people see what the concept of the product is.

- Because It offers a hands-on, interactive experience, allowing potential clients to visualize and understand the offerings better.
- Because of the capabilites it allows you to share information and convey a product.
- Because people can use this to see and find out what they want to do for a business partnership with the company for what they need.
- Because this will improve sales and the workplace generally.
- Being able to see the branding or product in augmented reality is a modern marketing technique.
- Demonstrating how it is used to the benefit of the user.
- Depending on the item it may be helpful. Just have to make sure the item is properly documented and not exaggerated.
- Describing to people how technology works can sometimes be challenging if they have no background. Using VR, AR, or MR could really bring to life the product and services we're trying to sell.
- Enhanced Visualization and Understanding: AR and MR can bring complex products or systems to life in a way that brochures, videos, or traditional 2D images cannot. For example, if we're selling sophisticated machinery, engineering components, or intricate software solutions, AR/MR can visually demonstrate how these products function in a real-world setting. This enhanced visualization aids potential clients in understanding the practical application and benefits of our offerings.

- Interactive Demonstrations: AR and MR allow for interactive experiences where clients can manipulate and explore products virtually. This interactivity not only makes demonstrations more engaging but also helps clients better understand the features and capabilities of our products. For instance, in the case of a piece of machinery, clients could use AR/MR to look inside the machine, understand its mechanics, and see how different parts contribute to its overall functionality.
- I am able to AR / MR to show growth rates, timber Operations, stockpiles, etc. It gives "real time" information and places products at their location.
- I believe it could show more detail and be entertaining to showcase our products.
- I believe showing how our product works via mixed reality help gives customers the overview of all our products.
- I believe that augmented reality would be best for showing my products because I want to use a mix of real and virtual concepts to promote my products.
- I can give the customer an idea of what a project would look like redone/completed prior to to the service.
- I can see how AR would facilitate some facets of our advertising.
- I can see how using virtual reality or augmented reality could be a good way to visualize products for clients.
- I could think of several applications of VR in our daily life, in my area, which us entertainment and influencing,it would be very

useful, there could bee virtual concerts, saving the stress and eliminating the risk of dying in a stampede.

- I picked "yes" because I believe that showing how my product or service works through augmented reality will be effective for B2B sales.
- I think a mix reality or virtuality space can really enhance the dry features of providing on demand security. Have these services visualized I think would wow a lot of potential partners.
- I think it could be effective for B2B sales in my company if people can interact with the products through mixed reality.
- I think it is because it is basically an actual replica of what you would see in real life without actually having to be there as well.
- I think the there could be an AR/VR technology that would be useful in Construction.
- I think this could be used as a tool to help guide clients on how to use our product, and learn more about it.
- I work in real estate. My clients want to see the space in person.
- If my clients were to see how a set piece would look installed it might have them at ease.
- It allows people to experience what we offer.
- It allows potential customers to view and hold the product (if using VR/AR).
- It allows us to have more reach and more context to the product.
- It can give people early or different views of the business.
- It can help promote out products to a larger audience.

- It could allow us to demonstrate our ideas to new and/or current clients.
- It could be a unique way in the future that can catch peoples attention.
- It could be highly effective with growth.
- It could highlight travel aspects of different cities, we just need to develop it still. I need to get management on board.
- It could show how the hotel looks in a virtual environment.
- It could show you the before and after of our services and what we have to offer. It would allow for a preview of what we can do.
- It enhances the landscape of collaboration and communication by providing innovative and immersive tools for remote work, training, and global teamwork. The ability to break down geographical barriers and create shared digital spaces is a key driver in the adoption of these technologies across various industries.
- It gives a broader spectrum and might get people to buy stuff faster.
- It gives the customer a better representation of what we are selling or providing.
- It helps customers have a better understanding of our product.
- It helps give a "hands on experience" with interaction in the virtual world.
- It helps to enhance the quality of work.

- It is a place to see products and allows potential coustomers exposure to our products.
- It is more convenient, yet very clear and effective way to show the products to potential customers. It would be very easy to reach out to more customers this way.
- It is only effective to do something in AR/MR/VR if the customer demands it.
- It is something we like using in my industry.
- It is very effective because it brings visual details that are necessary to convince a potential client.
- It will aid more practical interaction.
- It will be effective even though it is not in plan yet.
- It will help to explain cases better.
- It works because it communicate most things we cannot communicate to our customers.
- It works for different realties because AI is high tech now.
- It would allow people to see the product in use.
- It would be easily for people to understand how the product work and they are try it out.
- It would be nice to give views of the property.
- It would be quite effective, because that way it will get a lot of work done with great understanding all from the office space.
- It would be useful to share developed engineering designs with clients before they go to production/Construction. This would be more engaging than the current paper schematics.

- It would decrease the need for sales travel.
- It would help customers feel more closer to said Sales (Inside Sales).
- It would help show off a lot of the key aspects of our products.
- It would help to show how it works to a wider audience.
- It would more accurately give the sales pitch.
- It is a good way to help the side of company that is more work-from-home.
- It is the future of advertising.
- It is going to help the architecture world and help them show their designs in a more simpler way.
- Low cost demonstrations at various locations.
- Many individuals are now able to enjoy experiences that were previously inaccessible to them due to factors like high costs, long distances, or physical limitations. It is great to see technology making the world a more inclusive place.
- Mixed reality applications use virtual spaces in which both local and remote users can collaborate. In most cases, such space would contain a photospherical background image or video stream of a real location in which users are placed, and optionally such data as real-world coordinates and the time and date of when the space was created.
- Mixed Reality is good technology and very appreciable.
- Mixed reality will be very useful in my company because it contain a virtual and real environment.

- Most of the products I sell are well known, but some of the services I sell are not as well known. Having the ability to showcase my other services in real time is a great asset.
- MR for sure because we Freelances will be able to promote ourselves and network with each other as we participate in B2B sales.
- MR helps us for ease of sales and interaction with our customers but again, our sales our mostly not B2B.
- My services and content are available in the real world. Anyone can buy them and they can take it to VR world if they like.
- New technology always makes people excited and they will spend more.
- People that we serve in the rest of our organization benefit from something more immersive rather than having to picture what the results would look like.
- People want to see what products look like in their homes.
- Possibly can be good in showcasing products and give consumers a good idea on how something works.
- Provides the opportunity to provide live demonstrations via a live environment.
- Reduce misunderstandings.
- Reduced space limitations.
- So many applications it can be used for, like sampling new fixtures instead of having to go to showroom or make decisions through flat pictures.

- The design is very advanced and seurity.
- The Metaverse offers unique networking opportunities. You can connect with potential clients, partners, and industry peers in virtual trade shows, conferences, and networking events, enhancing your reach and lead generation efforts.
- The prospective customers might find it cool and technologically advanced and would want to work with us.
- These technology was very helpful in the reality world.
- The whole process would definitely be seamless as the transition looks really achieveable.
- There are times when product presentations include real demonstrations and others where it's a real concept mixed with a virtual prototype. Both have worked.
- This could be a possibility that I would be open to in my business.
- This could be useful for demoing our products.
- This immersive and interactive approach drives engagement, builds trust, and increases the chances of successful sales.
- This suggests that showing how a product/service works through MR could potentially be effective in industries where visual representation is important, such as architecture, Construction, and engineering.
- This would allow cliente to experience the visuals of our product without travel.

- This would be an effective tool for my job becuase we can show the clients what the world would look like should they choose to invest in us.
- To see how it works, let us explore three potential AR use cases I have noticed for B2B sales as the VP of business development at a software.
- Until the usage of these technologies becomes more common in general, implementing them as part of a business sales strategy is more likely to alienate clients than to entice them.
- Using these methods of engagement can culminate in sales.
- Virtual reality and mixed reality can create a nexus between business B2B or consumer to business, B2C vice versa. It eliminates bias and it is cost efficient.
- We are like a tiny store. Maybe for touring the school it would be helpful to direct others.
- We can see what is going on and what might need improvement.
- We can show some of what we do and information about the different areas or pieces of work.
- We do have a live broadcast of an exhibit. I think we could be able to expand B2B offerings by integrating AR and MR.
- With all that said: yes, the base technology (when executed properly) can go a long way towards helping us promote our wares. Mixed Reality, being the happy medium which I prefer.
- Yes, because again, it is an effective way to show how the products works and also to reach a wide array of audience.

- Yes, because of accessibility.
- Yes, I think the different types of reality can provide a different approach and view that helps see a different point of view.
- Yes, it allows for customers to see our services from another perspective.
- Yes, it will sure help in a way in describing a particular product to customers.
- Yes, more customers will be able to buy the product.
- Yes, it is. As long as the customer can see how the product functions.
- Yes, showing how your product/service works through augmented reality (AR) or mixed reality (MR) can be very effective for B2B sales. AR and MR can provide potential customers with a more immersive and interactive experience with your product/service, which can help them to better understand its benefits and features.
- Yes,the mixed reality plays a huge role in metaverse in our industry.
- You can talk about the opportunity to work with a great team, the chance to learn new skills or the potential for growth and advancement within the company. By highlighting these specific factors, you can show your genuine interest in the job and excitement about the potential for this opportunity.

- The major reasons why they are NOT interested in showing how the product/service works through AR or MR in the respondents' industry/company (Excerpted)
    - A live demonstration would show technological builds far better than a virtual one.
    - Although advertising in virtual worlds could be a new venue, using it as a sales tool is a different matter entirely and expects mass adoption of Virtual Reality, and we just are not there yet.
    - At some time in the future it may behoove clients to be able to explore a VR environment of proposed changes to a building, but it is too early.
    - Automobile and truck sales are more of a physical presentation for most.
    - Because it cannot truly mirror reality.
    - I believe it may help in locating packages more easily, but I see it causing issues other than that.
    - I do not believe Metaverse has any offering for the Finance/Accounting and Customer Supportprofessions in these areas.
    - I do not know how this would help me each client and their needs are separate and unique.
    - I do not think augmented reality applies to my business.
    - I feel that care salesman are sometimes perceived as pests. With this option, the customer can learn more about the different vehicles from the VR instead of an actual person. However, if an

actual person is preferred we will provide that as well. Personally, I would like to use the VR.

- I have a sales job that is more support than anythng. Stricly a backup for direct sales as needed. Also think the customer would have to have similar engagement which is difficult on the floor.
- I just think with the size of my company, its not really needed. There are also other ways for B2B sales.
- I only chose "no" because I'm am not a part of marketing and I'm not sure if it has any impact.
- I work in a real world environment. I do not think the construction work I do translates into virtual world. Perhaps it does a the management and planning level of special events but not at my staff level.
- I work in product management, and have no need for these technologies.
- I write for people. Showing them in VR would be literally ridiculous.
- It could be beneficial in the future but is not beneficial for the oil and gas industry.
- It just is not really applicable to my line of work.
- It would be the same as doing it in the world, just with a lot of arbitrary nonsense added.
- It is just too new, I do not think our clients would find it useful.
- It is not necessary for our products.

- It is the best way to show off a product short of actually doing so in person.
- Most people work remote so the real environment aspect would not translate.
- My company does not need this type of technology to thrive.
- My product would be ineffectively displayed in AR or MR and would be much better suited for a normal monitor display.
- No, because my business is mostly about meeting clients and managing their portfolios, while keeping in contact for any questions.
- No, because we are an art museum.
- Nobody cares about AR in my industry.
- Not a very good way to show how something is warehoused.
- Not many people understand this type of technology and it would be more effective to remain with traditional methods until it becomes more mainstream.
- Not quite. If does not matter if the beliefs were true or not. What matters is whether the subjects had any evidence they were true. The conclusion was that people hang on to beliefs even if they do not have any evidence. This actually supports the journal by providing a reason for the observed behavior. People can't keep track of whether all their beliefs are supported by facts.
- Not really related to the sector I am working in.
- Not sure if it is the right audience for me.
- Old people want to see and feel the equipment.

- Our company aims to help feed the less fortunate so this would not help.
- Our product is a platform, so AR is not used.
- Our products are simple to use and everyone already knows how.
- Our service does not really produce physical products that are not rather dry reports. It is not likely it would translate well visually.
- Our services are basically intangible. Adding a visual component to presentations or communication is unlikely to add value.
- People do not really have the hang of the metaverse so it might not work really well.
- People need to taste the product in our industry.
- Sustainability does not easily lend itself to this realm, except for digital twins in infrastructure projects perhaps.
- The processes done in this industry are hard to show.
- The technology has not been perfected yet and so it does not offer us all we need.
- We are developing apps to their specification and they have access to the app directly so it would not add anything in this area.
- We are mostly interested in marketing our services, which will not require AR.
- We stick to our old business model. Have no need/want to update things.
- While I am sure this is very effective in some environments, I do not see a future for it in our company.

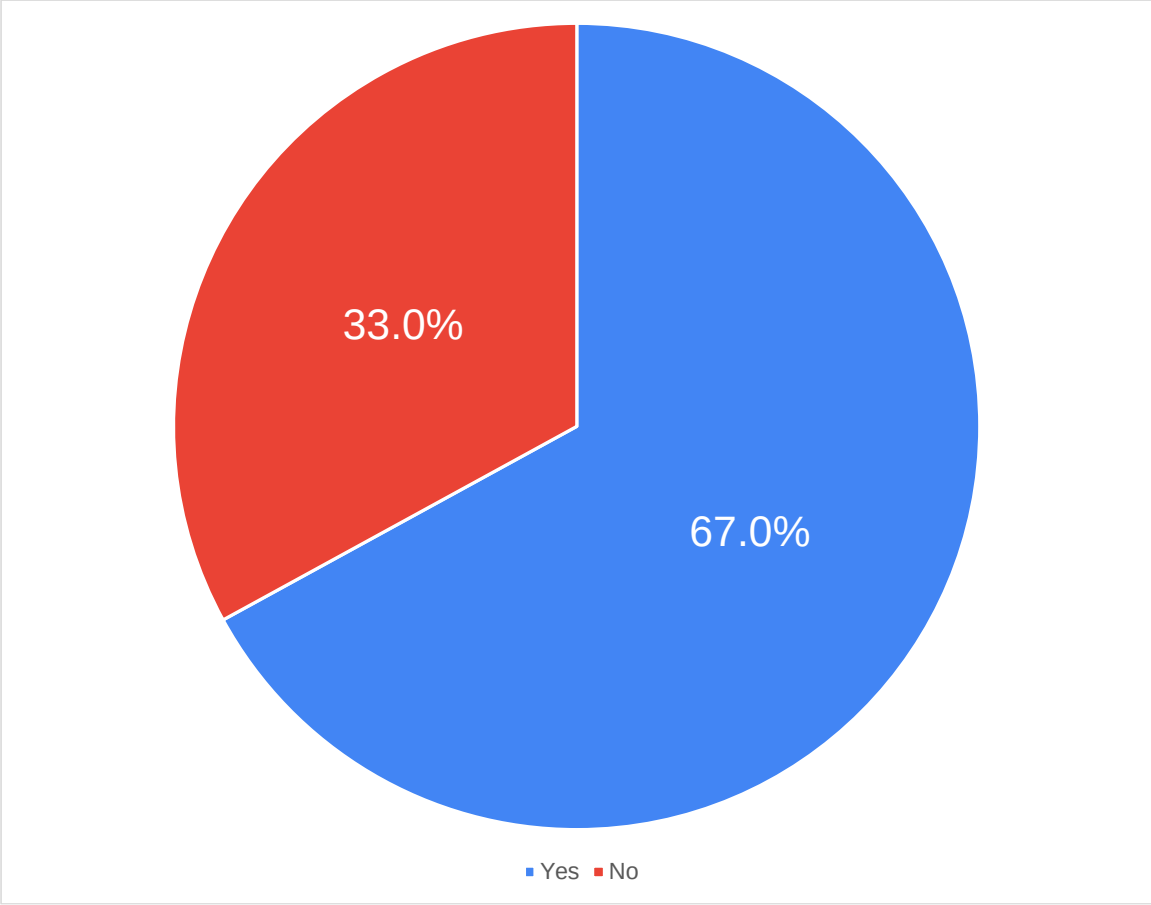
4.14 Research Question 17

The question is below.

- Q17: Is using Augmented Reality (AR) or Mixed Reality (MR) practical for customer support in B2B Sales in your industry/company?

Regarding the result, based on Figure 62, the practicality of using Augmented Reality (AR) or Mixed Reality (MR) for customer support in B2B Sales in survey respondents' industry/company is the following.

Figure 62 – Survey Result (Q17)



Based on Figure 62, 67.0% of respondents think using Augmented Reality (AR) or Mixed Reality (MR) for customer support is practical in B2B Sales in the survey respondents' industry/company. Based on the research hypothesis, this technology and its use cases are effective in the customer support field, so the research hypothesis is proven by the survey results.

Figure 63 – Cross-Sectional Analysis (Industry & Interest in using AR or MR for Customer Support)

Count of Timestamp	Column Labels		
Row Labels	**Yes**	**No**	**Grand Total**
Manufacturing Machinery	72	21	93
Industrial Machinery	67	2	69
Electronics	46	17	63
Food & Beverages	33	19	52
Medical	20	15	35
Customer Support/ Advisory	18	16	34
Factory Automation	21	8	29
Automotive	22	5	27
Textiles	6	6	12
IT	7	5	12
Retail	6	5	11
Education	5	4	9
Freelance	3	4	7
Construction	5	1	6
Chemicals	3	3	6
Insurance		5	5
Nonprofit	1	2	3
N/A	1	2	3
Finance/Accounting	2	1	3
Energy	3		3
Advertisement		3	3
Tourism	1	2	3
Government	1	2	3
Healthcare	1	2	3
Homemaker	1	1	2
Student		2	2
Engineering	2		2
Agriculture	1	1	2
Transportation	1	1	2
Accounting	1	1	2
Media	1	1	2
Psychology		1	1
Furniture	1		1
Animal rescue		1	1
Computer Science	1		1
Entertainment		1	1
Hospitality		1	1
Raw materials	1		1
Contracting		1	1
Security		1	1
Customer Support	1		1
Textbooks		1	1
Art & Design		1	1
Carpentry	1		1
Journalism		1	1
Public service		1	1
Legal		1	1
Real estate	1		1
Data Analytics		1	1
Sales	1		1
Marketing		1	1
Small business		1	1
Utilities		1	1
Telecommunication	1		1
Wellness/Fitness		1	1
Entertainment	1		1
Events		1	1
Content creation		1	1
Business management and administration.	1		1
Personal services		1	1
Writer	1		1
Arts and Media		1	1
Administration		1	1
Grand Total	**362**	**178**	**540**

In addition, Figure 63 results from a Cross-Sectional Analysis between Q1 (Industry) and Q17 (Interest in using AR or MR for Customer Support). Based on Figure 63, many respondents think that using AR or MR for customer support is practical for B2B Sales in the research priority industries, including Manufacturing Machinery, Industrial Machinery, Electronics, Food & Beverages, Medical, Factory Automation, and Automotive as below.

- Interested in using AR or MR for customer support (Excerpted)
    - Manufacturing Machinery: 72 respondents (13.3%)
    - Industrial Machinery: 67 respondents (12.4%)
    - Electronics: 46 respondents (8.5%)
    - Food & Beverages: 33 respondents (6.1%)
    - Medical: 20 respondents (3.7%)
    - Factory Automation: 21 respondents (3.9%)
    - Automotive: 22 respondents (4.1%)

Figure 64 – Cross-Sectional Analysis (Employment Status & Interest in using AR or MR for Customer Support)

Count of Timestamp	Column Labels		
Row Labels	Yes	No	Grand Total
Full-time	322	136	458
Part-time	38	39	77
Retired	2	3	5
Grand Total	**362**	**178**	**540**

Furthermore, Figure 64 results from a Cross-Sectional Analysis between Q3 (Employment Status) and Q17 (Interest in using AR or MR for Customer Support). Based on Figure 64, 322 full-time employees (59.6%) think using AR or MR for customer support is practical for B2B Sales in the survey respondents' industry/company.

Figure 65 – Cross-Sectional Analysis (Division/Department & Interest in using AR or MR for Customer Support)

Count of Timestamp	Column Labels		
Row Labels	Yes	No	Grand Total
IT	103	29	132
Marketing	78	30	108
Customer Support	36	33	69
Sales (Field Sales)	49	19	68
Sales (Inside Sales)	46	22	68

Excerpted

Moreover, Figure 65 results from a Cross-Sectional Analysis between Q4 (Division/Department) and Q17 (Interest in using AR or MR for Customer Support). Based on Figure 65, the major respondents who think using AR or MR for customer support is practical for B2B Sales are working in the priority segments for this research, including Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales). Based on the research hypothesis, using AR or MR is practical in the customer support field, so the research hypothesis is proven by the survey results.

Figure 66 – Cross-Sectional Analysis (Position & Interest in using AR or MR for Customer Support)

Count of Timestamp	Column Labels		
Row Labels	Yes	No	Grand Total
Management	209	62	271
Staff	74	88	162
Executive	77	23	100
Contractor	2	5	7
Grand Total	**362**	**178**	**540**

Also, Figure 66 results from a Cross-Sectional Analysis between Q6 (Current Position) and Q17 (Interest in using AR or MR for Customer Support). Based on Figure 66, most of all Managements, Staffs, and Executives think that using AR or MR for customer support is practical for B2B Sales. In addition, Management especially thinks that using AR or MR is practical for customer support, but on the other hand, 54.3% of staff do NOT think that. It would be assumed that the Managements think they need to transform their business by using cutting-edge technologies as soon as possible due to the recent VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business environment. Staff are specialists in their day-to-day operations, and they might think that using Metaverse for their operation would be a long way off.

4.15 Research Question 18

The question is below.

- Q18: Please describe the reasons behind your answer for Q17. (Is using Augmented Reality (AR) or Mixed Reality (MR) practical for customer support in B2B Sales in your industry/company?)

The following is the accepted feedback from the survey respondents regarding the reason why they are NOT interested in using AR or MR for customer support in B2B Sales in the respondents' industry/company.

- The major reasons why they are interested in using AR or MR for customer support in B2B Sales in the respondents' industry/company (Excerpted)
    - Able to know whether they are capable of doing the job (IT competency), why they want the job (motivation) and whether they fit into the organisation (alignment).
    - In today's competitive B2B sales landscape, augmented reality for products is a compelling way to convey value and out show the competition.
    - Anyone can use VR so it makes it much easier to showcase an item.
    - AR, MR, and VR can offer interactive solutions and enhance customer support experiences.

- AR and MR can help potential clients visualize the end product and make more informed decisions, which could be beneficial in B2B Sales.
- AR and VR technologies are reshaping the landscape of collaboration and communication by providing innovative and immersive tools for remote work, training, and global teamwork. The ability to break down geographical barriers and create shared digital spaces is a key driver in the adoption of these technologies across various industries.
- AR can be used to overlay product information and instructions onto the real world, which can help customers to learn about and use products more easily.
- AR technology utilizes sensors like GPS, camera, and accelerometer to detect the user's location, movement, and surroundings and then generates digital content that is superimposed on the physical world.
- Because of its power as a tool of communication, yes.
- Because the company can use the tools to which they can showcase what they are doing for clients and the convenience of having to go to anywhere which they do not need to, if they have the tools to use like this to view what the company does and offers.
- Because these technologies enable real-time visual assistance, allowing experts to guide customers remotely, troubleshoot issues, and provide interactive demonstrations.

- Better connection with customers seeing the product first hand able to ask questions. Better communication with prospective clients.
- Better visualization.
- Clients and coworkers could see what we do, how are we doing things, and the possible outcome.
- Communication each other through digital platform.
- Customer support follow up might have application in healthcare industry with augmented reality.
- Customers will love it.
- Customers would enjoy using any of these types of realities, I think.
- Easy to create in good motive.
- Easy to use and enhance communication / troubleshooting.
- Excellent allocations.
- Can explain to customers that it is environmental friendly.
- For advance looks into design and design concepts.
- Getting good presentations.
- Good interactions and marketing.
- Good way to show our products and services.
- Hands-Free Interaction
- I believe customor support has to be more hands-on and personal then what Metaverse allows.
- I believe it could help our customers in a different and exciting way.

- I believe that being able to interact with Customer Support agents would increase the potential for customers to make a purchase.
- I believe yes because I do not see how it could be seen as any different no matter how your looking at it in general.
- I belive that yes this could help with problems that could arise with product not meeting spec or are out of spec. This could also help with potential missing or incomplete packages.
- I can do things virtually.
- I can easily see how a better communication can be made using AR or VR to support our customers in a way which easier and more convenient for them.
- I think it can develop a closer relationship if everyone is comfortable there so it can lead to more comfort and personalization if the relationship already exists.
- I think it could be in the future, but right now users are hesitant about using VR/AR for customer support. I believe that will change in time and as the general public becomes more accustomed to VR/AR.
- I think it would be best for an even bigger company like 200+ employees in order for it to be successful or have any reaction.
- I think that my customers are forward-looking and that this could be a possible avenue.
- I think that there could be useful applications.
- I think this could be used as a support tool for troubleshooting client issues.

- I think we could use it in neat ways to give tours of cities and attractions.
- I think with Virtual reality you can facilitate communication in a way that feels closer to face to face.
- I work directly with the consumer they have enough problems with reality.
- I would think this would give a more detailed and guided option for resolving customer issues remotely.
- If it was a simple app on a tablet than yes, other than that then no.
- If there had to be customer support for engineering, it might be useful in showing a guide on how to fix certain machines.
- Improved Problem Resolution: AR and MR can help customers visualize solutions to their problems in real-time. For example, in a scenario where a client faces issues with a complex piece of machinery, using AR/MR technology, our support team can overlay digital imagery and instructions onto the physical equipment, guiding the client through troubleshooting steps or repairs without being physically present.

  Efficient Training and Guidance: These technologies can be used to train clients on new products or updates effectively. By overlaying digital information or demonstrating procedures in a mixed reality environment, clients can learn how to use or maintain products in a hands-on manner, leading to better understanding and retention of information.

- In using AR or MR people are mostly support B2B sales because they sit in the home and buy a lot of things without going out.
- Interact with vitality.
- It allows customers to see how the product functions.
- It can be a great place to demo products for customers.
- It can help with showing and assisting the customer support in a way that makes more sense than just words.
- It can show how something works when the customer has a problem.
- It can show the usefulness of AI.
- It could be useful for customer support as it can provide customers support visually rather than just from audio through the phone or text online.
- It could give enhanced understanding of data presentations.
- It could help us a ton with troubleshooting and selling specific applications our products are used within.
- It could market from online.
- It could streamline Customer Support, reduce time for staff to attend to individual customers.
- It facilitate new forms of collaboration and communication. Virtual meetings, conferences, and shared workspaces in the digital realm enhance remote collaboration and break down geographical barriers.
- It gives them a hands on experience.
- It helps to enhance the quality of work.

- It is convenient and engaging, it is very close to real life experiences.
- It is practical because customers like them.
- It is practical for customers support cause it will definitely help in seeing the depth of our company's capabilities.
- It lets the consumer interact with the product virtually.
- It seems like it would be easy to utilize since these would serve as next level presentations.
- It was the best platform to learn.
- It was very helpful to identify VR and AR uses.
- It will be more practical in a few years.
- It will bring more customers in and relate to them more.
- It will develop our organization.
- It will help customer with issues get answered faster and makes the job easier.
- It will help to grow the company sales.
- It will make it easier to answer businesses and customers questions about the product.
- It will most definitely help give a better perspective.
- It would allow us to show customers what it is that we work on without having to actually pull things apart and show them.
- It would help them make decisions easier.
- It is crucial to assess the specific characteristics of your industry, the nature of customer support inquiries, and the IT capabilities of your clients when determining the practicality of AR or MR for

customer support in B2B sales. Conducting pilot programs or seeking feedback from key clients can provide valuable insights tailored to your business context.

- It is the perfect way to show a potential repeat-client a manipulatable model of our company's workflow, area of influence and a more detailed map of our locations, regardless if it's direct customers or Business to Business, moving into an area that we could provide service to.
- It is a developed business, so easily attract the consumer reach the product.
- Many individuals are now able to enjoy experiences that were previously inaccessible to them due to factors like high costs, long distances, or physical limitations. It is great to see technology making the world a more inclusive place.
- Maybe to show how to build displays.
- Maybe to try to convince clinets andclients can be interested.
- Mixed reality applications use virtual spaces in which both local and remote users can collaborate. In most cases, such space would contain a photospherical background image or video stream of a real location in which users are placed, and optionally such data as real-world coordinates and the time and date of when the space was created.
- New products can be created in the alternate reality for viewing.
- Possibly in the future when AI is more integrated and better used with AR/MR/VR.

- Potentially we could have meeting places to provide one on one customer support.
- Potentially, as Customer Supports might benefit from the usage of VR when aiding customers.
- Practically, it is working and effective.
- Quick response to customers, show visual examples.
- Really gives people a nice imagination.
- Reducing downtime.
- Showing a customer the product done and in place before we build it.
- The Metaverse can be used for training and onboarding sales teams.
- They can easily be trained because they can just repeat the whole Scenario again and again.
- They can experience virtually.
- This is an affective approach to sales.
- This will enhance the company sales.
- This will help give insight on ideas, future ideas and specific ideas of how the company should head forward.
- Too much knowledge for our customers can scare them, but it may link them quicker to their medical staff.
- Using augmented and mixed reality could make teaching and Educationmore interesting to students.

- Using mixed reality in my company is really effective because synchronising a virtual and the real environment to create a unique architect.
- Using mixed reality is very practical for customer support.
- Using the applications could help in identifying any issues the customer is facing.
- Using these methods of engagement can culminate in sales.
- Virtual reality and mixed reality can create a nexus between business B2B or consumer to business, B2C vice versa. It eliminates bias and it is cost efficient.
- We are often on the other side of the country from our clients, and this enables us to show what we can do.
- We can have easy consults with clients.
- We can support people in the virtual world which will help them in the real world.
- We can use AR to ease our work.
- We have not found a way to utilize this practically for customer support purposes. However, we do use it for internal staff support. For example, our scheduling team can insert a time component into our virtual models so that customers can virtually see what their building is projected to look like at any point in the Construction process.
- We sell physical goods so they would be easy to augment and view in AR, MR, and VR.

- Yes, I think it is very practical because some of the benefits of using AR and MR for customer support are improved problem resolution and Increased customer satisfaction.
- Yes, it brings about more sales.
- Yes, it is practical, and most of our customers would enjoy it. They are probably already floating around the idea them selves.
- Yes, it is practical, because you do not have to go meet with customers one on one when we can easily make them realize what they are getting via virtual life.
- Yes, this could be a way we could offer customer support.
- Yes, because it will benefit the company by profit and benefit the audience by providing info about the different product through the metaverse.
- Yes, consumers would have an unhindered access to all the products.
- Yes, it is great for information to pass along to the customers.
- Yes, using augmented reality (AR) or mixed reality (MR) for customer support in B2B sales can be very practical. AR and MR can help businesses to provide their customers with more timely and effective support, and they can also help businesses to reduce their support costs.
- Yes, we would be able to share digital virtual reality designs with customers so that they have a better understanding of the elements and 3D design.

    - You can get a general idea on whether the item could work for your company.

- The major reasons why they are NOT interested in using AR or MR for customer support in B2B Sales in the respondents' industry/company (Excerpted)
    - No customer support in my company.
    - It is not valuable application in my industry.
    - As before, vehicle sales perform much better as a physical rather than virtual presentation.
    - As before, we could cover more ground without the need to travel.
    - As stated, our services are intangible and are not really enhanced by having a visual component.
    - At this point the tech is not widespread enough to create demand.
    - B2B sales in my company would be mostly ineffective with AR or MR.
    - Because it requires expensive technology.
    - Because you get a glimpse and a feeling of what the product really is or is really like without actually having it yet.
    - Chatbots are better examples (when programmed properly).
    - Client needs to be handheld.
    - Customer support is handled by human agents.
    - Customer support staff does not understand / have software that is capable of actually helping end users.

- Customers also think the Metaverse is a gimmick.
- Difficult to change of Reality-Virtuality.
- Does not suit our service.
- Everything is face-to-face and local.
- Honestly, I am not sure. I support VOIP devices and standard desktops / laptops. I do not the imagination to see how this would help me in my job.
- I am not familar with the Customer Support side of my work.
- It is not really practical because no one really uses this in my field.
- I cannot really see how I would use AR/MR for customer support in B2B sales in my business, as I run it all myself.
- I cannot see it being useful for dam engineering.
- I do not have a customer support team.
- I do not know how helpful it would be, but it would be worth trying.
- I do not know how to use AR, MR, and VR.
- I do not know if it would help.
- I do not see a way of this technology to aid with customer support.
- I do not see it as being practical for customer support.
- I do not think there is a need.
- I do not know any, not my department.
- I feel most clients want to meet in person or talk over the phone. It might be useful for meetings, depending on how the client feels.
- I feel that our customers are older and will not be comfortable with the technology.

- I just do not see how it would add any value to the Customer Support experience.
- I just do not see how it can help, the technology is too expensive.
- I operate in the real world. That is where I serve my customers.
- I think it would be more applicable for customer support since customers are not all remote.
- I think it would surpass my budget for such things and not bring in enough customers to justify the expense.
- I think the Customer Support still works best person to person (if possible).
- I think this would be feasible and could offer a more hands on approach to customer support, although I think it would be difficult to integrate.
- I work in product management, and have no need for these technologies.
- I am not sure about how practical it would be for customer support yet - need to learn more.
- I am not sure there would be much affect to customers besides seeing a room in virtual world.
- I am really not sure. I would need to study more. My business "sells" a service, not a "product". I'm not sure how customers would respond to this.
- In a limited capacity - many businesses and people in my industry are behind the curve in using this technology. It will require more of the younger generation to get on board first.

- In this industry people like to make direct personal contact.
- It can be but it cannot replace real human work.
- It is extra work without much benefit.
- It is in its infancy and needs more time to be developed and integrated into better systems.
- It will intrigue customers.
- It would be difficult to get customers to use.
- It would not apply to customer support.
- It would not be effective.
- It would not make much of a difference to be honest. It would be futuristic and stand out but the benefits don't seem that big.
- It is not necessary, and would be complicated.
- May not apply to this industry.
- Might be expensive.
- Most of my customers do not even use computers.
- MR is important to us for customer support but not in B2B sales.
- My company does not need such technology.
- My customers are not using these.
- My line of work does not need it.
- Nobody cares about AR in my industry.
- Not enough people have equipment that is practical for this use yet.
- Not everyone is able to adopt this technology and not everyone wants to adopt this technology.
- Not for customer support, but for internal employee support yes.
- Not just yet because it has not been useful as of right now.

- Not many people have their hands on these technologies.
- Not needed in my line of work.
- Not sure how that would help customers.
- Our customer support is based on in person and text client outreach.
- Our customers can have a hard time visualizing things as well as we would like, this is a great tool.
- Our customers do not use reality things at all.
- Our product is a platform so AR is not used.
- Our technicians and engineers can be much more interactive in providing Customer Support to our partners. Instead of having to go in person or create videos we can have interactive demonstrations that are much more helpful. It is much easier to express ourselves.
- People buy things in store, they do not need anything minus maybe AR.
- People might be confused with it.
- People need to taste the product in y industry.
- People want to deal with humans when something goes wrong.
- Probably not as practical as we would like.
- Reality showed here for stage by stage work.
- Staffing is becoming more and more difficult. The VR option will provided some much needed relief.
- The AR,MR,VR is most advanced and skillfull.
- The audience does not use virtuality enough to justify it yet.

- The contents are so much helpful for environment.
- The education sector would not find AR or MR practical.
- The normal ways of customer support are all that is needed. Phone and internet.
- The reality helps to learn very effectively.
- The tech is not there yet.
- There are many applications of these tech in entertainment already but it will be some time before it becomes popular, in the NFT space there re already instances of projects offering ar services which allows you to use your NFT in the real world as an identity.
- Using VR has never been practical for anything ever.
- We are mostly interested in marketing our services, which will not require AR.
- We do not deal directly with the customer.
- We do not have the infrastructure for that.
- We do not have a functioning setup that would make implementing AR or VR simple to accomplish.
- We have not needed this yet.
- We provide content for a blog that does not have customers.
- We would have to get hardware for all the prospective customers and get someone to design our stuff in Metaverse which might be difficult.
- We are not using any technology/software that would benefit from that.

- While I am sure this is very effective in some environments, I do not see it as practical in our company.
- While videos and text work okay most of the time, having the ability to walk my customer through repairs and cleaning of the electronics they buy step by step in real time would certainly be a game changer.

4.16 Research Question 19

The question is below.

- Q19: Please describe the other ideas (except for Q13, Q15, and Q17) using Metaverse for B2B Sales.

The following is the excepted feedback from the survey respondents regarding the other ideas using Metaverse for B2B Sales except for EXPO/Tradeshow in the Metaverse world/environment, showing how your product/service works through Augmented Reality (AR) or Mixed Reality (MR), and using Augmented Reality (AR) or Mixed Reality (MR) for customer support.

In summary, new ideas for using Metaverse include Virtual product demos/product showcases, networking events, Office/Factory tours, Metaverse advertising, Brand collaborations, Metaverse relationship development, Metaverse hiring, and so on.

- The other major ideas using Metaverse for B2B Sales (Excerpted)
    - Create virtual salesrooms and host virtual product launches.
    - Increased collaboration and networking opportunities.
    - More immersive customer experiences.
    - It enables businesses to expand their reach while maintaining social distancing standards and keeping costs.
    - The ability of AR and VR to facilitate interaction and collaboration in immersive virtual environments has wide-ranging benefits for productivity, creativity, and teamwork, making them valuable tools in modern work settings.
    - A particular domain could be created for the company where we can utilize metaverse and relate easily with our customers, it will excite customers to want to get involve with our company.
    - Advertising it through the media and showing people how it really works.
    - Allowing customers to see all of our items at the same time like in a warehouse virtually.
    - An example can be BMW's factory digital twin, they use Nvidia's Omniverse to build factories. It shows the capabilities of there factories and such. It also shows the scale of how the business is performing, which is convenient.
    - An obvious use case for the metaverse is gathering a community of business leaders and having a shared experience.
    - AR seems to be the best use of technology in this industry to enhance what associates are seeing as they work.

- At any job interview, the interviewer is aiming to answer three basic questions about the candidate: are they capable of doing the job (IT competency), why they want the job (motivation) and whether they fit into the organisation (alignment).
- Augmented reality is that aspect of the Metaverse that gives new eyes to see the material world in an entirely different way.
- Brand Presence and Marketing: Establishing a presence in the Metaverse can be a forward-looking marketing strategy.
- Clients can give us feedback on what can improve through metaverse.
- Create virtual product configurators: Metaverse product configurators allow customers to design and customize products in real time. This can help customers to better understand the products they are buying and to make more informed purchasing decisions.
- Especially when we are in the building and design phase for new exhibits, I think this could be used to simulate a new exhibit where people would be able to create and collaborate on the new design before moving into breaking ground.
- Everyone feels virtual reality experience due to our practical show of my company ideas.
- Give an idea about the size of items.
- Give some offer for all product . That is easy way to attract people.
- Having a mixed reality system display how our products work will be very impressive for our prospects or future customers.

- I could see it being used for concept art to get a more physical feel of what a new product could be like without having to expend resources to make the physical concept.
- The Construction industry has been pushing towards BIM technologies and we are starting to see a surge of the medium and smaller players get more immersed in VR and AR.
- Maybe to show the client a couple of ways I could do something to clarify I am on the same page as them.
- Client having telehealth consultation, some might enjoy an AR session to be more immersive. Perhaps application with exposure therapy from trauma victims as well.
- I might find clients in social settings and parties in the Metaverse.
- I think a lot of focus on demonstrating demos and prototypes to let our partners see stuff early without sending hardware.
- I think Metaverse can be used for marketing and sales. With meta verse you could have meetings without being present that feel like you're face to face.
- I think Metaverse would be good for training future employees and showing layouts to locations that wee support remotely.
- I think our hotels could use this as a method of giving tours around the city and even around the hotel.
- I think that it could be used to give a guided tour of a product or service with real-time interation.
- I think that it would be a great way to network with other creators and businesses. Sometimes it can be really hard to find someone

who has your same vision, but in this setting, like minded individuals can easily interact with one another and play around with ideas and concepts in real time. Plus, your able to create orders for items you don't even have in your possession and showcase them. This allows you to determine the true demand for a product or service.

- I think virtual reality would be the most beneficial as it helps visualize and experience virtual environments conveniently.
- I work in the building trades so it would be useful to share applications and installations with customers with VR.
- I would say allowing people to walk into a virtual warehouse to see our product line.
- In general this could bring a wider audience of consumer that may not be able to attend a global or even national product. It can also show potentially more of what one company has to offer. Time can also be reduced for travel and transactions.
- It can help us a lot with showing key features that are a bit hard to show in basic 2D or over the phone.
- It could demonstrate specific mechanisms of machines.
- It could sell tickets to specific shows and galleries with a msteverse preview of the gallery and the art within. A Metaverse guided tour for example.
- It enabled people to access experiences that were once out of reach due to factors such as high costs, long distances, or physical

limitations. The world is becoming more inclusive thanks to the power of.

- It might be helpful to have meeting room like environments as an alternative to Zoom meetings.
- It seems that AR/MR/VR is a cool tech gadget looking for a market. Until businesses see demand for it among their customers, it will not take off. Customer demand causes the market to grow, not business interest. (There is no business interest without customer demand.)
- It would be a fantastic way to setup a group meeting with current customers to see what needs they have and what possible solutions they are looking for.
- It would be a great way to teach new employees the company structure.
- It would be great to have the ability to network and conference in the Metaverse.
- Leveraging the Metaverse for B2B sales involves creating virtual showrooms, interactive product demos, and customizable avatars to enhance client engagement. Additionally, businesses can utilize virtual collaboration spaces, host networking events, and conduct training sessions, all while benefiting from real-time data analytics and secure transactions powered by blockchain technology. Gamified marketing campaigns and language translation services further enrich the B2B experience, fostering meaningful interactions and driving business growth.

- Metaverse as also help making the world a small place to relate with customers, we can now show out good to everyone without them having to come to the store to see.
- Metaverse has really supported in making the world a small place, in the sense that we can easily reach out to our customers without having to meet with them one on one. Communications has become more easier and customers can get to see the overview of what they want .
- Metaverse promises to be the most advanced tool for B2B communication to date and appears to be limitless in its potential to be fully integrated into today's B2B Marketing. Metaverse will propel B2B marketing to new heights.
- Mixed reality applications use virtual spaces in which both local and remote users can collaborate. In most cases, such space would contain a photospherical background image or video stream of a real location in which users are placed, and optionally such data as real-world coordinates and the time and date of when the space was created.
- Modeling building utilities for clash detection and potential Construction issues.
- Mostly just for demonstration of plans for customers.
- My content is sold to many businesses through multi-level channels and distributors. Those companies and distributors are operating in the real world. Only if or when they switch tot he metaverse will I consider how to work within that market.

- Our company is in marketing services for clients. If clients are advertising in the metaverse, we would be able to apply our services for marketing analytics for their ads
- Perhaps at the managment and planning level of special events this could be helpful but at my staff level I'm not sure how this could be applied.
- Providing QR codes that take you into different augmented spaces.
- Putting the business in a new era in front of the competition first. Capitalizing on sales before anybody else in the industry.
- Seems the possibilities will be endless with AI advancements
- Sharing of ideas is important for B2B Sales for all different companies.
- The digital twin option may be helpful as it can show a virtual in depth visual of my products.
- The effectiveness of hosting events in the metaverse for B2B sales will likely depend on the industry, target audience, and the specific goals of the company. It's essential for organizations to carefully assess the benefits and challenges before deciding to transition to virtual events in the metaverse.
- The other ideas in using Metaverse for B2B sales include a wide variety of phenomena.
- They can also sell products through these for the clients to use and do business and whatever they can do on these to do business with the company instead of having to come see the company itself in person.

- They showcase the product to customers.
- To sell to consumers by visually showing them what something would look like prior, there's apps already doing it for construction.
- To use different ordering and delivering options.
- Troubleshooting the product and how to use it correctly can be a good option too.
- Use virtual reality in advertising to increase public perception and engagement.
- Users need to be able to generate virtual currency for simply participating in events or just playing the game. This incentivizes more playtime and more purchases.
- Using a Customer Support text module with AI could be helpful for B2B sales if something of that nature was implemented into the Metaverse.
- Using it as a demo station for customers who can not physical attend in order to see the product.
- Virtual environments provide unique communication tools, including spatial audio and visual cues, that mimic real-world interactions. This enhances the sense of presence and helps convey information more effectively, especially in scenarios where body language and spatial awareness are crucial.
- Virtual meetings, advertising, product or service demonstrations.
- Virtual product demos: Businesses can use the metaverse to create virtual product demos that allow potential customers to explore

and interact with their products in a realistic way. This can be especially helpful for products that are difficult or expensive to ship to potential customers, or for products that require complex assembly or operation.

- Virtual reality of the future positive impacts of collaboration. For example a virtual reality presentation showing the positive effects in augmented reality for the client or Business when they use your service.
- Virtual Reality Sales pitch: You could have a conference room where you meet with clients and describe your product, espically in this age where work is done virtually, you would have the opporutnity to meet with clients, and have a personalized expereience.
- Virtual Sales Meetings and Networking Events: Use the Metaverse to host virtual sales meetings and networking events where participants can interact in a more personal and engaging way than traditional video calls. This environment can replicate the nuances of in-person interactions, such as private conversations and informal networking, making it an excellent tool for building and maintaining business relationships.
- Collaborative Product Design and Prototyping: The Metaverse can enable real-time collaboration on product design and prototyping across different geographic locations. Teams from various companies can come together in a virtual space to co-design products, view prototypes in 3D, and make immediate revisions,

speeding up the development process and fostering collaborative innovation.

- VR would be useful for selling and promoting video games.
- We might be able to introduce new products in this manner.
- We use it for customers comfortability and also to make the work easier on our workers.
- You could use the metaverse to train employees on certain things like operating machinery.

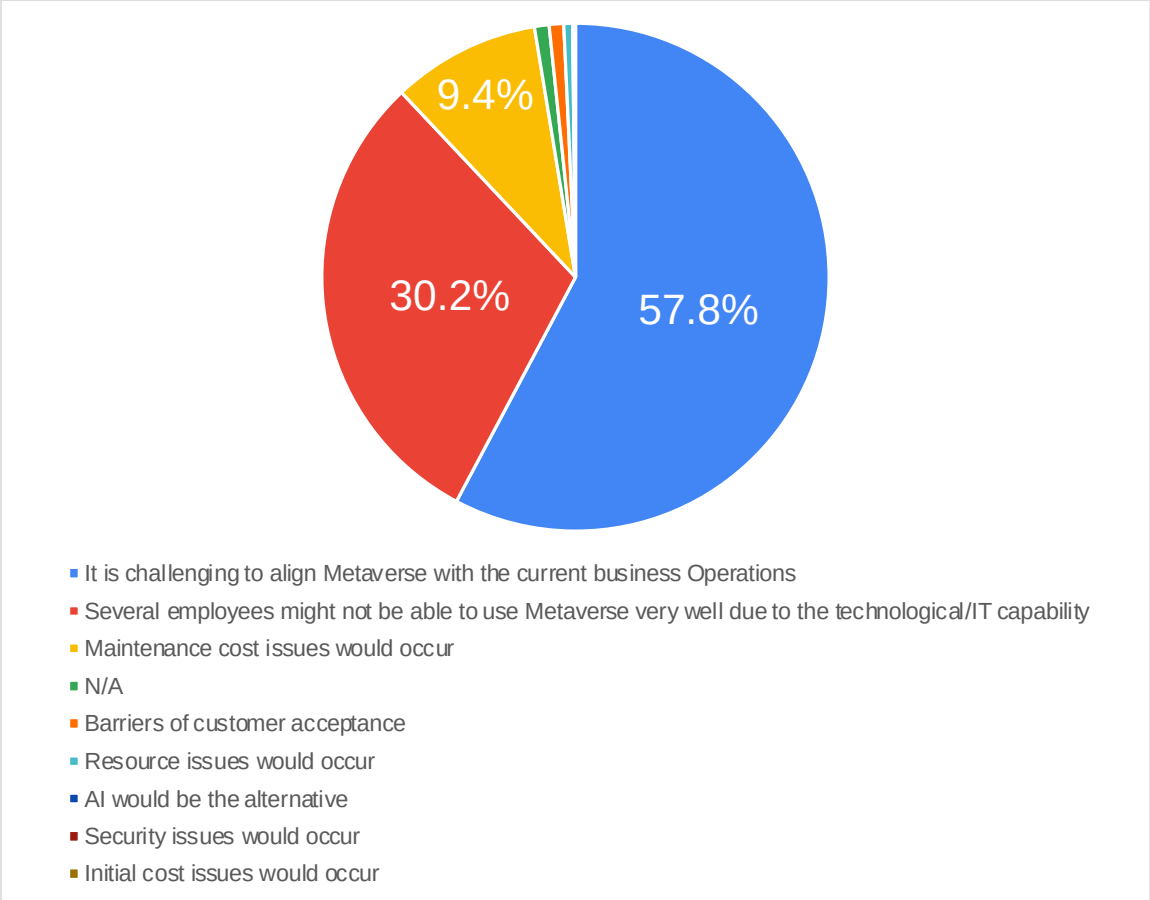
4.17 Research Question 20

The question is below.

- Q20: What would be the assumed barriers/issues if your company uses Metaverse? (Multiple answers allowed)

Regarding the result, based on Figure 67, the assumed barriers/issues for using Metaverse in survey respondents' company is the following.

Figure 67 – Survey Result (Q20)



- It is challenging to align Metaverse with the current business operations: 312 respondents (57.8%)
- Several employees might not be able to use Metaverse very well due to the technological/IT capability: 163 respondents (30.2%)
- Maintenance cost issues would occur: 51 respondents (9.4%)
- Barriers of customer acceptance: 5 respodents (0.9%)
- Resource issues would occur: 3 respodentns (0.6%)
- AI would be the alternative: 1 respodentns (0.2%)
- Security issues would occur: 0 respondent (0.0%)

- Initial cost issues would occur: 0 respodnent (0.0%)
- N/A: 5 respondents (0.9%)

Based on Figure 67, approximately 58% of respondents think it is challenging to align Metaverse with the current business operations, and approximately 30% of respondents think several employees might not be able to use Metaverse very well due to the technological/IT capability. It shows the alignment and capability of employees could be potential root issues.

Figure 68 – Cross-Sectional Analysis (Industry & Assumed barriers/issues) (Excerpted)

Count of Timestamp	Column Labels	
Row Labels	It is challenging to align Metaverse with the current business Operations	Several employees might not be able to use Metaverse very well due to the technological/IT capability
Manufacturing Machinery	62	23
Industrial Machinery	34	33
Electronics	33	25
Food & Beverages	26	19
Medical	21	9
Customer Support/ Advisory	21	8
Factory Automation	20	6
Automotive	13	11
Textiles	8	1
IT	5	4
Retail	5	4
Education	8	1
Freelance	4	2
Construction	4	1
Chemicals	4	2
Insurance	3	1
Nonprofit	2	1
N/A	2	
Finance/Accounting	2	
Energy	1	2
Advertisement	2	
Tourism	3	
Government	2	1
Healthcare	3	
Homemaker		
Student	2	
Engineering	1	1
Agriculture		2
Transportation	1	1
Accounting	1	
Media		
Psychology		
Furniture		
Animal rescue		
Computer Science	1	
Entertainment	1	
Hospitality	1	
Raw materials		1
Contracting		1
Security		
Customer Support	1	
Textbooks	1	
Art & Design	1	
Carpentry	1	
Journalism	1	
Public service	1	
Legal	1	
Real estate	1	
Data Analytics		
Sales		1
Marketing	1	
Small business	1	
Utilities		1
Telecommunication	1	
Wellness/Fitness		
Entertainment	1	
Events		1
Content creation	1	
Business management and administration.	1	
Personal services		
Writer		
Arts and Media	1	
Administration	1	
(blank)		
Grand Total	**312**	**163**

In addition, Figure 68 is the excerpted result of a Cross-Sectional Analysis between Q1 (Industry) and Q20 (Assumed barriers/issues for using Metaverse). Based on Figure 68, the many respondents think that it is challenging to align Metaverse with the current business operations, and several employees might not be able to use Metaverse very well due to the technological/IT capability in the research priority industries, including Manufacturing Machinery, Industrial Machinery, Electronics, Food & Beverages, Medical, Factory Automation, and Automotive as below.

- It is challenging to align Metaverse with the current business operations
    - Manufacturing Machinery: 62 respondents (11.5%)
    - Industrial Machinery: 34 respondents (6.3%)
    - Electronics: 33 respondents (6.1%)
    - Food & Beverages: 26 respondents (4.8%)
    - Medical: 21 respondents (3.9%)
    - Factory Automation: 20 respondents (3.7%)
    - Automotive: 13 respondents (2.4%)

- Several employees might not be able to use Metaverse very well due to the technological/IT capability
    - Manufacturing Machinery: 23 respondents (4.3%)
    - Industrial Machinery: 33 respondents (6.1%)
    - Electronics: 25 respondents (4.6%)
    - Food & Beverages: 19 respondents (3.5%)
    - Medical: 9 respondents (1.7%)

- Factory Automation: 6 respondents (1.1%)
- Automotive: 11 respondents (2.0%)

Figure 69 – Cross-Sectional Analysis (Employment Status & Assumed barriers/issues)

Count of Timestamp	Column Labels			
Row Labels	Full-time	Part-time	Retired	Grand Total
It is challenging to align Metaverse with the current business Operations	270	39	3	312
Several employees might not be able to use Metaverse very well due to the technological/IT capability	143	19	1	163
Maintenance cost issues would occur	35	16		51
N/A	4		1	5
Barriers of customer acceptance	2	3		5
Resource issues would occur	3			3
AI would be the alternative	1			1
Security issues would occur				
Initial cost issues would occur				
Grand Total	**458**	**77**	**5**	**540**

Furthermore, Figure 69 results from a Cross-Sectional Analysis between Q3 (Employment Status) and Q20 (Assumed barriers/issues for using Metaverse). Based on Figure 69, 270 full-time employees (50.0%) think that it is challenging to align Metaverse with the current business operations as assumed barriers/issues, and 143 full-time employees (26.5%) think that several employees might not be able to use Metaverse very well due to technological/IT capability as assumed barriers/issues.

Figure 70 – Cross-Sectional Analysis (Division/Department & Assumed barriers/issues) (Excepted)

Count of Timestamp	Column Labels	
Row Labels	It is challenging to align Metaverse with the current business Operations	Several employees might not be able to use Metaverse very well due to the technological/IT capability
IT	84	41
Marketing	59	39
Customer Support	41	18
Sales (Inside Sales)	35	23
Sales (Field Sales)	41	22
Manufacturing	15	8
Operations	6	1
Finance/Accounting	2	2
Executive	2	
N/A	2	
Admin	2	1
Freelance	2	
Teacher	3	
Healthcare	2	1
HR	2	
R&D		2
Project Management	2	
Accounting		1
Engineering		
Carpentry	1	
Quality Control	1	
Product	1	
Investigations		1
Construction		1
Consulting	1	
Owner		1
Law	1	
Homemaker		
Retail	1	
Hospitality	1	
Business controller	1	
Business development		1
Content creation	1	
Security	1	
Contract work	1	
Writing		
Assistant	1	
Distribution		
(blank)		
Grand Total	**312**	**163**

Moreover, Figure 70 results from a Cross-Sectional Analysis between Q4 (Division/Department) and Q20 (Assumed barriers/issues for using Metaverse). Based on Figure 70, the major respondents who think that “It is challenging to align Metaverse with the current business operations” and “Several employees might not be able to use Metaverse very well due to technological/IT capability as assumed barriers/issues” are

mainly working in the priority segments for this research, including Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales) as below. To use Metaverse, solutions for the alignment with the current business operation and enhancement of the technological capability of staff are the key to success.

- It is challenging to align Metaverse with the current business operations
    - Marketing: 59 respondents (10.9%)
    - Customer Support: 41 respondents (7.6%)
    - Sales (Field Sales): 35 respondents (6.5%)
    - Sales (Inside Sales): 41 respondents (7.6%)

- Several employees might not be able to use Metaverse very well due to the technological/IT capability
    - Marketing: 39 respondents (7.2%)
    - Customer Support: 18 respondents (3.3%)
    - Sales (Field Sales): 23 respondents (4.3%)
    - Sales (Inside Sales): 22 respondents (4.1%)

Figure 71 – Cross-Sectional Analysis (Position & Assumed barriers/issues)

Count of Timestamp	Column Labels				
Row Labels	Management	Staff	Executive	Contractor	Grand Total
It is challenging to align Metaverse with the current business Operations	138	100	70	4	312
Several employees might not be able to use Metaverse very well due to the technological/IT capability	105	37	20	1	163
Maintenance cost issues would occur	23	19	8	1	51
N/A	3	2			5
Barriers of customer acceptance	2	3			5
Resource issues would occur		1	1	1	3
AI would be the alternative			1		1
Security issues would occur					
Initial cost issues would occur					
Grand Total	**271**	**162**	**100**	**7**	**540**

Also, Figure 71 results from a Cross-Sectional Analysis between Q6 (Current Position) and Q20 (Assumed barriers/issues for using Metaverse). Based on Figure 71, 138 Managements (25.6%) think that “It is challenging to align Metaverse with the current business operations” as assumed barriers/issues, and 105 Managements (19.4%) think that “Several employees might not be able to use Metaverse very well due to technological/IT capability” as assumed barriers/issues. On the other hand, most of all Staff (100 Staff / 18.5%) think that “It is challenging to align Metaverse with the current business operations” as assumed barriers/issues. It would be assumed that Staff are specialists in their day-to-day operations, and they might think that using Metaverse for their operation would be a long way off.

4.18 Research Question 21

The question is below.

- Q21: Please describe the further barriers/issues after your company determined to use Metaverse.

The following is the excepted feedback from the survey respondents regarding the further barriers/issues for using Metaverse. In summary, the further barriers/issues for using Metaverse include technical barriers, privacy/security issues, regulatory compliance, high development costs, accessibility considerations, content moderation, standardization issues, cultural/ethical considerations, adoption and the learning curve (especially for old employees), hiring issues, and hardware and software requirements.

- Further barriers/issues for using Metaverse (Excerpted)
    - A lot of people in my company are older, so they have a hard time adapting to new tech. The prefer the old way.
    - Adjustment period.
    - Adopting metaverse technologies in a company introduces several challenges, including integration complexity, Advertisementand privacy concerns, high development costs, accessibility considerations, content moderation, standardization issues, regulatory compliance, cultural and ethical considerations, and the need to address user adoption and the learning curve. Successfully navigating these barriers requires a strategic approach, investment

in technology and talent, adherence to privacy and Advertisementmeasures, and staying abreast of evolving industry standards and regulations.

- Adoption of new technology needs a broader knowledge base for individuals who are new to innovations such as the AI, AR, VR and MR.
- Advertisement concerns, Legal/Ethical Issues, and Accessibility.
- After a company decides to use the metaverse, potential barriers and issues include IT challenges in integrating with existing systems, Advertisementand privacy concerns, user adoption and training challenges, content management and moderation issues, legal and regulatory compliance considerations, cost management, interoperability challenges, community building and engagement, cultural inclusivity concerns, and the need to keep up with the rapid evolution of metaverse technologies. Successful implementation requires addressing these challenges with a comprehensive strategy, ongoing evaluation, and adaptability to the evolving metaverse landscape.
- As virtual real estate, digital assets and personal avatars expand, new risks are emerging for businesses, technology developers and insurers. Risks to consider include liability, data Advertisementand privacy issue.
- Attaining buy in from leadership and customers.

- B2B marketers will be able to speed up the buying process by creating immersive buyer experiences in the metaverse. Virtual events, conferences, and so on.
- Children learn best with face to face teaching methods not in the Metaverse.
- Client apprehension.
- Client may have issues transitioning.
- Cost is a big issue as well as the learning curve for new technology.
- Cost would be prohibitive.
- Costs associated with startup especially with the economy the way it is, in a downward trend.
- Costs that come with using it.
- Costs to input data into the system. Clients may not want to pay the addition cost.
- Customers prefer a physical demonstration.
- Decreasing revenues due to condition of national economy.
- Each state has very strict requirements and rules about what Insurancecompanies are allowed to do - I don't know if they would allow this.
- Technical barriers, limited access to technology, concerns around privacy and security, and regulatory compliance.
- Employees might not be able to use because they were not use it before or else may be the lack of knowledge.
- Employees might not have the IT skills to navigate the metaverse.

- Employees will require training to be able to use the Metaverse effectively.
- Expensive, confusing, and most likely will not work for us.
- Extra overhead that may not be necessary.
- Full implementation requires business partners like architects, electricians, etc to participate and provide the plans necessary in the format required so we can build our models properly. This can be a challenge when working with smaller companies who lack those capabilities and still work with older methods.
- Further barriers include the mistakes that come from using the metaverse that could be hard to fix.
- Hacking will be a big issue if our system is been hacked, some individual might be using the opportunity to scam customers.
- Hard to implement and can be costly.
- The adoption of the metaverse is not without its challenges and hurdles, including IT barriers, limited access to technology, concerns around privacy and security, and regulatory compliance.
- I assume most employees are not familiar with Metaverse.
- I believe that it might prove tough to show people how to use the tech in general.
- I cannot see much use of Metaverse AR/MR/VR for the business I currently run, as I am comfortable running it myself using online sites and Excel sheets.
- I do not have the knowledge or experience to handle or use it effectively.

- I do not know how much Metaverse costs, and we have a very fixed budget so if it cost a lot monthy/ yearly then we would have to fundriase for it, since it is not in our current budget projections.
- I think its a long ways until Metaverse is utilized because a lot of people are against change and people like to stick to what works. I think the biggest problem is adjusting to it and developing the technology to the point it needs to be to succeed for it to be adapted as the norm.
- I would think many folks might be off put or intimidated by this or feel it was inauthentic.
- I would say most barriers involve our mostly older staff not being comfortable with newer technology along with any type of costs which could get out of hand.
- Increased costs and practicality of fitting these elements into my field.
- IT Challenges: Ensuring the robustness, scalability, and Advertisementof the Metaverse infrastructure can be daunting. Issues like data privacy, cyberAdvertisementthreats, and maintaining a seamless, glitch-free virtual environment need considerable attention and resources.
- Hardware and Software Requirements: The need for specialized hardware and software to access and effectively utilize the Metaverse can be a barrier. This includes powerful computers, VR headsets, and other peripheral devices, which might involve significant investment from the company and its B2B clients.

- It could turn off customers who are not tech savvy.
- It does not blend well into my company.
- It is expensive.
- It is new technology. Some people are not comfortable with the internet use/computer use in my company. They are not as tech savvy. It would also require maintenance with someone that is aware of how the metaverse works. It would be a lot to learn altogether.
- It is not necessary and might even change how our costumers view us, maybe even as less capable.
- It is pricey and not an industry that is tapped into.
- It is too easy for people to get distracted. To engage in, what we call, "time wasting" behaviours. And, frankly: we just do not like Facebook's penchant for disrespecting people's privacy. In spite of its being a multi-billion dollar company. Behind every great fortune lay even greater crimes, they say.
- It just is not the norm right now.
- It may cost more money to use it.
- It might be a barrier if the technology does not work in the way intended.
- It might be too expensive and costly.
- It would be a bit challenging to implement it across multiple locations.

- It would be difficult to get people to trust a virtual demonstration over something that is done in real life, as you could doctor things or not show the true extent of the machine's weak points.
- It would be difficult to provide visuals for our services that would make sense in this environment.
- It would cost a little more to obtain a virtual reality product and to maintain the product for company use.
- It would have to be monitored and responded to.
- It would not attract enough people.
- It is mostly older employees who were not as tech savvy or adapted to the 'hybrid' work/home life-style most businesses have adjust to after the COVID-19 pandemic, in addition to examples of those who are used to working in-person instead of working entirely remotely.
- It is just not necessary in our industry.
- Just costs at this time. I can not think of any other ones.
- Just mainly need a change in demographic. It is being used on a limited basis mainly driven by other businesses and not my own (we are being dragged along). Once our younger staff starts taking leadership roles I believe it will become more prevalent.
- Key barriers/issues may include IT complexity, Advertisementand privacy concerns, user adoption and familiarity challenges, content creation and management difficulties, as well as the need for governance and standards.
- Lack of customer interest could be a barrier to some.

- Lack of knowledge, people not related to technology.
- Learning when and how to use Metaverse may take time.
- Maintenance and cost and overseeing the virtual products may be time consuming and unaffordable at the moment.
- Manpower using metaverse reality is not enough and cost.
- Many might be slow to adopt Metaverse for B2B Marketing or lack trust in it. I would say that acceptance, if slow would prove to be a barrier.
- Many people will not be able to buy/maintain the equipment.
- Might be too expensive and pricey for a small company to keep up with.
- No one uses the Metaverse currently. It would be pointless.
- Nobody cares about AR in my industry.
- Not everyone is good with technology so would have to be trained how to use it.
- Older employees might have a harder time.
- Older workforce does not get along well with technology.
- One barrier or issue is that we use old technology or we use things that could be improved, but since it's a lot to learn for other people, it will be difficult or might take years to implement using metaverse.
- Our internet connection is not the best in a large facility, we also have some senior employees who are not too good with technology.
- Resource issues and customer hesitation.

- Sales efforts would be less efficient.
- Several employees might not be able to use Metaverse very well due to the technological/IT capability.
- Simply reminding the employees that it is now an option.
- Some customers might not be ready for the new technology.
- Some people will not be used to the new technology yet.
- The bandwidth needed to complete jobs in the Metaverse is probably greater than the current amount. The network may not be able to sustain many users of this tech simultaneously.
- The biggest issue is just getting the older management in the company to see the benefits of the metaverse.
- The costs are too high to make it practical for some businesses.
- The equipment cost might be a barrier.
- The maintenance cost issues would be the main barriers/issues.
- The Metaverse is a solution in search of a problem. I think it will be limited to children's video games; efforts to bring it into the work world are pointless.
- The metaverse needs to evolve. People need an easy way to access from computer or phone.
- The only barrier I can see is that some people may not be able to use it to well. But you can always make it easy for them to learn.
- The platform is ever changing. Not sure if I could justify the expense.
- The platforming, as proved by cryptocurrency, is too unstable.
- The time to build a metaverse business is substantial.

- The upkeep can be costly.
- The whole idea of metaverse might be challenging for so many people give the fact that many people are skeptical of new technologies.
- There is no reason for our company to use Metaverse. There is unfortunately a high potential for bullying, harassment, and assaults in many different environments. It's important to take steps to prevent these behaviors from occurring and to create a safe and welcoming space for everyone.
- There would be an almost impossible or too expensive setup and integration process.
- Too difficult to use or implement right not coming off of the pandemic lockdown.
- Using these methods of engagement can culminate in sales.
- Waste of resources and time because it is not needed.
- We as a company have yet to repair the meta verse as a option so we need help starting the process.
- We do not want to invest money in it, and our customers are older will not be computer proficient.
- We do not have enough IT workers to handle the technology.
- We do not have people who have experiences of VR.
- We have an older workforce in areas who are not technologically savvy.
- We have employees in several locations and some in different cities.

- We would have to hire another staff member and I do not see that happening anytime soon. We also have some older members of management who are hesitant about taking risks when it comes to Metaverse.
- We have found that older generations are not comfortable with the technology and as a result are hesitant to even try using it.
- With all new technologies, there is a learning curve to figure out how to use the technology most efficiently.
- You would have to have tech literate employees with advanced knowledge.

4.19 Research Question 22

The question is below.

- Q22: If you have any suggestions or ideas, please kindly let me know.

The following is the excepted further suggestions, ideas, and feedback for this research from the survey respondents. In summary, there are several feedback regarding the user-friendly, effective fields which Metaverse can be applied well, and encouragement for this research and study.

- Further suggestions, ideas, and feedback for this research from the survey respondnets (Excerpted)
  - Using Metaverse for advertisements are effective.

- As virtual real estate, digital assets and personal avatars expand, new risks are emerging for businesses, technology developers and insurers. Risks to consider include liability, data Advertisementand privacy issues.
- User-friendly is important for the penetration of the Metaverse solutions.
- I can easily see the potential for using Metaverse for business specifically for sales activities.
- I cannot think of anything other than I think that companies should invest in VR/AR/MR to maximize sales.
- It is a great concept. I used a VR today with an architect company. They were showing how our future building would look. The building is not built yet but the VR gave us a tour of what to expect.
- Really interesting study, please if you are okay with that I would like to read the results of this study.
- Thank you for the opportunity to share my opinions.
- I really enjoyed participating. When I pitch Financial Services to other businesses I would like to try something new and different like the ideas above however I feel they should expand to businesses outside of product sales to services more.
- The gaming community has tried to establish a market for this technology, but the hardware remains too expensive for widespread adoption.
- This is a good study on new sales technology.

- Using these methods of engagement can culminate in sales.

4.20 Conclusion of Survey Questions

The following is the summary of the conclusion through survey questions.

- The major respondents (67%) interested in using Metaverse for B2B Sales activities are working in the research priority manufacturing industry, including Manufacturing Machinery, Industrial Machinery, Electronics, Food & Beverages, Medical, Factory Automation, Automotive, and Textiles. These industries have a high affinity with using Metaverse.
- The major respondents (58%) who work in Marketing, Sales (Field Sales), Sales (Inside Sales), and Customer Support divisions are interested in using Metaverse. There is a high affinity between Metaverse and B2B sales activities (including Marketing, Sales, and Customer Support).
- The major respondents (39.6%) who are interested in using Metaverse for B2B Sales activities are working in a Management position.
- Approximately 62% of respondents expect to use Metaverse in B2B Sales as usual in their industry/company within 3 years. Many respondents expect to use Metaverse in B2B Sales as usual within 2-3 years in their industry.
- Approximately 40% of respondents think Augmented Reality (AR) improves B2B Sales activities in their industry/company. The total coverage of Augmented Reality (AR), Mixed Reality (MR), and Virtual

Reality (VR) is approximately 86.7% of respondents. Based on the research hypothesis, AR, MR, and VR are the prioritized technologies, so the hypothesis for these Metacerse-related technologies is proven with these survey results.

- 64.8% of respondents think the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales in the survey respondents' industry/company.
- 72.0% of respondents think showing how the product/service works through AR or MR is effective for B2B Sales in the survey respondents' industry/company.
- 67.0% of respondents think using Augmented Reality (AR) or Mixed Reality (MR) for customer support is practical in B2B Sales in survey respondents' industry/company.
- Approximately 58% of respondents think it is challenging to align Metaverse with the current business operations, and approximately 30% of respondents think several employees might not be able to use Metaverse very well due to the technological/IT capability. It shows the alignment and capability of employees could be potential root issues.

CHAPTER V:

DISCUSSION

5.1 Discussion of Results

As mentioned in the previous chapter, 540 respondents from the USA, Canada, France, Germany, the Netherlands, New Zealand, Singapore, Indonesia, Malaysia, India, and Japan responded to 22 survey questions. The “Result/Fact of Each Item” and “Result of the Cross-Sectional Analysis” are described in the previous chapter. In this chapter, the summary of insights for each survey question item is provided.

5.2 Discussion of Research Question 1 & 2

In Q1 and Q2, survey respondents answered which industry they are currently working in.

Over 67% of respondents are working in this research priority, including Manufacturing Machinery, Industrial Machinery, Electronics, Factory Automation, and Automotive industries. Therefore, the results of this survey from these clusters would be meaningful in validating the research hypothesis.

5.3 Discussion of Research Question 3

In Q3, survey respondents answered what their current employment status is.

Based on this result, 84.8% of respondents are currently working as full-time employees. In addition, the major respondents (approximately 61.3% in total) are Full-

time in the research priority industries, including Manufacturing Machinery, Industrial Machinery, Electronics, Factory Automation, and Automotive industries. Therefore, these respondent samples are sufficient for the analysis.

5.4 Discussion of Research Question 4 & 5

In Q4 & Q5, survey respondents answered what sort of division/department they are in.

In this research, the priority target respondents are the employees in the Marketing, Sales (Field Sales), Sales (Inside Sales), and Customer Support departments, and the coverage by these departments is 58.0% in total. The respondents are scattered in each priority industry and department such as the Manufacturing Machinery industry & Marketing department, Industrial Machinery industry & Customer Support department, etc. Also, the major respondents are Full-time in the research priority departments, including Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales). Therefore, these respondent samples are sufficient for the analysis.

5.5 Discussion of Research Question 6 & 7

In Q6, survey respondents answered what their current position is.

In this research, the priority target respondents are Management and Executive, and the coverage by these positions is 68.7% in total. The major respondents are Management and Executives in the research priority manufacturing industry, including

Manufacturing Machinery, Industrial Machinery, Electronics, Factory Automation, and Automotive. The major respondents are Management and Executives with full-time employees, which is the research priority. Moreover, the major respondents are Management and Executives with the Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales) divisions/departments, which are the research priorities. Therefore, these respondent samples are sufficient for the analysis.

5.6 Discussion of Research Question 8

In Q8, survey respondents answered whether they are interested in using Metaverse for B2B Sales activities in their industry/company.

Most survey respondents (63.5%) are interested in using Metaverse for B2B Sales activities. The major respondents who are interested in using Metaverse for B2B Sales activities are working in the research priority manufacturing industry, including Manufacturing Machinery, Industrial Machinery, Electronics, Food and beverages, Medical, Factory Automation, Automotive, and Textiles. This means that both the Manufacturing Machinery industry and the Industrial Machinery industry have a high affinity for using Metaverse.

Also, the major respondents who are interested in using Metaverse for B2B Sales activities are working full-time. As full-time employees usually have more knowledge and experience in their industry and business than part-time employees, Metaverse could be a possible solution for B2B Sales activities.

Moreover, the major respondents interested in using Metaverse for B2B Sales activities are working in the priority segments for this research, including Marketing,

Customer Support, Sales (Field Sales), and Sales (Inside Sales). This research hypothesizes that there is a high affinity between Metaverse and B2B sales activities (including Marketing, Sales, and Customer Support), so this hypothesis is totally validated by this survey results.

The major respondents (39.6%) interested in using Metaverse for B2B Sales activities are working in the Management position. It would be assumed that the management thinks they need to transform their business using cutting-edge technologies due to the recent VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business environment. On the other hand, approximately 18.9% of the survey respondents are working as staff and are not interestd in using Metaverse for B2B Sales activities. They are specialists in their day-to-day operations, and they might think that using Metaverse for their operation would be a long way off. Therefore, filling a gap between management and staff when using Metaverse for B2B sales activities is critical for implementation.

5.7 Discussion of Research Question 9

In Q9, survey respondents answered why or why not they are interested in using Metaverse for B2B Sales activities in their industry/company.

The major positive reasons that they are interested in using Metaverse for B2B Sales activities in their industry/company are below.

- Metaverse provides a dynamic and immersive platform for B2B companies to engage with potential clients, which allows virtual product demonstrations, interactive experiences, and personalized simulations, businesses can create a captivating environment that captures customers'

attention and enables them to explore products or services in greater depth. This heightened engagement fosters a stronger connection between businesses and clients, increasing brand awareness and potential sales.

- Metaverse is important for organizations as it revolutionizes collaboration, communication, and business conduct. Embracing the metaverse can increase efficiency, creativity, and a competitive edge in the modern digital landscape.
- Metaverse provides opportunities for virtual trade shows, immersive product demonstrations, global reach, collaborative workspaces, training, enhanced communication, brand engagement, data analytics, and innovative marketing.

The major negative reasons that they are NOT interested in using Metaverse for B2B Sales activities in their industry/company are below.

- Metaverse has not been proven to be reliable in terms of the data collection process, security, and protection of personal information.
- The survey respondents' industry/company needs a very hands-on job with specific tasks that need to be accomplished so that there are few possibilities to use Metaverse.
- The face-to-face interactions are important for customers.

5.8 Discussion of Research Question 10

In Q10, survey respondents answered when they expect to use Metaverse in B2B Sales as usual in their industry/company.

Approximately 62% of respondents expect to use Metaverse in B2B Sales as usual in their industry/company within 3 years. Many respondents expect to use Metaverse in B2B Sales as usual within 2-3 years in their industry, including Manufacturing Machinery, Industrial Machinery, Electronics, and Food & Beverages, which are the research priorities. On the other hand, many respondents who work in the Electronics and Medical industry expect to use Metaverse in B2B Sales as usual for more than 5 years.

Also, 232 full-time employees (43.0%) expect to use Metaverse in B2B Sales within 2-3 years in their industry/company. The major respondents interested in using Metaverse in B2B Sales, as usual, are working in the priority segments for this research, including Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales) as below. Also, the survey respondents in Marketing, Sales (Field Sales), and Sales (Inside Sales) expect to use Metaverse within the next year or 2-3 years. On the other hand, the survey respondents in Customer Support expect to use Metaverse after more than 5 years. This result shows there is a high affinity between Metaverse and Marketing/Sales divisions in the short term.

In addition, the major Management respondents expect to use Metaverse in B2B within a maximum of 2-3 years. On the other hand, many staff respondents expect to use Metaverse in B2B after more than 5 years. It would be assumed that the Managements think they need to transform their business by using cutting-edge technologies as soon as possible due to the recent VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business environment. Staffs are specialists of their day-to-day operations and they might think that using Metaverse for their operation would be a long way off.

5.9 Discussion of Research Question 11 & 12

In Q11 and 12, survey respondents answered what kind of Metaverse technology can effectively improve B2B Sales activities in their industry or company.

Approximately 40% of respondents think Augmented Reality (AR) improves the B2B Sales activities in their industry/company. The total coverage of Augmented Reality (AR), Mixed Reality (MR), and Virtual Reality (VR) is approximately 86.7% of respondents. Based on the research hypothesis, AR, MR, and VR are the prioritized technologies, so the hypothesis for these Metacerse-related technologies is proven with this survey results. These respondents are in the research priority industries, including Manufacturing Machinery, Industrial Machinery, Electronics, Food & Beverages, Medical, Factory Automation, and Automotive.

Also, 403 full-time employees (74.6%) think the Augmented Reality (AR), Mixed Reality (MR), and Virtual Reality (VR), which are the research priorities, will improve B2B Sales activities. The major respondents who think Augmented Reality (AR), Mixed Reality (MR), and Virtual Reality (VR) improve B2B Sales activities are working in the priority segments for this research, including Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales). Based on the research hypothesis, AR, MR, and VR would be effective in the Marketing, Sales, and Customer Support fields, which is proven by the survey results.

In addition, most Management, Staff, and Executives think Augmented Reality (AR), Mixed Reality (MR), and Virtual Reality (VR) improve B2B Sales activities, as below. The survey results are the same regardless of the current position.

5.10 Discussion of Research Question 13

In Q13, survey respondents answered whether the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales in their industry/company.

64.8% of respondents think the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales in the survey respondents' industry/company. Based on the research hypothesis, the EXPO/Tradeshow in the Metaverse world/environment is effective in the marketing field, so the research hypothesis is proven with these survey results. These respondents are in the research priority industries, including Manufacturing Machinery, Industrial Machinery, Electronics, Food & Beverages, Medical, Factory Automation, and Automotive as below.

306 full-time employees (56.7%) think the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales in the survey respondents' industry/company. The major respondents who think the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales are working in the priority segments for this research, including Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales). Based on the research hypothesis, the EXPO/Tradeshow in the Metaverse world/environment is effective in the marketing field, so the research hypothesis is proven by the survey results.

Also, most of all Managements, Staff, and Executives think the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales as below. Management especially thinks the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales, but on the other hand, over half of the staff do NOT think that. It would be assumed that the Managements need to transform their business by using cutting-edge

technologies as soon as possible due to the recent VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business environment. Staff are specialists in their day-to-day operations, and they might think that using Metaverse for their operation would be a long way off.

5.11 Discussion of Research Question 14

In Q14, survey respondents answered why or why not they think an EXPO or tradeshow in the Metaverse world/environment is effective for B2B Sales in their industry/company.

The major positive reasons why they think EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales in their industry/company are below.

- Metaverse provides an innovative and engaging platform that can attract and retain the attention of industry professionals and decision-makers. By leveraging the immersive and interactive capabilities of the Metaverse, we can showcase our products and services dynamically and memorably, which is often more impactful than traditional digital presentations or static displays.
- The Metaverse environment allows for customization and scalability that are hard to match in physical events. It can create unique, branded virtual spaces that reflect our company's image and values and adapt them as needed for different products or services. This flexibility ensures that each event can offer a fresh and tailored experience for attendees.

- Metaverse transcends geographical and logistical limitations. It enables participants from all over the world to attend without the constraints of travel costs and time. This broader reach increases the potential customer base and enhances networking opportunities with global industry players, suppliers, and partners.

Below are the major negative reasons they think an EXPO or tradeshow in the Metaverse world/environment is NOT effective for B2B Sales in their industry/company.

- There is no replacement for actual human contact in sales. People would not consider a virtual sales expo a serious endeavor.
- The effectiveness of Metaverse EXPOs/tradeshows for B2B sales is still under debate, and they are not yet a viable option.
- There is still a great deal of complexity in terms of the data collection process, security, and protection of personal information.

5.12 Discussion of Research Question 15

In Q15, survey respondents answered whether showing how the product/service works through Augmented Reality (AR) or Mixed Reality (MR) is effective for B2B Sales in their industry/company.

72.0% of respondents think showing how the product/service works through AR or MR is effective for B2B Sales in the survey respondents' industry/company. Based on the research hypothesis, this technology and use cases are effective in the sales field, so the survey results prove the research hypothesis. These respondents are in the research

priority industries, including Manufacturing Machinery, Industrial Machinery, Electronics, Food & Beverages, Medical, Factory Automation, and Automotive.

Also, 339 full-time employees (62.8%) think showing how the product/service works through AR or MR is effective for B2B Sales in the survey respondents' industry/company. The major respondents who think that showing how the product/service works through AR, or MR is effective for B2B Sales are working in the priority segments for this research, including Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales). Based on the research hypothesis, showing how the product/service works through AR or MR is effective in the marketing and sales fields, so the research hypothesis is proven with this survey results.

In addition, most of all, Managements, Staff, and Executives think that showing how the product/service works through AR or MR is effective for B2B Sales. Management especially thinks that showing how the product/service works through AR or MR is effective for B2B Sales, but on the other hand, 46% of staff do NOT think that. It would be assumed that the Managements think they need to transform their business by using cutting-edge technologies as soon as possible due to the recent VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business environment. Staff are specialists in their day-to-day operations, and they might think that using Metaverse for their operation would be a long way off. However, in Q13 (Interest in EXPO/Tradeshow in Metaverse), over 50% of staff responded that they are not interested in EXPO/Tradeshow in Metaverse. Therefore, showing how the product/service works through AR or MR is highly related to staff-level rather than the EXPO/Tradeshow in Metaverse.

5.13 Discussion of Research Question 16

In Q16, survey respondents answered why or why not showing how the product/service works through Augmented Reality (AR) or Mixed Reality (MR) is effective for B2B Sales in their industry/company.

The major positive reasons why showing how the product/service works through Augmented Reality (AR) or Mixed Reality (MR) is effective for B2B Sales in their industry/company are below.

- Enhanced Visualization and Understanding: AR and MR can bring complex products or systems to life in a way that brochures, videos, or traditional 2D images cannot. For example, if we're selling sophisticated machinery, engineering components, or intricate software solutions, AR/MR can visually demonstrate how these products function in a real-world setting. This enhanced visualization aids potential clients in understanding the practical application and benefits of our offerings.
- Interactive Demonstrations: AR and MR allow for interactive experiences where clients can manipulate and explore products virtually. This interactivity not only makes demonstrations more engaging but also helps clients better understand the features and capabilities of our products. For instance, in the case of a piece of machinery, clients could use AR/MR to look inside the machine, understand its mechanics, and see how different parts contribute to its overall functionality.

The major negative reasons why showing how the product/service works through Augmented Reality (AR) or Mixed Reality (MR) is NOT effective for B2B Sales in their industry/company are below.

- A live demonstration would show technological builds far better than a virtual one.
- Although advertising in virtual worlds could be a new venue, using it as a sales tool is entirely different.
- Not many people understand Metaverse, and it would be more effective to continue using traditional methods until it becomes more mainstream.

5.14 Discussion of Research Question 17

In Q17, survey respondents answered whether using Augmented Reality (AR) or Mixed Reality (MR) is practical for customer support in B2B Sales in their industry/company.

67.0% of respondents think using Augmented Reality (AR) or Mixed Reality (MR) for customer support is practical in B2B Sales in survey respondents' industry/company. Based on the research hypothesis, this technology and its use cases are effective in the customer support field, so the research hypothesis is proven by the survey results. These respondents are in the research priority industries, including Manufacturing Machinery, Industrial Machinery, Electronics, Food & Beverages, Medical, Factory Automation, and Automotive.

Also, 322 full-time employees (59.6%) think using AR or MR for customer support is practical for B2B Sales in the survey respondents' industry/company. The major respondents who think using AR or MR for customer support is practical for B2B Sales are working in the priority segments for this research, including Marketing, Customer Support, Sales (Field Sales), and Sales (Inside Sales). Based on the research hypothesis, using AR or MR is practical in the customer support field, so the survey results prove the research hypothesis.

In addition, most of all Managements, Staff, and Executives think using AR or MR for customer support is practical for B2B Sales. Management especially thinks using AR or MR is practical for customer support, but on the other hand, 54.3% of staff do NOT think that. It would be assumed that the Management needs to transform their business by using cutting-edge technologies as soon as possible due to the recent VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business environment. Staff are specialists in their day-to-day operations, and they might think that using Metaverse for their operation would be a long way off.

5.15 Discussion of Research Question 18

In Q18, survey respondents answered why and why not using Augmented Reality (AR) or Mixed Reality (MR) is practical for customer support in B2B Sales in their industry/company.

Below are the major positive reasons why using Augmented Reality (AR) or Mixed Reality (MR) is practical for customer support in B2B Sales in their industry/company.

- Improved Problem Resolution: AR and MR can help customers visualize solutions to their problems in real time. For example, in a scenario where a client faces issues with a complex piece of machinery, our support team can use AR/MR technology to overlay digital imagery and instructions onto the physical equipment, guiding the client through troubleshooting steps or repairs without being physically present.
- Efficient Training and Guidance: These technologies can effectively train clients on new products or updates. By overlaying digital information or demonstrating procedures in a mixed-reality environment, clients can learn how to use or maintain products in a hands-on manner, leading to better understanding and retention of information.

Below are the major negative reasons why using Augmented Reality (AR) or Mixed Reality (MR) is NOT practical for customer support in B2B Sales in their industry/company.

- An expensive cost is required.
- Customer support staff does not understand or have software capable of actually helping end users. It will require more of the younger generation to get on board first.

5.16 Discussion of Research Question 19

In Q19, survey respondents answered the other ideas (except for Q13, Q15, and Q17) using Metaverse for B2B Sales. In summary, new ideas for using Metaverse include

Virtual product demos/product showcases, networking events, Office/Factory tours, Metaverse advertising, Brand collaborations, Metaverse relationship development, Metaverse hiring, and so on.

5.17 Discussion of Research Question 20

In Q20, survey respondents answered what the assumed barriers/issues would be if their company uses Metaverse.

Approximately 58% of respondents think it is challenging to align Metaverse with the current business operations, and approximately 30% of respondents think several employees might not be able to use Metaverse very well due to the technological/IT capability. It shows the alignment and capability of employees could be potential root issues. Many respondents think that it is challenging to align Metaverse with the current business operations. Several employees might not be able to use Metaverse very well due to the technological/IT capability in the research priority industries, including Manufacturing Machinery, Industrial Machinery, Electronics, Food & Beverages, Medical, Factory Automation, and Automotive as below.

Also, 270 full-time employees (50.0%) think that it is challenging to align Metaverse with the current business operations as assumed barriers/issues, and 143 full-time employees (26.5%) think that several employees might not be able to use Metaverse very well due to technological/IT capability as assumed barriers/issues. The major respondents who think that “It is challenging to align Metaverse with the current business operations” and “Several employees might not be able to use Metaverse very well due to technological/IT capability as assumed barriers/issues” are mainly working in the priority segments for this research, including Marketing, Customer Support, Sales (Field Sales),

and Sales (Inside Sales). To use Metaverse, solutions for the alignment with the current business operation and enhancement of the technological capability of staff are the key to success.

In addition, 138 Managements (25.6%) think that “It is challenging to align Metaverse with the current business operations” as assumed barriers/issues, and 105 Managements (19.4%) think that “Several employees might not be able to use Metaverse very well due to technological/IT capability” as assumed barriers/issues. On the other hand, most of all Staff (100 Staff / 18.5%) think that “It is challenging to align Metaverse with the current business operations” as assumed barriers/issues. It would be assumed that Staff are specialists in their day-to-day operations, and they might think that using Metaverse for their operation would be a long way off.

5.18 Discussion of Research Question 21

In Q21, survey respondents answered the further barriers/issues after their company determined to use Metaverse. In summary, the further barriers/issues for using Metaverse include technical barriers, privacy/security issues, regulatory compliance, high development costs, accessibility considerations, content moderation, standardization issues, cultural/ethical considerations, adoption and the learning curve (especially for old employees), hiring issues, and hardware and software requirements.

5.19 Discussion of Research Question 22

In Q22, survey respondents answered any other suggestions or ideas regarding this research. In summary, there is feedback regarding the user-friendly, effective fields in which Metaverse can be applied well and encouragement for this research and study.

5.20 Conclusion & Summary of Findings through Research Questions' Discussion

In conclusion, the following is the summary of findings through the research questions' discussion.

- The major respondents (39.6%) interested in using Metaverse for B2B Sales activities are working in the Management position. It would be assumed that the management thinks they need to transform their business by using cutting-edge technologies due to the recent VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business environment. On the other hand, approximately 18.9% of the survey respondents are working as staff and are not interested in using Metaverse for B2B Sales activities. They are specialists in their day-to-day operations, and they might think that using Metaverse for their operation would be a long way off. Therefore, filling a gap between management and staff when using Metaverse for B2B sales activities is critical for implementation.
- 64.8% of respondents think the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales in the survey respondents' industry/company. Because Metaverse provides immersive and interactive customer experiences with high scalability and without geographical and

logistical limitations. On the other hand, some industries need to keep actual human contact. There is still a lot of complexity regarding the data collection process, security, and protection of personal information.

- 72.0% of respondents think showing how the product/service works through AR or MR is effective for B2B Sales in the survey respondents' industry/company because of enhanced visualization/understanding and interactive demonstrations. On the other hand, in some industries, a live demonstration is required compared to a virtual one. As of now, not many people understand Metaverse, and it would be more effective to continue using traditional methods until it becomes more mainstream.
- 67.0% of respondents think using Augmented Reality (AR) or Mixed Reality (MR) for customer support is practical in B2B Sales in the survey respondents' industry/company because of improved problem resolution and efficient training and guidance. On the other hand, expensive costs are required, and customer support staff does not understand/have software that is capable of actually helping end users. It will require more of the younger generation to get on board first.
- Approximately 58% of respondents think that it is challenging to align Metaverse with the current business operations, and approximately 30% of respondents think that several employees might not be able to use Metaverse very well due to the technological/IT capability. It shows the alignment and capability of employees could be potential root issues.
- The further barriers/issues for using Metaverse include technical barriers, privacy/security issues, regulatory compliance, high development costs, accessibility considerations, content moderation, standardization issues,

cultural/ethical considerations, adoption & the learning curve (especially for old employees), hiring issues, and hardware & software requirements.

- Several feedbacks regarding the user-friendly, effective fields in which Metaverse can be applied well and encouragement for this research and study are provided.

5.21 Overview of Interviews

The following is the overview of the interviews.

- Overview:

  Execute interviews with B2B Marketing and Sales representatives in the manufacturing and related industry who respondend survey questions of this research.

- Purpose:

  Identify the key elements to develop Metaverse services/products for the B2B Sales market. Then, clarify how effectively the current Metaverse services/products for B2C Sales apply to the B2B market.

- Interviewees:

  1. Marketing & Sales Manager at Electronics company in Japan
  2. Sales Manager at Factory Automation company in Japan
  3. Marketing Manager at IT company in the US
  4. Marketing Manager at Finance company in Indonesia
  5. Sales Manager at Medical company in France

- Interview Items:

1. What are the effective Metaverse technologies for improving the B2B Sales activities in the interviewee's industry/company? (such as Augmented Reality (AR), Mixed Reality (MR), Virtual Reality (VR), Non-Fungible Token (NFT), Virtual World, and Digital Twin)
2. Is the EXPO/Tradeshow in the Metaverse world/environment effective for B2B Sales in the interviewee's industry/company? What is the reason behind this?
3. Is showing how your product/service works through Augmented Reality (AR) or Mixed Reality (MR) effective for B2B Sales in the interviewee's industry/company? What is the reason behind this?
4. Is using Augmented Reality (AR) or Mixed Reality (MR) practical for customer support in B2B Sales in interviewee's industry/company? What is the reason behind this?
5. What would be the assumed barriers/issues if the interviewee's company uses Metaverse?

5.22 Summary of Findings in Interviews

The following is the summary of findings for each interview question.

First question: **When do you expect to use Metaverse in B2B Sales as usual in your industry/company?**

The key findings for the first question are the following.

- Overall, interviewees think using Metaverse in the B2C market within the recent 1 year and in the B2B market within 2-3 years.
- In the B2B market, the automotive, manufacturing machinery, and industrial machinery industries would utilize Metaverse first because their business models and products are similar to those of the B2C market.
- On the other hand, interviewees who work in the Electronics and Medical industries think that Metaverse will be used in B2B Sales as usual for more than five years.
- Interviewees are in Marketing or Sales Management positions, and they think they need to transform their business by using cutting-edge technologies as soon as possible due to the recent VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business environment. Metaverse is one technology that they are interested in.

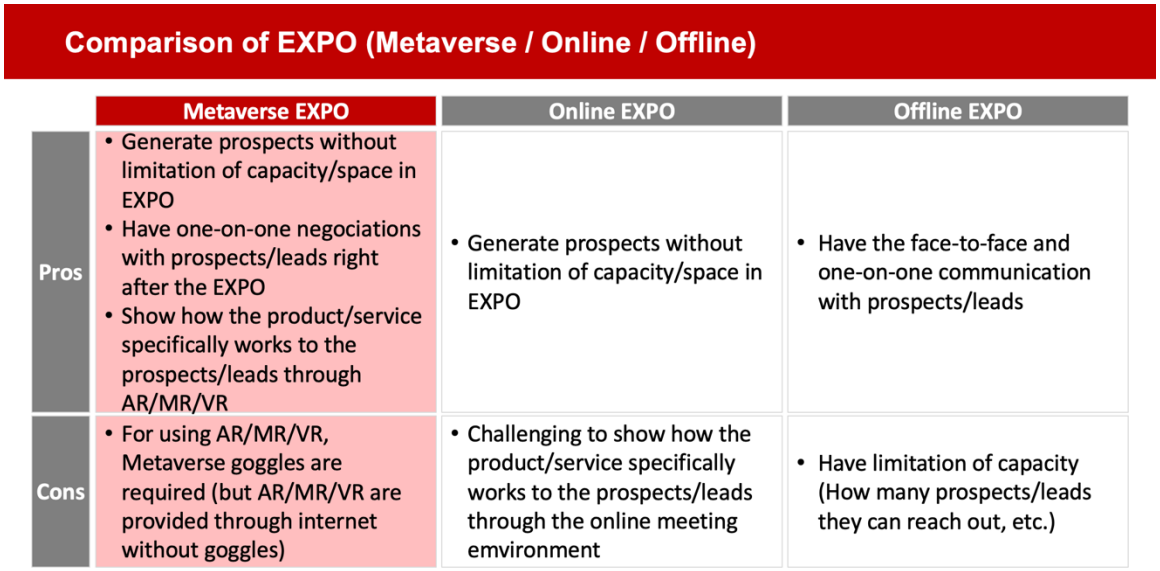
Second question: **Is the EXPO/Tradeshow in the Metaverse world/environment effective for B2B Sales in the interviewee's industry/company? What is the reason behind this?**

Key findings for the second question are the following.

- Five interviewees responded that the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales in the interviewees' industries, including Factory Automation, Electronics, and Medical manufacturing industries.

- EXPO/Tradeshow in the Metaverse world/environment enables the generation of large amounts of prospects/leads effectively compared to the offline marketing events and online EXPO/Tradeshow for the following reasons. (Refer to Figure 72)

Figure 72 – Comparison of Metaverse EXPO, Online EXPO, and Offline EXPO



Third question: **Is showing how your product/service works through Augmented Reality (AR) or Mixed Reality (MR) effective for B2B Sales in interviewee's industry/company? What is the reason behind this?**

Key findings for the third question are the following.

- Five interviewees responded that showing how the product/service works through AR or MR is effective for B2B Sales in the interviewees'

industries, including Factory Automation, Electronics, and Medical manufacturing industries.

- Compared to the offline negotiation and online meetings, Metaverse can provide a specific demonstrations to potential clients without limitation of location. (Refer to Figure 73)

Figure 73 – Comparison of Product Demonstration (through Metaverse, Online, and Offline)

Comparison of Product Demo (Metaverse / Online / Offline)

	Metaverse	Online EXPO	Offline EXPO
Pros	• Show how the product/service specifically works to customers through AR/MR/VR as a demonstration • Provide automated demonstrations by any employees (even junior staffs can handle it) • No limitation of location for the demonstration	• No limitation of location for the demonstration	• Show how the product/service specifically works to customers on place
Cons	• For using AR/MR/VR, Metaverse goggles are required (but AR/MR/VR are provided through internet without goggles)	• Challenging to show how the product/service specifically works with online meetings or videos	• Have limitation of location (Customer needs to come to the factory, etc.) • Need to educate junior staffs for the demonstration

Fourth question: **Is using Augmented Reality (AR) or Mixed Reality (MR) practical for customer support in B2B Sales ininterviewee's industry/company? What is the reason behind this?**

Key findings for the fourth question are the following.

- Five interviewees responded that using Augmented Reality (AR) or Mixed Reality (MR) for customer support is practical in B2B Sales in interviewees' industries, including Factory Automation, Electronics, and Medical manufacturing industries.
- However, the important factors for customer support in the B2B industry are prompt troubleshooting and integrity. Therefore, using Metaverse in the Customer Support field is less of a priority than in the Marketing and Sales fields.

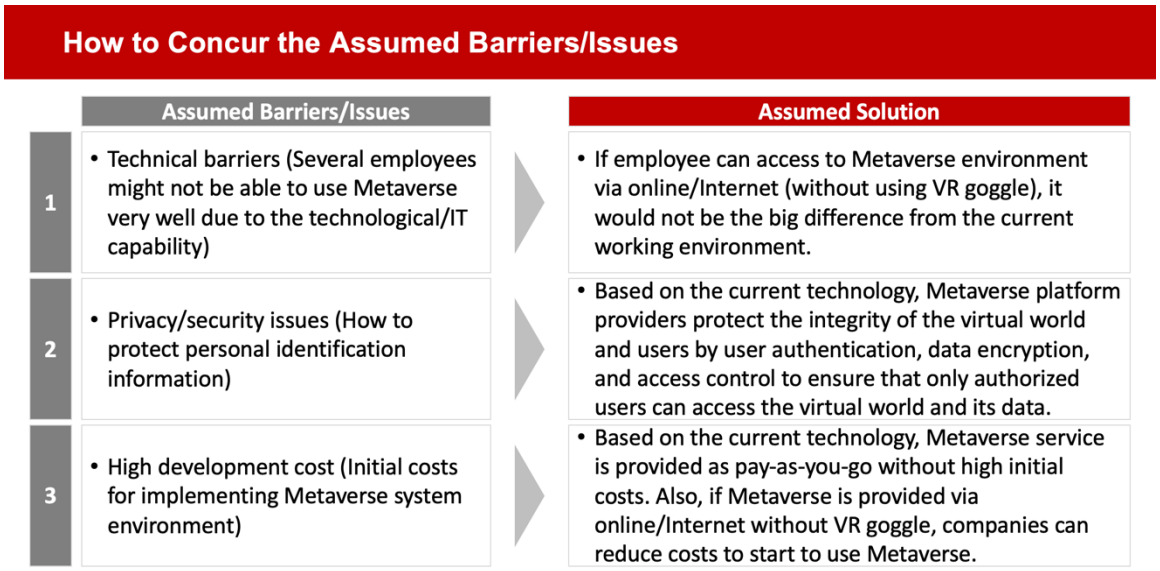
Fifth question: **What would be the assumed barriers/issues if the interviewee's company uses Metaverse? Which method would be applicable to concur these assumed barriers/issues?**

The key findings for the fifth question are the following.

- Five interviewees responded that the following barriers/issues would be assumed.
    - Technical barriers (Several employees might not be able to use Metaverse very well due to the technological/IT capability)
    - Privacy/security issues (How to protect personal identification information)
    - High development cost (Initial costs for implementing Metaverse system environment)

- According to the interviewees, the alignment of Metaverse with the current business operations is not challenging. They mentioned that their current business operation should be transformed.
- Interviewees think that Metaverse goggles are not required for accessibility. They expect to use Metaverse on the Internet without goggles.
- Regarding the method of concurring these assumed barriers/issues, the discussion results with interviewees are the following. (Refer to Figure 74)

Figure 74 – How to Concur the Assumed Barriers/Issues



5.23 Validation of the Research Hypothesis through the Survey & Interview Results

Throughout the research survey results and interviews, the original research hypothesis is mostly validated, and the revision points are clarified. In this section, validated and revised points will be described.

Figure 75 – Research Hypothesis (Original)

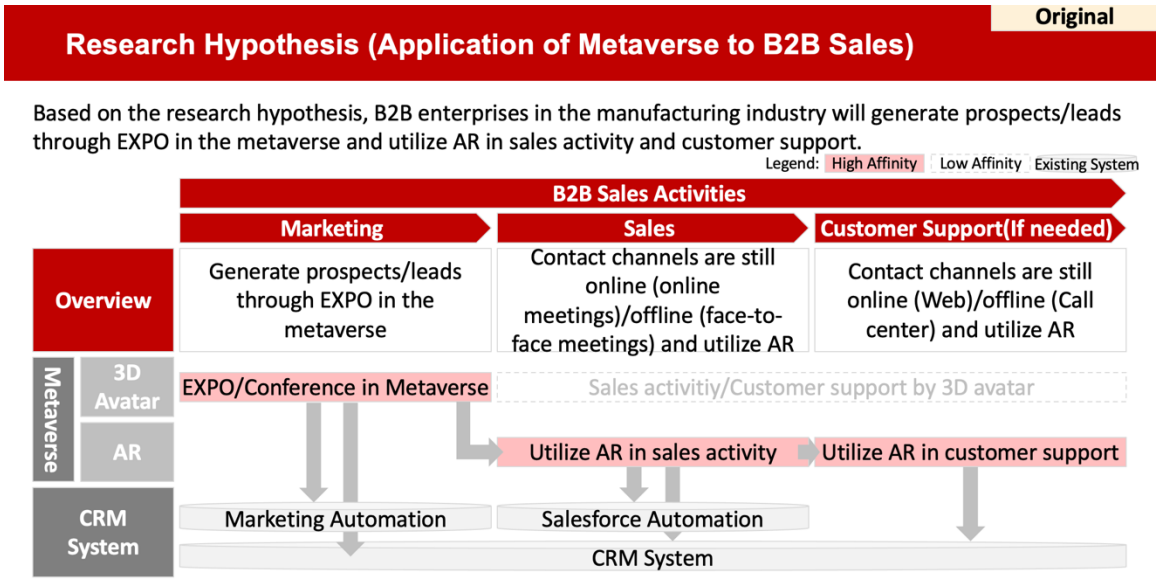
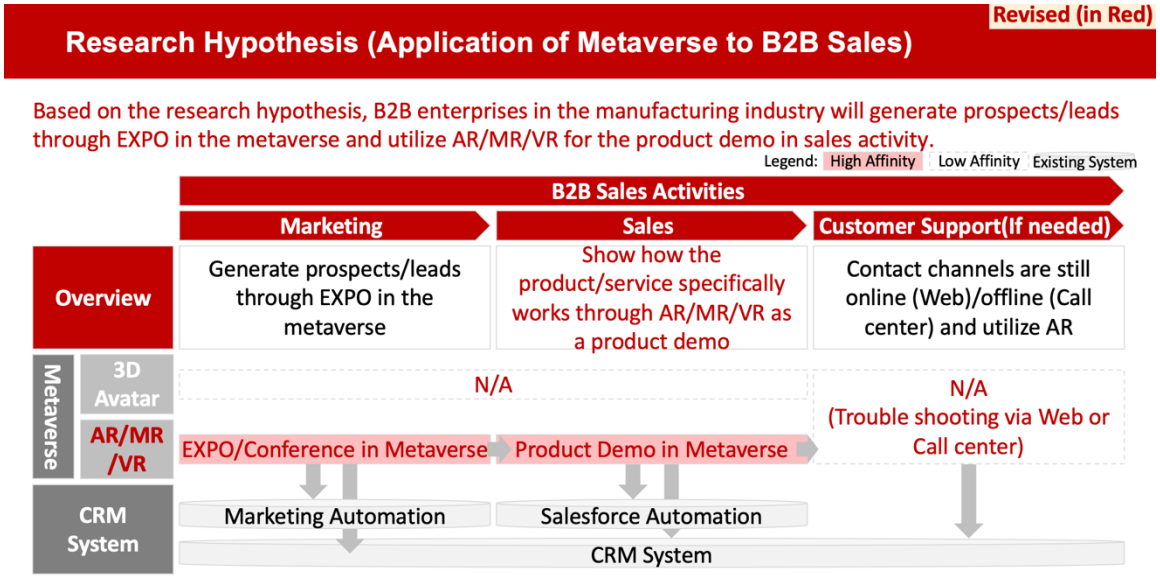


Figure 76 – Research Hypothesis (Revised)



- Validated points
    - In the Marketing field, the EXPO/Tradeshow in the Metaverse world/environment is effective in the B2B industry in generating prospects/leads.
    - In the sales field, Metaverse is practical and beneficial in promoting sales activity.

- Revised points
    - In the Sales field, showing how the product/service works through AR or MR as a product demonstration is effective in the B2B industry.
    - In the Marketing and Sales fields, a 3D Avatar is not essential to promote marketing and sales activities.

- Using Augmented Reality (AR) or Mixed Reality (MR) in Customer Support is practical in the B2B industry, but customer support in the B2B industry involves prompt troubleshooting and integrity. Therefore, using Metaverse in Customer Support is a lower priority than Marketing and Sales.

5.24 Overview of Proof of Concept (PoC)

Generally, Proof of Concept (PoC) is executed for the trial as a prototype. The general definition of Proof of Concept (PoC) is a demonstration of a product/service in which work is focused on determining whether an idea can be turned into a reality. PoC regarding B2B Metaverse will be executed in this research with the Metaverse vendor in Japan.

- The objective of PoC in this research:
  - Validate how to concur the barriers (technological barriers and operational barriers) for developing Metaverse services/products for the B2B Sales market.

- Process overview of PoC:
  - Define Concepts through the survey and interviews.
  - Prepare Prototypes of B2B Metaverse EXPO as a trial with Metaverse EXPO/tradeshow vendors.
  - Execute User Trial with 5 participants who joined in the interview sessions of this research.

- Analyze Results of PoC to validate how to concur the barriers (technological barriers and operational barriers) for developing Metaverse services/products for the B2B Sales market.

- Assumed Stakeholders (B2B Metaverse EXPO vendors)
  - METAGO (CROSSCO Co., Ltd)

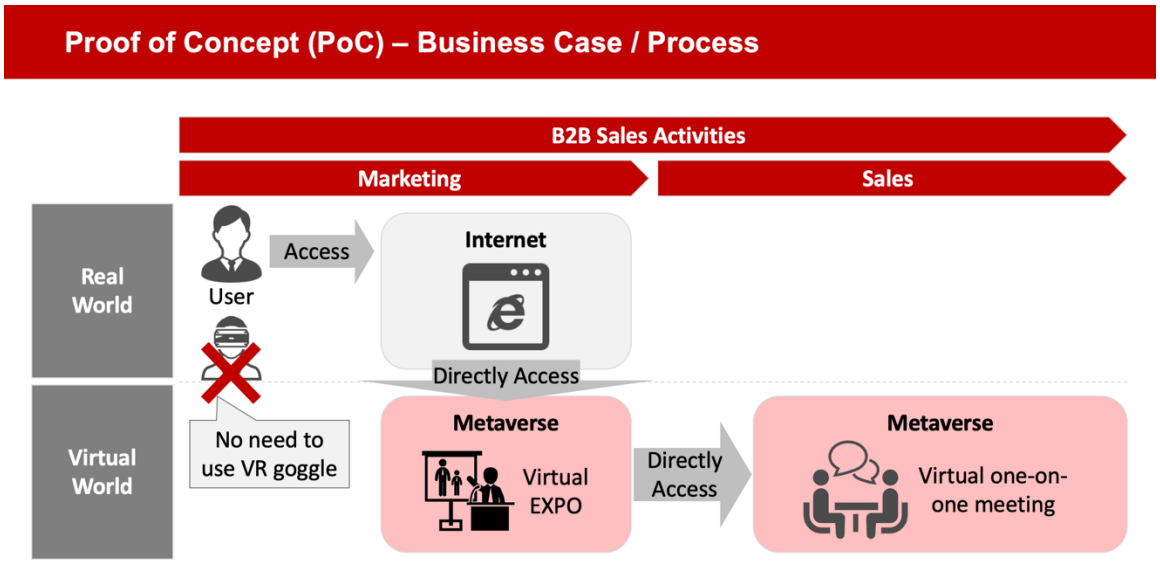
- Assumed PoC Users:
  - Sales and Marketing Managers who participate in the interview session (5 people)

5.25 Case of the Proof of Concept (PoC)

Based on Figure 77, the business case and Proof of Concept (PoC) process are as follows.

1. The user accesses the website of the Virtual EXPO via Internet.
   *No need to use VR goggles.
2. The user directly accesses to the Virtual EXPO in the VR environment to see digital contents introduced by Company A (in Factory Automation industry).
3. Then, the user directly accesses the Virtual one-on-one meeting in the VR meeting room to proceed with the negotiation.

Figure 77 – Business Case / Process of PoC

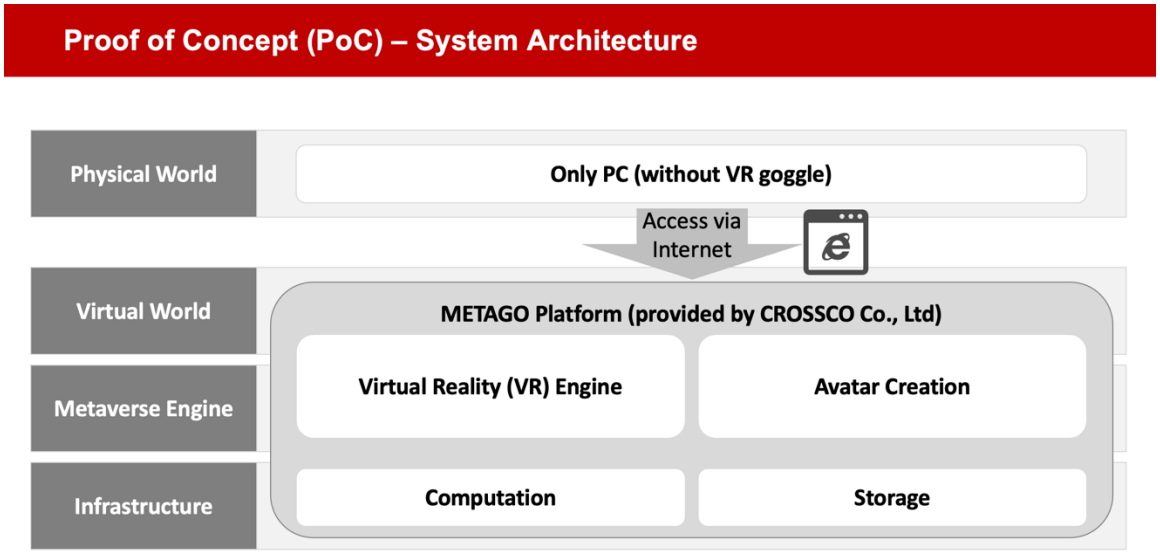


5.26 System Architecture of Proof of Concept (PoC)

Based on Figure 78, the system architecture of Proof of Concept (PoC) is as follows:

- The user directly accesses the Metaverse environment via the Internet by using a PC without VR goggles.
- In this PoC, the METAGO platform is used. The metaverse system environment in this platform, including the virtual world, Metaverse engine, and infrastructure, is provided by CROSSCO Co., Ltd.

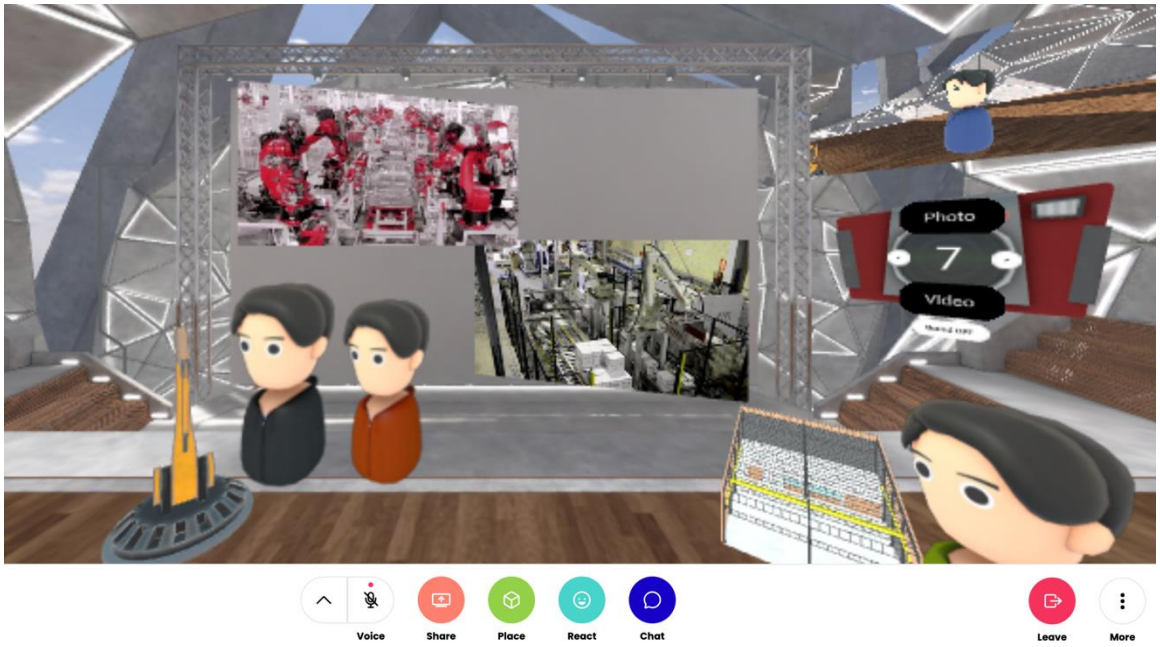
Figure 78 – System Architecture of PoC



5.27 Conclusion & Summary of Findings in Proof of Concept (PoC)

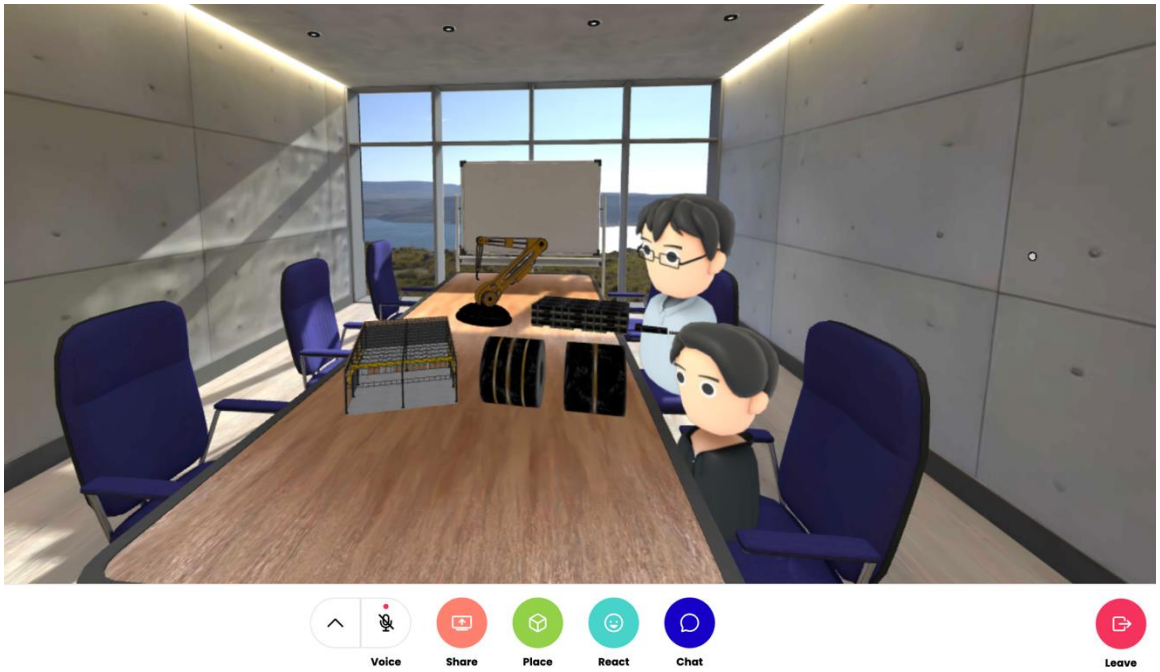
Based on Figure 79, the user directly accesses the Virtual EXPO in the VR environment to see digital content introduced by Company A (in the Factory Automation industry). The situation is Company A joining this virtual EXPO to introduce its Factory Automation product/solution for potential clients. Metaverse provides immersive and interactive customer experiences with high scalability and without geographical and logistical limitations.

Figure 79 – Virtual EXPO Trial (Screenshot)



Based on Figure 80, the user directly accesses the Virtual one-on-one meeting in the VR meeting room to proceed with the negotiation right after the virtual EXPO. The situation is a negotiation between clients in a certain industry and sales reps in the Factory Automation industry. The sales rep shows factory facilities and equipment with 3D objects to show how the manufacturing processes are working without visiting the factory on site.

Figure 80 – Virtual One-on-one Meeting Trial (Screenshot)



The following is the summary of key findings from the interviewees through Proof of Concept (PoC).

- PoC users (the same as interviewees) responded that the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales in the interviewees' industries, including Factory Automation, Electronics, and Medical manufacturing.
- According to PoC users, the EXPO/Tradeshow in the Metaverse world/environment enables generating a large amount of prospects/leads effectively compared to the offline marketing events and online EXPO/Tradeshow. Metaverse provides immersive and interactive

customer experiences with high scalability and without geographical and logistical limitations.

- PoC users (the same as interviewees) responded that showing how the product/service works through AR or MR is effective for B2B Sales in the interviewees' industries, including Factory Automation, Electronics, and Medical manufacturing.
- According to PoC users, it is totally effective that the sales rep shows factory facilities and equipment with 3D objects to show how the manufacturing processes are working without visiting the factory on site throughout this PoC. Compered to the offline negotiation and online meeting, Metaverse can provide specific demonstrations to potential clients without limitation of location.

CHAPTER VI:

CONCLUSION, AND RECOMMENDATIONS

6.1 Conclusion – Summary of This Research

Throughout this research, the application of the Metaverse service to CRM for the B2B Sales market in the manufacturing industry was evaluated/considered.

- Research Theme:
    - Valuation and Application of Metaverse to CRM for B2B Sales market in the manufacturing industry.

- Research Objective:
    - Clarify the reason why CRM for B2B Sales market is not so much developed. (Due to low demand, technology barriers, operational barriers, etc.)
    - Evaluate application of Metaverse to CRM for B2B Sales in the manufacturing industry.

- Problem Statement:
    - How can we develop Metaverse services/products to CRM for B2B Sales market in the manufacturing industry?

- Research Sub-Questions:
    - What are the key elements to develop Metaverse services/products to CRM for B2B Sales market in the manufacturing industry?

- How effectively do the current Metaverse services/products to CRM for B2C Sales apply to the B2B market in the manufacturing industry?
- How can we concur the barriers (technological barriers and operational barriers) for developing Metaverse services/products to CRM for B2B Sales market in the manufacturing industry?

- Result of Literature Review:
  - There are six past studies related to this research theme so far. However, there is no exact same research theme and problem statement as this research.
  - The other researches mostly focus on the B2C Metaverse. Few studies focusing on the B2B Metaverse include Augmented Reality (AR), Mixed Reality (MR), and Virtual Reality (VR) but 3D avatars.

- Research Methodology:
  - Survey:

    Executed the survey to B2B Sales representatives in the manufacturing industry. The research survey has 22 questions. As a result, 540 respondents from the USA, Canada, France, Germany, Netherlands, New Zealand, Singapore, Indonesia, Malaysia, India, and Japan answered this research survey. These survey respondents were compiled from Amazon Mechanical Turk, LinkedIn, and Cloud Research.

- Interview:

  Executed interviews with the following 5 B2B Marketing or Sales representatives in the manufacturing industry.

  - Marketing & Sales Manager at Electronics company in Japan
  - Sales Manager at Factory Automation company in Japan
  - Marketing Manager at IT company in the US
  - Marketing Manager at Finance company in Indonesia
  - Sales Manager at Medical company in France

- Proof of Concept (PoC):

  Executed the Proof of Concept (PoC) with CROSSCO Co., Ltd, which is a Metaverse EXPO/Tradeshow vendor, with the following processes.

  - Define Concepts through the survey and interviews.
  - Prepare Prototypes of B2B Metaverse EXPO as a trial with Metaverse EXPO/tradeshow vendors.
  - Execute User Trial with 5 participants who joined in the interview sessions of this research.
  - Analyze the PoC results to validate how to concur the barriers (technological barriers and operational barriers) to developing Metaverse services/products for the B2B Sales market.

- Validated Research Hypothesis:
    - Based on the research hypothesis, B2B enterprises in the manufacturing industry will generate prospects/leads through EXPO in the metaverse and utilize AR/MR/VR for the product demo in sales activity.
    - In the Marketing field, the EXPO/Tradeshow in the Metaverse world/environment is effective in the B2B industry to generate prospects/leads.
    - In the Sales field, Metaverse is practical and beneficial in promoting sales activity.
    - In the Sales field, showing how the product/service works through AR or MR as a product demonstration is effective in the B2B industry.
    - In the Marketing and Sales fields, a 3D Avatar is not essential to promote marketing and sales activities.
    - Using Augmented Reality (AR) or Mixed Reality (MR) in Customer Support is practical in the B2B industry, but customer support in the B2B industry involves prompt troubleshooting and integrity. Therefore, using Metaverse in Customer Support is a lower priority than Marketing and Sales.

6.2 Conclusion – Implications

Throughout this research, the research questions and hypothesis are validated and analyzed through the survey, interview, and Proof of Concept (PoC). The following are the brief conclusions of the research questions and answers.

- Research Question:

  How can we develop Metaverse services/products to CRM for B2B Sales market in the manufacturing industry?

- Research Sub Question 1 and Conclusion:

  What are the key elements to develop Metaverse services/products to CRM for B2B Sales market in the manufacturing industry?

  ⇒ Key Industries: Manufacturing Machinery, Industrial Machinery, Electronics, Food & Beverages, Medical, Factory Automation, and Automotive industries

  ⇒ Key Fields: Marketing and Sales fields

  ⇒ Key Technology: Augmented Reality (AR), Mixted Reality (MR), and Virtual Reality (VR)

- Research Sub Question 2 and Conclusion:

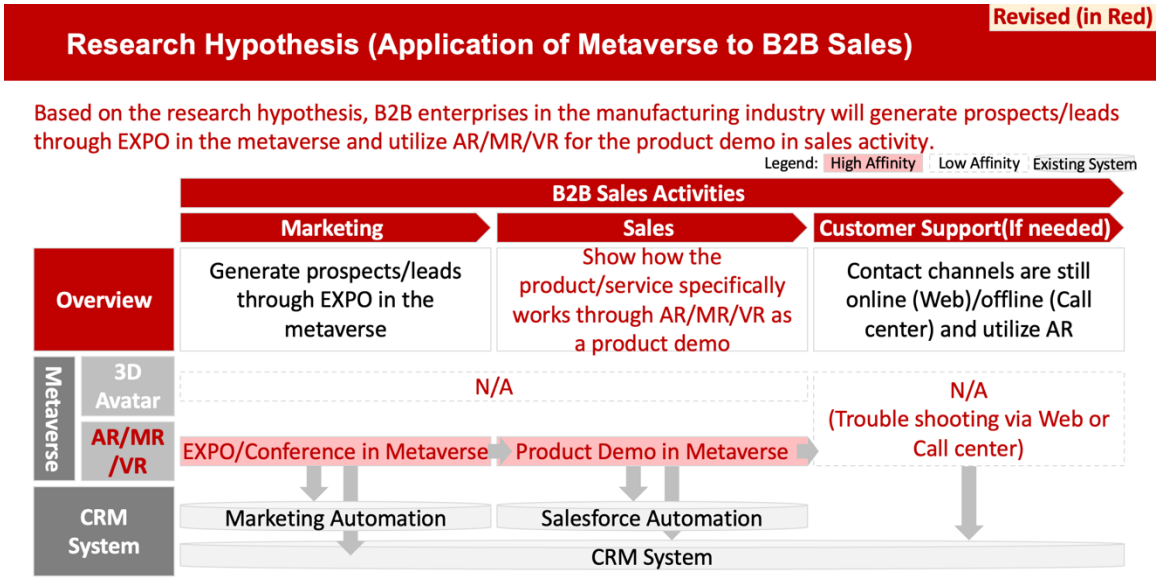
  How effectively do the current Metaverse services/products to CRM for B2C Sales apply to the B2B market in the manufacturing industry?

  ⇒ Marketing Field: B2B enterprises in the manufacturing industry will effectively generate prospects/leads through

EXPO/Tradeshow in the metaverse, including AR, MR, and VR (Refer to Figure 81).

⇒ Sales Field: Metaverse is practical and beneficial for promoting sales activity. Showing how the product/service works through AR or MR as a product demonstration is effective in the B2B industry (Refer to Figure 81).

Figure 81 – Research Hypothesis (Revised)



- Research Sub Question 3 and Conclusion:

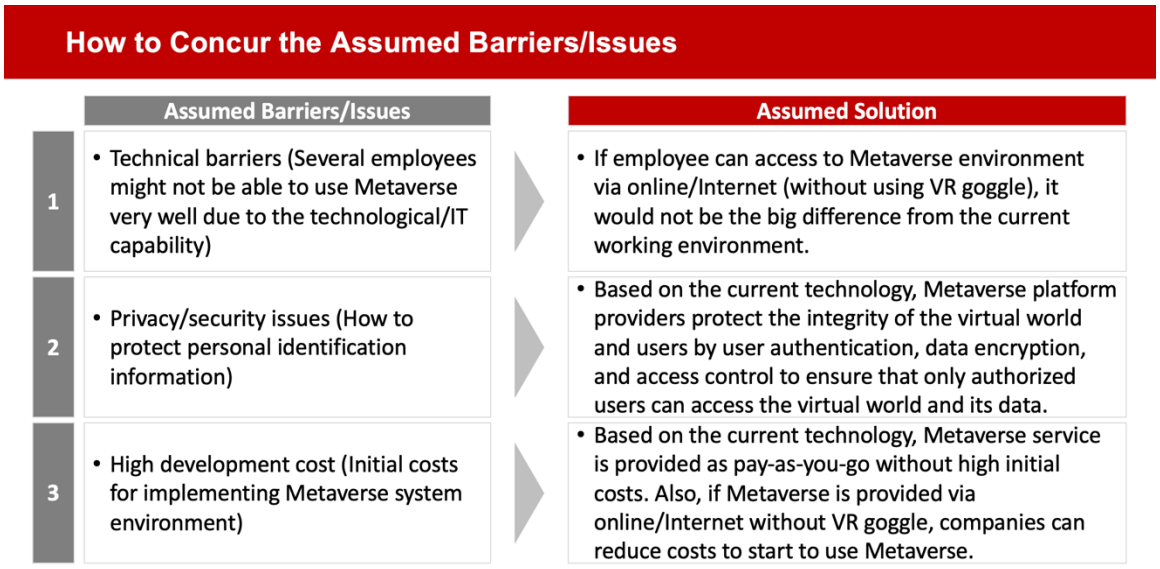
  How can we concur the barriers (technological barriers and operational barriers) for developing Metaverse services/products to CRM for B2B Sales market in the manufacturing industry?

⇒ Technical Barrier: If an employee can access the Metaverse environment via the Internet (without using VR goggles), it would not be a big difference from the current working environment (Refer to Figure 82).

⇒ Privacy/Security Issue: Based on the current technology, Metaverse platform providers protect the integrity of the virtual world and users by user authentication, data encryption, and access control to ensure that only authorized users can access the virtual world and its data (Refer to Figure 82).

⇒ High Development Cost: Based on the current technology, Metaverse service is provided as pay-as-you-go without high initial costs. Also, if Metaverse is provided online/on the Internet without VR goggles, companies can reduce costs to start to use Metaverse (Refer to Figure 82).

Figure 82 – How to Concur the Assumed Barriers/Issues



Also, the following is the summary of additional findings through this research.

- The major respondents (39.6%) interested in using Metaverse for B2B Sales activities are working in the Management position. It would be assumed that the management thinks they need to transform their business by using cutting-edge technologies due to the recent VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business environment. On the other hand, approximately 18.9% of the survey respondents are working as staff and are not interested in using Metaverse for B2B Sales activities. They are specialists in their day-to-day operations, and they might think that using Metaverse for their operation would be a long way off.

Therefore, filling a gap between management and staff when using Metaverse for B2B sales activities is critical for implementation.

- 64.8% of respondents think the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales in the survey respondents' industry/company. Because Metaverse provides immersive and interactive customer experiences with high scalability and without geographical and logistical limitration. On the other hand, some industries need to keep actual human contact. There is still a lot of complexity regarding the data collection process, security, and protection of personal information. PoC users (same as interviewees) responded that the EXPO/Tradeshow in the Metaverse world/environment is effective for B2B Sales in the interviewees' industries, including Factory Automation, Electronics, and Medical manufacturing industries. According to PoC users, the EXPO/Tradeshow in the Metaverse world/environment enables to generate large amount of prospects/leads effectively compared to the offline marketing events and online EXPO/Tradeshow. Metaverse provides immersive and interactive customer experiences with high scalability and without geographical and logistical limitations.
- 72.0% of respondents think showing how the product/service works through AR or MR is effective for B2B Sales in the survey respondents' industry/company because of enhanced visualization/understanding and interactive demonstrations. On the other hand, in some industries, a live demonstration is required compared to a virtual one. As of now, not many people understand Metaverse, and it would be more effective to continue using traditional methods until it becomes more mainstream. PoC users

(same as interviewees) responded that showing how the product/service works through AR or MR is effective for B2B Sales in the interviewees' industries, including Factory Automation, Electronics, and Medical manufacturing industries. According to PoC users, it is totally effective that a sales rep shows factory facilities and equipment with 3D objects to show how the manufacturing processes are working without visiting the factory place throughout this PoC. Compared to the offline negotiation and online meetings, Metaverse can provide a specific demonstrations to potential clients without limitation of location. Also, in the Marketing and Sales fields, 3D Avatar is not essential for promoting marketing and sales activities.

- 67.0% of respondents think using Augmented Reality (AR) or Mixed Reality (MR) for customer support is practical in B2B Sales in survey respondents' industry/company because of improved problem resolution and efficient training and guidance. On the other hand, expensive costs are required, and customer support staff does not understand/have software that is capable of actually helping end users. It will require more of the younger generation to get on board first. In the Customer Support field, using Augmented Reality (AR) or Mixed Reality (MR) is practical in the B2B industry, but customer support in the B2B industry involves promptness of troubleshooting and integrity. Therefore, using Metaverse in the Customer Support field is less of a priority compared to the Marketing and Sales fields.
- Approximately 58% of respondents think that it is challenging to align Metaverse with the current business operations, and approximately 30% of

respondents think that several employees might not be able to use Metaverse very well due to the technological/IT capability. It shows the alignment and capability of employees could be potential root issues.

- The further barriers/issues for using Metaverse include technical barriers, privacy/security issues, regulatory compliance, high development costs, accessibility considerations, content moderation, standardization issues, cultural/ethical considerations, adoption & the learning curve (especially for old employees), hiring issues, and hardware & software requirements.
- To concur the major barriers/issues, the following three solutions can be considered.
    - Regarding Technical Barriers (Several employees might not be able to use Metaverse very well due to the technological/IT capability):

      If employees can access the Metaverse environment online/on the Internet (without using VR goggles), it would not be a big difference from the current working environment.
    - Regarding Privacy/Security Issues (How to protect personal identification information):

      Based on the current technology, Metaverse platform providers protect the integrity of the virtual world and users through user authentication, data encryption, and access control to ensure that only authorized users can access the virtual world and its data.
    - High Development Cost (Initial costs for implementing Metaverse system environment):

      Based on the current technology, Metaverse service is provided as

a pay-as-you-go without high initial costs. Also, if Metaverse is provided online/on the Internet without VR goggles, companies can reduce costs to start to use Metaverse.

6.3 Recommendations for Future Research

In this research, the demand for Metaverse to CRM for B2B Sales in the Manufacturing Industry is validated, and the method of applying Metaverse for B2B Sales in the Manufacturing Industry is also analyzed and validated through the research survey, interviews, and Proof of Concept (PoC). Technology is advancing day by day, and many technology companies invest in Metaverse fields as a Research & Development. Therefore, I expect researchers will validate the following.

- Effectiveness of AR or MR technology through PoC
  *In this research, the effectiveness of VR technology was validated.
- Effectiveness of advanced VR goggles through PoC
  *Big VR goggles are not realistic to use in line of business. VR Goggle will be getting smaller and lighter in the future.

APPENDIX A

LIST OF TABLES

APPENDIX B

LIST OF FIGURES

APPENDIX C

SURVEY COVER LETTER

[Survey Request] Valuation and Application of Metaverse to B2B Sales

Hi there, I am Ryosuke Nakajima, a Doctor of Business Administration (DBA) candidate at the Swiss School of Business and Management.

I am analyzing "Valuation and Application of Metaverse to CRM for B2B Sales in the Manufacturing Industry" throughout my doctorate research.

I would be grateful if you could help me by taking a quick survey (approximately 3-5 mins). Your kind cooperation would be highly appreciated.

Thank you very much in advance for participating in my survey.

Sincerely yours,

Ryosuke Nakajima (Doctorate Candidate at Swiss School of Business and Management)

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