

# **An Integrated Sustainable Business Growth Model for Malaysia's Telco Industry through the Effect of Multigenerational Workforce Management and Digital Transformation.**

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## Declaration

I, Cheong Kong Ming (Student ID:1713749) hereby declare that my Doctor of Business Administration (DBA) thesis “An Integrated Sustainable Business Growth Model for Malaysia’s Telco Industry through the Effect of Multigenerational Workforce Management and Digital Transformation.” is follow strictly of University of Wales Trinity Saint David (UWTSD) Research Ethics and Integrity Code of Practise and Research Data Management Policy. It is my own work, and I have not submitted this thesis to any academic institution for degree or qualification.

I understand that University of Wales Trinity Saint David has all the right to take actions if I have violated the rules and regulations of the university.

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Cheong Kong Ming 1713749

25<sup>th</sup> December 2024

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## List of Abbreviations

| No | Acronyms | Meaning   |
|----|----------|---|
| 1  | AI       | Artificial Intelligence   |
| 2  | ALS      | Average Leadership Style  |
| 3  | ARPU     | Average Revenue Per User  |
| 4  | AVE      | Average Variance Extracted                                      |
| 5  | Boomer   | Baby Boomers,   |
| 6  | CAGR     | Compound Annual Growth Rate                                     |
| 7  | Celcom   | Celcom Axiata Berhad  |
| 8  | CEO      | Chief Executive Officer   |
| 9  | CMCO     | Conditional Movement Control Order                              |
| 10 | CMO      | Chief Marketing Officer   |
| 11 | COO      | Chief Operating Officer   |
| 12 | CR       | Construct Reliability   |
| 13 | CSV      | Comma-Separated Values  |
| 14 | DCT      | Dynamic Capabilities Theory                                     |
| 15 | Digi     | Digi Telecommunications or Digi.Com.Berhad                      |
| 16 | DV       | Dependent Variable  |
| 17 | EBITDA   | Earnings before Interest, Taxes, Depreciation, and Amortization |
| 18 | EES      | Employee Engagement Score                                       |
| 19 | EPF      | Employees Provident Fund  |
| 20 | ERP      | Enterprise Resource Planning Systems.                           |
| 21 | Gen X    | Generation X  |
| 22 | Gen Y    | Generation Y, Millennials,                                      |
| 23 | Gen Z    | Generation Z, Generation Zero, iGen, Centennials, Zoomers       |
| 24 | HTMT     | Heterotrait-Monotrait Ratio                                     |
| 25 | ICT      | Information and Communications Technology                       |
| 26 | IDD      | Internet Calling Card   |
| 27 | IV       | Independent Variable  |
| 28 | KBV      | Knowledge-Based View  |
| 29 | LMX      | Leader-Member Exchange Theory                                   |
| 30 | LMX-T    | Leadership-Motivated Excellence Theory                          |
| 31 | Maxis    | Maxis Communications or Maxis Berhad                            |
| 32 | MBA      | Master of Business Administration                               |
| 33 | MEF      | Malaysian Employers Federation                                  |
| 34 | ML       | Machine Learnings   |
| 35 | MMS      | Multimedia Messaging Services                                   |
| 36 | MOH      | Ministry of Health  |
| 37 | MV       | Mediating Variable, Mediator Variable                           |
| 38 | NPS      | Net Promoter Score  |
| 39 | PAT      | Profit After Tax  |
| 40 | PLS-SEM  | Partial Least Square Structural Equation Modelling              |
| 41 | RBT      | Resource-Based Theory   |
| 42 | ROI      | Return of Investment  |
| 43 | RPA      | Robotic Process Automation                                      |
| 44 | SEM      | Structural Equation Modelling                                   |
| 45 | SLF      | Standardized Loading Factor                                     |

|    |       |   |
|----|-------|---|
| 46 | SME   | Subject Matter Expert                   |
| 47 | SMS   | Short Messaging Services                |
| 48 | TELCO | Telecommunications Company              |
| 49 | UWSTD | University of Wales Trinity Saint David |
| 50 | VAF   | Variance Accounted For                  |
| 51 | VDL   | Vertical Dyad Linkage Theory            |
| 52 | VIF   | Variance Inflation Factor               |
| 53 | XLS   | Ms Excel Spreadsheet                    |



## Abstract

Achieving Sustainable Business Growth is the goal for all Malaysia's Telecommunications companies because of the drastic business impact from Industrial Revolution 4.0 (IR4.0) and the challenges in managing the changing dynamics of multigenerational workforce (Baby Boomer, Gen X, Gen Y, Gen Z). Due to IR4.0, new rivalry (WhatsApp, Facebook, Skype, Signal, WeChat) emerged and competing with Telco services (SMS, MMS, Voice Call) causing declining of Telco financial performance. With IR4.0, it also forced Telco to speed up digital transformation journey to meet the expectation of customers/subscribers (Digital Apps, Excellence Network, Excellence Customer Service, Self-Serve Services). Adding to the complexity, minimum 4 different generations of employees that has diverse characteristic, way of collaboration and way of engagement exists within the same company.

The main purpose of this research is to understand and identify the factors that influence the achievement of Sustainable Business Growth for Malaysia Telcos and propose an effective Integrated Sustainable Business Growth model through the effect of multigenerational workforce management and digital transformation. Sustainable Business Growth refers to the ability of the employees and leaders working together to overcome existing challenges and to achieve long-term growth of the company thru the measurements of financial performance, customer based, and employee's satisfaction without incurring additional burden to the company such as debt, loan, or equity. This model will be part of the contribution to the industry, it allowed management of Telco to understand the needs of their own employees, how to motivate them into embracing and supporting the change from digital transformation which indirectly contributing to the financial and customer growth.

This study aimed to identify an integrated fit model of Sustainable Business Growth thru independent variables such as Multigenerational Workforce Engagement, Multigenerational Workforce Collaboration, Multigenerational Workforce Characteristics, and mediating variables such as Managing Changing Dynamic of Workforce and Digital Transformation. Target population for this research includes working adults in Malaysia's top 3 biggest consumer-based Telecommunications companies (Maxis, Celcom, or Digi). Inclusive of working adults born in year 1946 – 1964 (Baby Boomers), 1965 – 1980 (Gen X), 1981 – 1996 (Gen Y) and 1997 – 2012 (Gen Z). Both genders (Male or Female) and position in the company (Managerial or Non-managerial). According to recommendation of Krejcie and Morgan, researcher distributed 367 online surveys and collected 332 responses. Researcher used

Mahalanobis distance to remove the outliers, leaving 283 valid responses for data analysis using Partial Least Square Structural Equation Modelling (PLS-SEM).

In this thesis, four theories (Resource-Based Theory, Strauss-Howe Generational Theory, Leader-Member Exchange Theory and Dynamic Capabilities Theory) was used as the research anchor. According to Resource-Based Theory, company that focus on their employees will eventually develop sustainable competitive advantage that cannot be duplicate by competitors. Strauss-Howe Generational Theory explained the fourth turning of different generations that provide better understanding for the leaders on engagement, collaboration, and characteristic. Leader-Member Exchange Theory rationalized the important of leader to use different leadership styles in managing the changing dynamic of multigenerational workforce. Dynamic Capabilities Theory talked about the needs of leaders to manage the changing dynamics of the business to cater for rapid technological advancements and the capabilities for the employees to adapt and integrate with the change.

Researcher used the 283 responses to validate the research framework using all the 9 Hypothesis to validate the achievement of Research Objectives. Based on the bootstrapping methods (Path/Beta Coefficients  $\beta$ -Value  $>0$ , Significant Test T-Value  $>1.96$  and Probability P-Value  $<0.05$ ), only 2 out of 9 hypothesis considered not significant, therefore two research objectives are not supported. Although some hypothesis is not significant but it corresponding to other thesis and journals, those variables are considered important. Thus, it was included into the design of Sustainable Business Growth Model.

This research will provide Contribution to Body of Knowledge such as literature/theoretical gaps and Managerial Implications. The new proposed Bryan's Sustainable Business Growth Model (BSBG) is the managerial implications that eased management to overcome business stagnating, drop of market share, down trend of revenue gain, low morale of the employees, dropping of customer based and digital transformation which part of the company goal to achieve long-term sustainable business growth.

## **Chapter 1: Introduction**

### **1.1 Background of the Study**

Telecommunication's Industry Sector (Telco) in Malaysia plays a very crucial role in the country economy because of its connectivity service. It served as an enabler for all type of consumer business and enterprise business to growth. It indirectly drawing in more investor into the country. But because of Industrial Revolution 4.0 and the diverse multi-generational workforce, it created new types of challenges and opportunities for Malaysia Telco's to achieve Sustainable Business Growth. This study aimed to test the hypothesis, provide a conclusive result and deliver an Integrated Sustainable Business Growth Model for Malaysia's Telco Industry through the Effect of Multigenerational Workforce Management and Digital Transformation.

Achieving "Sustainable Business Growth" is crucial for companies to continue stay relevant and growth in current challenging economic conditions (Dodda, 2022; Shah, 2022). Puthusseri (2023) said, having a sustainable growth strategy or model increase profitability, customer loyalty and productivity of the company. Unifynd (2023) highlighted that the only constant fundamental principle of sustainable business growth in an ever-changing business world is to achieve better customer retention. Strong connection with your customer will help to bring you new business and increase customer loyalty. Similarly, Fanderl (2023) advised leaders to focus on growing existing customers because existing customer spending is 20%-30% higher than new customers. Fanderl (2023) did mentioned one of the critical steps in customer acquisition and retention is related to employee's satisfaction. Happy employees will work closely with leaders to achieve companies goal including operation efficiency and customer retention. Hence a lot of companies are keeping track of their Employee Engagement Score/Employee Satisfaction Score aside to just tracking Net Promoter Score of their customers.

Similar challenges observed in Malaysia Telecommunication's Industry. In Malaysia, the top three biggest subscriber-based Telco are Maxis, Celcom, and Digi. In general, they are providing similar services such as Traditional Mobile Services and Digital Mobile Services. The traditional mobile services include Internet Data, Voice Call, Multimedia Messaging Services (MMS), Short Messaging Services (SMS), Internet Calling Card (IDD), International Roaming and Broadband. While the digital mobile services including E-Wallet, Mobile Apps, and Enterprise Solutions for SME.

In a recent news, Maxis's net profit declined from 1.15billion to 0.99billion in 2023 which about 13.8% comparing with 2022 performance (Digital News Asia, 2024). Sustaining overall Telco performance is uncertain due to technology and market change of the sector's fifth generation (5G) model from single wholesale network to more market-driven dual network (The Stars, 2023). Malaysian Communications and Multimedia Commission (MCMC) recently announced that legacy service revenue of Telco is degrading such as mobile voice -8.1% Compound Annual Growth Rate (CAGR) and Fixed Voice -3.4% CAGR (MCMC, 2023). All the 3 Telcos has recorded 5 consecutive years of financial performance declining (Revenue, Profit After Tax, EBITDA and EBITDA Margin).

Impacted by Industrial Revolution 4.0 (IR4.0), majority of the business including Telco are forced into drastic digital transformation to stay relevant in the market. Telco require to convert its legacy infrastructure into digital platform that is more flexible and scalable to meet customer needs. Mhlanga (2022) mentioned in his latest research that organizations still have gap to achieve long term sustainability business growth that associate with IR4.0. At the same time, Telco need to have the capabilities to provide digital services to other industry as part of new revenue stream and achieve better customer experience. Besides competing within internal rivalry, they also need to compete with Over the Top (OTT) provider such as WhatsApp, Facebook, Signal, Microsoft, and Google. Detail discussion in following section including the impact if Telco ignoring the direct and indirect impact of IR4.0.

Adding into the complexity, each Telco is facing challenges in managing multi-generation workforce that work under the same roof. Chief Statistician Datuk Seri Dr Mohd Uzir Mahidin said, based on the population by age group, Malaysia birth rate has dropped 1.1% in 2023 compared to 2022, while older generations increase of 0.3% that slowly moved Malaysia into ageing nation (The Star, 2024) . Due to extension of retirement age from 55years old to 60years old, Baby Boomer will continue to serve the company while Generation Z has started their working life (Ministry of Human Resources, 2016). In total, company need to manage at least four different generation workforce (Baby Boomer, Gen X, Gen Y and Gen Z) and lead them into achieving company goal such as digital transformation and achieving sustainable business growth. Lee (2020) has highlighted a serious concern on organisations that unable to identify the similarity and differentiation of each generation are managing their talent wrongly which will lead to low morale.

### 1.1.1 Top Three Telco in Malaysia

Below is the high-level overview of three major Telco's in Malaysia including founding years, total workforce, employee's engagement scores and company vision. Despite having clear vision of digitalization and transformation since 2015, these companies still unable to improve their overall financial performance, employee engagement score and customer satisfaction. This is an important problem and gap identified for further research.

Maxis Communications or Maxis Berhad founded in 1993 and listed in Bursa Malaysia in 2009. Headquarters (HQ) of Maxis located at Menara Maxis Kuala Lumpur. Maxis has total 3559 employees and achieved Employee Engagement Score (EES) 80%. Maxis Vision is to be the "Leading Converged Solutions Company in Malaysia". CEO Ogut mentioned during the EDGE Interview, that Maxis wanted to move beyond connectivity into an end-to-end solutions company by helping Malaysian to personalize and digitalize their business (Shankar, 2020).

Digi Telecommunications or Digi.Com.Berhad founded in 1995 and listed in Bursa Malaysia in 1997. HQ of Digi located at Shah Alam Selangor. Digi has 1535 employees. Reported EES score for Digi is 80%. Digi Purpose is connecting you to what matters most. "To do this requires a dedicated focus on transforming and modernising our organisation to enable growth and create efficiencies, while innovating on our core services and customer experiences, and delivering them in a responsible manner. This is how we aim to create value for our customers and stakeholders for the long-term" (Digi, 2019).

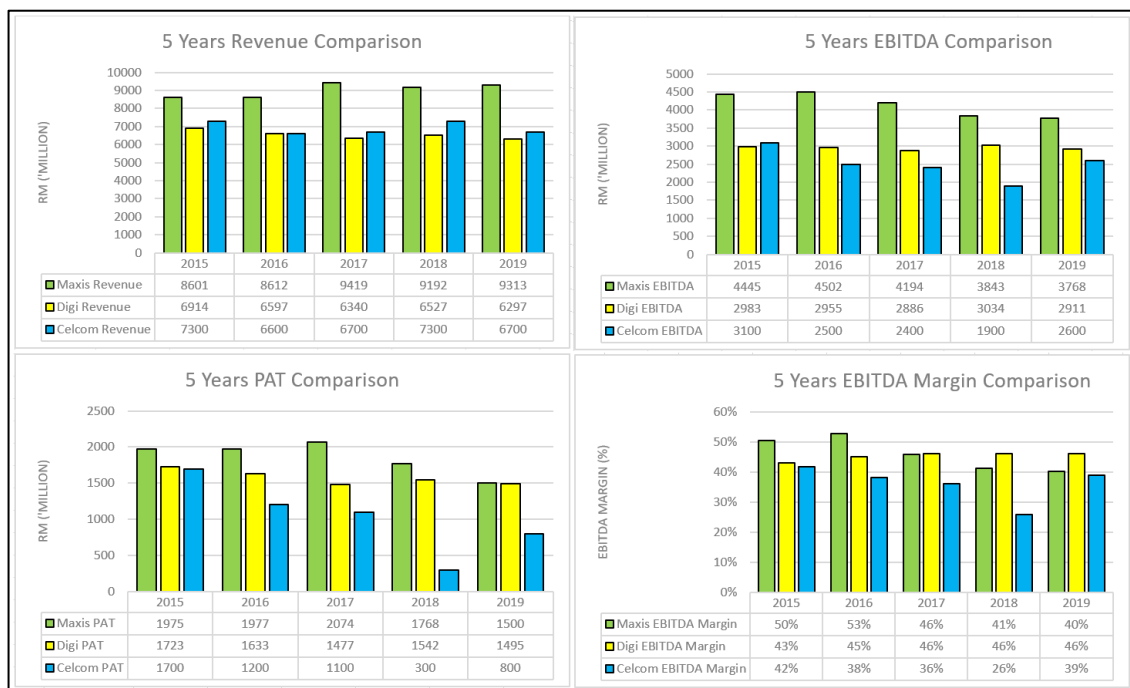
Celcom Axiata Berhad is part of Axiata Group that founded in 1988 and later listed in Bursa Malaysia on 28 April 2008. Celcom HQ located at Petaling Jaya Selangor. Referring to 2019 news released, Celcom has in total 2,700 employees. The latest report released by Axiata Group on Nurturing People stated that overall, they have achieved 89% for EES (Axiata Group, 2019). Celcom Purpose is to be part of New Generation Digital Champion by 2022. Celcom uphold their Value in Uncompromising Integrity and Exceptional Performance. Celcom CEO Idham further emphasized their promises to customer on providing the best performance, availability, and resilience connectivity during The Star interview (Star Media Group Berhad, 2020).

### 1.1.2 5-Years Financial Data Comparison (Maxis, Digi, Celcom)

Figure 1 below is a 5-year financial data comparison for Maxis, Digi and Celcom starting 2015 to 2019 based on the latest published annual report. Researcher wanted to have a quick glance on the total Revenue generated, Profit after Tax (PAT), EBITDA and EBITDA Margin. Thru reading revenue data, we will be able to compare the gross sales generated from devices or services offered to customer. While PAT is the earnings after deducted all the taxes and it also means the ability of the company to generate return. EBITDA and EBITDA Margin allow investor to compare the performance of company within the same industry. The higher EBITDA Margin, the better control of cash flow and operating profitability.

It is a clear indication that all the Telco's in Malaysia are facing serious issue in achieving a sustainable business growth for their company. Since 2015, the overall financial performance has been declining year on year. Hence this research is very important for Malaysia's Telco.

*Figure 1: Financial Data Comparison*



Source Adapted from 2019 annual report

### 1.1.3 Industrial Revolution (Present Impact)

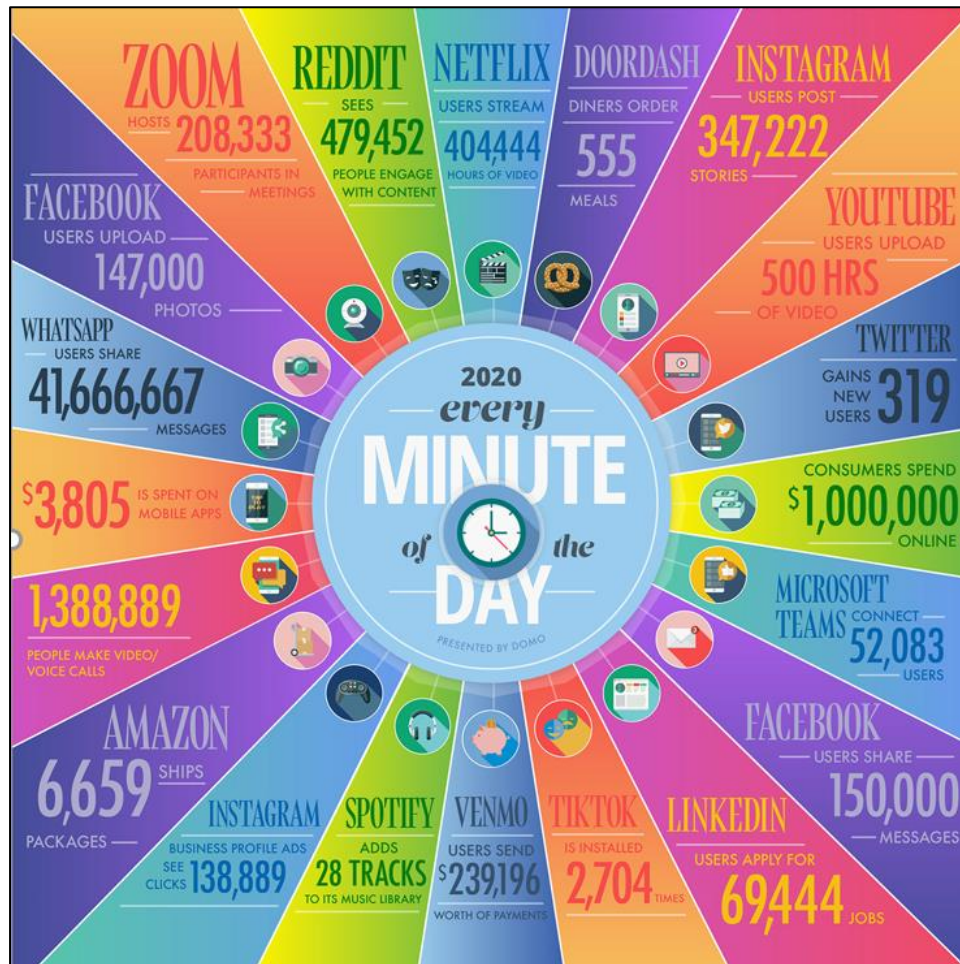
Industrial Revolution 4.0 (IR4.0) is a transformative era that impact to digital transformation, Artificial Intelligence (AI), Internet of Things (IOT), Machine Learning, Cloud Computing and communications between computers thru internet without human intervention. Countless large enterprises companies went bankrupt such as Kodak, Nokia, Blockbuster and Toy R Us due to failure to react to innovation and opportunities lost. At the same time many new and successful businesses such as Grab, Airbnb, Amazon, Alibaba, and many more that arose due to IR4.0. In conjunction to IR4.0, Telco Industries also facing a lot of new challenges and opportunities.

Industrial revolution (IR) is the drastic changing of industry due to innovation by human that indirectly changing the way or work, lifestyle, business operating models, and countless of other impacts. Mhlanga (2022) mentioned in his latest research that organizations still have gap to achieve long term sustainability that associate with IR4.0 including cyber security and inequality. Tri & Dung (2022) believed sustainable development can be achieved thru taking the advantages of IR4.0 especially in shaping culture.

Customer is looking for customization and personalization rather than generalization. They are attracted to innovative ideas and digital capabilities. The first mover advantage allow organization to establish strong brand recognition (Zhang & Song, 2020). Customer is more demanding and expecting new capabilities from their Telco provider. Aside to normal Telco networks coverage, customer also attracted to self-service, chatbot, easy access to mobile apps and customizable mobile plan. This will indirectly improve customer experience point or net promoter score.

Visual Capitalist, an online publisher that simplified complex data into meaningful image has published, “What actually happening inside the internet world in one minute” (Figure 2).

Figure 2: Digital Moments within One Minutes in 2020



Source Adopted from (Ali, 2020)

According to Ali (2020), 15% American work from home before Covid-19 pandemic hit but now over 50%. The consumption of internet every minute is astonishing and the traffic still growing. It might be an opportunity to Telco that provide internet services or a disruption to Telco current setup that does not ready to provide such huge demand from customers. Referring to Figure 20 above, 52k users connected to Microsoft Team/minute for online conference; spend over USD1million/minute on online purchase, 41million/minutes sharing in WhatsApp, 6K/minute packages ship out from Amazon and many more. Kamdi & Deogade (2020) recently has published an article showing that after Covid-19, people is more techno savvy, increase of online purchase, increase of online conference, and opened new opportunities to internet-based industries. The pandemic accelerated the digitization trends and generated a range of new business model (Lim, 2020).



Aside to new opportunities, if Telco unable to act fast in digital transformation realm, they will face similar consequences of other famous companies that went bankrupt. Based on the Table 1, failure is mainly due to slow/failed to react to innovations and lead to loss of opportunities to compete. During acquisition by Microsoft, Nokia CEO Stephen Elop ended his speech with “We didn’t do anything wrong, but somehow, we lost”. Gupta (2016) mentioned in his article that your previous success factor would be easily replaced with trends of tomorrow.

*Table 1: Failure of Traditional Giant Companies*

| Company                             | Reasons of Failure  | Source  |
|-------------------------------------|---|---|
| Blockbuster<br>(Video Rental Chain) | <ul style="list-style-type: none"> <li>Famous video renting chain in 80’s/90’s</li> <li>Declared bankrupt in 2013.</li> <li>Failed to react to online streaming such as Netflix.</li> </ul>   | BBC News<br>(Russon, 2019)                    |
| Toys R Us (Toy Store Chain)         | <ul style="list-style-type: none"> <li>US giant toy store chain.</li> <li>Declared bankrupt in 2017.</li> <li>Failed to react to e-commerce business such as Amazon.</li> </ul>   | Business Insider<br>(Buontempo, et al., 2019) |
| Kodak (Camera Film)                 | <ul style="list-style-type: none"> <li>Most powerful company in selling camera film.</li> <li>Declared bankrupt in 2012.</li> <li>Blinded with success and failed to react to emerging of digital camera.</li> </ul>                  | Harvard Business Review<br>(Anthony, 2016)    |
| Nokia (Mobile Phone Company)        | <ul style="list-style-type: none"> <li>Employed over 102,000 people across 100 countries.</li> <li>2007 decreased of market share from 49% to 3%</li> <li>Lack of innovations and failed to compete with Apple Smartphone.</li> </ul> | IJMH<br>(Bhalodiya & Sagotia, 2018)           |

IR4.0 indirectly created additional competition to Telco business (OTT Player) impacting the service revenue, increased of IOT devices causing high demand of Telco network capacity, and increased of demanding customers for better customer experience in Telco services (Self-Serve Channel, Mobile Apps and Customized Experience). Further research needs to be conducted to identify the relationship between digital transformation and achieving sustainable business growth for Telco Industry.

#### 1.1.4 Generations Different in Workplace

Generational cohorts are categorization of people from certain age group that define similar characteristics that potentially influence by certain events happen at that time. Klopota, et al. (2020), explained that individuals from different generations that went thru specific cultural, economic, and social events developed a set of belief and values in workplace. Generation cohorts defined by birth year and not current age because birth year will not change but people will get older (Kasasa, 2021). Dr. Abramson (2021) global generational experts mentioned that each generations react very differently in business environment. Table 2 is the combinations of birth year from multiple sources including website and latest journal that represent Baby Boomer, Gen X, Gen Y and Gen Z.

*Table 2: Generations Birth Year*

| No | Boomers     | Gen X       | Gen Y       | Gen Z                           | Source                        |
|----|-------------|-------------|-------------|---------------------------------|-------------------------------|
| 1  | 1946 - 1964 | 1965 – 1980 | 1981 - 1996 | 1997 - 2012                     | (Kasasa, 2021)                |
| 2  | 1946 - 1964 | 1965 – 1980 | 1981 - 1996 | 1997 - 2012                     | (Dimock, 2019)                |
| 3  | 1946 - 1964 | 1965 – 1980 | 1981 - 1996 | 1997 - 2012                     | (Beresford Research, 2021)    |
| 4  | 1946 - 1964 | 1965 – 1980 | 1981 - 1996 | 1997 - 2012                     | (Statista, 2020)              |
| 5  | 1946 - 1964 | 1965 – 1980 | 1981 - 1996 | 1997 - Present                  | (Lackey, 2019)                |
| 6  | 1946 - 1964 | 1965 – 1980 | 1981 - 1996 | 1997- no endpoint has been set  | (CNN, 2020)                   |
| 7  | 1946 - 1964 | 1965 – 1980 | 1981 - 1996 | 1997- no endpoint has been set  | (Loria & Lee, 2018)           |
| 8  | 1946 - 1964 | 1965 – 1980 | 1981 - 1999 | Not part of study               | (Rajput, et al., 2019)        |
| 9  | 1946 - 1964 | 1965 – 1980 | 1981 - 1999 | Not part of study               | (Juevesa, et al., 2020)       |
| 10 | 1946 - 1964 | 1965 – 1980 | 1981 - 2000 | 2001 - Present                  | (Danley, 2020)                |
| 11 | 1946 - 1964 | 1965 – 1980 | 1981 - 2000 | Not part of study               | (Ozaydin, 2019)               |
| 12 | 1946 - 1964 | 1965 – 1980 | 1981 - 2001 | Not part of study               | (Su Teng, et al., 2018)       |
| 13 | 1946 - 1964 | 1965 – 1976 | 1977 - 1995 | 1996 - no endpoint has been set | (CGK, 2020)                   |
| 14 | 1946 - 1964 | 1965 – 1979 | 1980 - 1995 | 1996 - no endpoint has been set | (Satpathy, et al., 2018)      |
| 15 | 1946 - 1964 | 1965 – 1981 | 1982 - 1999 | 2000 - no endpoint has been set | (Savaneviciene, et al., 2019) |

Researcher has selected the birth year to represent each generation in this research based on the highest counts. Below are the conclusions:

- Baby Boomers (1946 – 1964) Count: 15/15 (All website and Journal published the same birth year and its range).
- Gen X (1965 – 1980) Count: 12/15
- Gen Y (1981 – 1996) Count: 7/15
- Gen Z (1997 – 2012) Count: 4/15 (Only 4/15 website and journal mentioned about Gen Z birth year range. Most of the journal focus on non-Gen Z because only recently they have step into the corporate world.
- The Silent Generation (1928-1945) min age in 2021 is 75years old that exceeded the retirement age of corporate world and Generation Alpha (2013 – Present) which yet stepping into the corporate world, therefore will not be discussed in this paper.

Currently Baby Boomers, Gen X, Gen Y and Gen Z are the four different generations of workforce that run the overall operations of the organization. This made possible when the retirement age has been extended globally because people nowadays tend to leave longer compared to their parent, high inflation rate causing people unable to stop working, and demand of skilled resources higher than supply due to low fertility rate from younger parent. Referring to Malaysia Minimum Retirement Age Act 2012, the retirement age has been extended from 55 years old to 60 years old (Ministry of Human Resources, 2016).

There are benefits and challenges in leading a multigenerational workforce because each generation is not similar. Gourani (2019) published an article in Forbes regarding “Leading Multiple Generations in Today’s Workforce”. She claimed that HR departments facing challenges in attracting, leading, motivating and retaining talents because each generation have different expectations, learning preferences, way to share knowledge and poses different viewpoints. Deloitte Global Human Capital Trends 2020 report shown that 70% of the organizations strongly believed the important of managing a multigenerational workforce that led to success of the organization but sadly only 10% acknowledge it and will take actions in addressing the trend (Lee, 2020). Ram (2020) further emphasized the important of diverse workforce or multigenerational workforce create business advantage and potential drive business growth.

The survey published by LinkedIn Opportunity Index 2020 clearly mentioned the biggest gap between newer generations and older generations are soft skills and technical skills (Ram,

2020). Gen Y and Gen Z will need to brush up their soft skills while older generations such as Boomer and Gen X will need to improve their technical skills. Above declaration conducted by LinkedIn based on 30,000 responses from over 22 markets globally. Job Street a well-known recruitment company recently conducted a survey in 25 industries with 10,000 responses concluded that each generation have different expectation towards their employers, ways of work preference and even have their own distinct way of communicating (Choong, 2020). Lee (2020) published an article in Malaysia local newspaper saying that organisations are managing their talent based on gut feel and broad assumptions of each generation, which is wrong.

Managing the changing dynamic of the workforce (employees) is very challenging for Telco's company because only recently Gen Z is joining the workforce. According to Zahari & Puteh (2023), there are a lot of uncertainty and unknown of this generations because Gen Z is the newest members to the cohort. This is adding complexity to leader to manage multigenerational workforce in the company especially the oldest generation still standing strong (Baby Boomers). This is a critical problem and a gap to close because without the ability to manage the workforce, nothing can be achieved (Lewis & Wescott, 2017). Despite having clear vision in digital transformation and achieving long-term sustainability business growth. Low employee engagement score led to non-productive, disengaged, slow in acceptance change, poor customer management and diverting from company goals. Hence multigenerational workforce engagement, collaboration and characteristic is crucial to be part of the multigenerational workforce management.

## 1.2 Problem Statement

Historical, Telco Industry was always considered the essential service and the most profitable business in Malaysia (McKinsey & Company, 2022). From individual to corporate, almost everyone will require to use Voice Call, Short Messaging Service (SMS), Multimedia Messaging services (MMS), Internet Calling Card (IDD) and International Roaming. Malaysian do not have other choices but to subscribe to any of the Telco Company in Malaysia (Maxis, Digi and Celcom). It was a control business where Malaysia government only assigned the Telecommunications Signal License (2G, 3G, 4G, 5G) to selected Telco (MCMC, 2023). Hence the cost to use any of the services are very high due because of the limited signal license. During Industrial Revolution 3.0, the invention of personal computers and internet connectivity further improving Telco business thru the offer of Internet Connectivity.

Unfortunately, Telco's in Malaysia unable to continue achieve the Sustainable of the Business Growth. In the past 5 years, they have recorded declining of financial performance year on year including its Revenue, PAT, EBITDA and EBITDA Margin. Traditional revenue stream of Telco is coming from service subscription, call utilization, internet top up and roaming but recently it is in declining mode (McKinsey & Company, 2022). Hence Telco shifted the focus to achieving operation efficiency hopefully can maintain or increase the Profit After Tax for the company by controlling in expenses, cutting down on operating cost, better manage of loan and taxes. A business is not sustainable by just cutting down expenses, it requires to grow it business to generate high revenue growth.

At the same time, a new generation (Gen Z) is joining the corporate world working with other generations cohort such as Baby Boomer, Gen X and Gen Y. Leaders of the company is having challenges and limited experience in Managing the Changing Dynamics of the Workforce including the engagement, collaboration, and the characteristic difference between generations (Arar & Oneren, 2018). Lewis & Wescott (2017) emphasized similar findings to organization leaders that this environment offered opportunities and challenges because different generation cohort will have different attitudes, characteristics, behaviour, values, and perspective. To remain competitive, leader need to address and acknowledge the important of managing multi-generational workforce and the changing dynamics of it. Zahari & Puteh (2023) emphasized the importance of human management towards sustainable growth of the company to avoid high turnover cost, time, and money.

There are a lot of research that talked about the complexity and challenges to manage multigenerational workforce. But most of the research is only conducted on Baby Boomer, Gen X and Gen Y but not many with Gen Z. Even there is research that talked about four generations working under the same company but is still challenging to find any study that talked about sustainability business, multigenerational workforce management, and digital transformation in Malaysia Telco Industry. Hence this is one of academic and theoretical gap that should be focused on this thesis. Below is the sample of recent research that talked about multigenerational workforce (Baby Boomer, Gen X or Gen Y) but limited research on all four generations including Gen Z in Malaysia Telco Industry:

- Characteristics and Factor of Gen X and Gen Y that effect the relationship of two generations in workplace (Gupta & Rupali, 2020).
- Gen differences between Boomer, Gen X and Gen Y towards business sustainability (Toro, et al., 2019)
- Baby Boomers, Gen X and Gen Y preferences when come to employee engagement in Indonesia Telco Industry (Hapsari, et al., 2019)
- Factor that influenced Work Engagement, Career Development and Collaboration of Gen X and Gen Y (Saileela, et al., 2018)
- Different motivator factor for Boomer, Gen X and Gen Y (Hartijasti & Darpita, 2017)
- Different employee engagement across Baby Boomers, Gen X, Gen Y due to increase of workforce diversity (Lapoint & Spence , 2017)

Alongside the challenges in achieving sustainable business growth and managing the changing dynamic of workforce, Telco was forced to focus on the rapid digital transformation to embrace impact of Industrial Revolution 4.0 and stay relevant in the industry. Osmundsen, et al. (2018) in their research did mention the success factor of Digital Transformation require supporting leaders, employees, and organizations. Mhlanga (2022) mentioned in his latest research that majority of the company still having gap to achieve long term sustainability business growth that associate with IR4.0. The challenges including the factor that influence multigenerational workforce engagement, multigenerational workforce collaboration and multigenerational workforce characteristics towards the success of digital transformations. Sivaraman (2020) mentioned that employee diversity is crucial in organizational change. The diversity of characteristic not only bring new aspiration and innovations but also closing the digital skill set required during digital transformation journey. E.g. Combinations of Baby Boomers and

Gen X working experience together with the digital savvy of Gen Y and Gen Z indirectly created a heterogeneous resource.

In the existing market, there is lack of Sustainability Business Growth model that suitable for Telco Industry that currently having multigenerational workforce (Baby Boomers, Gen X, Gen Y, Gen Z), going thru digital transformation and required to continue manage the changing dynamics of the workforce. But majority of the famous Sustainable Model listed below focuses mostly on Green Initiative Sustainability, Motivation within internal and external stakeholders and improving the spending power of low- income populations. Hence this is a Methodological Gap that require further analysis in this thesis.

- The Seven Faces of Mount Sustainability (Anderson, 1999)
- Cradle to Cradle (McDonough & Braungart, 2002)
- The Sustainable Value Framework (Hart & Milstein, 2003)
- Seven Level of Sustainability (Barrett, 1999)
- Stakeholder Management (Freeman, 1984)
- Multiple Stakeholder Management (Trompenaars & Woolliams, 2009)
- The Bottom of the Pyramid Sustainability Model (Prahalad & Hart, 2002)

Based on the above problem statement, it is critical to carry out this research to determine the influence of each variable and come out with an Integrated Sustainable Business Growth Model that suitable for Malaysia Telco Industry.

### 1.3 Research Objectives

1. RO1: To study if multigenerational workforce engagement significantly affects the success of digital transformation.
2. RO2: To study if multigenerational workforce collaboration significantly affects the success of digital transformation.
3. RO3: To study if multigenerational workforce characteristic significantly affects the success of digital transformation.
4. RO4: To study if multigenerational workforce engagement significantly affects the success of managing the changing dynamic of workforce.
5. RO5: To study if multigenerational workforce collaboration significantly affects the success of managing the changing dynamic of workforce.
6. RO6: To study if multigenerational workforce characteristic significantly affects the success of managing the changing dynamic of workforce.
7. RO7: To study if managing the changing dynamic of the workforce significantly affects the success of digital transformation.
8. RO8: To study if digital transformation significantly affects the sustainable business growth.
9. RO9: To study if managing the changing dynamic of the workforce significantly affects the sustainable business growth.



#### 1.4 Research Questions

1. RQ1: Does multigenerational workforce engagement significantly affect the success of digital transformation?
2. RQ2: Does multigenerational workforce collaboration significantly affect the success of digital transformation?
3. RQ3: Does multigenerational workforce characteristic significantly affect the success of digital transformation?
4. RQ4: Does multigenerational workforce engagement significantly affect the success of managing the changing dynamic of workforce?
5. RQ5: Does multigenerational workforce collaboration significantly affect the success of managing the changing dynamic of workforce?
6. RQ6: Does multigenerational workforce characteristic significantly affect the success of managing the changing dynamic of workforce?
7. RQ7: Does managing the changing dynamic of the workforce significantly affect the success of digital transformation?
8. RQ8: Does digital transformation significantly affect the sustainable business growth?
9. RQ9: Does managing the changing dynamic of the workforce significantly affect the sustainable business growth?

### 1.5 Scope of the Study

This study aimed to test the hypothesis, provide a conclusive result and deliver an Integrated Sustainable Business Growth Model for Malaysia's Telco Industry through the Effect of Multigenerational Workforce Management and Digital Transformation. Scope of the study for this research comprises of working adults in Malaysia's top 3 biggest consumer-based Telecommunications companies (Maxis, Celcom, or Digi). The scope of sampling size is limited to 367 respondents between 4 different age groups. Inclusive of working adults born in year 1946 – 1964 (Baby Boomers), 1965 – 1980 (Gen X), 1981 – 1996 (Gen Y) and 1997 – 2012 (Gen Z). It also inclusive of both genders (Male or Female) and position in the company (Managerial or Non-managerial). Respondent is required to complete all 45 mandatory questions in Online Google Form before can proceed for Submission. Each successful submission will be used as part of data analysis.

The data collection period will last for a maximum of 7 months, or 367 responses collected, whichever comes first.

### 1.6 Significant of the Study

Malaysian's Telco Industry has been facing few key challenges in achieving long-term sustainable growth especially to maintain a healthy financial growth in current economic conditions, impact of Industrial Revolution 4.0 and additional of new cohort joining the existing multigenerational workforce. According to Ali (2020) and Damanhour (2017), IR4.0 digitalization has speed up the consumption of internet both from consumer and enterprise customers due to new opportunities from internet-based industries. New businesses that require internet connectivity are like Grab, Airbnb, Netflix, Amazon, Alibaba, Facebook, WhatsApp, Zoom, LinkedIn, YouTube and many more. Malaysian Communications and Multimedia Commission (2022) has conducted a survey on internet user in Malaysia showing the increased of internet user in 10 years from 64.1% (2012) to 92.7% (2022). Logically, the business demand for Telco services should be growing year on year but unfortunately, they still facing challenges in sustaining the business growth.

This research aims to identify the factors that influencing Malaysia Telco's in achieving long-term sustainable business growth. Therefore, this research will have significant practical contributions to address the gap faced by Malaysia's Telco and to contribute to the body of knowledge identified during this research journey. The independent variables such as Multigenerational Workforce Engagement, Multigenerational Workforce Collaboration and Multigenerational Workforce Characteristics will be used to tackle the limited practical experience of the leaders in Telco Industry and to address the gap of inadequate literature of four different generations cohort (Baby Boomer, Gen X, Gen Y and Gen Z) working in Malaysia's Telco. Mediator variables such as Digital Transformation and Managing Changing Dynamic of the Workforce potential increase the significancy between Independent Variables with Dependent Variables by allowing leaders to understand the need of leadership in managing multigenerational workforce and the important of digital transformation as part of the developing a Sustainable Business Growth Model. The study basically describing the important of the relationship between human, technology, and company goals that cannot exist as standalone.

The result of this research benefited the following:

- **The Business Owners and Leader of the Company:** The proposed Sustainable Business Growth model that derived from this research is tailored made and practical for Malaysia's Telco Industry. Leader of the company will be able to use the model to

assist them in managing and motivating the multigenerational workforce effectively which can lead to high employee engagement score or employee net promoter core (employee happiness score). With satisfied employees, they will be able to help the organization to achieve the company goal including digital transformation, increase customer base and improve financial health (Sustainable business growth).

- **The Employees of the Company:** This research inclusive of the way of managing the changing dynamics of workforce. It allowed employees and employers of the company to establish a better relationship and understanding with each other. With the open transparency and communications from leader, employees will have better visibility of the company directions. It will further motivate them to engage, collaborate and reduce the characteristic friction within different cohorts to achieve company goals.
- **The Customer or Subscribers of the Company Business:** The results derived from this thesis will improve employee's satisfaction, speed up digital transformation and improve the overall financial performance of the company. Customer or subscribers of the Telco services will experience better customer experience when visiting retail shop or calling customer service, due to the highly motivated employees. Customer will also enjoy excellence telco services, minimal service downtime, better network coverage, highly customized package, and user-friendly mobile apps due to the focus of digital transformation.
- **The Future Researcher:** The results of this research contributed from the reviews of Government statistic, local newspaper, periodical articles, Telco annual reports, MCMC Portal, Telco Company website, recent journals, theories, interviews response from Telco experts, survey result analysis from big data collection, hypothetical framework assessment, measurement models analysis, structural model analysis and hypothesis testing can be used as an anchor for future researcher. Thru reviewing the in-depth analysis of this thesis (literature), it will serve as a guide for them, and it will reduce the efforts require for similar topics in future. Perhaps future researcher can also apply longitudinal research on Gen Z when they are becoming more mature to determine if the identified factors that impacting Sustainable Business Growth has changed. Future researcher can also expand and compare the research by including small to medium Telco companies together with the top 3 Telco's.

## 1.7 Definition of Key Terms

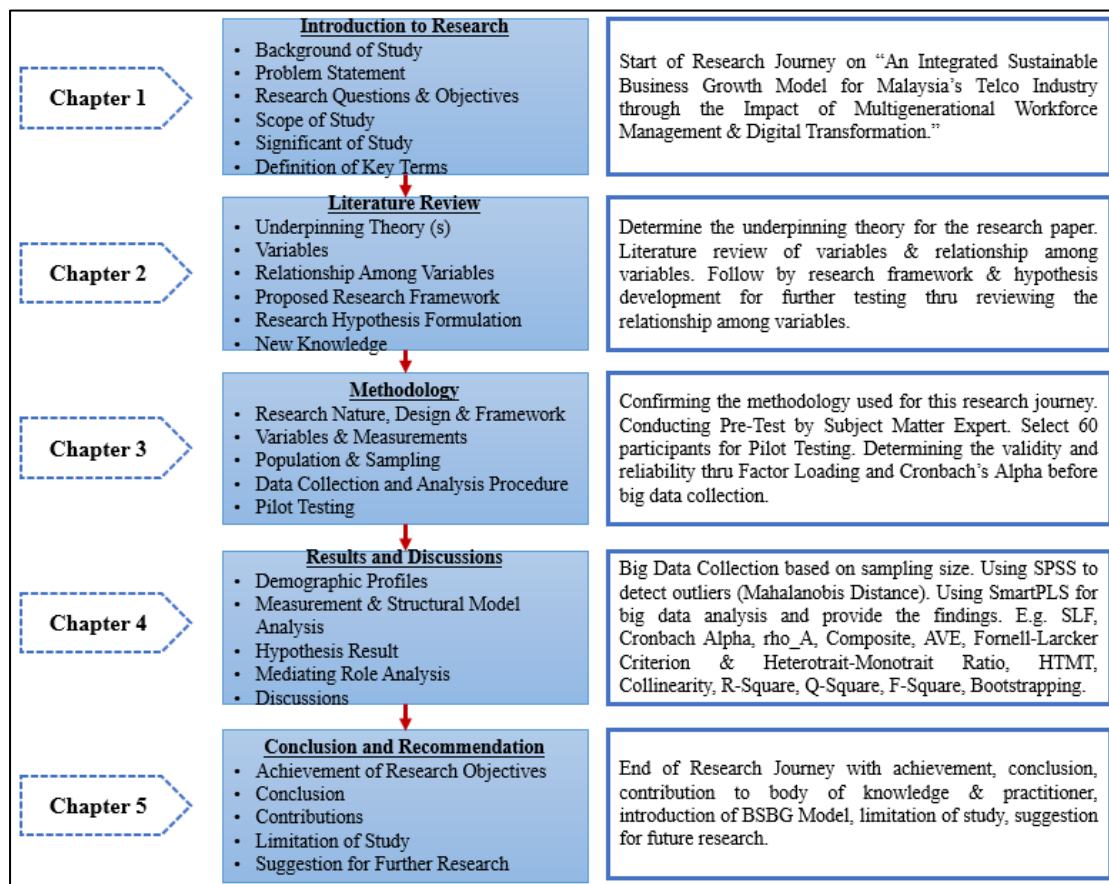
For better explained of these studies, the following terms are defined in the context of this research:

1. Multigenerational Workforce Engagement: This refers to the group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which emotionally and professionally connected to achieve company goals.
2. Multigenerational Workforce Collaboration: This refers to the group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which work together willingly with each other to achieve company goals.
3. Multigenerational Workforce Characteristic: This refers to the group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which have unique, similar, and different traits from each other's.
4. Digital Transformation: This refers to the revolutions of technology and process used in the company to improve flexibility, scalability, efficiency, time to market, values to customer, way to connect to customer and competitive advantage.
5. Manage Changing Dynamic of the Workforce: This refers to the ability of leaders to lead thru the understanding of the similarity and differences in behaviours from different cohort/generations that currently working under the same company to achieve company goals.
6. Sustainable Business Growth: This refers to the ability of the employees and leaders working together to overcome existing challenges and to achieve long-term growth of the company thru the measurements of financial performance, customer based, and employee's satisfaction without incurring additional burden to the company such as debt, loan, or equity.

## 1.8 Organization of the Study

Figure 3 represent the overall structure of this thesis starting with Chapter 1 that explained the high-level introduction of the research background, problem statement, research objectives and questions. Chapter 2 focus on literature review including identifying the underpinning theory, variables, measurements, and potential new knowledge. Chapter 3 will be the methodology used thru out the thesis writing including the design, framework, sampling size, data collection and pre and pilot test to determine the validity and reliability of hypothesis, exogenous and endogenous variables, and measurements. Chapter 4 will focus on Big Data collection thru online survey based on the sampling size (Krejcie and Morgan table). To detect and remove outliers (Mahalanobis Distance) from the collected data, researcher will be using SPSS tool. Follow by data analysis through Structural Equation Modelling using SmartPLS tool and present the results including the factor loading, path coefficients, R-square, direct/indirect analysis, bootstrapping, goodness of Model FIT, hypothesis result and achievement of research objectives. Chapter 5 is the final chapter that talk about achievement, conclusion, recommendations, contributions, limitation of the research and potential future research topic.

Figure 3: Overall Thesis Structure



Source: Author

## 1.9 Summary

After detail evaluations of the background, researcher has concluded the problem statement and the purpose of research activity. In total 9 research questions and research objectives have been introduced and will be used as an anchor during literature review. Detail literature review will be presenting in Chapter 2 including underpinning theory, variables, construct measurement and relationship among variables.

## Chapter 2: Literature Review

### 2.1 Introduction

In this section, researcher has taken a complete review of relevant literature that related to field of study. Section 2.2, researcher will present the underpinning theory (Parent Theory and Operational Theory) that used to anchor the entire thesis. The literature review of the said theories will include the origin of the theories, detail background review, previous and recent developments, application, and challenges. Underpinning theory will provide a theoretical source for the research field and act as a conceptual foundational support. In section 2.3, researcher will talk about key independent variables that directly or indirectly affect the dependent variables. At the same time, researcher will review the existing Sustainable Business Growth Model in the market. As highlighted in Chapter 1, Malaysia's Telco facing a lot of pressure that impact to their overall financial performance year on year. Every Telco wanted to achieve a long-term sustainable business growth for their company. To stay relevant, they need a new sustainable business growth model that suited for Malaysia's Telco Industry that having multigenerational workforce working under the same roof and at the same time focusing on rapid digital transformation. In Section 2.4, researcher talk about relationships among each variable and develop the research framework and hypothesis for further testing in Chapter 3 and Chapter 4.

### 2.2 Underpinning Theory (s)

#### **Parent Theory (Primary Supporting Theory)**

The Parent Theory or Primary Supporting Theory for this thesis is Resource-Based Theory (RBT).

#### 2.2.1 Resource-Based Theory (RBT)

Resource-Based Theory (RBT) selected as the primary supporting theory because researcher wanted to propose a model to Telco Industry that desired to achieve Sustainable Business Growth (Dependent Variable – DV). RBT focused on creating a sustainability and competitive advantage firm thru the focus of the company resources inclusive of stakeholders (e.g. employees, leaders, and customers). In RBT, resources considered heterogeneous and difficult to be duplicated by competitors. In Chapter 1 Significant of Study, Sustainable Business Growth require growth in financial, improve of employee's satisfaction and customers based. Researcher Dependent Variable (DV) for this research is Sustainable Business Growth hence RBT is relevant to be part of the research framework.



RBT was first introduced and published in Journal of Management in 1991 by Jay Barney in discussion of understanding the source of creating or building a sustainable competitive advantage in strategic management (Barney, 1991). Barney believed company that focus in strategic resources will eventually developed competitive advantages and sustainable competitive advantage. According to Barney (1991), sustainable competitive advantage is the benefits of value creation strategies that cannot duplicate by their competitors. Daft & Lengel (1983) said firm resources such as capabilities, organizational processes, assets, firm attributes, knowledge and information that possess and control by firm used to improve its overall effectiveness and efficiency.

Barney (1991) categorized Daft & Lengel (1983) firm resources into Tangible and Intangible resources. Tangible resources or physical resources include building, equipment, machinery, assets, and capital. Intangible resources are resources that are non-physical in nature such as brand image, customer experience, customer loyalty, reputation, and trademark. While Barney, et al. (2012) said firm resources is also vary from firm to firm, non-exchangeable and not imitable in principle.

Based on this theory, there are two main assumptions to take note on. First, firm resources are immobility, and second firm resources are heterogeneous. As explained by Barney (1991), resource immobility means resources are unique to particular firm and difficult to be acquired by competitors in order to implement the same strategy and ripe the same benefits. While heterogeneous resources mean resources of the particular firm, possess different characteristics and setup.

Barney (1991) and Barney, et al. (2001) explained, beside firm resources must be immobility and heterogeneous, firm must possess below four attributes in order to achieve sustainable competitive advantage and business growth. The four attributes must be Valuable, Rare, Imitable, and Organization (Barney, et al., 2012). It also known as VRIO Framework:

- Valuable refer to the ability of resources to help firm to implement workable strategies against their competitor.
- Rare means resources that is shortage, unique to the particular firm and difficult to obtain.
- Imitable means to duplicate the firm resources by competitors are difficult.

- Organization refers to complimentary resources that able to develop firm resources into competitive advantage such as organizational structure, information systems and management control.

In 2001 after 10 years since the introduction of RBT in 1991, Barney, et al. (2001) has broaden the use of RBT in new area of works and proven success:

- Interface between Information and Communications Technology with skilled employees that proven inimitable, and potential create sustainable competitive advantage.
- Organizational behaviour that uses RBT to link between micro-organizational behaviour with the success or failure of the company.
- Rapid contribution of RBT to Human Resource Management where trained and knowledge staff can be considered heterogeneous.
- Economic and Finance that difference in firm behaviour and path dependency.
- Input such as coordinate knowledge, market analysis and discoveries for Entrepreneurship create heterogeneous output.
- Marketing allow firm to understand the relevancy of rare resources to meet customer expectations.
- Local firm using international business to bring in foreigner capabilities over domestic competitor creating international network as part of Intangible resources.

In 2011 after 20 years since the introduction of RBT in 1991, Barney, et al. (2011) has seen the development phase of RBT from introduction to growth to maturity. There are increase of scholar/researcher in using Resource-Based Theory instead of Resource-Based View in their publications. It means Resource-Based research has reached the maturity level that precise and complex that assemble a theory rather than a view (Barney, et al., 2011). After 20years, there are minimum three theories that extended from RBT into a new and recognized theory. The theory is Knowledge-Based View (Grant, 1996), Dynamic Capabilities (Teece, et al., 1997) and Natural-Resources-Based View (Hart, 1995). Although RBT treat knowledge as heterogeneous resources and able to create competitive advantage for firm, but it did not provide an in-depth study and characteristic for knowledge. As a result, Grant (1996) introduced Knowledge-Based View (KBV) that focus on knowledge in individual employees and repository of knowledge. Based on KBV, Curado (2006) said firm need to understand the

most important role is organizational learning and knowledge is not depreciated, intangible and dynamic. Like Grant, Teece, et al. (1997) introduced Dynamic Capabilities as an extension from RBT. In Dynamic Capabilities, it focusses on preparing the organizations to survive and compete in the changing dynamic of the business. It emphasized the important of building a learning and adaptation culture, technology and customer focus and continue transform new and existing assets. Hart (1995) introduced Natural-Resource-Based View that is the extension from RBT. According to Hart (1995), RBT focus a lot in heterogeneous and immobility resources to sustain competitive advantage but forgotten the natural environment factor that potential impact to overall sustainable competitive advantage. Although after 20 years of maturity, Barney, et al. (2011) concluded that RBT need to continue to evolve in order to stay relevant and revitalizing. Five themes emerged from the 3<sup>rd</sup> Journal of Management in 2011 regarding RBT.

- Interlinkages with other perspectives – To study the possibilities of market footholds and transitional identify.
- Integrating micro-foundations to RBT – To integrate the human capital management.
- Inter-relationship between Sustainability and RBT – To incorporate Corporate Social Responsibilities.
- Implementing issue measurement method – To find a way to measure intangible resources performance.
- Introducing resource acquisition and resource development processes – To explore the potential acquisition and development of resources knowing all resources is heterogeneous.

In 2016, Barney (2016) has pushed back his earlier claimed that profit generated by firm is for shareholders only. Barney mentioned that, in order to create a real sustainable competitive advantage or growth, firm need to incorporate the Stakeholder Perspective. Stakeholders of a firm can be employees, shareholders, supplier, vendor, external partners, and customers (Parmar, et al., 2010). Barney (2016) requested firm to incorporate stakeholder's perspective into RBT and create a model of Profit Appropriation. Firm need to allocate certain profit for stakeholder's management because stakeholders able to combine different resources of the firm into a specialized resources in order to achieve economic growths. Since 2011 to present, D'Oria, et al. (2021) described RBT from maturity stage to integration stage. After 30years, there are a lot of successful integration between RBT and another theories/framework. It means

RBT can be seen as a theory that able to integrate with other sources and able to complement each other to achieve sustainable competitive advantages.

During literatures review by researcher on key words Sustainable Business Growth, Sustainable Competitive Advantage, Sustainable Financial Growth, Sustainable Business Performance, Achieve Long-term Growth and Long-term Business Sustainability. Over 50% of the journals are using Resource-Based Theory (RBT) as their underpinning theory. Other 50% are either using theory that initially spin off from RBT or they did not mention in their published journals. Table 3 is part of the journal reviewed and cited by researcher during literature review of topics related to sustainability. The focus of RBT on resources as Valuable, Rare, Imitable and Organization (VRIO Framework) is aligned with researcher topics because human is the key to support company initiative, goal, strategy, and directions. It proven that RBT is a suitable theory to be used as underpinning theory for researcher frameworks.

But there are some limitation/gap of RBT as mentioned by D'Oria, et al. (2021), (Freeman, et al., 2021) and (Teece, 2018). One of the limitations are the missing of managerial and employees feedback loop. Without a feedback loop, company will not be able to continue improvise and cater for the need of present situations (D'Oria, et al., 2021; Graen, et al., 2018). 2<sup>nd</sup> limitation, RBT only talked about the important of resources/stakeholders but did not focus on incorporating the changing of the company dynamic and the impact of digital transformation into their framework (Teece, et al., 1997; Graen, et al., 2018). 3<sup>rd</sup> limitation is lack of focus on resources cooperation and collaboration but rather resources as a competitive tool in sustainability (Freeman, et al., 2021). Hence researcher need to incorporate other Operational Theory / Secondary Supporting Theory to support the research framework (Dynamic Capability Theory DCT, Leader Member Exchange Theory LMX and Strauss-Howe Generational Theory) and to compensate the gap from RBT.

- Dynamic Capability Theory (DCT) supporting the (MV) Digital Transformation.
- Leader Member Exchange Theory (LMX) supporting the (MV) Managing the Changing Dynamic of the Workforce
- Strauss-Howe Generational Theory to support the (IV) Multigenerational Workforce (Baby Boomer, Gen X, Gen Y and Gen Z).

*Table 3: Journals that used Resource-Based Theory as Underpinning Theory*

| Title  | Underpinning Theory  | Author                      |
|--|--|-----------------------------|
| Branding Advantage of Agri-Food Companies in Competitive Export Markets: A Resource-Based Theory   | Resource-Based Theory (RBT)  | (Aghazadeh, et al., 2022)   |
| Strategic Agility: Achieving Superior Organizational Performance through Strategic Foresight   | Dynamic Capability Theory (DCT) an extension/spin out of Resource-Based Theory (RBT) | (Arokodare & Asikhia, 2020) |
| The Roles of Dynamic Capabilities Innovation, Organizational Agility and Knowledge Management on Competitive Performance in Telecommunication Industry | Resource-Based Theory (RBT)  | (Gyemang & Emeagwali, 2019) |
| Role of Social and Technological Challenges in Achieving a Sustainable Competitive Advantage and Sustainable Business Performance                      | Resource-Based Theory (RBT)  | (Haseeb, et al., 2019)      |
| Industry 4.0: A Solution towards Technology Challenges of Sustainable Business Performance   | Resource-Based Theory (RBT)  | (Haseeb, et al., 2019)      |
| Business-it Strategic Fit and Performance of Telecommunications Companies In Nigeria: Moderating Role of Environmental Uncertainty                     | Resource-Based Theory (RBT)  | (Musa, et al., 2019)        |
| Intellectual Capital, Financial Performance, and Companies' Sustainable Growth: Evidence from the Korean Manufacturing Industry                        | Resource-Based Theory (RBT)  | (Xu & Wang, 2018)           |
| A Study on the Sustainable Growth of SMEs: The Mediating Role of Organizational Metacognition  | Resource-Based Theory (RBT)  | (Yoo, et al., 2018)         |

### **Operational Theories (Secondary Supporting Theories)**

The Operational Theories or Secondary Supporting Theories used in this thesis are Strauss-Howe Generational Theory, Leader-Member Exchange Theory (LMX) and Dynamic Capability Theory (DCT).

#### **2.2.2 Strauss-Howe Generational Theory**

Strauss-Howe Generational Theory selected as supporting theory because researcher wanted to understand the similarity, differences, characteristic, behaviours, attitudes, way of work, engagement, collaboration, and other details on multigenerational workforce of the company. As mentioned in Chapter 1, there are at least four different generations of employee working under the same roof (Boomer, Gen X, Gen Y, and Gen Z) in 2021 and at the same time experiencing the rapid digital transformation of the company to achieve business sustainability. Researcher framework is having 3 Independent Variables (IV) that related to Multigenerational Workforce; hence Strauss-Howe Generational Theory is selected as one of the operational theories to support the primary theory. The selection of Strauss-Howe Generational Theory is based on the numerous journal review of multigenerational workforce. Majority of the journal is using Strauss-Howe Generational Theory as the underpinning theory.

In 1991, William Strauss and Neil Howe co-founded the Strauss-Howe Generational Theory (Strauss & Howe, 1991) and in 1997, it further updated with The Fourth Turning (Strauss & Howe, 1997). William Strauss born in 1947 and passed away in 2007 was a speaker, writer, theatre director, authority of generational change in America, founder of consulting firm LifeCourse Associates, co-authored of several book on Generational, co-founder of Cappies and graduated from Harvard College (LifeCourse Associates, 2020). Neil Howe born in 1951 is a renowned authority on generation's social change in America, writer, speaker, president of LifeCourse Associates, a historian, economist, demographer, managing director of demography at Hedgey, president of Saeculum Research, co-author of multiple Generations book and graduated from Yale University (LifeCourse Associates, 2020).

Strauss & Howe (1991) strongly believed that historical events would be influencing the group of people that born within that time and created different personalities (archetypes). Carl Jung a famous Swiss psychiatrist and psychoanalyst mentioned that archetypes is a subconscious thing that pre-set in nature or due to long terms patterns resulting from transformation that arise the experience of repeating and understandable (Jung, 2014). While Luttrell & McGrath (2021) described generational personas as similar characteristic, behaviours, believed and attitude

displayed by each generation's cohort. Karl Mannheim in 1923 has written about generational theory that relate generational cohort characteristic with the influence of major historical events, but he did not talk about cycles as what Strauss-Howe Generational Theory did (Twist & Newcombe, 2021).

Strauss & Howe (1991) said each 20-25 years would create a new turning of generational personas, social, economic, and political events. It considered One-Cycle after completion of four turnings, which normally will take about 80-90 years. According to Table 4 below, each turning will create a new archetypes, mood, culture, nation, and belief of the future. First turning is the recovery from a huge crisis where people tend to work together in a community. Second turning and third turning is when people moved from community to individualism. The fourth turning is the era of destruction where people need to rebuild the country and moving away from individualism to community again. After completion of fourth turning (The Crisis), it will repeat back to first turning (The High).

*Table 4: Turning and Generational Personas*

| Turning                         | General Characteristic  | Archetypes |
|---------------------------------|---|------------|
| First Turning -The High         | Weak in individualism and strong in institutions. (Growth)  | Idealist   |
| Second Turning - The Awakening  | Obsessive of personal and spiritual autonomy of people. (Maturation)                                | Reactive   |
| Third Turning - The Unravelling | Strong individualism and weak in institutions. (Entropy)  | Civic      |
| Fourth Turning - The Crisis     | Era of destruction, rebuilt of institutions and people cherish benefits of community. (Destruction) | Adaptive   |

Source Adapted from (Strauss & Howe, 1991) and (Twist & Newcombe, 2021)

In 1997, William Strauss and Neil Howe has introduced the Fourth Turning that talk about Generation Theory of past, present and future. In the Fourth Turning, they have replaced the 1991 archetypes terminology into Prophet, Nomad, Hero, and Artist instead of the original terminology Idealist, Reactive, Civic and Adaptive (Table 5). Howe & Strauss (2007) described Prophet Generation's as children that growing up after post-crisis, they valued community, morale and strong in preventing crisis from happening again. Meanwhile Nomad Generation's children is under protected, work in silo and isolating from society. Later came the Hero Generation's where children growing up protected, feeling over-confident and become powerful leader. The last is the Artist Generation's where children are over-protected

during crisis, learned up the traditional teaching that focus on morale and having empathy to others.

*Table 5: Changes of Archetypes Name and Characteristics*

| 1991 Architypes | 1997 Architypes | Characteristics   |
|-----------------|-----------------|---|
| Idealist        | Prophet         | <ul style="list-style-type: none"> <li>Growing up as indulged children of post-crisis era.</li> <li>Growing into young crusader that focus on principles and ethics.</li> </ul>                           |
| Reactive        | Nomad           | <ul style="list-style-type: none"> <li>Growing up as under-protected and isolating from social chaos.</li> <li>Growing into spirited, strong and logical person.</li> </ul>                               |
| Civic           | Hero            | <ul style="list-style-type: none"> <li>Growing up as protected children during chaos of awakening.</li> <li>Growing into heroes that over-confident, optimists, energetic and powerful adults.</li> </ul> |
| Adaptive        | Artist          | <ul style="list-style-type: none"> <li>Growing up as over protected children during crisis.</li> <li>Growing into traditionalist, process focus and caring adults.</li> </ul>                             |

Source Adapted from (Strauss & Howe, 1997) and (Twist & Newcombe, 2021)

Twist & Newcombe (2021) mapped out 15 different generations from year 1701 until present, based on Strauss-Howe Generational Theory. In the Table 6 below, it cleared reflected the saying of the theory that each turning last around 20-25years and the turning repeated itself every fourth turning. So far based on the mapping, Baby Boomer Archetype is Prophet, Gen X is Nomad, Gen Y is Hero and Homeland/Gen Z is Artist. It means people born in that generations will have similar characteristic, belief, attitude, and preferences because they have experienced certain historical events that happen at that time. Howe & Strauss (2007) mentioned, leaders might be able to handle crisis, fixed difficult problems and create new opportunity if they can align all four generations together by understanding the similarity and differences of each archetype.

*Table 6: Generation, Type, Birth Years and Formative Era*

| Generation (years)                 | Type               | Birth years    | Formative era                |
|------------------------------------|--------------------|----------------|------------------------------|
| <b>Revolutionary Saeculum (90)</b> |                    |                |                              |
| Awakening Generation               | Prophet (Idealist) | 1701–1723 (22) | High: Augustan Age of Empire |
| Liberty Generation                 | Nomad (Reactive)   | 1724–1741 (17) | Awakening: Great Awakening   |



|                                  |                                    |                |  |
|----------------------------------|------------------------------------|----------------|--|
| Republican Generation            | Hero (Civic)                       | 1742–1766 (24) | Unravelling: French and Indian War       |
| Compromise Generation            | Artist (Adaptive)                  | 1767–1791 (24) | Crisis: American Revolution              |
| <b>Civil War Saeculum (67)</b>   |                                    |                |  |
| Transcendental Generation        | Prophet (Idealist)                 | 1792–1821 (29) | High: Era of Good Feeling                |
| Gilded Generation                | Nomad (Reactive)                   | 1822–1842 (20) | Awakening: Transcendental Awakening      |
| Progressive Generation           | Hero (Civic) and Artist (Adaptive) | 1843–1859 (16) | Crisis: American Civil War               |
| <b>Great Power Saeculum (85)</b> |                                    |                |  |
| Missionary Generation            | Prophet (Idealist)                 | 1860–1882 (22) | High: Reconstruction/Gilded Age          |
| Lost Generation                  | Nomad (Reactive)                   | 1883–1900 (17) | Awakening: Missionary Awakening          |
| G.I. Generation                  | Hero (Civic)                       | 1901–1924 (23) | Unravelling: World War I/Prohibition     |
| Silent Generation                | Artist (Adaptive)                  | 1925–1942 (17) | Crisis: Great Depression/World War II    |
| <b>Millennial Saeculum (69+)</b> |                                    |                |  |
| Baby Boomer Generation           | Prophet (Idealist)                 | 1943–1960 (17) | High: Superpower America                 |
| Generation X                     | Nomad (Reactive)                   | 1961–1981 (20) | Awakening: Consciousness Revolution      |
| Millennial Generation            | Hero (Civic)                       | 1982–2004 (22) | Unravelling: Culture Wars, Postmodernism |
| Homeland Generation              | Artist (Adaptive)                  | 2005–present   | Crisis: Great Recession, War on Terror   |

Source Adopted from (Twist & Newcombe, 2021)

Table 7 below is the extraction of journals which using Strauss-Howe Generational Theory or Mannheim Theory of Generation as their underpinning theories. With all the references, researcher believed Strauss-Howe Generational Theory would be able to provide clearer understanding to leader on the engagement, collaboration, and characteristic of multi-generational workforce. Twist & Newcombe (2021) and Strauss & Howe (1997) described the important for leaders to understand the behaviours of multigenerational workforce based on the history and prediction of fourth-turning (past, present and future). Example of cross referencing using fourth-turning:

- Baby Boomer is considered “Idealist” that having similar behaviour as Missionary, Transcendental and Awakening Generation. Main behaviour is focus on principles and ethics.

- Gen X is considered “Reactive” that similar to Lost, Gilded and Liberty Generation. Main behaviour is strong, spirited, and logical person.
- Gen Y/Millennial is considered “Hero” which similar to G.I, Progressive, and Republican Generation. Main behaviour is over-confident, optimistic and powerful.
- Gen Z/Homeland is considered “Artist” similar to Silent and Compromise Generation. Main behaviour is traditionalist, process focus and caring adults.

Researcher believed Strauss-Howe Generational Theory is suitable to be used as underpinning theory to support 3 IVs as part of this research framework. By knowing the differences and similarities of multigenerational behaviours, measurement of the IV and results of the survey during big data collection will further strengthen the proposed Sustainable Business Growth Model for Malaysia’s Telco.

But there are one limitation or potential gap of this Strauss-Howe Generational Theory. According to Strauss-Howe Generational Theory, Fourth Turning framework allow leaders to predict the behaviour of different generation workforce but is still a prediction thru the mapping of historical events. If referring to the latest journals, majority of the journals do not have in-depth research on Gen Z mainly because they are considered minority and just newly entering the working life. Every new generation might or might not having similar attributes as their previous predecessor hence is risk to categorize under Type “Artist”. Therefore, is worth to be part of the Multigenerational study together with the support from other underpinning theories used in this thesis.

*Table 7: Journal that Used Generational Theory*

| Title   | Underpinning Theory              | Author                   |
|---|----------------------------------|--------------------------|
| Predictors of Turnover Intention: Generational Perspective  | Strauss-Howe Generational Theory | (Klajkó, et al., 2022)   |
| Evaluating The Channels Used to Communicate The Benefits Offered to a Multi-Generation Workforce                    | Strauss-Howe Generational Theory | (Philip & Netra, 2021)   |
| It is Time to Realize Generations Matter on the Labour Market. Interesting Facts About Generations in the Workplace | Strauss-Howe Generational Theory | (Prund, 2021)            |
| Do Business Ethics and Ethical Decision Making Still Matter: Perspective of Different Generational Cohorts          | Strauss-Howe Generational Theory | (Klopotan, et al., 2020) |
| Leading a Multigenerational Workforce: Leveraging the Skill Sets of Each Cohort                                     | Strauss-Howe Generational Theory | (Danley, 2020)           |

|  |   |                               |
|--|---|-------------------------------|
| Exploring the Multigenerational Workforce's Personal And Work Values: The Future Research Agenda                             | Strauss-Howe Generational Theory                                | (Lunova & Cirjevskis, 2019)   |
| Individual Innovativeness of Different Generations in the Context of the Forthcoming Society 5.0 in Lithuania                | Strauss-Howe Generational Theory                                | (Savaneviciene, et al., 2019) |
| Generational Differences in the Workplace  | Strauss-Howe Generational Theory                                | (Jones, et al., 2018)         |
| Engaging a Multigenerational Workforce   | Strauss-Howe Generational Theory                                | (Robinson, 2017)              |
| Multigenerational Workforce and its Relevance in the Higher Education Sector in India – A Comprehensive Review of Literature | Strauss-Howe Generational Theory; Mannheim Theory of Generation | (Sahrash, 2020)               |
| A Descriptive Enquiry for Identifying Factors Affecting Generation X and Generation Y at the Workplace                       | Strauss-Howe Generational Theory; Mannheim Theory of Generation | (Gupta & Rupali, 2020)        |
| How do organizations create and sustain vitality in a multigenerational workforce  | Strauss-Howe Generational Theory; Mannheim Theory of Generation | (Watts, 2018)                 |
| Generational Differences and COVID-19: Positive Interactions in Virtual Workplaces   | Mannheim Theory of Generation                                   | (Urick, 2020)                 |
| Strategies for Managing a Multigenerational Workforce  | Mannheim Theory of Generation                                   | (Iden, 2016)                  |

### 2.2.3 Leader-Member Exchange Theory (LMX)

The second supporting theory for this thesis is Leader-Member Exchange Theory (LMX). With current changing dynamic of the workforce, researcher hope to seek guidance and in-depth understanding the relationship between leaders and employees of the company. LMX theory will indirectly support the Mediating Variables (MV) “Managing the Changing Dynamic of the Workforce” that is part of the research framework. The selection of LMX is based on the review of multiple journals that similar to researcher intention to incorporate leadership as part of the future proposed Sustainable Business Growth Model.

In 1975, Fred Dansereau Jr, George Bear Graen and William Haga developed Vertical Dyad Linkage Theory (VDL) because they don’t believe the assumption of each leaders treat their employees the same (Dansereau, et al., 1975). Li (2018) pointed out that VDL is a huge turning point for a lot researcher on Leadership Theory. Before 1970, leadership strategy means managing and leading everyone using the same technique and strategies because leader behave the same towards all employees. Dansereau, et al. (1975) not agreeing with the old leadership thinking because they believed each leaders developed different relationship with their employees. To build a committed working team, leader need to establish a strong relationship with their employees. In early 1980s, Vertical Dyad Linkage (VDL) renamed into Leader-Member Exchange (LMX) theory and stayed deviate from Average Leadership Style (ALS) (Breukelen, et al., 2006). Graen & Schieman (1978) completed a study of 109 managers and concluded that relationship between leader and subordinates are consider heterogeneous, therefore leaders should not generalize the findings.

LMX theory in general broken into 3 main areas which is Leader, In-Group and Out-Group Members and Consequences. Liden & Graen (1980) said the leaders select in-group members after evaluation of their performance thru assigned tasks. Evaluation including the attitudes of employees when accepting and completing the task, competency, skills, trust-worthy and limited supervision. They will be categorized as out-group members when failed to meet the leader expectations. Leader used Employee Rating Scale to evaluate the performance of the employees and further categorized as In-Group or Out-Group member. Graen & Schieman (1978) and Liden & Graen (1980) agreed that high quality leader-member exchange is only achievable if both leaders and employees put in the additional efforts. Li (2018) the success depends on leaders’ ability to convey the expectations to subordinates clearly, sense of empathy to understand the challenges of subordinates, help subordinates to overcome obstacles and recognize employee performance and potential. Li (2018) further emphasized the important of

high-quality interactions because it promote job satisfaction, perceptions of fairness, innovation and potential reduce turnover.

Liden & Graen (1980) and Breukelen, et al. (2006) provided similar view and has categorized the characteristic, performance, and relationship with their manager from both in-group and out-group members as shown in Table 8 below.

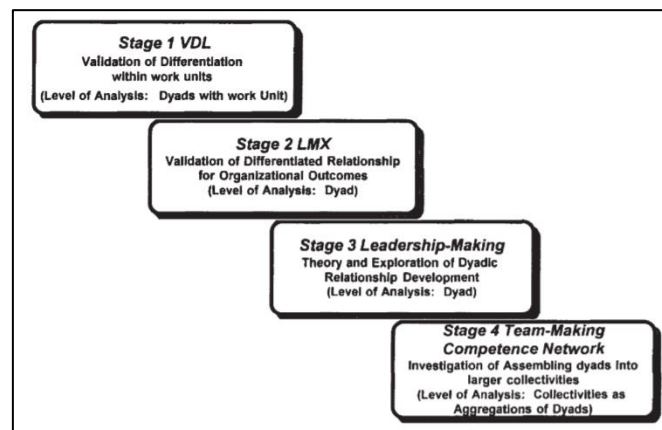
*Table 8: In-Group and Out-Group Characteristic and Relation with Manager*

| In/Out Group Member     | Characteristic  | Relationship with Manager  |
|-------------------------|---|--|
| <b>In-Group Member</b>  | <ul style="list-style-type: none"> <li>• High performer</li> <li>• Minimal supervision</li> <li>• Deliver more than require</li> <li>• Efficient</li> <li>• Job Satisfaction</li> <li>• Increase innovative behaviour</li> <li>• Sense of belonging to organization</li> </ul>                                    | <ul style="list-style-type: none"> <li>• High quality exchange with their manager</li> <li>• Open and frequent communications with manager</li> <li>• Trust their manager</li> <li>• Mutual Respect</li> <li>• Friendship</li> </ul>   |
| <b>Out-Group Member</b> | <ul style="list-style-type: none"> <li>• Normal or low performer</li> <li>• Require supervision from manager or team leader</li> <li>• Deliver based on role and responsibility</li> <li>• Not efficient</li> <li>• No job satisfaction</li> <li>• Minimal innovation</li> <li>• No sense of belonging</li> </ul> | <ul style="list-style-type: none"> <li>• Low quality exchange with their manager</li> <li>• Close and minimal communications with manager</li> <li>• Frustrated with their manager and accused manager of bias</li> <li>• Respect due to authority</li> <li>• Boss-Employee</li> </ul> |

Source Adapted from (Breukelen, et al., 2006) and (Liden & Graen, 1980)

In 1995, over 20 years of continue refinement of LMX Theory from an alternate to leadership style into continue providing suggestion to effective leadership development (Graen & Uhl-Bien, 1995). It is very clear now that LMX is part of Relationship-Based approach to leadership where leader and followers developed a trust-based leadership relationship. According to Figure 4 below, Graen & Uhl-Bien (1995), has listed the 4-Stage development of LMX Theory now from initial VDL Theory. Stage-1 talked about discovering the difference of relationship between leaders and followers, Stage-2 to identify the difference, document it down and further investigates the relationship characteristic and the outcomes, Stage-3 to identify the high-quality relationship or partnership building between leader and individual (Stranger, Acquaintance, Maturity) and Stage-4 is to duplicate the success of building high-quality relationship from individual/group to bigger community.

*Figure 4: LMX Theory Development*



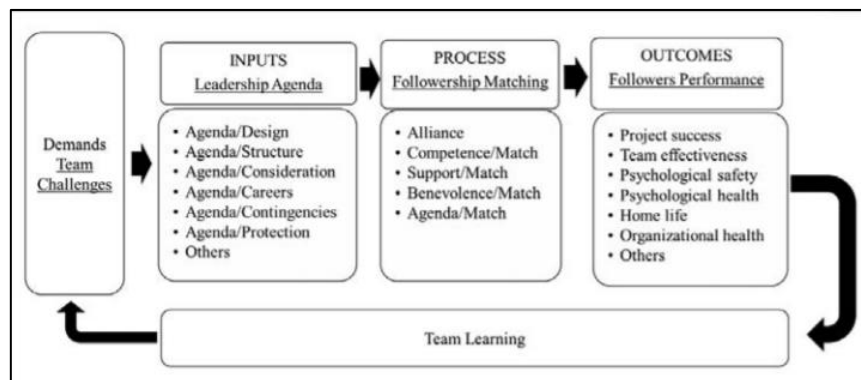
Source Adopted from (Graen & Uhl-Bien, 1995)

In 2013, due to increase of Gen Y maturing into leadership position, Graen & Schiemann (2013) introduced Leadership-Motivated Excellence Theory (LMX-T) as part of LMX extension. Graen & Schiemann (2013) advised leader to continue learn and attend courses in order to stay competence and relevant in human management. Below is the new requirement mentioned in LMX-T:

- Enhancing Skills – Continue to pick up new leadership courses to stay relevant.
- Changing Rewards – Organizations should implement Score Cards to track leader performance and as motivator for promotions.
- Recognize Role Models – Recognize leader that able to engage and collaborate with other units.

In 2018, due to new technology advancement, demand of knowledge worker and increase of Gen Y workforce, Graen, et al. (2018) proposed LMX-Alliance Framework (Figure 5). In new era, a lot of short project collaboration between cross departments or divisions. Leader needs to gel the subordinates together to achieve common goal and at the same time continue to create knowledge worker. Leader role is to communicate clear expectations to subordinates, motivate, clear obstacles, promote training and continue to create new knowledge.

Figure 5: LMX-Alliance Framework



Source Adopted from (Graen, et al., 2018)

Table 9 is the journal that used LMX Theory as their underpinning theory or as a mediator between independent variable and dependent variables. Researcher believed LMX theory is suitable for managing the changing dynamic of the workforce (MV) that currently going thru rapid digital transformation. LMX Theory believed leader should not use single leadership theory to manage their subordinates especially when organizations have minimal four different generations of workforce working under the same roof. Hence researcher believed LMX is a suitable underpinning theory to support the MV as part of the research framework. It requires leadership to drive the employees into achieving company goals, ambition, and vision. Another crucial point to use LMX is due to the latest framework of LMX incorporated one most important step which is the “Infinite” loop of Input, Process, Outcome, Team Learning (Graen, et al., 2018). This was used as part of the development in Bryan’s Sustainable Business Growth Model (the two left and right big arrows of the model in Chapter 5).

*Table 9: Journal that Used Leader-Member Exchange Theory*

| Title  | Underpinning Theory    | Author                   |
|--|------------------------|--------------------------|
| Leader-Member Exchange in the Age of Remote Work   | LMX Theory             | (Varma, et al., 2022)    |
| Cross Level Analysis of Organizational Justice Climate to Counterproductive Work Behavior: Leader-Member Exchange as mediation   | LMX Theory as mediator | (Siswanti, et al., 2020) |
| The Mediating Effect of Leader-Member Exchange on the Relationship between Psychological Contract Breach and Employees Responses   | LMX Theory as mediator | (Hussain & Anwar, 2020)  |
| The Effect of LMX and Age Dyadic Differences on the Satisfaction with the Feedback and the Leader  | LMX Theory             | (Costa, 2019)            |
| The Influence of Leader Member Exchange, Organizational Culture and Ethical Values on Organizational Citizenship Behaviour Teacher State Senior High Schools in East Flores District | LMX Theory             | (Bhoki, 2019)            |
| Affective Commitment to Organizations: A Comparative Study of Reverse Mentoring Versus Traditional Mentoring among Millennials   | LMX Theory             | (Hechl, 2017)            |
| Managing and Leading a Diverse Workforce: One of the Main Challenges in Management   | LMX Theory             | (Shaban, 2016)           |

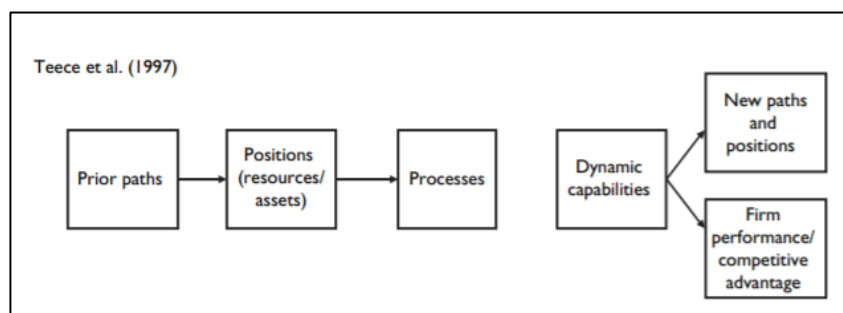


#### 2.2.4 Dynamic Capabilities Theory (DCT)

The third supporting theory for this thesis is Dynamic Capabilities Theory (DCT). Due to Industrial Revolution 4.0, majority of Malaysia's Telco are going thru rapid digital transformation to achieve sustainable business growth and improve competitive advantage. DCT theory will be supporting the Mediating Variables (MV) "Digital Transformation" that is part of the research framework. Similar to others, researcher decided to use DCT as one of the operational theory to support the framework is due to the constant appearance of DCT during literature reviews. Digital Transformation is a drastic change that involved multiple stakeholders, time, money, process, and people. Leaders and employees need to learn and unlearn to adapt to the change "digital transformation". Thus, the future propose model will require the support of DCT framework as the supporting theory to ease the research process.

In 1997, David J. Teece, Gary Pisano and Amy Shuen published their first write up on Dynamic Capabilities Theory (DCT) in Strategic Management Journal (Teece, et al., 1997). Teece, et al. (1997) introduced DCT as an extension from RBT, which mentioned during the evolution journey of Resource-Based Theory (RBT). DCT put additional focus in preparing the organizations to compete and survive in the changing dynamic of the workforce. The disruption of high-end technology created global competitive battles that forced firm to response, innovate, reused internal and external competences and able to manage the new capabilities effectively (Strønen, et al., 2017). Teece, et al. (1997) focused on two key words that do not focus by RBT, which is "Dynamic" and "Capabilities". Dynamic means the firm able to renew existing competency, technology, and processes effectively to cater for the rapid technological advancement. While Capabilities means the ability to adapt, integrate and reconfigure the internal and external resources to compete in the changing environment. Figure 6 below is a high-level diagram to describe DCT that focus on path (productions), positions (resources), processes (routines), dynamic capabilities (new path/products or improve existing competency).

*Figure 6: Dynamic Capabilities Theory Initial Model*

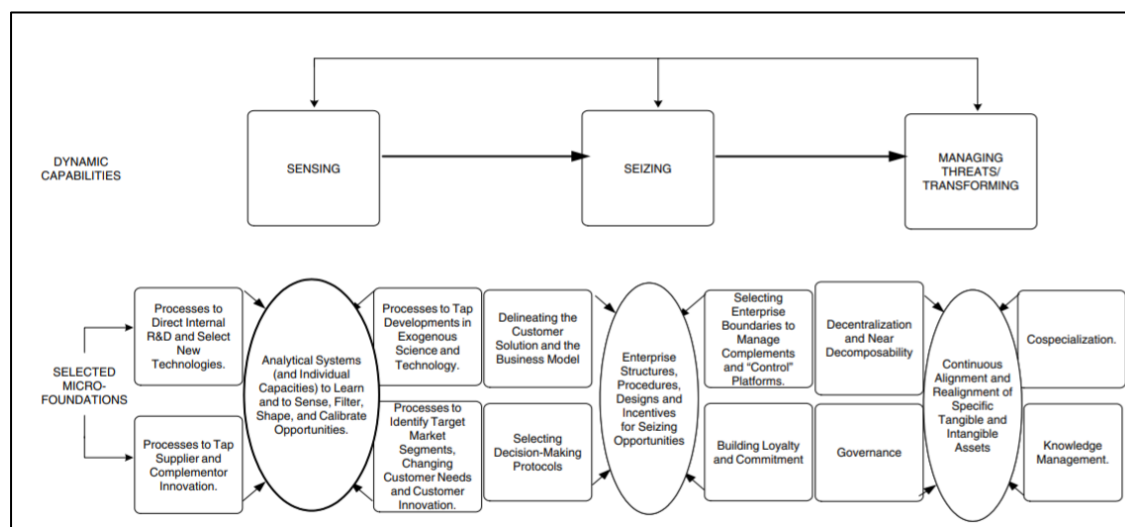


Source Adopted from (Helfat & Peteraf, 2009)

In 2007, David J. Teece has published further write up of DCT in Strategic Management Journal emphasizing the important of business enterprises to sustain the rapid innovation that happen globally and important of Dynamic Capabilities to enable business to utilize current resources in sustaining business performance (Teece, 2007). Teece (2007) mentioned that during the changing dynamic of the workforce, is insufficient by just having a difficult to replicate assets (knowledge). It will require difficult to replicate dynamic capabilities such as the continuous upgrade, fine tune and incorporate new elements into the assets, making it into heterogeneous assets. Teece (2007) divided the micro-foundations into three dimensions (Figure 7):

- Sensing – Ability to detect and evaluate incoming opportunity.
- Seizing – Ability to react and mobilize resources to capture the values.
- Transforming – Ability to renew and transform intangible and tangible assets.

Figure 7: Enhance DCT



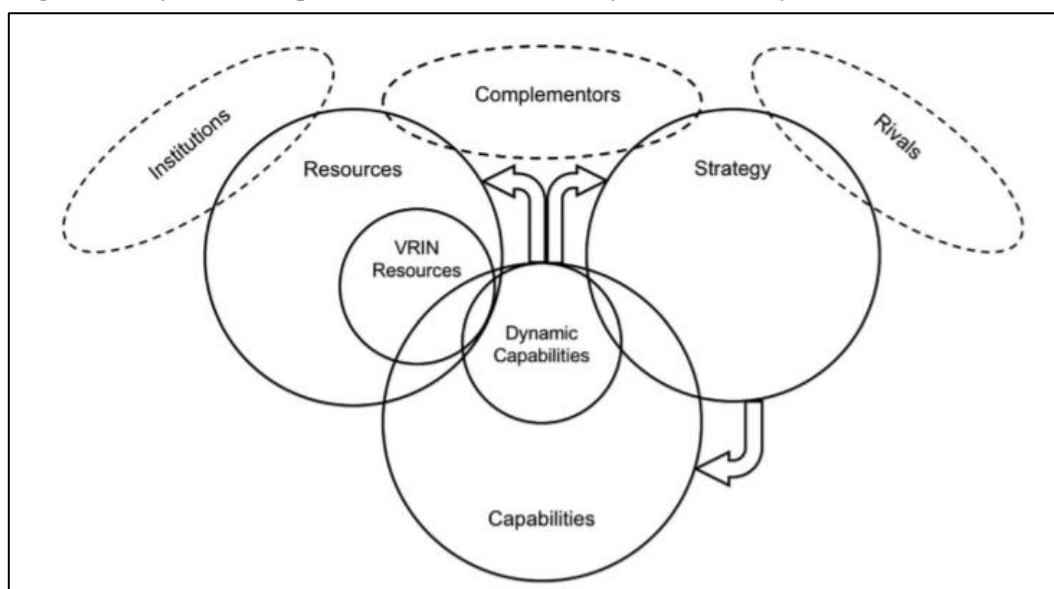
Source Adopted from (Teece, 2007)

According to Teece (2007), Sensing and Sizing means detecting and understanding the requirements to achieve the current and future opportunities that rises. Besides focusing on opportunities, organization should also focus on potential threats towards the company (Teece, et al., 1997). It requires capable leader to relook into current resources, finding an effective way to do things, make necessary changes and creatively coordinating the resources together. Meanwhile transforming is to reshape the organizational structure so they are ready to embrace the technological opportunities to meet customer needs and sustain financial growth.

In 2018, David J. Teece further incorporated additional components into DCT as shown in Figure 8 that transformed into a workable systems theory (Teece, 2018). Teece (2018), wanted a framework that help manager to embrace the constant changes of threat and opportunities in order to continue achieve sustainable competitive advantage. As mentioned by Teece (2007), DCT is not for short-term gain but long-term continue evolutions of the firm to achieve sustainable competitive advantage. Below are quick explanations of the components listed in Figure 8:

- Capabilities – Lowest hierarchy of DCT, which also consider ordinal capabilities where the firm has a set of workable process and procedures to deliver what needed at the current stage. Might or might not be suitable for future needs.
- Dynamic Capabilities – This layer talk about the micro-foundations as discussed in Figure 6 earlier. It allows the firm to make changes and adapt to new threat or opportunities thru sensing, sizing, and transforming. The sensing, sizing, and transforming cut across resources and strategies domain.
- Resources – Tangible and Intangible assets.
- VRIN - Barney (1991) described VRIN in his Resource-Based Theory (RBT) as valuable, rare, imperfectly imitable, and non-substitutable.
- Strategy – A plan to utilize company strengthen to compete and achieve competitive advantage.

*Figure 8: Dynamic Capabilities as Workable Systems Theory*



Source Adapted from (Teece, 2018)

Teece (2018) said, strength of firm depends on the organizational transformation through effectiveness of managing and coordinating the resources needed to manage new opportunities while continue to maintain the daily operations.

Table 10 is the journal that used DCT as their underpinning theory especially on innovation, digital transformation and achieving competitive advantage. Researcher believed with rapid digital transformation, we required DCT to help leader in sensing, sizing, and transforming the existing organizational setup. Leader needs to understand the requirement for each resource, processes, learning, existing assets, new assets, transformation, and distinction between ordinal and dynamic capabilities. Hence DCT Theory is suitable as an underpinning theory to support MV “Digital Transformation” as part of the research framework.

But there are one limitation/gap of DCT theory after reviewing the relevant journals. Although author of DCT theory constantly upgrading the framework since 1997, 2007, 2009 and 2018 but it did not focus on the current situations where majority of the companies are having multiple generation of workforce working together. Especially the latest Gen Z entering the workforce that indirectly increasing the complexity of workforce management. A company can have top notch strategies in digital transformation, but it will not fly without the support from its employees and leaders. To complement it, researcher has incorporated other theory as mentioned earlier to compensate the gap. The outcome of this research will be interesting and beneficial to future practitioners and body of knowledge.

*Table 10: Journal that Used Dynamic Capabilities Theory*

| Title   | Underpinning Theory | Author                      |
|---|---------------------|-----------------------------|
| New Perspectives of Dynamic Capabilities in Meeting Needs of Startups’ Survival   | DCT                 | (Pigola, et al., 2022)      |
| Dynamic Capabilities & Digital Transformation: A quantitative study on how to gain a Competitive Advantage in the Digital Age | DCT                 | (Marx, et al., 2021)        |
| The Role of Dynamic Capabilities in Improving Readiness for Digital Business Transformation                                   | DCT as mediator     | (Alkhamery, et al., 2021)   |
| Towards SMEs’ digital transformation: The role of agile leadership and strategic Flexibility                                  | DCT                 | (Fachrunnisa, et al., 2020) |
| Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal                             | DCT                 | (Warner & Wäger, 2019)      |

|  |     |                            |
|--|-----|----------------------------|
| Dynamic Capabilities and Their Relations with Elements of Digital Transformation in Portugal   | DCT | (Mendonça & Andrade, 2018) |
| Investigating the Critical Success Factors of Digital Transformation for Improving the Customer Experience in Australian Organisations | DCT | (Sahu, 2019)               |
| Dynamic Capabilities: Fostering An Innovation-Friendly Environment in Brazil   | DCT | (Herrmann, et al., 2017)   |
| Dynamic Capabilities and Innovation Capabilities: The Case of the “Innovation Clinic”  | DCT | (Strønen, et al., 2017)    |
| Dynamic capabilities in the upstream oil and gas sector: Managing next generation competition  | DCT | (Shuen, et al., 2014)      |

### 2.3 Variables: DV, IV(s), MV(s)

In thesis writing, “Variable” can be a phenomenon, place, person, or things that researcher trying to measure and understand (University of Southern California, 2021). “Independent Variable” (IV) also known as predecessor conditions that potentially affect the outcome of a dependent variable (Siegle, 2021). According to Davies (2019) report published in UWSTD, “Dependent Variable” (DV) value is dependent on the independent variable or mediating variable. Allen (2017) said “Mediator Variable” (MV) also known as Intervening Variable or Mediating Variable used to link the independent and dependent variables together. It allowed researcher to hypothesize the impact of independent variable to mediating variable which later impact to dependant variable.

Researcher identified one (1) DV, which is the Achieving Sustainable Business Growth for the company. It will be the key focus for researcher to test the hypothesis and proposed a working model for Telco’s company. Two (2) MVs has been identified to link the DV with the three (3) IVs. The MVs are Manage Changing Dynamic of Workforce and Digital Transformation. The IVs Variables are Multigenerational Workforce Engagement, Collaboration and Characteristic. Detail findings presented in following sections.

#### 2.3.1 DV - Sustainable Business Growth

There is a lot of similar conceptual definitions for Sustainable Business Growth in the research field hence researcher selected a common conceptual definition that simple and easy to understand (Table 11). According to Murphy (2020), Sustainable Business Growth means a company can continue to sustain maximum rate of growth without incurring additional debt or equity. Based on the conceptual definition, researcher has constructed the operational definition for Sustainable Business Growth (Table 11). It refers to the ability of the employees and leaders working together to overcome existing challenges and to achieve long-term growth of the company thru the measurements of financial performance, customer based, and employee’s satisfaction without incurring additional burden to the company such as debt, loan, or equity.

*Table 11: Conceptual and Operational Definition of Variables*

| Variables                          | Type        | Definition  |
|------------------------------------|-------------|---|
| <b>Sustainable Business Growth</b> | Conceptual  | Company can continue to sustain maximum rate of growth without incur additional debt or equity (Murphy, 2020)   |
|                                    | Operational | This refers to the ability of the employees and leaders working together to overcome existing challenges and to achieve long-term growth of the company thru the measurements of financial performance, customer based, |

|  |  |   |
|--|--|---|
|  |  | and employee's satisfaction without incurring additional burden to the company such as debt, loan, or equity. |
|--|--|---|

For easier reference, researcher has documented the important literature review of Sustainable Business Growth into Table 12. Researcher will be evaluating, synthesize and conclude the literature review of Sustainable Business Growth (Introduction of the variable, measurement of the variable, in depth analysis, and evaluate on theoretical and practical gap).

*Table 12: Important Literature Review on Sustainable Business Growth*

| Title  | Description   | Author                      |
|--|---|-----------------------------|
| The Impact of Covid-19 on Sustainable Business Models in SMEs  | Transformation drivers and type of technology to response to Covid-19 disruption.   | (Gregurec, et al., 2021)    |
| Strategic Agility: Achieving Superior Organizational Performance through Strategic Foresight   | Sustaining long-term business performance thru strategic insight and strategic agility.   | (Arokodare & Asikhia, 2020) |
| Value Innovation Activities in the Wireless Telecommunications Service Sector: A Case Study of the Malaysia Market                                     | The survival and long-run profitable growth thru value innovation.  | (Hajar, et al., 2020)       |
| The Roles of Dynamic Capabilities Innovation, Organizational Agility and Knowledge Management on Competitive Performance in Telecommunication Industry | Achieving maximum performance thru relationship of organizational agility, innovation and dynamic capabilities.                         | (Gyemang & Emeagwali, 2019) |
| Role of Social and Technological Challenges in Achieving a Sustainable Competitive Advantage and Sustainable Business Performance                      | Role of technological and social challenges within organization to achieve sustainable business performance and stay competitive.       | (Haseeb, et al., 2019)      |
| The Influence of Digital Customer Experience and Electronic Word of Mouth on Brand Image and Supply Chain Sustainable Performance                      | Sustainable business performance influenced by brand image thru excellence customer experience in e-commerce journey.                   | (Mihardjo, et al., 2019)    |
| Industry 4.0: A Solution towards Technology Challenges of Sustainable Business Performance   | Sustainable business performance achieved thru information technology adoption that strengthen by Organization Structure and Process.   | (Haseeb, et al., 2019)      |
| Internal Control and SMEs' Sustainable Growth: The Moderating Role of Multiple Large Shareholders  | Result of positive sustainable growth thru effectiveness in internal control with better results by having multiple large shareholders. | (Wang, et al., 2019)        |

|  |  |                          |
|--|--|--------------------------|
| Business-it Strategic Fit and Performance of Telecommunications Companies In Nigeria: Moderating Role of Environmental Uncertainty | Information Systems and Information Technology has significant impact to Business Performance.   | (Musa, et al., 2019)     |
| Intellectual Capital, Financial Performance, and Companies' Sustainable Growth: Evidence from the Korean Manufacturing Industry    | Sustainable Business Growth and Financial Performance impact by Intellectual Capital (IC)  | (Xu & Wang, 2018)        |
| A Study on the Sustainable Growth of SMEs: The Mediating Role of Organizational Metacognition                                      | Technological innovation has positive impact to Organizational Sustainability Growth (Business Performance and Organizational Effectiveness) | (Yoo, et al., 2018)      |
| Innovation activities of Gazelles in Business Services as a Factor of Sustainable Growth in the Slovak Republic                    | Innovation influence the culture that push company towards sustainable growth thru Human resources management and performance.               | (Benešová, et al., 2018) |
| Digital Transformation and Sustainability  | Digital transformation has significant link to Sustainability because it improve Brand Value and Revenue.                                    | (Chandola, 2016)         |

In Chapter 1, researcher has briefly introduced the current conditions and challenges that faced by Malaysia's Telecommunications Industry. Based on the comparison of financial report from Top 3 Telco Company (Maxis, Digi, Celcom), the overall business is in declining mode despite the need of mobile internet increased due to industrial revolution 4.0. Adding to the complexity and challenges to Telco Industry, there are 4 different generations of workforce working at the company. Aside to that, the need to speed up digital transformation due to IR4.0 stressing up Telco's company. As you can see on the Table 13, researcher did a quick analysis of the 5 years financial report and come out with average total Revenue, EBITDA, and PAT comparison. Although total Revenue slightly declining about 0.169billion but the overall EBITDA and PAT has declined tremendously 0.496billion and PAT 0.534billion. If this continue without improvement, Telco companies will not be able to sustain their business.

*Table 13: Telco Financial Comparisons*

| Financial Term       | Average 2015 (RM) | Average 2019 (RM) | Difference (RM) |
|----------------------|-------------------|-------------------|-----------------|
| <b>Total Revenue</b> | 7.605billion      | 7.436billion      | -0.169billion   |
| <b>EBITDA</b>        | 3.509billion      | 3.013billion      | -0.496billion   |
| <b>PAT</b>           | 1.799billion      | 1.265billion      | -0.534billion   |



To determine the measurement of Sustainable Business Growth, many researchers has measured Sustainable Business Growth thru financial performance of the company. Haseeb, et al. (2019) did mentioned the need to sustain business performance especially in current dynamic change due to industrial revolution (Yoo, et al., 2018). In order to sustain business performance, PAT of the company need to be increased, higher ROI and overall financial performance exceeding competitors. Wang (2018) conducted research on 390 manufacturing companies and painted a bigger picture that determine the success on sustainable business growth thru better financial performance. Haseeb, et al. (2019) and Arokodare & Asikhia (2020) mentioned, success of Sustainable Business Growth means financial performance of the company exceeding its competitors.

Another measurement of Sustainable Business Growth is thru the increase of customer based and customer experience. Hajar, et al. (2020) further commented on the fierce competition from traditional Telco and OTT business causing the needs to focus on increasing the overall revenue by using innovation to attract new customers and sustain loyal customers. Hajar, et al. (2020) criticized such act of purely focusing on bringing innovations but not measuring customer overall experience. They suggested implementing a proper tool to capture customer experience such as Net Promoter Score (NPS) where it allows to customer to provide feedback after each service received. Gyemang & Emeagwali (2019) also criticized the suggestion of focusing purely on innovation and ignoring another critical factor. Benešová, et al. (2018) and Haseeb, et al. (2019) advised leader to focus on improving customer experience. Thru excellence customer experience, it will improve the retention of loyal customers and attract new customers. Further supported by Mihardjo, et al. (2019), the success of sustainable business growth depends on customer experience feedback and their loyalty.

The third measurement of Sustainable Business Growth is thru the result of Employee Engagement Score (EES). Benešová, et al. (2018), described sustainable business growth as having positive employee engagement. Satisfied employees will go the extra miles in getting things done (Arokodare & Asikhia, 2020). Haseeb, et al. (2019) mentioned the key to success of Sustainable Business Growth is thru satisfied and positive employees. Without employees, no one will provide excellence customer service to customer, maintaining the digital services for customers, focus on operational efficiency, reduce operation cost, and achieving company goals. Yoo, et al. (2018) emphasized the focus of leaders in employee's development and providing required tools to improve employee's satisfaction.

Aside to the measurement of Sustainable Business Growth as mentioned above, Xu & Wang (2018) advised leaders to focus on competitive advantage of the company to sustain the long-term business growth. The recent Covid-19 pandemic that happen since early 2020 has forced companies into changing their sustainable business model to stay competitive (Gregurec, et al., 2021; Wang, et al., 2019).

Mihardjo, et al. (2019) advised companies to focus on current rapid digitalization to improve brand image, better customer experience and stay competitive to sustain the business. According to the 182 responses, Haseeb, et al. (2019) listed the success factors of achieving sustainable business performance. The critical factors including values and belief, social responsibility, IT managerial resource and IT implementation success with strategic alignment as the mediator. Haseeb, et al. (2019) also mentioned the important strategic alignment between IT and Business divisions (Musa, et al., 2019). Business division will determine the long-term goal based on company directions and customer needs while IT division will participate in strategic business planning to perform the right IT investment (Chandola, 2016). Musa, et al. (2019), received 113 responses and majority of them shown positive improvement in business performance thru the strategic fit between Technology and Business division. According to 315 valid responses from ICT companies, positive brand image is the result of excellence customer experience especially thru digital channels. Yoo, et al. (2018) support the use of technological innovation capabilities to improve business performance and organizational efficiency (Gyemang & Emeagwali, 2019). With the right technology, companies able to reach out to more customers and allow employees to carry out their task effectively (Haseeb, et al., 2019). Benešová, et al. (2018) agreed with Yoo, et al. (2018) in using innovation capabilities as part of sustainable business growth. Proper digital tools allowed organization to obtained customer behaviour, customized individual needs of customer and increased the digital touchpoints for customer (Chandola, 2016). Haseeb, et al. (2019) believed technological implementation does increase the company operational efficiency and productivity that eventually lead to sustainable business performance. With the use of proper innovative technology such as Big Data and IOT, companies able to predict the need of customers and performed targeted marketing.

Although multiple journals and market research supported the important of digital transformation towards customer experience, satisfied employees and improve overall financial performance but they are argument/different point of view from another researcher.

Gregurec, et al. (2021) and Wang, et al. (2019) highlighted a serious concern on innovation challenges that usually caused failure to the company. With new technology, companies will easily have access to customer personal data, preferences, and behaviour. This will tarnish the brand image of the company if the data is not managed ethically, legally and following the right process. Without a proper setup of internal control, leader able to gain own benefits thru the identified gap and these unethical behaviours will eventually bring down the company. However, researcher believed this a small drawback comparing it with the actual benefits of having successful digital transformation and can be managed thru implementation of proper internal control. Wang, et al. (2019) also mentioned the need of creating a positive organizational culture thru implementing internal control. With proper internal control, employees of the company will have proper guidance to avoid any misconduct, better managing of capital cost and allow leader to make better investment decisions due to accurate process and procedures.

Aside to the need of focusing digital transformation as part of the success in Sustainable Business Growth, Gregurec, et al. (2021) mentioned similar success factors that companies should focus is managing the changing dynamic of the workforce. Leader needs to invest in organizational culture change including values and belief, bringing the right tools to improve the overall efficiency (Yoo, et al., 2018). Leaders need to focus in building an open culture that efficient and agile, focus on people development and fast to markets. Haseeb, et al. (2019) listed a few challenges that usually caused failure in achieving long-term sustainable business performance including poor leadership, negative belief and values. Xu & Wang (2018) also highlighted the failure usually due to poor leadership and financial management that caused higher liabilities to the company. Benešová, et al. (2018), agreed with most of the researchers that failure is due to incompetence of leader to identify the innovation influence and invest in the wrong area.

Overall, the key measurements of Sustainable Business Growth that supported by multiple literature, inclusive of financial performance, customer based and net promoter score (NPS), and employee engagement score. One of the gaps identified during this literature review is, limited research on Sustainable Business Growth that conducted in Malaysia Telco's, hence researcher believed this is worth exploring in this thesis. During the evaluation of the literature, researcher has identified two crucial mediating variables (MV) to the success of achieving Sustainable Business Growth for the company. The first MV is digital transformation that will

improve overall customer experience and improve operational efficiency of the employees. The second MV is related to leadership in Managing the Changing Dynamic of the Workforce which inclusive of leading the organization change, setting the right expectation to the employees, people development and promote collaboration within department. Both variables will be further discussed, evaluated, synthesized, and concluded during review of variables and hypothetical development.

### 2.3.2 IV - Multigenerational Workforce Engagement

There is a lot of similar conceptual definitions for Multigenerational Workforce Engagement in the research field hence researcher selected a common conceptual definition that simple and easy to understand (Table 14). According to Nazim, et al. (2017), Multigenerational Workforce Engagement means the state of emotional that motivated people to do their best in delivering the organization needs in a positive way. Based on the conceptual definition, researcher has constructed the operational definition for Multigenerational Workforce Engagement (Table 14). It refers to the group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which emotionally and professionally connected to achieve company goals.

*Table 14: Conceptual and Operational Definition of Variables*

| Variables                                     | Type        | Definition   |
|---|-------------|--|
| <b>Multigenerational Workforce Engagement</b> | Conceptual  | State of emotional that motivates people to do their best in delivering organization needs in a positive way (Nazim, et al., 2017)   |
|   | Operational | This refers to the group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which emotionally and professionally connected to achieve company goals. |

For easier reference, researcher has documented the important literature review of Multigenerational Workforce Engagement into Table 15. Researcher will be evaluating, synthesize and conclude the literature review of Multigenerational Workforce Engagement (Introduction of the variable, measurement of the variable, in depth analysis, and evaluate on theoretical and practical gap).

*Table 15: Important Literature Review on Multigenerational Workforce Engagement*

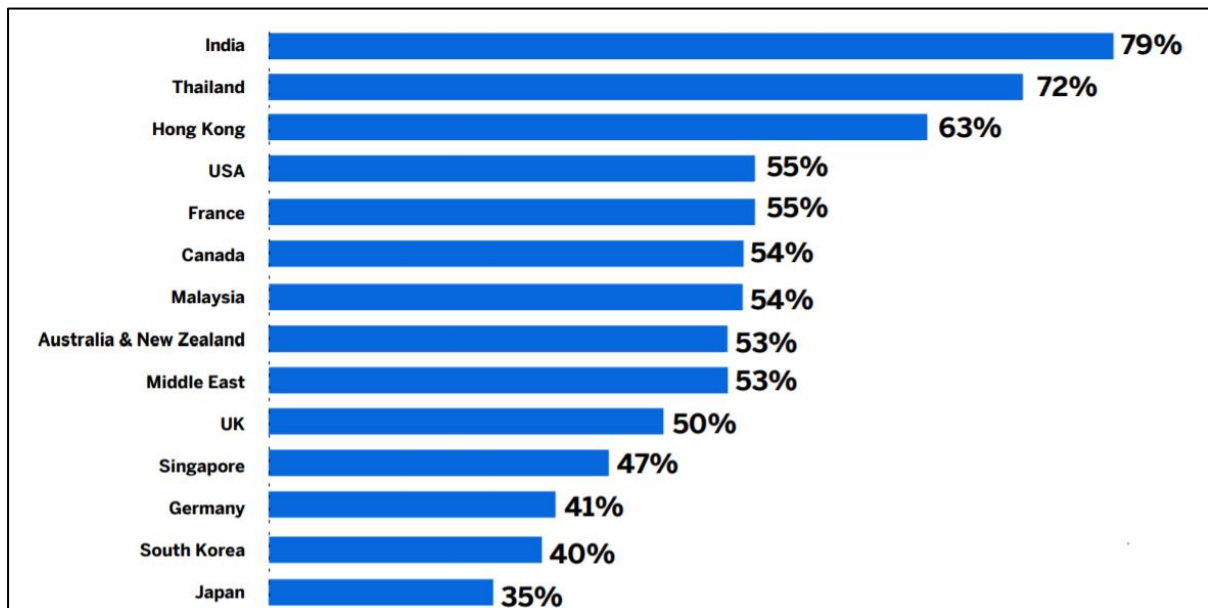
| Title  | Description  | Author                |
|--|--|-----------------------|
| Crafting Employee Engagement through Talent Management practices in Telecom Sector         | Beside encouraging employees to focus on their individual talents, they were encouraged to engage in their job roles in order to achieve organisational goals. | (Akter, et al., 2022) |
| Finding the Contextual Gap Towards Employee Engagement in Financial Sector: A Review Study | Strong relationship between employee engagement with employee performance and organization performance.  | (Akter, et al., 2021) |

|  |  |                                     |
|--|--|-------------------------------------|
| Employee Engagement and Its Relationship Towards Normative Commitment in Malaysia Oil and Gas Industry   | Employee engagement has strong relation with normative commitment  | (Mokhtar, et al., 2021)             |
| Employee Engagement as An Effort to Improve Work Performance: Literature Review  | Employee engagement strongly improve employee personal performance and organization performance.   | (Satata, 2021)                      |
| The Impact of Human Resource Management Practices on Competitive Advantage: Mediating Role of Employee Engagement in Thailand  | Organization achieved competitive advantage thru focus of employee engagement.   | (Kerdpitak & Jermittiparsert, 2020) |
| The impact of human resource management practices on employee engagement and moderating role of gender and marital status: An evidence from the Vietnamese banking industry. | Effect of human resource management on employee engagement.  | (Vuong & Sid, 2020)                 |
| Employee Engagement and Organizational Performance among Multigenerational Workforce in a Private Non-Sectarian School   | The connection between employee engagements among different generation with organization performance. Top 3 factors include control over the job, image of the company and access to tool and resources. | (Juevesa & Castino, 2020)           |
| Enhancement of Cohesion and Engagement through Motivational Factors in the Multi-Generational Workforce  | Motivation factor that improve multigenerational workforce engagement.   | (Hemphill, 2020)                    |
| Predicting Employee Engagement: A study among millennials  | Possible influence of employee engagement (Millennials) such as leadership, opportunity to growth, opportunity to contribute, working environment and work life balance.                                 | (Firdinata & Hendriyani, 2019)      |
| Employee Engagement in Public Organizations in Malaysia  | Factor that potential influence engagement; Relationship with manager, work life balance and career growth.  | (Mansor, et al., 2018)              |
| Employee Engagement: Generational Differences in the Workforce   | Different of employee engagement across Baby Boomers, Gen X and Gen Y due to increase of workforce diversity.  | (Lapoint & Spence , 2017)           |
| Identified Research Gaps in Employee Engagement  | Link research outcome between employees performance with company financial performance.  | (Iddagoda & Opatha, 2017)           |

|   |   |                           |
|---|---|---------------------------|
| Effective Employee Engagement in the Workplace                                      | Prominent themes of employee engagement; Empowering, bonding, recognition and rewards and leadership strategy thru employee engagement survey.  | (Osborne & Hammoud, 2017) |
| Factor Influencing Employee Engagement:<br>A study of diverse workforce             | Organization performance require willingness from employer to understand and support the needs of their employees. Top 3 identified factors, job characteristic, pay and benefits and organization citizenship. | (Agrawal, 2016)           |
| How Work Environment affects the Employee Engagement in a Telecommunication Company | Work environment is the highest influential factor to employee engagement followed by rewards and work life balance.  | (Mohd, et al., 2016)      |

Figure 9 below is the Global Engagement Index that published in Qualtrics XM report by Dr.Stephen Choo in 2020. According to the report Malaysia only achieved 54% of employee engagement score. If Malaysian companies able to focus on improving the employee engagement score, they will be seeing 2.5x more in revenue growth, 40% less attrition rate and 10% increase of employee performance. The Star Newspaper reported similar findings where Malaysia employee's engagement score 54% that slightly higher than global average 53% (The Star, 2020). Osborne & Hammoud (2017) reviewed that disengaged employees cost losses to US Company \$350 billion annually. Akter, et al. (2022) said employee engagement is one of the crucial factors of building a successful organization. Agrawal (2016) emphasized the complexity and challenges faced by organization to develop an engage friendly culture because of today diversify workforce. Multigenerational workforce from different generation cohort is currently working closely together under the same roof. Agrawal research shown that, there is no one-size-fit all when come to engaging diversify employees without truly understand each of different cohort. Mansor, et al. (2018) further accentuating the challenges faced by leader when there are too many variables to focus on and some has the potential of degrading engagement level. Leader failed to use the appropriate motivation factor to improve cohesion and engagement of the employees (Hemphill, 2020).

Figure 9: Global Engagement



Source Adopted from (Choo, 2020)

A lot of large organization has recently realized the important of employee engagement and its relationship towards organization performance. In a nutshell, to know the level of employee engagement, human resource will encourage all employees of the company to participate in the annual EES Survey. In Malaysia Telecommunications Industry, the top 3 Telco's has started to publish the EES Score in their annual report. Digi started publishing their EES score in 2012 annual report achieving 73% (Digi, 2012) followed by Maxis in 2015 EES 80% (Maxis, 2015) and later Axiata (Celcom) in 2017 EES 87% (Axiata, 2017).

Organization that constantly promote and analyse the result from employee engagement survey allowed leader to create leadership strategy that targeted to their employees need (Osborne & Hammoud, 2017). Juevesa & Castino (2020) has published the relation of employee engagement with company performance thru grand mean result of Baby Boomer, Gen X and Gen Y. In their research, it clearly shown that each generation agreed that their engagement level has effect with company performance. Mokhtar, et al. (2021) proven that engaged employee play and important role in normative commitment including loyalty to the company.

After reviewed of 15 latest journals, Satata (2021) concluded that workforce engagement indirectly impacts individual performance thus contribute to achievement of company goal. Employee engagement or workforce engagement or multigenerational workforce engagement increase the competitive advantage of the company (Kerdpitak & Jermstittiparsert, 2020).



Engaged employees tends to produce higher quality output, increase of productions and provide better customer care. compared with disengaged employees. Lapoint & Spence (2017) viewed engaged workers as someone that increased organizations value thru operating in efficient and effective way. Iddagoda & Opatha (2017) seeing the relationship and influence of employee engagement to organizational financial performance thru mediating factor of employee job performance increased.

Akter, et al. (2021) conducted a review study on the contextual gap towards employee engagement in financial factor. They have selected 91 out of 265 pieces of literature that relevant to employee engagement in financial factor. Out of that, 36.26% disclosed a positive linkage between employee engagement and employee outcomes. Engaged employees shown counterproductive work behaviour, organizational citizenship behaviour, higher job performance, higher organizational commitment, and lower intention to resign. Although only 9.89% of the 91 articles shown positive linkage between employee engagement and organizational outcome such as corporate image, customer satisfaction, organizational performance, and employee retention but we should not be ignoring it because the study is only targeted to financial sector. The results will be different if future review expanded to another non-financial sector.

Above literature review has significantly explained the important of having Multigenerational Workforce Engagement (IV) as part of the research framework and the importance towards company performance. Hence is important to understand the measurement towards Multigenerational Workforce Engagement

One of the measurements are the rewards and recognition received by the employees. This will determine the result of EES Score that conducted by HR. The components that significantly impact to employee engagement is reward and recognition (Vuong & Sid, 2020; Agrawal, 2016; Osborne & Hammoud, 2017; Mohd, et al., 2016; Akter, et al., 2022). Other form of rewards and recognitions including career development and work life balance. Akter, et al. (2022) said career development significantly and positively impact to employee engagement. Mohd, et al. (2016) conducted research on employee engagement in Malaysia Telecommunications Company and one of the important factors are work life balance. Younger generation such as Gen Y shown higher agreement to future career development and work life balance in the organization (Firdinata & Hendriyani, 2019). It proven that proper rewards and recognition can improve the overall employee engagement.

Although multiple researchers have mentioned fair rewards and recognition is the key to promote employee engagement but the result from Juevesa & Castino (2020) shown that Gen Y only moderate agree with this statement. Akter, et al. (2022) latest analysis in reward and recognition is not significant, hence not playing an important role in employee engagement. Despite the differences in some researcher result, we cannot ignore the important of fair rewards and recognition because it has been highlighted in various research. Researcher do not agree with Juevesa & Castino (2020) and Akter, et al. (2022) because there are a lot of journals that explaining the impact of fair rewards and recognition towards employees of the company. Maybe both research was conducted in certain countries or industries that has different point of view hence this can be a potential study in future based on country and industry.

Second measurement is the tools and knowledge to perform the job efficiently. Kerdpitak & Jermittiparsert (2020) has further emphasized the important of training and learning practices to employee engagement. Training and learning practices allow employee to have the growth mind set thru exposing to latest technology in the market and indirectly lead to increase of company competitive advantage. Juevesa & Castino (2020) reported that three different generations of workforce possess different challenges that difficult to solve with simple transition. One of the eight factors that promote engagement was selected from the grand mean result collected from Baby Boomers, Gen X and Gen Y, is having access to tools and resources. This proves the significant of tools and knowledge towards employee engagement.

Third measurement is empowerment to allow employees execute their work confidently. Osborne & Hammoud (2017) highlighted similar findings thru having close bonding between leader and employees. Hemphill (2020) and Mansor, et al. (2018) has observed good relationships between supervisor and subordinate improved employee engagement. Mohd, et al. (2016) and Firdinata & Hendriyani (2019), described special bonding, open communications, include employee participation into organization decision making and clear information sharing as safe work environment. Diversify engaged employees looking for clear job description (Hemphill, 2020). With close bonding between employees and supervisors, open communications, allow participants to decision making and creating a safe environment indirectly promote empowerment. Where employees able to make decisions with limited guidance from supervisor and is not penalized for making the wrong decision (safe environment) as mentioned earlier.

Fourth measurement is the image of the company. Juevesa & Castino (2020) conducted survey to 3 different generations cohort (Boomer, Gen X, Gen Y) and the significant result to improve employee engagement score is the positive brand image of the company. Employees feel proud and have better engagement when they work in a company that customer perceived good and trusted.

Overall, the key measurements of Multigenerational Workforce Engagement that supported by multiple literature, inclusive of Rewards and Recognition, Tools and Knowledge, Empowerment and Brand Image. One of the gaps are the limited research on Multigenerational Workforce that consist of Baby Boomer, Gen X, Gen Y and Gen Z that working together in a Telco's company. Hence researcher believed is worth to include this variable into the research framework and explore further using the current population and sample size from the top 3 Malaysia's Telco company.

### 2.3.3 IV - Multigenerational Workforce Collaboration

There is a lot of similar conceptual definitions for Multigenerational Workforce Collaboration in the research field hence researcher selected a common conceptual definition that simple and easy to understand (Table 16). According to Gay (2017), Multigenerational Workforce Collaboration means leveraging different generation's unique strengths that enabled them to learn and work with each other's. Based on the conceptual definition, researcher has constructed the operational definition for Multigenerational Workforce Collaboration (Table 16). It refers to the group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which work together willingly with each other to achieve company goals.

*Table 16: Conceptual and Operational Definition of Variables*

| Variables  | Type        | Definition  |
|--|-------------|---|
| <b>Multigenerational Workforce Collaboration</b> | Conceptual  | Leveraging different generation's unique strengths that enabled them to learn and work with each other's (Gay, 2017).   |
|  | Operational | This refers to the group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which work together willingly with each other to achieve company goals. |

For easier reference, researcher has documented the important literature review of Multigenerational Workforce Collaboration into Table 17. Researcher will be evaluating, synthesize and conclude the literature review of Multigenerational Workforce Collaboration (Introduction of the variable, measurement of the variable, in depth analysis, and evaluate on theoretical and practical gap).

*Table 17: Important Literature Review on Multigenerational Workforce Collaboration*

| Title   | Description  | Author                      |
|---|--|-----------------------------|
| Effect of Cross-Departmental Collaboration on Performance: Evidence from the Federal Highway Administration | The knowledge creation process and cross-departmental collaboration practise impact to organizational performance. | (Wipulanusat, et al., 2021) |
| An Affordance Perspective of Team Collaboration and Enforced Working from Home During Covid-19              | Sustaining business during covid-19 pandemic thru understanding team collaboration during working from home.       | (Waizenegger, et al., 2020) |

|  |  |                               |
|--|--|-------------------------------|
| Generation Z: Utilizing Adaptive and Authentic Leadership to Promote Intergenerational Collaboration at work | Overcoming stereotypes and promote intergenerational collaboration thru authentic and adaptive leadership.   | (Laudert, 2019)               |
| Why Does Cultural Diversity Foster Technology-enabled Intergenerational Collaboration?                       | Barriers to intergenerational collaboration such as insufficient digital training, insufficient time to collaborate, legacy technology environment, challenges in working remotely, complex technology and acceptance towards technology change.                                       | (Nurhas, et al., 2019)        |
| HR Practices for Supporting Interpersonal Trust and Its Consequences for Team Collaboration and Innovation   | Linking innovation, team collaboration, and interpersonal trust with HR practices.   | (Stangrecka & Bagińska, 2019) |
| The Role and Presence of Intergenerational Synergy in Medium and Large Slovenian Companies                   | Better business operations and performance with the relation of intergenerational synergy.   | (Rožman & Tominc, 2019)       |
| The Impact of Teamwork on Work Performance of Employees: A Study of Faculty Members in Dhofar University     | The most significant independent variable that influence performance is teamwork.  | (Sanyal & Hisam, 2018)        |
| Monitoring Employees Collaboration in Working Teams – Leader’s Perspective                                   | Challenges of employee collaboration monitoring by leader, finding right tools and having collaborative leadership   | (Planer & Sudolska, 2018)     |
| Cubes to Collaboration: A Generational Divide in the Workplace   | Different cohorts of employees has different expectation towards collaborative workspace. Success factor include proper change management strategy such as open communications, involve different generations of employees to participate in decision making and setting clear policy. | (Cackett, 2018)               |
| The Impact of Collaboration among Members on Team’s Performance  | Positive relationship between team performance and team collaboration. Factor including leadership, communication, trust, resources, motivation and feedback.  | (Assbeihat, 2016)             |

Companies that wanted to achieve rapid digital transformation and remain competitive within the industry will need to improve the overall efficiency, productivity, creativity, and organizational performance thru increase of cross-functional collaboration within their workforce (Planer & Sudolska, 2018). Sanyal & Hisam (2018) added the driving factor for workforce collaboration including automatic exchange of viewpoint and feedback, improve individual and organization performance, and constantly occupational development of

employees. Further supported by Wipulanusat, et al. (2021), they have successfully proved the positive effect of organizational performance with cross-departmental collaboration. Rožman & Tominc (2019) conducted a random sampling of 814 employees on the impact from multigenerational collaboration. It shown positive result in improving trust in companies, trust in colleague, trust in higher management, proud to be part of the company, and motivated to contribute more.

Above literature review has significantly explained the important of having Multigenerational Workforce Collaboration (IV) as part of the research framework and the importance towards company performance. Hence is important to understand the measurement towards Multigenerational Workforce Collaboration.

To measure if Multigenerational Workforce Collaboration has happened, majority of the researchers investigate the company synergy level in emphasize the important of creating a multigenerational workforce collaboration environment. Cackett (2018) has emphasized the need to have a proper collaborative workspace in company that promote collaboration within different generations. The design of workplace need to incorporate the preferences of multiple generations of employees in order to attract them into using it. But researcher Waizenegger, et al. (2020) argued on the relevancy of focusing the need of having collaborative workspace in company compared to focusing on collaboration tools during Covid-19 pandemic that forced most of the worker to work from home. Researcher believed this is no longer a limitation or issue for focusing workspace in company compared to workspace at home because after 4 years, majority of the workforce started to work from office rather than home. CNBC (2023) projected that 90% of the workforce will be reporting back to office in 2024.

The second measurement is thru the increase or decrease of innovation and creativity of the employees. Rožman & Tominc (2019) conducted an interviewed with leaders on the success of multigenerational collaboration and the drivers are increase of innovative and creativity of employees. Further supported by Stangrecka & Bagieńska (2019), they able to link the results of team collaboration with organizational innovation during their research. Rapid globalization and digital transformaiton, indirectly foster creativity in multigenerational workforce collaboration (Nurhas, et al., 2019).

The other measurement including decision making speed of employees, reduction of employees workload due to equal distribution, better customer satisfaction based on mixure of experience

and age diversity during collaboration process. Rožman & Tominc (2019) and Sanyal & Hisham (2018) believed it will enhanced decision making, equally distributed of workload and reduce employee workload, understand customer needs based on age profile and utilize the strength of each generations. Laudert (2019) claimed that collaboration is the key to maximize collective intelligence within different generations to achieve company goal.

Aside to the measurement of Multigenerational Workforce Collaboration as mentioned above, researcher has identified one important mediator variable which is “Managing the Changing Dynamic of the Workforce” during literature review on Multigenerational Workforce Collaboration. It is perceived as an important variable between Multigenerational Workforce Collaboration with Sustainable Business Growth. According to Planner & Sudolska (2018), leader need adapt to collaborative leadership that foster team collaboration, proper tools to measure and provide data of collaboration, introduce reward systems (Sanyal & Hisam, 2018) and monitor problem from collaboration overload. Assbeihat (2016) identified the most important factor for successful workforce collaboration is during the presence of leaders. Leaders are the main mediator to motivate, reward and set directions for employee when come to team collaboration. Sanyal & Hisam (2018) support the findings of Assbeihat (2016) because productive leadership will define clear roles and responsibility and conduct proper performance evaluation that provide fair rewards and recognition. Laudert (2019) emphasized the important to have authentic leader that led with transparency and strong hold of company values.

Overall, the measurement of Multigenerational Workforce Collaboration inclusive of synergy level of multigenerational workforce, level of innovation and creativity, decision making speed, level of workload amongst employees, level of customer satisfaction due to diverse age group. During the evaluation of Multigenerational Workforce Collaboration literature, researcher identified one crucial mediating variable (MV) “Managing the Changing Dynamic of the Workforce” that talked about leadership. The variable will be further discussed, evaluated, synthesized, and concluded during review of variable and hypothetical development.

#### 2.3.4 IV- Multigenerational Workforce Characteristic

There is a lot of similar conceptual definitions for Multigenerational Workforce Characteristic in the research field hence researcher selected a common conceptual definition that simple and easy to understand (Table 18). According to Gausepohl (2018), Multigenerational Workforce Characteristic means joining a company with a range of ages that has different behaviour and characteristic. Based on the conceptual definition, researcher has constructed the operational definition for Multigenerational Workforce Characteristic (Table 18). It refers to the group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which have unique, similar, and different traits from each other's.

*Table 18: Conceptual and Operational Definition of Variables*

| Variables   | Type        | Definition  |
|---|-------------|---|
| <b>Multigenerational Workforce Characteristic</b> | Conceptual  | Joining a company with a range of ages that has different behaviour and characteristic (Gausepohl, 2018).   |
|   | Operational | This refers to the group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which have unique, similar, and different traits from each other's. |

For easier reference, researcher has documented the important literature review of Multigenerational Workforce Characteristic into Table 19. Researcher will be evaluating, synthesize and conclude the literature review of Multigenerational Workforce Characteristic (Introduction of the variable, measurement of the variable, in depth analysis, and evaluate on theoretical and practical gap).

*Table 19: Important Literature Review on Multigenerational Workforce Characteristic*

| Title   | Description  | Author                   |
|---|--|--------------------------|
| Evaluating The Channels Used to Communicate The Benefits Offered to a Multi-Generation Workforce                    | Each Generations will have different preferences of communication channels.                                | (Philip & Netra, 2021)   |
| It is Time to Realize Generations Matter on the Labour Market. Interesting Facts About Generations in the Workplace | Unique beliefs, values and habits for each generations. Employer challenge is to identify the differences. | (Prund, 2021)            |
| Exploring Cross-Generational Traits and Management Across Generations in the  | Identifying and understanding the traits differences of generations in order to create                     | (Ardueser & Garza, 2021) |



|  |   |                               |
|--|---|-------------------------------|
| Workforce: A Theoretical Literature Review   | a strategic business operational management structure.  |                               |
| A Descriptive Enquiry for Identifying Factors Affecting Generation X and Generation Y at the Workplace                       | Characteristics Factor of Gen X and Gen Y that affect the relationship of two generations.  | (Gupta & Rupali, 2020)        |
| Clash of Generations: Assessing the Impact of Generational Diversity in a Workforce  | Workforce Conflicts and Ostracism has higher relevancy with clash of generations.   | (Tanveer, et al., 2020)       |
| Do Business Ethics and Ethical Decision Making Still Matter: Perspective of Different Generational Cohorts                   | Each generations have different expectation on performance management systems, working relationship and stress level.   | (Klopotan, et al., 2020)      |
| Generational Differences and COVID-19: Positive Interactions in Virtual Workplaces   | Generational differences react differently to adoption of technology and way of communications when working virtually.  | (Urlick, 2020)                |
| Multigenerational Workforce and its Relevance in the Higher Education Sector in India – A Comprehensive Review of Literature | Literature review of study pertaining to multigenerational workforce difference.  | (Sahrash, 2020)               |
| Generational similarities in work values of generations X, Y and Z   | Minimal differences between different generations. Manager should focus on individual need, avoid stereotyping and continue to provide flexibility.                           | (Dick, 2019)                  |
| Exploring the Multigenerational Workforce's Personal And Work Values: The Future Research Agenda                             | Generational differences and emerging trends at workplace.  | (Lunova & Cirjeviskis, 2019)  |
| Individual Innovativeness of Different Generations in the Context of the Forthcoming Society 5.0 in Lithuania                | Generation differences in contributing to digital transformation.   | (Savaneviciene, et al., 2019) |
| Generational Diversity in the Workplace: Psychological Empowerment and Flexibility in Spanish Companies                      | Generational differences Baby Boomer, Gen X, and Gen Y towards sustainability. No difference on Psychological Empowerment but slight difference on Psychological Flexibility. | (Toro, et al., 2019)          |
| An Empirical Study on Work Belief of Generation X and Generation Y in Digital Era  | Factor that influenced Work Engagement, Career Development and Team Work of Gen X and Gen Y.  | (Saileela, et al., 2018)      |
| Intricacies of Multi-Generational Workforce in Construction Sector: Review Study   | Leveraging the uniqueness strength of each generations thru mentoring, training, organizational values and culture to achieve sustainable workforce.                          | (Satpathy, et al., 2018)      |

|   |  |                                |
|---|--|--------------------------------|
| Generational Differences in the Workplace   | Retest the stereotypes of multi generations and their differences.   | (Jones, et al., 2018)          |
| Is Financial Reward Still an Important Motivator for the Indonesia Multi-Generational Workforce | Different motivator factor for Boomer, Gen X and Gen Y.  | (Hartijasti & Darpita, 2017)   |
| Understanding the Multigenerational Workforce: Are the Generations Significant or Similar?      | Accommodating generational differences to achieve optimal cohesion, skill integrations and achieving company goal. | (Nnamboozee & Parumasur, 2016) |

Continue from earlier brief discussion in Chapter 1 (Generation Difference in Workplace), extension in retirement age (55 to 60 years old) and percentage of workforce in 2020 (Gen Z 10%, Gen Y 40%, Gen X 33% and Boomers 15%). Leaders not only need to focus on dynamic business changes but also the dynamic change of workforce due different needs, expectations, attitudes, and motivation factor (Lunova & Cirjevskis, 2019).

According to Jones, et al. (2018), a lot of academic literature has proven the important of acknowledging the differences of each unique generations within the workforce (Ardueser & Garza, 2021). Benefits including lower conflicts, higher efficiency, higher retention, and healthier culture. Organization success and staff performance depend on the motivation factor by employers, and this depend on the sensitivity of the employer towards the differences of each generation in their company (Hartijasti & Darpita, 2017). Lunova & Cirjevskis (2019) clearly mentioned the direct influencer of organizational performance (financial performance, customer experience and employee retention) is generational differences. Reason because by knowing generational differences, it will influence work value, motivation factor and overall organizational behaviour change (Prund, 2021) .

At the same time, the rapid digital transformation requires each generation to develop, implement and use of innovation to connect both reality with the virtual world (Savaneviciene, et al., 2019). Another important driving factor that influences by individual differences are ethical behaviour, business ethics and ethical decision-making. Klopota, et al. (2020) highlighted the important of doing business ethically because this will affect to company overall image. Customer willing to spend and loyal to a company that show positive brand image, and this will indirectly improve the company overall financial gain. A lot of researchers including Klopota, et al. (2020) did mentioned the way to build an ethical business is thru building and managing an ethical culture within the organization. This start from understanding the individual characteristic of each generation's cohort that working in the company.

With the sudden hit of Covid-19 pandemic since 2020, employers forced to replicate the office way of work into employee personal home in a very short notice. If they failed to do so, it will affect overall productivity, efficiency, customer experience, sales volume, and employee's morale. Urick (2020) reminded leaders that the success of virtual office is not only the availability of technology or a well-defined process and procedure but also the overall readiness and acceptance of different generations.

Table 20 below is a summary table that described about the characteristic of each generation (Baby Boomers, Gen X, Gen Y and Gen Z). The characteristic of each generation is cited from the latest journals in the market.

*Table 20: Generations, Characteristic and Author*

| Generations         | Characteristic  | Author  |
|---------------------|---|---|
| <b>Baby Boomers</b> | <b>General Characteristic</b><br>Hardworking<br>Achievement Oriented<br>Almost Never Change Job<br>Resistant to Change<br><b>Communication Preferences</b><br>Physical Newsletter<br>Face to Face Meeting<br>Written Communications<br><b>Work Ethic</b><br>Driven<br>Confront and Take Charge of Events<br>Respect Hierarchy Concept<br>Believed in Good Business Ethic<br>Follow Straight Company Rules<br>Self-Centered and Authority<br><b>Motivation Factor</b><br>Physical Fitness/Health Care<br>Financial Success<br>Participate in Decision Making<br>Future Retirement Plan<br>Reputation | (Philip & Netra, 2021)<br>(Hartijasti & Darpita, 2017)<br>(Jones, et al., 2018)<br>(Lunova & Cirjevskis, 2019)<br>(Toro, et al., 2019)<br>(Klopotan, et al., 2020)<br>(Satpathy, et al., 2018)<br>(Sahrash, 2020)<br>(Philip & Netra, 2021)<br>(Prund, 2021)<br>(Ardueser & Garza, 2021)  |
| <b>Gen X</b>        | <b>General Characteristic</b><br>Self-reliant and Pragmatic<br>Cautious<br>Change Job if Only Necessary<br><b>Communication Preferences</b><br>1 to 1 with Supervisor<br>Direct Communication<br>Email<br><b>Work Ethic</b><br>Balanced<br>Confront and Take Charge of Events<br>Less Respect to Hierarchy Concept<br>Believed in Good Business Ethic<br>Task Oriented<br>Scepticism<br><b>Motivation Factor</b>  | (Philip & Netra, 2021)<br>(Hartijasti & Darpita, 2017)<br>(Jones, et al., 2018)<br>(Lunova & Cirjevskis, 2019)<br>(Toro, et al., 2019)<br>(Klopotan, et al., 2020)<br>(Satpathy, et al., 2018)<br>(Sahrash, 2020)<br>(Tanveer, et al., 2020)<br>(Philip & Netra, 2021)<br>(Prund, 2021)<br>(Gupta & Rupali, 2020)<br>(Ardueser & Garza, 2021) |

|                          |   |   |
|--------------------------|---|---|
|                          | Affiliation<br>Financial Success<br>Career Development and Growth<br>Work Life Balance<br>Collaborate and Make Changes  | (Dick, 2019)  |
| <b>Gen Y/Millennials</b> | <b>General Characteristic</b><br>Value Diversity and Change<br>Over Confident / Higher Self-Esteem<br>Sometimes Will Change Job<br><b>Communication Preferences</b><br>Email/Digital Newsletter<br>Technology Driven Tools<br><b>Work Ethic</b><br>Determined<br>Avoid or Resolve Events thru Technology<br>Not Respect of Hierarchy Concept<br>Believed in Good Business Ethic<br>More Oriented to Individual Believes than Rules.<br>Multi-tasking<br>Goal Focused<br><b>Motivation Factor</b><br>Affiliation<br>Financial Success<br>Work Life Balance<br>Career Development and Growth<br>Instant rewards                           | (Philip & Netra, 2021)<br>(Hartijasti & Darpita, 2017)<br>(Jones, et al., 2018)<br>(Lunova & Cirjevskis, 2019)<br>(Toro, et al., 2019)<br>(Klopotan, et al., 2020)<br>(Satpathy, et al., 2018)<br>(Sahrash, 2020)<br>(Tanveer, et al., 2020)<br>(Philip & Netra, 2021)<br>(Prund, 2021)<br>(Gupta & Rupali, 2020)<br>(Ardueser & Garza, 2021)<br>(Dick, 2019) |
| <b>Gen Z</b>             | <b>General Characteristic</b><br>Ambitious Attitude<br>Regularly Change Job<br>Individualism<br>Highly Educated<br>Addiction to Technology<br><b>Communication Preferences</b><br>Intranet Portal<br>Teleconference<br>Short Messages thru OTT<br><b>Work Ethic</b><br>No Clear Boundaries between Work and Entertainment<br>Avoid or Resolve Events thru Technology<br>Not Respect of Hierarchy Concept<br>Believed in Good Business Ethic<br>Uniqueness and Authenticity<br>Creativity<br>Flexibility and Self-reliant<br><b>Motivation Factor</b><br>Fun Working Environment<br>Desire Independence Over Authority<br>Work from Home | (Philip & Netra, 2021)<br>(Toro, et al., 2019)<br>(Klopotan, et al., 2020)<br>(Satpathy, et al., 2018)<br>(Tanveer, et al., 2020)<br>(Philip & Netra, 2021)<br>(Prund, 2021)<br>(Ardueser & Garza, 2021)<br>(Dick, 2019)  |

Above literature review has significantly explained the important of Multigenerational Workforce Characteristic (IV) as part of the research framework and the importance towards company performance. Hence is important to understand the measurement towards Multigenerational Workforce Characteristic.

First measurement of Multigenerational Workforce Characteristic is the measurement of energy level in workplace (flexibility, motivating, fun). Satpathy, et al. (2018) and Ardueser & Garza (2021) in their research shown that leader need to create a motivating environment to promote growth and increase employee energy level. Urick (2020) wanted leaders to remove all negative stereotype from each generation (e.g. older generations more resistant in accepting new technology while younger generations do not know the impact of crisis). Leader needs to unify an organization into one identity and not multiple generational identity. Gupta & Rupali (2020) advised leader to focus on generational similarity rather than differences. They published the similarity between Gen X and Gen Y that both prefer work life balance, prefer a fun and flexible work environment and good at technology. Knowing the similarity, leaders can focus and create a harmony working culture. Another unique success factor highlighted by Philip & Netra (2021) is the preference of each generation in receiving information from leaders. This will determine if the message successfully delivered, accepted, or ignored by the employees of different generations. From 103 respondents result collected by Philip & Netra (2021), it shown that only 25% of Baby Boomers preferred digital communications such as Intranet, Digital Newsletter and email compared to over 79% preferred by Gen X, Gen Y and Gen Z. Leaders will need to mix some new age and old school communications method and seek feedback from their employees. Ardueser & Garza (2021) said beside the important of using communications to link each generation together, involvement should be the focus point of leader.

Second measurement is opportunity to growth and advancement in workplace. Savaneviciene, et al. (2019), Nnamboozee & Parumasur (2016) and Urick (2020) findings on handling individual innovativeness thru promoting and encourage new learnings. Satpathy, et al. (2018) and Ardueser & Garza (2021) research also emphasized a lot of training to encourage the growth and advancement in workplace. When come to psychological flexibility, they are slight difference between older generations (Boomers and Gen X) and younger generations (Gen Y and Gen Z) although majority preference is similar. Older generations due to experience, tends to accept and confront the events compared to younger generations that feel more convenient to avoid it using technology. To close this gap, leader need to focus on providing more awareness, motivation, and proper guidance to younger generations.

Third measurement is the recognition and rewards. There is multiple debate on type of rewards preferred by different generations such as Intrinsic (e.g., Affiliation, community feelings,

physical fitness, and self-acceptance) or Extrinsic (e.g., financial success, attractive appearance, and social recognition) rewards (Hartijasti & Darpita, 2017). Based on data gathered by Hartijasti & Darpita (2017) from 415 respondents, result shown variance of acceptance between intrinsic and extrinsic rewards by each generation. Nevertheless, all generations agreed and preferred to have financial success (extrinsic reward) as part of their main motivators in work (Dick, 2019)

Overall, the measurement of Multigenerational Workforce Characteristic inclusive of employee energy level in workplace, opportunity to growth and advance in workplace, rewards and recognition, level of flexibility working environment, level of personal learning and growth and level of motivation by leaders. The biggest gap in Mutigenerational Workforce Characteristic is not the employees but having the right leadership in managing them. Stereotyping constantly happens in company with multiple generations cohort and is worth to proceed with the evaluation of this variable as part of research framework that potential impact to sustainable business growth of Malaysia's Telco industry.

### 2.3.5 MV - Managing Changing Dynamic of Workforce

There is a lot of similar conceptual definitions for Managing the Changing Dynamic of the Workforce in the research field hence researcher selected a common conceptual definition that simple and easy to understand (Table 21). According to Zakaria (2018), Managing the Changing Dynamic of the Workforce means managing the shift in the way of work. Based on the conceptual definition, researcher has constructed the operational definition for Managing the Changing Dynamic of the Workforce (Table 21). It refers to the ability of leaders to lead thru the understanding of the similarity and differences in behaviours from different cohort/generations that currently working under the same company to achieve company goals.

*Table 21: Conceptual and Operational Definition of Variables*

| Variables                                   | Type        | Definition   |
|---|-------------|--|
| <b>Manage Changing Dynamic of Workforce</b> | Conceptual  | Managing the shift in the way of work (Zakaria, 2018).   |
|   | Operational | This refers to the ability of leaders to lead thru the understanding of the similarity and differences in behaviours from different cohort/generations that currently working under the same company to achieve company goals. |

For easier reference, researcher has documented the important literature review of Manage the Changing Dynamic of the Workforce into Table 22. Researcher will be evaluating, synthesize and conclude the literature review of Manage the Changing Dynamic of the Workforce (Introduction of the variable, measurement of the variable, in depth analysis, and evaluate on theoretical and practical gap).

*Table 22: Important Literature Review on Manage Changing Dynamic of Workforce*

| Title  | Description  | Author                    |
|--|--|---------------------------|
| The Relationship between Intellectual Capital and Organizational Trust and Its Impact on Achieving the Requirements of Entrepreneurship Strategy (The Case of Korek Telecom Company, Iraq) | Intellectual Capital (Human Capital, Customer Capital and Structural Capital) and Organizational Trust (Benevolence, Ability and Integrity) the key to achieve long-term strategy. | (Hasan, 2021)             |
| Perceived Organizational Performance in Recruiting and Retaining Employees with Respect to Different Generational Groups of Employees and Sustainable Human Resource Management.           | Significant difference in perception of relationship among people and perception of company performance.   | (Babel'ová, et al., 2020) |

|   |  |                         |
|---|--|-------------------------|
| Leading a Multigenerational Workforce: Leveraging the Skill Sets of Each Cohort   | Adapt and understand skillset of each cohort; To create higher productive workforce. Key success factor, fair treatment, open communications, understand generational similarity and do not treat all generation the same.                                       | (Danley, 2020)          |
| How Does Sustainable Leadership Influence Sustainable Performance? Empirical Evidence From Selected ASEAN Countries   | Sustainable performance depend heavily on sustainable leadership, empowerment and organizational learning.   | (Iqbal, et al., 2020)   |
| The role of creative self-efficacy, transformational leadership, and digital literacy in supporting performance through innovative work behaviour; Evidence from Telecommunications Industry. | Employee performance in relation with Innovative work behaviour that influence by creative self-efficiency and transformation leadership with the supporting factor of digital literacy.   | (Santoso, et al., 2019) |
| Generational Diversity: An Exploratory Study on Managing Multigenerational Workforce, A Sustainable Solution  | Identified different generation work values for effective workforce management.  | (Rajput, et al., 2019)  |
| Mediating effect of innovative culture and organizational learning between leadership styles at third-order and organizational performance in Malaysian SMEs                                  | Innovative culture, organizational learning with the help of leadership style promote organizational performance.  | (Rehman, et al., 2019)  |
| How do organizations create and sustain vitality in a multigenerational workforce   | Relationships within workforce and open communications key to sustain vitality of multigenerational workforce.   | (Watts, 2018)           |
| Leading a Multi-Generational Workforce in the Public Sector   | Identified leadership preferences of each generations promote motivation and commitment.   | (Wu, 2018)              |
| Engaging a Multigenerational Workforce  | Effective Strategy to manage and promote engagement thru open and honest communications, training on generation differences and team building to promote engagement.   | (Robinson, 2017)        |
| Managing a Multi-Generational workforce: A Review   | Challenges to manage workforce from different generations due to different expectations, motivation, perception and values. Success factor including communication strategy, building multigenerational team, knowledge sharing, mentor and mentee and training. | (Anshul & Pathak, 2017) |



|  |  |                         |
|--|--|-------------------------|
| Multi-Generational Workforce: Four Generations United in Lean                      | Knowing the Job Satisfaction Factors as part of lean management.   | (Lewis & Wescott, 2017) |
| Strategies for Managing a Multigenerational Workforce                              | Effectively managing conflicts between different generations; Require leadership skill (fair, open communications, motivation clear work direction), understand generation's difference, effective strategies (engagement, mentoring, training), less effective (force compliance) | (Iden, 2016)            |
| Managing and Leading a Diverse Workforce: One of the Main Challenges in Management | Coordinated efforts among diverse workforce is the key of excellence customer excellence and produced higher quality products.   | (Shaban, 2016)          |

Briefly highlighted in Chapter 1 Generation difference in workplace and overall issue faced by Malaysia Telco including low employee engagement score. We can clearly see the differences, preferences, challenges, and opportunities of having at least four different generations workforce in the organizations. Wu (2018) acknowledged the increased of challenges faced by leaders when younger generations people entering the organization while existing employees delaying the retirement especially during today competitive society. Iden (2016) reported in his research that 58% of the manager experiencing conflicts between younger and older generation of workforce in organization with 500 employees. While in multiple section where organizations have acknowledged the important of measuring and acting on the result from employee engagement score. Result has shown in multiple section that one of the key drivers for successful digital transformation and achieve sustainable business growth of the company is workforce.

Lewis & Wescott (2017) emphasized similar findings to organization leaders that this environment offered opportunities and challenges because different generation cohort will have different attitudes, characteristics, behaviour, values, and perspective. In order to remain competitive, leader need to address and acknowledge the important of managing multi-generational workforce. Shaban (2016) has linked the success of workforce coordination with better customer experience, faster service delivery and produce higher quality product. Babel'ová, et al. (2020) cleared link between organization performance with recruiting and retaining resources from different generations. Hasan (2021) claimed that the ultimate

determinant of organization performance is the effectiveness of managing the intellectual capital of the company.

Watts (2018) wanted leader to create connectivity within different intergenerational cohorts because it will improve employee retention and greater operating efficiency. Robinson (2017) shown similar findings where lower employee turnover and motivated employee are due to positive relationship between leader and employees. Anshul & Pathak (2017) highlighted the needs of employer to find the right resources with relevant skills, experience, and knowledge during the rapid changing of technology and workplace. Similar claimed from Santoso, et al. (2019), current technology shifting require empowered workforce that able to deliver services innovatively based on customer needs. Organization should continue to create an innovative culture thru proper managing and leading the workforce.

Above literature review has significantly explained the important of having Manage the Changing Dynamic of the Workforce (MV) as part of the research framework and the importance towards company performance. Hence is important to understand the measurement towards Manage the Changing Dynamic of the Workforce.

To measure if Manage the Changing Dynamic of the Workforce has happened, majority of the researchers investigate the level of positive support. Iqbal, et al. (2020) has mentioned the relationship between leadership, learning and performance can be further strengthened with the help of empowerment such as open communications, allow making mistake and allowing ideas to be voiced out. Babel'ová, et al. (2020) did mentioned that each generations perceive differently between relationship with supervisor, but overall perception is good. Leaders need to create a model that able to lead and manage the expectations from each generation such as Lean transformation or other leadership framework (Rajput, et al., 2019; Iden, 2016). Wu (2018) introduced two leadership styles that leaders can refer to when managing multigenerational workforce such as Leader-Member Exchange Theory and Transformational Leadership Theory (Santoso, et al., 2019; Rehman, et al., 2019; Danley, 2020). It is important to focus on similarity and differences of each generation to select the right leadership styles. Shaban (2016), Watts (2018) and Robinson (2017) encouraged leader to start identifying the differences of each generation, provide training that related to diversity issue. Shaban (2016) and Iden (2016) , believed mentor and mentee program between older and young generation will encourage knowledge sharing. Robinson (2017) further expand the findings from Anshul

& Pathak (2017) by introducing team building to strengthen the engagement between different generations.

Second measurement for Manage the Changing Dynamic of the Workforce is about the level of open communication. Anshul & Pathak (2017) listed additional few critical success point such as expand communications strategy that suite different generation workforce such as email, instant messaging and face-to-face (Robinson, 2017). Rajput, et al. (2019), advised leader to add on the value of each generation into the vision and mission communications by higher management. This promotes sense of ownership and recognitions to certain generations.

Overall, Lewis & Wescott (2017) has further breakdown into 15 measurements (Table 23) for Manage the Changing Dynamic of the Workforce based on Veterans, Boomers, Gen X and Gen Y. The measurement inclusive of clear explanation, regular communications, openness and support, having good rapport with supervisor, looking for patient and tolerant supervisors, clear communications from supervisor, allow to ask questions, clear role and responsibilities, training and development, allow to voice out initiative, well-structured role, reasonable expectations of work, assign to right job based on my expertise, receive regular feedback from supervisor and being allow to make mistake.

*Table 23: Job Satisfaction*

|    | <b>Job Satisfaction Factors (JSFs)</b>   | <b>Veterans</b> | <b>Boomers</b> | <b>X'ers</b> | <b>Millennials</b> |
|----|--|-----------------|----------------|--------------|--------------------|
| 1  | Having things well explained             | 75.4%           | 87.1%          | 89%          | 98.4%              |
| 2  | Clear and regular communication          | 85.1%           | 89.9%          | 90%          | 93.3%              |
| 3  | Adequate information and support         | 77.3%           | 86.6%          | 92%          | 92.3%              |
| 4  | Good rapport with supervisors            | 79.8%           | 83.3%          | 87.1%        | 92.2%              |
| 5  | Patient and tolerant supervisors         | 80.2%           | 87.7%          | 93.4%        | 92.2%              |
| 6  | Clear explanations from my supervisors   | 74.5%           | 89.2%          | 95%          | 92.2%              |
| 7  | Being encouraged to ask questions        | 79.4%           | 85.9%          | 90.4%        | 91.2%              |
| 8  | Having clear responsibilities            | 76.6%           | 77.5%          | 90%          | 91.1%              |
| 9  | Opportunity for training and development | 85.2%           | 81.6%          | 89%          | 90.8%              |
| 10 | Having scope to use my initiative        | 76.9%           | 84.4%          | 89.9%        | 90.0%              |
| 11 | A well-structured job role               | 88.2%           | 87.3%          | 88.2%        | 89.2%              |
| 12 | Reasonable expectations of my work       | 76.7%           | 79.7%          | 87.%         | 88.9%              |
| 13 | Understanding where my job fits          | 77.3%           | 87.8%          | 86.4%        | 87.8%              |
| 14 | Regular feedback from supervisors        | 79.1%           | 77.4%          | 82.1%        | 85.6%              |
| 15 | Being allowed to make mistakes           | 75.5%           | 79.8%          | 72.1%        | 71.1%              |

Source Adopted from (Lewis & Wescott, 2017)

Overall, there are 12 measurements for Manage the Changing Dynamic of the Workforce after completed the normalization process. The biggest drawback is the lack of research in multigenerational workforce that include Baby Boomers, Gen X, Gen Y and Gen Z as part of the cohorts. Hence is advisable to conduct further research using the data collected from Telco employees.

### 2.3.6 MV - Digital Transformation

There is a lot of similar conceptual definitions for Digital Transformation in the research field hence researcher selected a common conceptual definition that simple and easy to understand (Table 24). According to Boulton (2020), Digital Transformation means the change by company to deliver extra values to its customers. Based on the conceptual definition, researcher has constructed the operational definition for Digital Transformation (Table 24). It refers to the revolutions of technology and process used in the company to improve flexibility, scalability, efficiency, time to market, values to customer, way to connect to customer and competitive advantage.

*Table 24: Conceptual and Operational Definition of Variables*

| Variables                     | Type        | Definition  |
|-------------------------------|-------------|---|
| <b>Digital Transformation</b> | Conceptual  | Digital transformation is the change by company to deliver extra values to its customers (Boulton, 2020).   |
|                               | Operational | This refers to the revolutions of technology and process used in the company to improve flexibility, scalability, efficiency, time to market, values to customer, way to connect to customer and competitive advantage. |

For easier reference, researcher has documented the important literature review of Digital Transformation into Table 25. Researcher will be evaluating, synthesize and conclude the literature review of Digital Transformation (Introduction of the variable, measurement of the variable, in depth analysis, and evaluate on theoretical and practical gap).

*Table 25: Important Literature Review on Digital Transformation*

| Title   | Description   | Author                   |
|---|---|--------------------------|
| Preparing Workplaces for Digital Transformation: An Integrative Review and Framework of Multi-Level Factors | Organizational factors, Group factors and Individual factors contribute to the success of digital transformation.   | (Trenerry, et al., 2021) |
| Digital transformation: A multidisciplinary reflection and research agenda                                  | 6 key ingredients to Digital Transformation that include Digital Growth Strategies, Phases Approaches, Digital Resources, Goals and Organizational Structure. | (Verhoef, et al., 2021)  |
| The Engines to a Successful Digital Transformation Process  | Model of successful digital transformation of legacy systems.   | (Almawi, et al., 2020)   |
| COVID-19 and Work from Home: Digital Transformation of the Workforce  | Work from home force organization to speed up their digital transformation in   | (Savić, 2020)            |

|  |   |                             |
|--|---|-----------------------------|
|  | order to sustain collaboration within workforce.  |                             |
| A Conceptual Framework to Support Digital Transformation in Manufacturing Using an Integrated Business Process Management Approach     | Core elements are people, culture, information tech, governance and strategic alignment.  | (Butt, 2020)                |
| Digital transformation: Five recommendations for the digitally conscious firm  | Standardization, ethics, culture change, start small and team up.   | (Saarikko, et al., 2020)    |
| Determining Digital Transformation Success Factors   | Success factor including determine digital trigger, cultivate digital culture, develop digital vision, determine digital drivers, established digital organization, determined transformed area and determined impacts. | (Morakanyane, et al., 2020) |
| Digital transformation at logistics service providers: barriers, success factors and leading practices                                 | Success factor including leadership, culture, engagement, training, strategy, integration, knowledge and agile transformation.  | (Cichosz, et al., 2020)     |
| Identifying Digital Transformation Paths in the Business Model of SMEs during the COVID-19 Pandemic                                    | Business model transformation with the help of digital technologies during pandemic.  | (Priyono, et al., 2020)     |
| Mastering the Digital Transformation Process: Business Practices and Lessons Learned   | Success of Digital Transformation depend on the adoption rate of the organizations and the ability to change. Key factors including strategy, people, organization, customer, ecosystems, technology and innovation.    | (Ivančić, et al., 2019)     |
| Success factors for fostering a digital transformation in manufacturing companies  | The three major dimensions in which DT takes place: technology, organization and environment.   | (Vogelsang, et al., 2019)   |
| Investigating the Critical Success Factors of Digital Transformation for Improving the Customer Experience in Australian Organisations | Success factor including Analytics, Customer, Digitalisation and Business   | (Sahu, 2019)                |
| Digital Transformation in Bhutan: Culture, workforce and training  | To achieve excellence performance, organization require speeding up digital transformation thru culture change, workforce management and training.  | (Tobgye, 2018)              |
| Digital Transformation and its Implications on Organizational Behaviour  | Digitalization provide positive change to workforce retention, way of interaction and collaboration at the same time has negative effect to organizational behaviour such as  | (Metz, et al., 2018)        |

|   |  |                           |
|---|--|---------------------------|
|   | mental stress to keep up with the pace and worried of being replaced.  |                           |
| Digital Transformation & Digital Business Strategy in Electronic Commerce – The Role of Organizational Capabilities | Improve organization performance and stay competitive will require Digital Transformation with the influence by Organizational Capabilities and Digital Business Strategy. | (Nadeem, et al., 2018)    |
| Digital Transformation: Drivers, Success Factors, and Implications  | Success factor, overall objectives, drivers and drawback of Digital Transformation.  | (Osmundsen, et al., 2018) |

In earlier Chapter 1, researcher has mentioned the success and failure of organization during industrial revolution 4.0. Example of failure organization that once the leading giant companies that failed to react to changes such as Blockbuster, Toys R Us, Nokia and Kodak. While many new business or existing business that successfully emerged into leading companies within the industry due to adoption of change and digital transformation such as Grab, Uber, Netflix, Airbnb, and Alibaba (Verhoef, et al., 2021). Butt (2020) has mentioned that IR4.0 is the enabler of digital transformation and is no longer a future trend but a necessity to remain competitive and promote business growth.

Osmundsen, et al. (2018) identified four key drivers for companies to go for digital transformation. Changing of competitive landscape, regulatory, customer behaviours and expectations and finally the digital shifts in the industry. One of the impacts are due to change of competitive landscape (Trenerry, et al., 2021) where Telco no longer faced competition thru Internal Rivalry but also OTT Player such as Facebook Messenger, WhatsApp Call, Microsoft Skype for Business and WeChat. Change of regulatory also happening in Malaysia every time change of ruling party, e.g. Tighten the used of Personal Data Protection, Control over spectrum, Control over prices, Customer behaviour and expectations has changed drastically thanks to easy access of Internet and introduction of Digital Products such as smartphone.

Customer has higher exposure to information digitally and prefer to perform transaction online rather than walking into a physical shop. Ivančić, et al. (2019) further supporting above statement that companies need to improve the way of reaching to customers and external partners thru digital channels rather than traditional walk-in. Verhoef, et al. (2021), emphasized the important of incorporating customer journey into digital transformation strategy because customer behaviour is changing to digital touchpoint and online store. According to Choudhury (2020), she published an article in CNBC news channel saying that Covid-19 pandemic forced

customers to shop online, and this growing trend will remain after pandemic is over. They wanted companies that able to provide customization based on their need rather than receiving general offer. Almawi, et al. (2020), agreed that achieving customer satisfaction is the goal of any companies despite being government or non-government based.

Meanwhile the sudden hit of Covid-19 pandemic has forced all organizations to speed up digital transformation especially when come to way of work. Due to the lockdown, organization need to have the proper tools for remote employees to continue working, such as having a secure video conference for team meetings, centralized repository to store and share files and online training. (Savić, 2020). Priyono, et al. (2020) believed many companies would require changing their business model with the support of digital technologies in order to stay competitive during pandemic. Trenerry, et al. (2021) believed the pandemic not only speed up organization into digital transformation but also need to focus on their employees well beings in adapting to the technology and way of work disruption. Tobgye (2018) has also mentioned the significant impact of digital transformation to organization culture, workforce practices and training needs. In short digital transformation brought impact not only to external societies but also to internal workforce.

Above literature review has significantly explained the important of having Digital Transformation (MV) as part of the research framework and the importance towards company performance. Hence is important to understand the measurement towards Digital Transformation.

To measure Digital Transformation, majority of the research focused on Support Level of Organization Culture. Innovation is achievable with open communications, empowerment from supervisor to try new things and information sharing with another department (Butt, 2020). Verhoef, et al. (2021) and Priyono, et al. (2020) also highlighted two additional factors, which is organization structure (Trenerry, et al., 2021) and metrics and goal (Morakanyane, et al., 2020). Organization structure means the speed of the organization to accept change, to make changes, to work in agile approach, having flexible to change and readiness of employee skillset (Vogelsang, et al., 2019). Trenerry, et al. (2021) categorized success factor into 3 level which is the Individual, Group and Organization Level. Individual level referred to employee perception, attitude, skills, training, acceptance to change and well-beings. Group level related to communications, engagement, collaboration, workplace relationship and team adaptability.



The last level is Organization level which success factors are human resource, organization culture and leadership.

Second measurement of Digital Transformation is based on the level of well managed transformation activities. Almawi, et al. (2020) and Verhoef, et al. (2021) provided similar success factors such as defining strategic goal, apply best practices, proper governance methodology, improve internal processes, and provide proper tools. It also includes the agility and scalability operations, flexible and scalable digital platform (Verhoef, et al., 2021)

Third measurement of Digital Transformation is the level of digital business strategy that aligned with customer needs. Ivančić, et al (2019) research has identified similar success factors as other researcher, but they also found some other important factors such as customers and innovation. Organisation must start measuring customer satisfaction and develop product based on customer needs (Morakanyane, et al., 2020; Sahu, 2019). Nadeem, et al. (2018) reviewed 292 articles and identified 28 articles that relevant to the success of digital transformation. In their research, the main contributor to success of digital transformation and later lead to organization performance is the organizational capabilities and digital business strategy. Morakanyane, et al. (2020) concluded that organizations that going thru digital transformation, need to focus on 7 success factors. Out of 7 success factors, one success factor which is determine digital trigger has not been highlighted so far by other research that mentioned in this paper. Organizations need to know the type of trigger and inducer that happening internal and externally before focus into developing a digital transformation strategy or goal. Organizations should not be making changes without aligning with customer needs.

Fourth measurement of Digital Transformation is thru Level of Collaboration between division. Internal and external collaborations (Trenerry, et al., 2021), digital leadership and cross-functional integration between technology and business department (Cichosz, et al., 2020). Butt (2020) claimed that the main failure of digital transformation is the lack of standardization when come to digital implementation and no alignment between technology and business department. The third path will be collaborating with other external digital partner that is mature and able to provide required services to the company (Saarikko, et al., 2020).

Overall the measurement of Digital Transformation has been well summarized by Osmundsen, et al. (2018). There are eight measurements of digital transformation inclusive of level of

organization culture support, number of well-managed transformation, engagement level of manager and employees, leverage the expertise from internal and external, growth of information systems capabilities, level of scalability and dynamic capabilities, digital strategy that aligned with customer needs, level of collaboration between business and technology. One major gap in digital transformation from previous study is lack of study on the acceptance of change from employees that has mental stress due to worry of been replaced by Artificial Intelligence and leader facing the unknown of digital transformation and yet need to motivate employees (Metz, et al., 2018). Hence this is an opportunity for further study by including incorporating additional variables “Manage the Changing Dynamic of the Workforce” and using underpinning theory such as Dynamic Capability Theory to prepare resources in accepting the new digital changes and Leader Member Exchange Theory to leader the team with open communications and relationships building.

## 2.4 Relationship among Variables (Hypothetical Development)

Following topic explained about the possible relationship between variables. In total there will be 9 relationships derived from 6 variables.

### 2.4.1 Multigenerational Workforce Engagements and Digital Transformation

As mentioned by Nazim, et al. (2017) in earlier section, Multigenerational Workforce Engagement means company a group of employees from different generation's cohort working under the same company that are motivated to achieve goal. Employee engagement is a type of physical and psychological conditions where individual employees felt engaged due to multiple reasons such as company branding, way of work, good leadership, clear vision and mission, and innovative company (Satata, 2021).

Boulton (2020), Annacone (2019) & Nadeem, et al. (2018) has described Digital Transformation as organizational changes thru the introduction of technologies into the existing ecosystems to bring extra values to their customers, increase operation effectiveness, improve competitive advantage and many more. Meanwhile Peranzo (2020) & Kringsman (2020) said, Digital Transformation is equivalent to changes of investment strategies, operating model, time to business, understand customer behaviours and create a sustainable financial growth thru technology.

Lapoint & Spence (2017) did mentioned that engaged workers able to achieve task that assigned to more efficient and effective. Kerdpitak & Jermisittiparsert (2020) engaged employees would have growth mind-set, which allow them to accept the latest digital transformation ideas that introduced by the company. Osmundsen, et al. (2018) in their research did mention the success factor of Digital Transformation require engaged manager, engaged employee and supportive organization culture. Vogelsang, et al. (2019) said engaged employees are more positive in support Digital Transformation activities including agile way of work, online training, and knowledge sharing. Trenerry, et al. (2021) said engaged employees has better acceptance to change, better adaptability, positive mentality and continue to learn. This is the key components and requirement for a successful Digital Transformation in a company.

Sivaraman (2020) described current situations as survival of the fittest because companies are competing with their internal and external rivalry along with the digital roadmap changes. In order to success, companies need to have high transparency thru open communications with their employees. A well-connected employee's equivalent to a well engaged employees that I

ready for any transformation. Ceipek, et al. (2021) also highlighted the challenges of engaging employees that work in family managed firm to adopt to latest innovation such as Internet of Things. Success rate of digital transformation is lower if the family manager is sceptical to the changes and eventually lead to poor employee engagements. Ceipek, et al. (2021) mentioned the important of high firm engagement because without engaged employees, the motivation to make drastic changes especially on traditional processes or old technology will not be possible. Human in nature feel more comfortable to work in a known environment rather than constant changes environment.

Metz, et al. (2018) did a study in the effect between Organizational Behaviour and Digital Transformation has concluded similar findings. Leaders of the company need to engage their employees especially on newer generations because they are the drivers to change in current digital world. Winasis, et al. (2020) conducted research on Digital Transformation and Employee Engagement in Indonesia banking industry. According to their findings, highly engage employees are more passionate and emotionally attached with the task assigned. To achieve high employee engagement, company need to provide appropriate resources to support the need of the employees that going thru digital transformation.

Winasis, et al. (2020) did mentioned the relationship between employee engagement and digital transformation that potentially improving organization performance but also causing high level of work stress. Leaders of the company need to detect this negative behaviour and address it accordingly before situation getting worst. Oeij, et al. (2019) reviewed that stakeholder engagement is crucial to sustain Workplace Innovation in the company.

They believed with workable workplace innovation, it would also create highly engaged employees, which is a win-win situation for the company. Purba (2021) did a study on Indonesia manufacturing companies that going thru digital transformation. Employees disengaged when they worried on job securities after transformation. In order to achieve desire results, company need to focus on 3 main factors which is e-learning, e-task and leadership style.

E-learning able to provide a clearer understanding of digital transformation to the employees and equipped them with require knowledge. E-task means assigning a suitable role to the employees and include them into the digital transformation journey. Leadership style means the ability of leader to influence the employees into believing the benefits of the journey.

Meanwhile Cichosz, et al. (2020) conducted similar studies on logistic industry that forced to go thru digital transformation in order to stay relevant in the business. Result shown that employee and partner engagement rated as the most important factor of the success digital transformation with the mean of 9.33. Highly engaged employees and partner has lower resistant to change.

Zaharia & Pietreanu (2018) conducted research on challenges in airport digital transformation. Besides employee engagement, customer engagement is also the key factors to the success of digital transformation. It is useless to have the most advanced technology, but customers are not motivated to use it. Marović, et al. (2019) did similar research on Southeastern European Telecommunication Company. It shown significant difference in digital transformation when employees are engaged and motivated. Vice versa, new digital tools also increased the employee engagement score. Maralov & Petrova (2019) also researching on Kazakhstan Telecommunication Company where successful digital transformation depends on the openness of communications to motivate and engage the employees.

Researcher believed “There is a relationship between multigenerational workforce engagements with the success of digital transformation.”

*H1: There is a relationship between multigenerational workforce engagements with the success of digital transformation.*

#### 2.4.2 Multigenerational Workforce Collaboration and Digital Transformation

Gilburg (2020) described multigenerational workforce collaboration as a group of people from different age group working together willingly to achieve company goals. Collaboration can happen within small unit of the company or across different division. Sivaraman (2020) said collaboration is a sustainable act that promote knowledge exchange between individual or group that eventually embedding a learning culture within the company.

It is a key enabler to assist company into achieving successful digital transformation. Cross-team collaboration is the heart of transformation that apply to all organization members from employees to external partners. Metz, et al. (2018) shown the success of digital innovations are not only from employee collaboration but also collaboration within leaders. Reasons because leader able to promote the collaboration of employees between different areas of the company. Based on Cichosz, et al. (2020) recent researched of success factor of digital transformation at logistics service providers are empowered, knowledgeable and collaborative employees. Lack of collaboration within divisions during the design phase will eventually lead to wrong implementation or not meeting overall organization needs. Gimpel, et al. (2018) suggested that leaders should create a collaboration platform for employees to collaborate with each other's such as Yammer.

Ivančić, et al. (2019) advised organization to recruit digital skills employees within the company to collaborate and work towards digital transformation goal. Employees that understand and able to speak the same technical language can collaborate more efficiently. Ulas (2019) mentioned that SME's need to collaborate with other expertise that helps in speed up the transformation journey. Leaders need to create the collaboration culture within the organization thru open communications and motivation. Albukhitan (2020) has proposed to collaborate with external parties if internal resources do not have the expertise. Another option is to hire employees with skillsets and allow them to collaborate with existing employees.

Mirković, et al (2019) said key to successful transformation is speed and employee collaboration. Leaders need to reduce the level of hierarch, empowered decision-making and promote collaboration within employees. Leavy (2021) suggested to create an employee-centred environment because it promotes stronger collaboration and longer employees' tenure. Ismail (2017) clearly said that working in silos are not suited for digital transformation. Employees around the company need to collaborate with each other in order to experiment with innovative technology. On other hands, employees able to collaborate more effectively

with the help of technology tools. Gupta (2018) said company need to focus on group that collaborate and make changes rather than individual who resistant to change. Resources should be heterogeneous; therefore, leaders should involve employees from diversify backgrounds. Similar to other researcher findings, that good employee collaboration should cut across divisions and promote knowledge sharing. Soh, et al. (2019) identified few challenges from the success of digital transformation including flexibility vs control, product vs process and internal vs external collaboration. Talking about internal vs external collaboration, a lot of traditional company only focus on internal employee collaboration within company but avoided external collaboration including sister company, branches, partner, and expert. This needs to happen if internally they do not have sufficient expertise on digital transformation or innovation journey.

Kissmer, et al. (2018) conducted a survey in digital workplace influenced to employee satisfaction especially on improving collaboration and knowledge sharing. Based on the result from 330 participants, it is a positive influence. It also indirectly proved that success of employee's collaboration and knowledge sharing will also influence the success of digital workplace implementation. Dremel, et al (2017) conducted research on AUDI DG success in introducing Big Data Analytics in its digital transformation. According to the research, Big Data Analytic is just another information repository tool if the company do not know how to utilize and integrate with other systems. The key success to utilize big data analytic as a tool to understand customer behaviour and needs will require close employees' collaboration between Technology, Digital Innovation Hub, Sales and Marketing team.

Observing the findings from various research, researcher believed "There is a relationship between multigenerational workforce collaboration with the success of digital transformation."

*H2: There is a relationship between multigenerational workforce collaboration with the success of digital transformation.*

### 2.4.3 Multigenerational Workforce Characteristics and Digital Transformation

Gausepohl (2018) briefly described Multigenerational Workforce Characteristic as a group of employees born in different years, working in a same company and possess different characteristic, behave and attitude. Employees from different generations will react differently on changes that introduced in the company including way of work, company image, innovation, and collaboration tools. Clark (2019) given a high-level example of each generation such as Baby Boomer as loyal and hardworking, Gen X as self-reliant, Gen Y as valued diversity and change and Gen Z as ambitious.

Sivaraman (2020) listed four needs of organizational change to cater for current and future digital transformation. The four-requirement including transparency, diversity, aspiration career and digital skill gap. Sivaraman (2020) emphasized the important employee diversity because employees are no longer homogeneous but heterogeneous where employer need to cater the needs of different characteristic employees and prepare them for digital transformation journey. Lewis & Wescott (2017) highlighted similar findings where leader need to understand the difference of each generation workforce in order to prepare them into this innovative journey. In their survey, only 81.6% Baby Boomer interested on “opportunity of training and development” compared with Gen Y 90.8%. It means to prepare Gen Y into digital transformation journey is less challenging compared to Baby Boomer. Barbosa (2021) did mentioned that Gen Y born in the emerging of digital world, understand the benefits of technology and motivated to change. Pinzaru, et al. (2017) echoing Barbosa comments where Gen Y employees are attracted to company that evolving towards digitalization. Valickas & Jakštaitė (2017) said both newer and older generations of workforce are having their strong and weakness. To be successful in digital transformation, employees not only need to open to change but also follow the directions set by their leader. In the survey, newer generation shown 76.9% open to change compared to older generation 37.5% but when come to respect to their manager, newer generation only 1.7% compared to older generation 41.7%.

Bestman & Orokor (2019) conducted a survey of 277-sample size on influence of workforce diversification on organizational harmony at Rivers State Nigeria Telecommunications Company. It concluded that mixture of different generation of workforce created new way of cooperation, information handling and knowledge sharing that boost overall company performance and innovations. Recent survey done in one of the largest Telco in Indonesia shown that the biggest challenges faced during digital transformation journey is to change the employee mind-set, culture and behaviour (Fahmi, et al., 2020). Fahmi, et al. (2020) also



mentioned the success of transition is dependent heavily on employee's adaptability, skillset, attitudes, and behaviours. Narayanamma, et al. (2018) highlighted the challenges faced by most companies in managing the mixture of different generation employees that has dissimilar work attitude, work expectations, life experience and work ethic. Successfully understand the differences and similarities will lead to cross sharing of knowledge, better collaboration and increased the acceptance of change and innovation. People coming from different background tends to generate innovative ideas and positive change. This is some of the key requirements for successful digital transformation. Latif, et al. (2020) observed same trending in Malaysia Digital Banking Industry where recently going thru rapid digital transformation. With the existence of multi-generational workforce in banking industry, leaders need to expect different acceptance to change, adoption of new technology tools and sharing of new knowledges.

Stonehouse & Yu (2019) and Blštáková, et al. (2020) draw out the biggest challenges of successful Digital Disruption is human, especially companies with multi-generational employees because of different attitudes and belief but this obstacles can be mitigate with proper communications and leadership. Talking about proper communications, Kicheva (2017) said, understand the mode of communications that preferred by each generations increase the acceptance of instructions. E.g. 85% Boomer preferred phone communications while 41% of Gen Y preferred chat as mode of communications. Savaneviciene, et al. (2019) said different generations of employees would have different level of contributions to innovations and acceptance to change. Leaders need to be more observing when dealing with different group. Lin (2019) agreed with Savaneviciene because different generations will bring in different level of capacity and willingness to take risk.

Although they are argument from other researchers, that demographic factor is not influencing the success of digitalization (Kissmer, et al., 2018). Nevertheless, based on multiple evidence from other research, researcher believed "There is a relationship between multigenerational workforce characteristic with the success of digital transformation".

*H3: There is a relationship between multigenerational workforce characteristic with the success of digital transformation.*

#### 2.4.4 Multigenerational Workforce Engagements and Manage Changing Dynamic of Workforce

Zakaria (2018) said managing the changing dynamic of the workforce means leading a constant changing expectation of employees that affected by internal or external factors. Employees has different demand, expectations, way of work, attitude, behaviour, and characteristic. Kropp (2019) described this as an internal factor derived from multi-generational employees working together. Strauss & Howe (1991) has described the same internal factor in their Strauss-Howe Generational Theory where people born in certain years will show similar attributes that influenced by the historical events.

Choudhary (2020) provided few examples of external factors such as impact of Covid-19 pandemic, industrial revolution 4.0, rapid digital transformation and increased of external rivalry. Employees forced to adapt to new changes and new requirements including working from home, using online collaboration tools, agile way of works and adapting to organization change. Auda (2019) advised organizations to change their management style to manage the changing dynamic of the workforce. It is aligning with the Leader-Member Exchange (LMX) theory, where leader evaluate and categorized their employees into in-group or out-group members thru employee attitudes, behaviours, performance, and trust (Dansereau, et al., 1975).

Lapoint & Spence (2017) emphasized the important of multi-generational workforce engagement towards organization success. Engaged employee's assists leader to achieve company goals, loyal to the company, higher retention, higher productivity, excellence customer management and respect to management decision. Osborne & Hammoud (2017) said engaged employees built stronger relationship with their leaders. Leaders in exchange will be able to provide continue support, learning, personal development, transparent communications, and directions to the employees. Long term, leaders will be able to improve overall productivity, profitability, and competitive advantage. Shaik & Makhecha (2019) highlighted the next challenges is to manage employees that located in different geographical areas, different time zone and culture difference. Leaders need to engage their organization employees thru open communications and provide proper collaboration tools in order to overcome the challenges.

Othman, et al. (2017) highlighted the benefits of employee engagement towards successful human resource management. The mediator of resource management and employee engagement are communications. Leaders need to use the preferred communications channel

to deliver instructions to employee, transparent in organizational change and provide constant update of organization directions. Antony (2018) said in order to build and manage a dynamic work team, leader need to create an environment that everyone feel proud to be part of it. Engaged employees are attracted to the positive environment and willing to help leader to achieve company goals and overcome obstacles. In current digital age, Mihalcea (2017) further emphasized the important of talent management or human resource management. Leader and employees require going thru learning and development classes to stay relevant to the dynamic changes. Building a positive brand image will attract talent and engaged employees.

Voon & Cheong (2021) said talent management and employee engagement is the biggest challenges faced by leader of the organization. Both are inter-related because in order to improve employee engagement, leaders need to know the expectations of multi-generational employees, and this is part of talent management. Engaged employees know the business context and will collaborate with other team to achieve excellence organization performance. Stoyanova & Iliev (2017) described the challenges faced by manager in managing today rapid changing environment and at the same time trying to achieve sustainable business growth. In order to manage the rapid changing environment successfully, leader need to focus on improving employee engagement. Engaged employees walk the extra miles, promote their companies to outsider, collaborate with each other and perceive company success as personal success.

Aktar & Pangil (2017) conducted a study in banking industry and concluded the interdependency of human management with employee engagement. It shows positive relationship between these two variables. Ahmed, et al. (2017) conducted similar studies in Pakistan banking industry where organization trying to boost company performance thru managing the workforce with the help of employee engagement as the moderator. Raj & Bhaumik (2018) said India banking industry require to downsize and manage the employee needs and to sustain the overall performance; they require to focus on improving employee engagement. Chaudhry, et al. (2017) using employee engagement as mediator variables for improving employee's performance with organization performance.

After in-depth study, researcher believed "There is an interrelation between multigenerational workforce engagements with the success of managing the changing dynamic of the workforce".

*H4: There is an interrelation between multigenerational workforce engagements with the success of managing the changing dynamic of the workforce*

#### 2.4.5 Multigenerational Workforce Collaboration and Managing Changing Dynamic of Workforce

In 2020 when Covid-19 pandemic hit the world, employees forced to work from home with limited time and preparation given. Leaders of the company require to provide work tools, setup new work from home processes, making sure daily operations not affected and continue to motivate employees into achieving company goals (Waizenegger, et al., 2020). Waizenegger, et al. (2020) requested leaders to focus in promoting virtual employee collaboration especially during pandemic seasons to sustain the deliverables of the company. Meanwhile for workspace setup in office, leaders are moving from traditional to modern setup including no partition, free sitting, and lesser wall to promote transparency (Bernstein & Turban, 2018). This small action increased the productivity and collaboration between employees and leaders.

Canedo, et al. (2017) said, organizations are trying to transform their existing culture that suite business reality and at the same time managing multi-generational employees that changing in value. In one of their hypotheses, leaders who focus on collaboration between employees and cross-functional lead to increase of productivity and innovation. Goins (2021) shared similar findings in managing a changing dynamic of workforce where collaboration within employees played an important role.

Groysberg, et al. (2018) wrote an article in Harvard Business review regarding corporate culture. Leader trying to maintain organization effectiveness, ability to mobilize people and creating a high performer culture. The main action to achieve it is by having an engaged and collaborative group of employees that willing to work the extra miles, treat company success as individual success, share knowledge and overcome obstacles. Barnard, et al., (2018) conducted a study on the success of complex project management comparing with project failure. It concluded that the higher collaboration level amongst team members increased the percentage of Project Manager in delivering the project efficiently. Team collaboration increased commitment towards the project, increase knowledge sharing, improve trust level, lesser conflicts, and relationship with stakeholders.

In their latest research, Wipulanusat, et al. (2021) suggested the way to overcome Federal Highway challenges from administrating employees from two geo-locations are thru promoting cross-departmental collaboration. In exchange, successful managing the collaboration between workforces from different locations improved overall organization performance. Manca, et al.

(2018) experienced similar challenges with Spanish subsidiaries where leaders need to foster innovations into the company that run by multi-generations workforce. Leader needs to work out the strategies to promote inter-company collaboration. Lewis & Wescott (2017) highlighted the failure rate of organization in achieving high efficiency and maintain lower turnover rate because of not addressing generational differences. To do that, organization should focus in driving engagement and collaboration culture.

Looking at the study and findings from multiple journals, researcher believed “There is an interrelation between mutigenerational workforce collaboration with the success of managing the changing dynamic of the workforce”.

*H5: There is an interrelation between mutigenerational workforce collaboration with the success of managing the changing dynamic of the workforce.*

#### 2.4.6 Multigenerational Workforce Characteristic and Managing Changing Dynamic of Workforce

Harrison (2017) said, element of organization competitive advantage is the ability to attract new talent, retain existing talent, and continue to develop them. Traditional employee management (one size fit all) no longer relevant in managing a multi-generational workforce. Employees are expecting personalize treatment given by their organization or leader. Chan (2017) and Satpathy, et al. (2019) expressed the complexity faced by current leader to manage employees from different age group, internal and external forces due to industrial revolution.

Strauss & Howe (1991) believed the historical events at that time indirectly influenced the people and created similar behaviour and characteristics. According to Strauss-Howe Generational Theory, people from similar age group will have similar attitudes, preferences, behaviour, characteristics against people from different age group. Due to the increased of multi-generational workforce working under the same roof, leader faced the challenges to understand and to lead them. Malhotra (2018) mentioned the benefit managing multigenerational employees that composited the age of their customer because they will possess the similar characteristics. Employees with similar age group will understand the need of their customers and able to provide proper recommendations that suite their needs. This will eventually increase the overall business performance.

Andert, et al. (2019) conducted a survey on four generations of workforce (Veteran, Baby Boomer, Gen X and Millennial) regarding their expectations of a leader. Based on the results Veteran preferred forward-looking leader, Baby Boomer and Gen X preferred ambitious leader and Millennial preferred caring leaders. It shown the important of knowing the characteristics in order to manage the changing dynamic of the workforce. While Rajput, et al. (2019) said Boomer respect chain of commands, Gen X looking for optimists and supportive leaders and Gen Y wanted leader that provide immediate feedback from time to time.

Mufti, et al. (2021) said the biggest challenges for leader is to maintain talented employees. Failed to do so, employees will join competitors and bring together their year of experience. Each generation of employees have different expectation when come to career development. Leaders need to understand the characteristics and applied different level of motivations to retain talented employees. E.g. Baby Boomer is very loyal to the company compared to Gen Y, leader need to respect them by including them into decision-making process. For younger generations, they wanted organizations that open and transparent. Puhovichova & Jankelova

(2020) emphasized the important of recruiting new talents into the company. Thru understanding generation's differences, leader can recruit the right resources for the right job. E.g. Recruit Gen Y or Gen Z if organization require someone to perform mobile application testing because both generations have higher mobile screen time than others.

Arar & Oneren (2018) conducted a study on managing career development Gen Z in Turkey Telecommunications Industry. Like it or not, Gen Z employees are entering the workforce fast, leader need know the difference of Gen Z comparing to other generations in order to recruit, retain and develop them. Besides knowing the differences, leader need to minimize the conflicts and promote collaboration within generations. Dick (2019) warned organizations leader to avoid stereotyping each generation cohort but focus on individual differences. Certain stereotyping might not be true, e.g., younger generations are all lazy or older generations are relatively stubborn. Urick, et al. (2017) mentioned the same thing where leader need to resolve the conflicts between employees to avoid frustration, lower productivity and decreased of efficiency. Leader needs to create and shape a positive organization culture thru removing stereotyping. Lewis & Wescott (2017) also highlighted the same concerns that organization leader who failed to identify and act on the generational differences will lead to the road of failure. E.g. Veteran preferred a well-structured job role, Baby Boomers required clear and regular communications, Gen X need clear explanations from supervisor and Millennial favoured to having things well explained. Looking at the examples, leaders should know the key words to manage the four generations differences are clear, constant, and transparent in communications.

Goins (2021) advised organization leaders to focus on multi-generational common interest or values instead of differences to manage the overall dynamic of the workforce. The common values are relationship; leaders should explore an effective way to build stronger relationship thru communications, mentoring and motivation. Jonck, et al. (2017) provided similar findings where leaders should focus on finding the similarities rather than the differences. Reason because the differences are too many and difficult for leaders to manage it.

After referring to the studied and evidence from various researchers, it is clear "There is an interrelation between multigenerational workforce characteristic with the success of managing the changing dynamic of the workforce".



*H6: There is an interrelation between multigenerational workforce characteristic with the success of managing the changing dynamic of the workforce.*

#### 2.4.7 Managing Changing Dynamic of Workforce and Digital Transformation

Teece, et al. (1997) did mentioned in their theory “Dynamic Capabilities Theory” that firm need renews existing employee competency, technology, and processes to success in the rapid digital transformation. Besides that, leaders need to manage the integration, adaptability, and reconfiguration of the firm resources to compete with the rapid changing environment.

Fachrunnisa, et al. (2020) described digital transformation as necessity during digital revolution 4.0 era. In their research, the main contributor to success of digital transformation is workforce transformation and dynamic capabilities. According to Fachrunnisa, et al. (2020), leader need to change the culture, skillset, mind-set, and behaviour of their employees. At the same time, make sure internal and external resources can integrate, configure and adapt to the new requirements. Vey, et al. (2017) pointed out two important success factors that will influence digital transformation. The success factors including develop competency of existing resources (skillset, attitude, and knowledge) and bring up innovative culture.

In Becker, et al. (2018) research, 33% of the time Chief Digital Officer role is to manage culture change within the company and lead them into successful digital transformation. Human resource department play an important role in aligning the strategy with Chief Digital Officer and focus on people development. Tataru (2019) mentioned the needs of Human Resource department to first adopt the new digital transformation before promoting to the rest of the organizations. E.g., Digitization of Human resource department by introducing digital HR, collaboration work tools and e-learning. Dressler & Paunovic (2021) said leader need to remove the stress and fear of digital transformation from all employees thru promoting mindfulness, empowerment, and open communications. Incorporating learning culture into people management thru e-learning, digital workshop, and conferences.

Vogelsang, et al (2019) conducted the digital transformation gap analysis of manufacturing industry that related to managing the changing dynamic of the workforce including missing skillset, technical barriers, individual barriers, organizational and cultural barriers. Leaders of the company need to provide proper development plan, understand the fear within individual and continue to push for organization change thru open communications. Albukhitan (2020) did similar research on manufacturing industry and proposed to adjust organization culture. In order to adjust organization culture, leader need to appoint a group of people that believed in transformation and be the champion for the rest. Bring in external expert if internal human resource not capable to train or develop existing employees. Oberer & Erkollar (2018)

suggested implementing feedback form, understand individual and group strength, distribute task based on strength, promote collaboration, create an environment that allow failure and transparent communication. Sainger (2018) said leader is the pioneer to implement digital changes in the organizations thru recruit new talent, retain existing talent and continue to develop internal talent. Leader role is to influence and create follower in order to ease the end-to-end journey of acceptance and implementation.

Cichosz, et al. (2020) conducted research on digital transformation barriers, success factor and leading practise at logistics service provider. The biggest barrier is managing of resources including competence resources gap, budget for resources development, lack of collaboration, between divisions, lack of engagement, unclear organization directions, and old mind-set. Another barrier will be resistant to change, e.g., Existing process is working fine although lengthy, systems still healthy although a bit slow, ROI too long and hard to teach old dog new trick. Schwertner (2017) also echoing on the challenges faced by other industry, the biggest challenge is to kick start organizational change. Proper organizational change will be able to minimize the resistant from employees and maximize the ROI. Osmundsen, et al. (2018) identified 2 major factors that not highlighted by most of the research. The 1<sup>st</sup> factor is changing management and 2<sup>nd</sup> factor is IT governance. Change management process is crucial because the define processes and approval will minimize the negative impact during digital transformation. IT Governance is important to make sure achieving company objectives and aligning activities between external and internal partners.

Nadeem, et al. (Nadeem, et al., 2018) said digital transformation is just a mediator between organizational capabilities and achieving sustainable competitive advantage for the company. Organizational capabilities including digital leadership, agile way of work, diversify skillset, dynamic capabilities, and collaborations.

Looking at the findings, researcher believed “There is a connection between successful managing the changing dynamic of the workforce with the success of digital transformation”.

*H7: There is a connection between successful managing the changing dynamic of the workforce with the success of digital transformation.*

#### 2.4.8 Digital Transformation and Sustainable Business Growth

Barney (1991) has introduced Resource-Based Theory for organizations that wanted to achieve a sustainable business growth or a sustainable competitive advantage. To achieve it, organizations need to focus on value creation strategy thru utilization of resources (immobility and heterogeneous). Teece, et al. (1997) introduced Dynamic Capabilities Theory which an extension from RBT that focus on preparing the organization to compete in the changing dynamic of the workforce and disruption of digital transformation. It helps organization to achieve sustainable competitive advantage thru renew existing competency, refresh technology, uplift process, integrate new digital tools, adapt to new technology and reconfigure the mind-set of internal and external resources. One of Kuncoro & Suriani (2018) hypothesis shown product innovation has positive effect on sustainable competitive advantage of the company.

Mahraz, et al. (2019) has mentioned the benefit of successful digital transformation towards achieving sustainable business growth of the company. Thru digital transformation, companies able to improve work process, optimized operations, improve efficiency in production, increase performance and eventually created a sustainable competitive advantage. One of the research questions are “What is the impact of digital transformation to the industrial business?” Verhoef, et al. (2021) said Google and Facebook has benefits from digital growth strategies including 50% and 25% financial growth rate per year. Besides financial growth, both Google and Facebook observed growth in customer based due to introduction of digital channel that able to reach out to more people. Adamik & Nowicki (2018) also highlighted the challenges faced by companies to compete in current industrial revolution 4.0 and continue to stay competitive. The hypothesis that they used are “The comprehensiveness of a company’s involvement in IR4.0 raise the level of readiness to compete in age of transformation” and proven the hypothesis is accurate.

Feng (2018) identified multiple change in organization business models after started the digital transformation journey. Organization has evaluated their existing business model, made changes and adapted to the capabilities brought by digital transformation (Hanelt, et al., 2020). Kayikci (2018) said the study result shown that digitalization of logistics industry brings huge impact to sustainability in economic compared to social and environmental. Company sees significant improvement in economic sustainability such as logistic cost, delivery time, reliability and inventory reduction. Parida, et al. (2019) did mentioned the lack of innovative business model that focus on value creation, value delivery and value capture to drive

sustainability. Reinartz, et al. (2019) said digital transformation able to impact long-term customer needs including improving customer interactions thru bots and online customer service. Improve in digital channels allow more customers to reach out to the companies remotely thru mobile phone or computers. With digital marketing and customer service, it will indirectly improve customer experience and increase overall financial gain of the company.

Nagy, et al. (2018) conducted a survey in Hungary on the impact of digitalization such as Internet of Things and Big Data towards achieving economic sustainability. Result shown better cooperation among logistic, improve process efficiency, better financial performance and better competitiveness. Nwaiwu (2018) highlighted multiple framework that address digital transformation challenges and benefits towards achieving competitive advantages. Framework mentioned in the research including Six Keys to Success Framework, The Digital Reinvention Framework, Technology Acceptance Model, Digital Transformation Framework and The Unified Theory of Acceptance and Use of Technology Framework.

Vecchio, et al. (2018) conducted a research of Big Data impact to Tourism Industry sustainability. Big Data by default do not bring any extra benefits to organization until someone study the behaviour of the data. Thru big data, leaders able to understand the behaviour and needs of their customers. With big data, customer needs can be customized and should not be one size fit all. Long run, company will be able to attract new customers and retain their loyal customers. Savastano, et al. (2019) emphasized the important of digital innovations in addressing manufactures value creation including faster time to market, increase customer focus, increase productivity, and reduce operating cost. Some companies described these phenomena as Sustainable Business Growth, Improve EBITDA Margin, and Sustainable Competitive Advantage.

Thru all the research findings, researcher believed “There is correlation between successful digital transformations with the achievement of sustainable business growth”.

*H8: There is correlation between successful digital transformations with the achievement of sustainable business growth.*

#### 2.4.9 Managing Changing Dynamic of Workforce and Sustainable Business Growth

Azeez (2017) highlighted the most important elements in the organizations are people management. The most advanced technology will be useless without people running it. The biggest challenges faced by organization is to retain and manage the multi-generational resources accordingly. Ability to manage and retain knowledge resources will improve overall organization competitive growth and sustainability. High turnover of skilful staff not only loss of knowledge but also expensive to replace. New staff require training, certification, and time to adapt to the culture causing additional need of time and production effort. Hitka, et al. (2019) pointed out similar findings where business to stay successful and unique in the market is thru highly engaged and collaborate staff. Ability of leaders to understand individual preferences will improve their motivation skills. E.g., Baby Boomers looking for job securities while Gen Z looking for flexibility in workplace.

Elidemir, et al. (2020) claimed that high performance work practise such as training, empowerment, collaboration, rewards, and employee's selection has strong relation with sustainable business growth in term of achieving competitive advantage. Leaders need to focus on managing the changing dynamic of the workforce thru the recommended practise. In the research, Elidemir, et al. (2020) also mentioned the important of incorporating innovative behaviours into the workforce that further increased the competitive advantage. Munteanu, et al. (2020) said company that emphasized agility of workforce is the attributes of sustainable organization. Agile workforce is able to work in frequent changing and volatile business environment and yet continue to perform well. Human resource is the key components of sustainable because it is considered rare, immobility and difficult to imitate.

Malik (2019) highlighted the challenges of managing resources including business competency, communications, rewards, and talent mapping especially during industrial revolution 4.0 that changed the internal and external forces. Organizations that successfully mapped the talent and competency of their employees with the innovative initiatives are key to competitive advantage. The next phase will be retaining the talent thru open communications and appropriate rewards. Haider, et al. (2017) said the challenges for global corporations to sustain the business are thru the ability to manage culture and generations differences. Besides that, ability to attract and retain talent employees are crucial to attaining competitive advantage for business. Managing of human resources is more complex when multiple generations of workforce working under the same roof.

Elrehail, et al. (2019) conducted a study of staying competitive in Hotel Industry. Listed 12 Hypothesis on relationship human resource management with sustainable competitive advantage. Out of 6 hypotheses, 5 been proven and accepted. The independent variables including training and development, performance appraisal, recruitment and selection, job role and design and human resource planning. Othman, et al. (2020) conducted a study of Total Quality Management on competitive advantage towards Bank Industry. Managing the quality of leaders, people, information, and customers are the key to sustain a business growth. One of the key components for organization performance is people management especially managing talents.

Gorondutse, et al. (2017) also conducted a study of local bank in Malaysia that talk about sustaining the business thru human resource management. The strategy includes learning and development, work life balance and gender diversity. Kerdpitak & Jermisittiparsert (2020) identified similar findings in Thailand Pharmacy Industry. They focus on managing the employee training, learning practices and talent selection to sustain the pharmacy business in Thailand. Osazefua (2019) conducted research on financial sustainability of manufacturing company in Nigeria thru operational efficiency. Components under operational efficiency including employee growth rate, operating expenses, account receivable turnover and asset turnover. One of the major components that highly affecting financial sustainability is employee growth. It measured based on ability of the organizations to retain talent employees to avoid losses of knowledge and continue to upskill their competency.

Mufti, et al. (2021) highlighted 3 challenges for leader to build an effective and efficient organizations. Besides globalization and technology advancement, managing generation gap is the most crucial. Lunova & Cirjevskis (2019) identified 3 hypothesis Organization Performance are correlated with managing the employee's motivation and organizational behaviour. Chan (2017) proposed organizations to focus on new way of managing multigenerational workforce including focus on rewards, people development, positive organizations behaviour and transparency to create sustainable business performance.

The arguments and proposal from each research strongly shown "There is a correlation between successful managing the changing dynamic of the workforce with the achievement of sustainable business growth."

*H9: There is a correlation between successful managing the changing dynamic of the workforce with the achievement of sustainable business growth.*



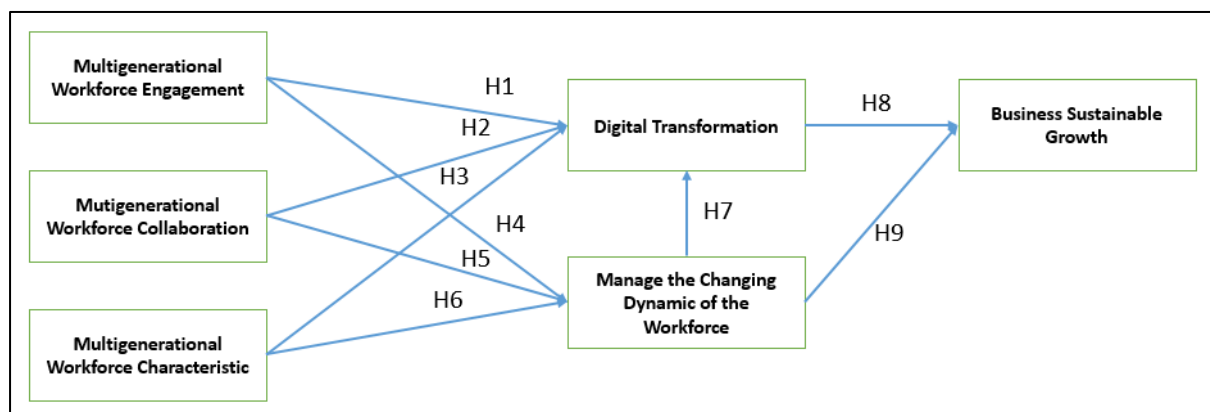
## 2.5 Proposed Research Framework

Figure 10 below is the proposed Research Framework that will be used throughout the research process including preparation of questionnaires, data collection, reliability and validity testing, measurement model analysis, structural model analysis, hypothesis testing, achievement of objectives and contributions to body of knowledge and managerial implications.

The research framework was established based on the earlier literature review of underpinning theories, variables, and the relationship amongst variables. The Independent Variables (IV) and the Mediating Variables (MV) are the factors that will be influencing and impacting the Sustainability Business Growth for Malaysia's Telco (Dependent Variables DV). The 3 IVs inclusive of Multigenerational Workforce Engagement, Multigenerational Workforce Collaboration and Multigenerational Workforce Characteristics. The 2 MV's are Manage Changing Dynamic of the Workforce and Digital Transformation. Significance of MV between IV and DV will be further tested and explained in Chapter 4 Results and Discussions.

Although each research has the potential to address both knowledge and practical gap, but researcher is pursuing Doctor of Business Administration (DBA) instead of Doctor of Philosophy (PHD), hence the main study is to produce an integrated fit model that suitable for current Malaysia Telcos to achieve Sustainable Business Growth. But at the same time, researcher will also present and address any theoretical gap identified during the research. Result will be presented in Chapter 5 Contributions to Body of Knowledge and Managerial Implications.

*Figure 10: Research Framework*



Source: Author

## 2.6 Research Hypothesis Formulation

The following Hypothesis were formulated based on the proposed Research Framework, alignment of Research Objectives and Research Aim:

1. H1: There is a relationship between multigenerational workforce engagements with the success of digital transformation.
2. H2: There is a relationship between multigenerational workforce collaboration with the success of digital transformation.
3. H3: There is a relationship between multigenerational workforce characteristic with the success of digital transformation.
4. H4: There is an interrelation between multigenerational workforce engagements with the success of managing the changing dynamic of the workforce.
5. H5: There is an interrelation between multigenerational workforce collaboration with the success of managing the changing dynamic of the workforce.
6. H6: There is an interrelation between multigenerational workforce characteristic with the success of managing the changing dynamic of the workforce.
7. H7: There is a connection between successful managing the changing dynamic of the workforce with the success of digital transformation.
8. H8: There is correlation between successful digital transformations with the achievement of sustainable business growth.
9. H9: There is a correlation between successful managing the changing dynamic of the workforce with the achievement of sustainable business growth.

## 2.7 Proposed New Knowledge (Novelty)

Table 26 is the high-level highlight of research gap identified during this research journey.

*Table 26: Research Gap*

| No | Research Gap   | Gap Type           | Definition  | Research Implications / New Knowledge  |
|----|--|--------------------|---|--|
| 1  | Lack of Sustainability Model in the market that cover multigenerational workforce collaboration, characteristic, engagement, digital transformation, and long-term sustainable financial growth                              | Methodological Gap | Explored 7 famous sustainability model in the market that focused on Green Initiative Sustainability, Motivation within internal and external stakeholders and Spending power of low-income population. | To propose a new Sustainable Business Growth Model that suitable for Malaysia's Telco Industry.  |
| 2  | Limited study on management of multigenerational workforce (Baby Boomer, Gen X, Gen Y and Gen Z), working in Malaysia Telco's that going thru digital transformation to achieve long-term sustainable business growth.       | Empirical Gap      | Majority of journal only talk about Baby Boomer, Gen X and Gen Y. Limited research in Gen Z.<br><br>Majority of study conducted in Telecommunications company located outside of Malaysia.              | Big Data Collection thru online survey distributed to Malaysia Top 3 Telco. Capturing the responses from Baby Boomer, Gen X, Gen Y and Gen Z. Used of SEM-PLS for Measurement Model Analysis and Structural Model Analysis. (Hypothesis 1-9) |
| 3  | Limited used of theories to support end to end requirement from multigenerational workforce collaboration, characteristic, engagement, digital transformation, managing changing dynamic of the workforce to achieving long- | Theoretical Gap    | No journal in Malaysia that conducting similar research topic in Telco Industry and most of the journal using limited combination of theories as the anchor of their research.                          | Combined Strauss-Howe Generational Theory, Resource-Based Theory, Dynamic Capability Theory and Leader-Member Exchange Theory in the thesis.   |

|  |  |  |  |  |
|--|--|--|--|--|
|  | term sustainable financial growth for the company. |  |  |  |
|--|--|--|--|--|

In this thesis, researcher has identified multiple research gap that can be categorized into 3 main categories which is Methodological Gap, Empirical Gap, and Theoretical Gap. According to Miles (2017), Methodological Gap is the gap that handle differences when come to methodology used in thesis. Empirical Gap is the gap that talked about research topic, module, segment that have not been done in current date. Theoretical Gap is referring to lack of supported theories used in research.

The first category is referring to Methodological Gap in relevant study of “Sustainability”. Researcher has evaluated multiple Sustainability Model in the market hoping to find a reference model that focus on long-term sustainable financial growth thru the managing of changing dynamic of workforce including multigenerational workforce that working under the same roof (collaboration, characteristic and engagement) that going thru rapid digital transformation. After evaluated 7 existing Sustainability in the market, including The Seven Faces of Mount Sustainability, Cradle to Cradle and The Sustainable Value Framework that encourage firm to focus on Go Green Initiatives. Other Sustainability model including Seven Level of Sustainability, Stakeholder Management and Multiple Stakeholder Management that focus on long term sustainability thru concept of motivation (internal and external stakeholders). The last evaluated model is The Bottom of the Pyramid Sustainability model. This model focusses mainly to help the lower income populations, raise their status, and eventually increase their buying powers. Hence researcher wanted to close this gap and create a new Sustainable Business Growth Model that fit the need of this research topic.

During literature review, researcher has found the second gap which is the Empirical Gap. Majority of the journal only focus on Baby Boomers, Gen X and Gen Y. Limited research in all the 4 cohorts including the latest Gen Z that newly enter the corporate world. With this limitation, there were no details study of the multigenerational collaboration, characteristic and engagement. More Gen Z is entering into the corporate world, and it create complexity to leaders in managing the changing dynamic of this workforce. Another empirical gap is the limited research that conducted in Malaysia Telecommunications company. Researcher found a lot of journals that talked about the research of Telecommunications Industry in other countries including Nigeria, India, and China. Due to culture difference, it is difficult for leaders to reuse the method or incorporate the proposal to Malaysian Telco companies. Hence

researcher conducting big data collection thru online survey in Malaysia Top 3 Telco (Maxis, Digi and Celcom). Target 367 samples that include Baby Boomers, Gen X, Gen Y and Gen Z. After that researcher use SEM-PLS for Measurement Model Analysis and Structural Model Analysis to derive a conclusive result. Will test the 9 Hypothesis that derived from the Research Questions and Research Objectives.

Due to limited research that conducted similar topic in Malaysia Telco, researcher has found the third gap which is the Theoretical Gap. It categorized under theoretical gap because of lack of research theories used in relevant journals. To create an impactful thesis, researcher need theories that can be used as an anchor for the research to avoid deviation or out of topics during research journey. Researcher went thru multiple literature review and concluded 1 parent/primary supporting theory (Resource-Based Theory) together with 3 Operational/Secondary supporting theories (Strauss-Howe Generational Theory, Leader-Member Exchange Theory (LMX) and Dynamic Capability Theory (DCT)).

## 2.8 Summary

In Chapter 2 literature review, researcher used Resource-Based Theory (RBT) as Primary Supporting Theory to achieve sustainable business growth for telco industry. For Secondary Supporting Theories, Strauss-Howe Generational Theory, Leader-Member Exchange Theory (LMX) and Dynamic Capabilities Theory (DCT) has been selected for multigenerational workforce engagement, collaboration characteristic, managing changing dynamic of workforce and digital transformation analysis. Researcher conducted detail literature review on all the 6 variables including the drivers, success factor and challenges. Overall based on the adoption of items from multiple scholars, researcher has constructed a total 48 items. Based on the 6 variables, researcher formulated 9 hypotheses to describe the relationship of each variable. Later in Chapter 3, researcher will explain further on the research methodology including research design, population and sampling, data collection method and data analysis procedure.

## **Chapter 3: Methodology**

### **3.1 Introduction**

In Chapter 3, researcher explained the methodology that followed and used during this research journey. It included the design of the study, research framework, hypothesis, variables and measurement, population and sampling, data collection techniques, and data analysis procedure. Researcher also incorporated the Pre-Test feedback from SME who evaluated the items (questions) that researcher adopted from journal and provided the pilot data analysis of 60 respondents. This determined the validity and reliability of the research questionnaire before proceeding to Big Data Collection in Chapter 4.

### **3.2 Research Nature**

Researcher aimed to test the hypothesis, relationship between variables and provide a conclusion to the research on achieving sustainable business growth for Malaysia Telco that going thru digital transformation and changing dynamic of the workforce.

### **3.3 Design of the Study**

#### **3.3.1 Research Design**

Researcher has used Causal research or generally known as Explanatory research (Dudovskiy, 2020) . It is part of conclusive design which usually uses to determine the relationships between one variable to another variable. Causal research approach is highly structured, and it helps in hypotheses testing to determine the significant and impact between variables. According to Oppewal (2010), aims of causal research is to examine the relationships of multiple independent variables with one of multiple dependent variables. Researcher has selected Causal research design instead of Exploratory research design because in general Causal research design focus in-depth analysis of cause and effects that yields targeted conclusions to research topic using quantitative study while Exploratory research design usually focuses on unknown research scope, problem that not clearly defined, issue of research is new and using qualitative study (Sakyi, et al., 2020; Sekaran & Bougie, 2016). Thomas & Magilvy (2011) heavily criticized the used of Exploratory qualitative research in hypothesis testing because it lacks methodological accuracy and tentativeness results. Hence Causal research permits the hypotheses testing the cause and effect between Multigenerational Workforce Engagement, Multigenerational Workforce Collaboration, Multigenerational Workforce Characteristics, Managing Changing Dynamic of Workforce, Digital Transformation and Sustainable Business Growth. Researcher believed it will help during pilot and big data analysis to determine the impact between variable is significant or is not. Researcher planned to use partial least squares

structural equation modelling (PLS-SEM) to analyse the Measurement Model and Structural Model which support Causal research design or model relationship (Hair, et al., 2017).

### 3.3.2 Research Paradigm

The research paradigm that researcher follow is Positivism Paradigm. Positivist Methodology require a lot of experimentation and hypotheses testing to prove the causal relation between independent and dependent variables (Rehman & Alharthi, 2016). According to Francis Bacon, he came out the ideas that everything can be proven thru systematic data collection comparison and analysis (Sakyi, et al., 2020).

According to Healy & Perry (2000), in general there are 4 types of research paradigm which consisted of Positivism, Critical Theory, Realism and Interpretivism. Positivism is mainly used for quantitative research while critical theory, realism and interpretivism is used for qualitative research (Yong, et al., 2021). Siddiqui (2019) claimed that beside Positivism Paradigm (Quantitative Research) and Interpretivism Paradigm (Qualitative Research), there is another type of paradigm which is Pragmatism Paradigm (Mix Method Research). A quick comparison of Positivism Paradigm and Interpretivism Paradigm can be clearly distinguish based on the research methods used. Positivism Paradigm research method is deductive, quantitative (objective) and confirmatory while Interpretivism Paradigm research method is inductive, qualitative (subjective) and exploratory (Alharahsheh & Pius, 2020). Positivism Paradigm allowed researchers to develop the general laws and discoveries thru statistical reliance and generalisation. Interpretivism Paradigm in other hand allow researchers to gain in-depth knowledge, experience, and perceptions of particular social frameworks (Alharahsheh & Pius, 2020).

Hence above comparison further supported the used of Positivism Paradigm in this thesis because the research design is causal/explanatory design, research approach used is deductive approach and the data collection method used is quantitative (objective). Alharahsheh & Pius (2020) explained that Positivism focuses on causal relationship between data gathered, proving hypothesis (statistical), and coming out with a conclusion. Researcher is performing data collection thru online survey using Likert 5-Point Scale (objective), SmartPLS tools for analysis (statistical) and the statistical evaluation results will validate the research framework and test all the 9 Hypothesis in order to achieve the Research Objectives.

### 3.3.3 Research Approach

Woiceshyn & Daellenbach (2018) described research approach as Inductive approach and Deductive approach. Park, et al. (2020) said qualitative research under inductive approach is more suitable for building new theories by recreating in-depth knowledge of a particular fact. While they also mentioned that quantitative research is using deductive approach under Positivism paradigm that is more relevant in existing theories and model validation (Creswell, 2013; Mertens, 2014). Corresponding to Yong, et al. (2021) and Varpio, et al. (2020), researcher can be categorized into two main categories, the “Objectivist Deductive Researcher” and “Subjectivist Inductive Researcher”. Burney & Saleem (2008) said, Inductive approach is bottom-up approach research where it is moving from specific to general. Process of inductive approach start from observation, pattern, tentative hypothesis to theory. For Deductive approach, is top-down approach research where it started from general moving to specific. Process of deductive approach start from theory, hypothesis, observation to confirmation of results.

Characteristics under inductive approach is using qualitative information gathered thru 1-1 or group interviews which the reality is reconstructed thru contextual interpretations by creating a new authenticity. Inductive approach in general is used in exploratory research. Characteristics under deductive approach is inclusive of using large quantities of numeric data for validation, extension of existing knowledge, literature review, hypothesis testing and model enhancement (Žukauskas, et al., 2018). Deductive approach in general is used in casual/explanatory research. (Park, et al., 2020).

Researcher has decided to use Deductive Approach for theory and hypothesis testing because the main emphasis of this research study is a quantitative in nature, using casual design, and following positivism paradigm. Researcher is collecting large amount of data for further analysis from people who fall under this generation cohort (Baby Boomer, Gen X, Gen Y and Gen Z) that is working in top 3 Telco companies in Malaysia thru online survey. Data gathered will be analysed using Partial Least Square Structural Equation Modelling (PLS-SEM). To prove the significance of hypothesis in meeting the Research Objectives. Target to introduce “An Integrated Sustainable Business Growth Model for Malaysia’s Telco Industry through the Effect of Multigenerational Workforce Management and Digital Transformation”. Hence it aligned with Deductive approach where research start from general to specific.



### 3.4 Construct of Variables and Measurements

Measurements constructed from DV, IV and MV that identified thru multiple literature review in Chapter 2 will further be tested during data collection in Chapter 4. Researcher used Online Survey as data collection tool. Part 1 of the survey is collection of demographic info while Part 2 is the questions from construct of measurement. Details data collection and analysis listed in Chapter 3. Table 27 is the items adopted from different scholar during in depth literature review. In total 48 items constructed from six variables.

*Table 27: (Summary Table) Number of Items for Each Variables*

| No | Type of Variable | Variable                                   | No# of Items | Source                         |
|----|------------------|--|--------------|--------------------------------|
| 1  | DV               | Sustainable Business Growth                | 5            | (Haseeb, et al., 2019)         |
| 2  | IV               | Multigenerational Workforce Engagement     | 8            | (Juevesa & Castino, 2020)      |
| 3  | IV               | Multigenerational Workforce Collaboration  | 6            | (Rožman & Tominc, 2019)        |
| 4  | IV               | Multigenerational Workforce Characteristic | 6            | (Nnamboozee & Parumasur, 2016) |
| 5  | MV               | Managing Changing Dynamic of the Workforce | 15           | (Lewis & Wescott, 2017)        |
| 6  | MV               | Digital Transformation                     | 8            | (Osmundsen, et al., 2018)      |
|    |                  | Total Items                                | 48           |                                |

Table 28 is the 48 items that constructed from 6 variables. Researcher has used these items to construct the measurements/questionnaires. In Section 3.7.4, Researcher has invited 6 qualified SME's that has 14 years – 32 years of experience working in Maxis, Celcom, or Digi to review the 48 Pre-Test questionnaires. Each SME has provided their comments and feedback in written words documents that later collected by researcher thru email. Researcher has performed normalization on the feedback. After normalization, researcher has made changes to the initial questionnaire that adopted from literature review and created an Online Survey using Google Form. Researcher selected and collected 60 respondents to the Online Survey and tabulated the data into SmartPLS for data analysis. Reliability, Validity, Regression and Factor loading results presented. Big data collection and result shared in Chapter 4.

*Table 28: (Detail Table) Variables and Items*

| No | Variables                   | Items  | Source                 |
|----|-----------------------------|--|------------------------|
| 1  | Sustainable Business Growth | Net profit margin of our organization increased    | (Haseeb, et al., 2019) |
| 2  | Sustainable Business Growth | Return on investment of our organization increased | (Haseeb, et al., 2019) |

|    |  |  |                                |
|----|--|--|--------------------------------|
| 3  | Sustainable Business Growth                | Profitability growth has been outstanding  | (Haseeb, et al., 2019)         |
| 4  | Sustainable Business Growth                | Profitability has exceeded our competitors   | (Haseeb, et al., 2019)         |
| 5  | Sustainable Business Growth                | Overall, financial performance has exceeded competitors.   | (Haseeb, et al., 2019)         |
| 6  | Multigenerational Workforce Engagement     | Control over the job   | (Juevesa & Castino, 2020)      |
| 7  | Multigenerational Workforce Engagement     | Availability of tools and resources  | (Juevesa & Castino, 2020)      |
| 8  | Multigenerational Workforce Engagement     | Recognition for performance  | (Juevesa & Castino, 2020)      |
| 9  | Multigenerational Workforce Engagement     | Provision for fair rewards for work  | (Juevesa & Castino, 2020)      |
| 10 | Multigenerational Workforce Engagement     | Recognition of ideas and suggestions   | (Juevesa & Castino, 2020)      |
| 11 | Multigenerational Workforce Engagement     | Importance to the individual needs   | (Juevesa & Castino, 2020)      |
| 12 | Multigenerational Workforce Engagement     | Image of the company in the industry sector  | (Juevesa & Castino, 2020)      |
| 13 | Multigenerational Workforce Engagement     | Image of the company in the community  | (Juevesa & Castino, 2020)      |
| 14 | Multigenerational Workforce Collaboration  | In the company, we emphasize the intergenerational synergy.  | (Rožman & Tominc, 2019)        |
| 15 | Multigenerational Workforce Collaboration  | Through intergenerational cooperation, we increase the innovation and creativity of our employees at work.                                 | (Rožman & Tominc, 2019)        |
| 16 | Multigenerational Workforce Collaboration  | Through intergenerational cooperation, we enable that employees make quicker solutions and decisions.                                      | (Rožman & Tominc, 2019)        |
| 17 | Multigenerational Workforce Collaboration  | Through intergenerational cooperation, we allow the distribution of work tasks and with this; we thereby reduce the workload of employees. | (Rožman & Tominc, 2019)        |
| 18 | Multigenerational Workforce Collaboration  | Through intergenerational cooperation, we give emphasis on better understanding of different age profiles of customer and their needs      | (Rožman & Tominc, 2019)        |
| 19 | Multigenerational Workforce Collaboration  | Through intergenerational cooperation, we exploit the benefits of age diversity of our employees.  | (Rožman & Tominc, 2019)        |
| 20 | Multigenerational Workforce Characteristic | Workplace fun  | (Nnamboozee & Parumasur, 2016) |
| 21 | Multigenerational Workforce Characteristic | Constant growth and advancement in the workplace   | (Nnamboozee & Parumasur, 2016) |
| 22 | Multigenerational Workforce Characteristic | Extrinsic value/rewards  | (Nnamboozee & Parumasur, 2016) |

|    |  |  |                               |
|----|--|--|-------------------------------|
| 23 | Multigenerational Workforce Characteristic | Flexible and efficient work environment        | (Nnambooze & Parumasur, 2016) |
| 24 | Multigenerational Workforce Characteristic | Learning and diversity                         | (Nnambooze & Parumasur, 2016) |
| 25 | Multigenerational Workforce Characteristic | An interesting and motivating work environment | (Nnambooze & Parumasur, 2016) |
| 26 | Managing Changing Dynamic of the Workforce | Having things well explained                   | (Lewis & Wescott, 2017)       |
| 27 | Managing Changing Dynamic of the Workforce | Clear/regular communications                   | (Lewis & Wescott, 2017)       |
| 28 | Managing Changing Dynamic of the Workforce | Adequate information and support               | (Lewis & Wescott, 2017)       |
| 29 | Managing Changing Dynamic of the Workforce | Good rapport with supervisors                  | (Lewis & Wescott, 2017)       |
| 30 | Managing Changing Dynamic of the Workforce | Patient and tolerance supervisors              | (Lewis & Wescott, 2017)       |
| 31 | Managing Changing Dynamic of the Workforce | Clear explanations from my supervisors         | (Lewis & Wescott, 2017)       |
| 32 | Managing Changing Dynamic of the Workforce | Being encouraged to ask questions              | (Lewis & Wescott, 2017)       |
| 33 | Managing Changing Dynamic of the Workforce | Having clear responsibilities                  | (Lewis & Wescott, 2017)       |
| 34 | Managing Changing Dynamic of the Workforce | Opportunities for training and development     | (Lewis & Wescott, 2017)       |
| 35 | Managing Changing Dynamic of the Workforce | Having scope to use my initiative              | (Lewis & Wescott, 2017)       |
| 36 | Managing Changing Dynamic of the Workforce | A well-structured job role                     | (Lewis & Wescott, 2017)       |
| 37 | Managing Changing Dynamic of the Workforce | Reasonable expectations of my work             | (Lewis & Wescott, 2017)       |
| 38 | Managing Changing Dynamic of the Workforce | Understanding where my job fits                | (Lewis & Wescott, 2017)       |
| 39 | Managing Changing Dynamic of the Workforce | Regular feedback from supervisors              | (Lewis & Wescott, 2017)       |
| 40 | Managing Changing Dynamic of the Workforce | Being allowed to make mistakes                 | (Lewis & Wescott, 2017)       |
| 41 | Digital Transformation                     | A supportive organizational culture            | (Osmundsen, et al., 2018)     |
| 42 | Digital Transformation                     | Well-managed transformation activities         | (Osmundsen, et al., 2018)     |
| 43 | Digital Transformation                     | Leverage external and internal knowledge       | (Osmundsen, et al., 2018)     |
| 44 | Digital Transformation                     | Engage managers and employees                  | (Osmundsen, et al., 2018)     |
| 45 | Digital Transformation                     | Grow Information Systems capabilities          | (Osmundsen, et al., 2018)     |
| 46 | Digital Transformation                     | Develop dynamic capabilities                   | (Osmundsen, et al., 2018)     |
| 47 | Digital Transformation                     | Develop a digital business strategy            | (Osmundsen, et al., 2018)     |
| 48 | Digital Transformation                     | Align business and Information Systems         | (Osmundsen, et al., 2018)     |

### 3.4.1 Variables and Measurements (Normalization)

Researcher set up below tables to present the construct of each variable and its measurements that initially adopted from journal and further evaluated by SME before researcher proceed with data collection. In Section 3.7.4 Pre-test and Valuation of Questionnaires, researcher has described the detail process of SME evaluation and the normalization process.

To prepare for data analysis using SmartPLS tool, researcher created a unique code to represent each measurements/question. E.g., ENGA1 is a combination of simplified variables name plus question number. For variable “Multigenerational Workforce Engagement”, researcher simplified Engagement into ENGA while combining the eight questions for this variable into a unique code (ENGA1-ENGA8). With unique code, SmartPLS will be able to determine and map the Hypothesised Model correctly.

Beside above info, the table also consist of No# of questions, journal info and remarks column for normalization summary. Researcher will briefly explain each measurement in this section, mainly focus on “Replaced” questions and “Dropped” questions because this will slightly defer from the measurements adopted from journal. Questions that replaced or dropped are usually due to redundancy with other questions or no longer relevant with current society. “Modified” questions mostly due to grammar or re-arrangement of sentences but the overall meaning of the measurement remain. “Unchanged” questions mean SME has no comment on the measurements listed and is good to proceed.

Operational Definition of Multigenerational Workforce Engagement refers to the group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which emotionally and professionally connected to achieve company goals. Multigenerational Workforce Engagement has in total eight questions (Table 29):

Replaced (One question):

- ENGA 8 Original: I feel engaged with the positive image of company within the community. (Similar to ENGA7)
- ENGA 8 Replaced with: I feel engaged when my company takes feedback from voice of employee.

*Table 29: Multigenerational Workforce Engagement Measurements*

| No | Variables/Constructs                   | Code  | Measurements  | Journal                   | Remarks (After Normalisation Based on SME's Feedback) |
|----|--|-------|---|---------------------------|---|
| 1  | Multigenerational Workforce Engagement | ENGA1 | I feel engaged when I am empower to handle my work.                                     | (Juevesa & Castino, 2020) | Replaced - 1Q<br>Modified - 5Q<br>Unchanged - 2Q      |
| 2  |  | ENGA2 | I feel engaged when I have access to tools and resources to perform my job efficiently. |                           |   |
| 3  |  | ENGA3 | I feel engaged when my performance is recognized  |                           |   |
| 4  |  | ENGA4 | I feel engaged when I get reasonable rewards in accordance to my contributions.         |                           |   |
| 5  |  | ENGA5 | I feel engaged when my ideas and suggestions are recognized in my company.              |                           |   |
| 6  |  | ENGA6 | I feel engaged when company benefits met my needs.                                      |                           |   |
| 7  |  | ENGA7 | I feel engaged with the positive image of my company in the industrial sector.          |                           |   |
| 8  |  | ENGA8 | I feel engaged when my company takes feedback from voice of employee                    |                           |   |

Operational Definition of Multigenerational Workforce Collaboration refers to the group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which work together willingly with each other to achieve company goals. Multigenerational Workforce Collaboration has six questions, and all questions remain unchanged (Table 30).

*Table 30: Multigenerational Workforce Collaboration Measurements*

| No | Variables/Constructs                      | Code  | Measurements  | Journal                 | Remarks (After Normalisation Based on SME's Feedback) |
|----|---|-------|---|-------------------------|---|
| 9  | Multigenerational Workforce Collaboration | COLL1 | In the company, it is important to emphasize the synergy of multigenerational workforce.  | (Rožman & Tominc, 2019) | Unchanged - 6Q  |
| 10 |   | COLL2 | Through multigenerational workforce collaboration, we will be able to increase the innovation and creativity of our employees at work |                         |   |
| 11 |   | COLL3 | Through multigenerational workforce collaboration, we can enable the employees to make faster decisions.                              |                         |   |
| 12 |   | COLL4 | Through multigenerational workforce collaboration, tasks are well distributed and thereby reduce the workload of employees.           |                         |   |
| 13 |   | COLL5 | Through multigenerational workforce collaboration, we have better understanding of customer needs from different age profile.         |                         |   |
| 14 |   | COLL6 | Through multigenerational workforce collaboration, we can fully benefit from the age diversity of our employees.                      |                         |   |

Operational Definition of Multigenerational Workforce Characteristic refers to the group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which have unique, similar, and different traits from each other's. Multigenerational Workforce Characteristic and Behaviour has six questions (Table 31). Only slight modification of six questions from "I'm" to "I am".

*Table 31: Multigenerational Workforce Characteristic Measurements*

| No | Variables/Constructs                                   | Code  | Measurements   | Journal                        | Remarks (After Normalisation Based on SME's Feedback) |
|----|--|-------|--|--------------------------------|---|
| 15 | Multigenerational Workforce Characteristic & Behaviour | CHAR1 | I am more energized working in a fun workplace.                            | (Nnamboozie & Parumasur, 2016) | Modified - 6Q   |
| 16 |  | CHAR2 | I am seeking constant growth and advancement in the workplace              |                                |   |
| 17 |  | CHAR3 | I am attracted to company that provide extrinsic (tangible) values/rewards |                                |   |
| 18 |  | CHAR4 | I am more efficient working in a flexible environment.                     |                                |   |
| 19 |  | CHAR5 | I am attracted to company that constantly promote and encourage learning.  |                                |   |
| 20 |  | CHAR6 | I am more energetic working in a motivating environment                    |                                |   |

Operational Definition of Manage Changing Dynamic of the Workforce refers to the ability of leaders to lead thru the understanding of the similarity and differences in behaviours from different cohort/generations that currently working under the same company to achieve company goals. Managing the Changing Dynamic of the Workforce initially has fifteen questions but later reduced to twelve questions after advised from multiple SME due to irrelevancy and redundancy (Table 32).

Replaced (Two questions):

- DYNA9 Original: I prefer to have reasonable expectation of my work. (Similar to DYNA7)
- DYNA9 Replaced with: I prefer to work in a self-organizing team.
- DYNA10 Original: I prefer to have clear understanding where my job fits. (Similar to DYNA7)
- DYNA10 Replaced with: I prefer to work in an open and transparent working environment.

Dropped (Three questions):

- I prefer to have clear explanations from my supervisors. (Similar to DYNA1 and 11)
- I prefer to have constant training and development. (Similar to CHAR5)
- I prefer to have a well-structured job role. (Similar to DYNA7)

Table 32: Managing the Changing Dynamic of the Workforce Measurements

| No | Variables/Constructs                           | Code   | Measurements   | Journal                 | Remarks (After Normalisation Based on SME's Feedback)            |
|----|--|--------|--|-------------------------|--|
| 21 | Managing the Changing Dynamic of the Workforce | DYNA1  | I prefer to accept changes if it has been well explained.  | (Lewis & Wescott, 2017) | Replaced - 2Q<br>Modified - 6Q<br>Unchanged - 4Q<br>Dropped - 3Q |
| 22 |  | DYNA2  | I prefer to have clear and regular communications with my colleague  |                         |  |
| 23 |  | DYNA3  | I prefer to have adequate support  |                         |  |
| 24 |  | DYNA4  | I prefer to have a good rapport with supervisors   |                         |  |
| 25 |  | DYNA5  | I prefer to have a patient and tolerating supervisors  |                         |  |
| 26 |  | DYNA6  | I prefer to be encouraged to ask questions   |                         |  |
| 27 |  | DYNA7  | I prefer to have clear understanding of my role & responsibility   |                         |  |
| 28 |  | DYNA8  | I prefer to have job scope that encourage me to experiment using my initiatives                                      |                         |  |
| 29 |  | DYNA9  | I prefer to work in a self-organizing team.  |                         |  |
| 30 |  | DYNA10 | I prefer to work in an open and transparent working environment  |                         |  |
| 31 |  | DYNA11 | I prefer to have regular feedback from my supervisor.  |                         |  |
| 32 |  | DYNA12 | I prefer to work in an environment that allow mistake with calculated risk and given a chance to rectify my mistake. |                         |  |

Operational Definition of Digital Transformation refers to the revolutions of technology and process used in the company to improve flexibility, scalability, efficiency, time to market, values to customer, way to connect to customer and competitive advantage. Digital Transformation has eight questions (Table 33). Slight modification of two questions and remaining six questions unchanged.

Table 33: Digital Transformation Measurements

| No | Variables/Constructs              | Code  | Measurements  | Journal                   | Remarks (After Normalisation Based on SME's Feedback) |
|----|-----------------------------------|-------|---|---------------------------|---|
| 33 | Successful Digital Transformation | TRAN1 | Successful digital transformation requires a supportive organization culture.   | (Osmundsen, et al., 2019) | Modified - 2Q<br>Unchanged - 6Q                       |
| 34 |                                   | TRAN2 | Successful digital transformation requires a well-managed transformation activities.                                  |                           |   |
| 35 |                                   | TRAN3 | Successful digital transformation requires to leverage on both external and internal knowledge                        |                           |   |
| 36 |                                   | TRAN4 | Successful digital transformation requires highly engaged managers and employees                                      |                           |   |
| 37 |                                   | TRAN5 | Successful digital transformation requires to grow applications capabilities.   |                           |   |
| 38 |                                   | TRAN6 | Successful digital transformation requires to develop dynamic and scalable capabilities                               |                           |   |
| 39 |                                   | TRAN7 | Successful digital transformation requires a well-planned digital business strategy that aligned with customer needs. |                           |   |
| 40 |                                   | TRAN8 | Successful digital transformation requires active collaboration between Business and Technology.                      |                           |   |

Operational Definition of Sustainable Business Growth refers to the ability of the employees and leaders working together to overcome existing challenges and to achieve long-term growth of the company thru the measurements of financial performance, customer based, and employee's satisfaction without incurring additional burden to the company such as debt, loan, or equity. Sustainable Business Growth has five questions (Table 34). Some of the questions are repeating or similar with each other. Researcher has replaced with three new questions that suggested by SME and is more relevant to Telco Industry.

Replaced (Three questions):

- SUST2 Original: To achieve business sustainability, we need to increase organization's return of investment. (Similar to SUST1 and 5)
- SUST2 Replaced with: To achieve business sustainability, we need to continue increasing customer based.
- SUST3 Original: To achieve business sustainability, we need to have outstanding profitability growth. (Similar to SUST5)
- SUST3 Replaced with: To achieve business sustainability, we need to continue increasing the Net Promoter Score (NPS) for excellence customer experience.
- SUST4 Original: To achieve business sustainability, we need to have profitability that exceed our competitors. (Similar to SUST5).
- SUST4 Replaced with: To achieve business sustainability, we need to focus on improving Employee Engagement Score (EES).

*Table 34: Sustainable Business Growth Measurements*

| No | Variables/Constructs                | Code  | Measurements  | Journal                | Remarks (After Normalisation Based on SME's Feedback) |
|----|-------------------------------------|-------|---|------------------------|---|
| 41 | Achieve Business Sustainable Growth | SUST1 | To achieve business sustainability, we need to increase organization's net profit margin  | (Haseeb, et al., 2019) | Replaced - 3Q<br>Unchanged - 2Q                       |
| 42 |                                     | SUST2 | To achieve business sustainability, we need to continue increasing customer based   |                        |   |
| 43 |                                     | SUST3 | To achieve business sustainability, we need to continue increasing the Net Promoter Score (NPS) for excellence customer experience. |                        |   |
| 44 |                                     | SUST4 | To achieve business sustainability, we need to focus on improving Employee Engagement Score (EES)                                   |                        |   |
| 45 |                                     | SUST5 | To achieve business sustainability, we need to have overall financial performance exceeding competitors.                            |                        |   |



### 3.5 Population and Sample

#### 3.5.1 Target Population

Based on Malaysian Communications and Multimedia Commission June 2020 report, Maxis 2.66%, Digi 2.12% and Celcom 2.06% out of 8.7% total communications and multimedia market share (MCMC, 2020). Hence target population for this research includes working adults in Malaysia's top 3 biggest consumer-based Telecommunications companies (Maxis, Celcom, or Digi). Inclusive of working adults born in year 1946 – 1964 (Baby Boomers), 1965 – 1980 (Gen X), 1981 – 1996 (Gen Y) and 1997 – 2012 (Gen Z). It also inclusive of both genders (Male or Female) and position in the company (Managerial or Non-managerial).

#### 3.5.2 Sampling Method

Sampling method is the process of selecting the sample size from the target population. In general, there are two types of sampling method "Probability Sampling" and "Non-Probability Sampling" (Elfil & Negida, 2017). Sampling aims is to acquire results or information from a smaller group that able to represent the entire target population of 7,794 working adults in Malaysia's top 3 biggest consumer-based Telecommunications companies.

Probability sampling used random selection methods, and it allow equal chance of selection for everyone within the target population which it allow researcher to create symbolic population sample (Rahman, et al., 2022). Common types of probability sampling are Simple Random Sampling, Systematic Random Sampling and Stratified Sampling (Proportionate Stratified and Disproportionate Stratified). Pace (2021) mentioned that Probability sampling technique commonly used in Explanatory research design and is consider quantitative research in nature.

Non-Probability sampling is based on subjective decision rather than probability/random selection. Comparing to probability sampling, not everyone in the population will have the chance to be selected or can be part of the selection, and it highly dependent on the experience of the researcher (Kim, 2022). Common types of non-probability sampling are Convenience Sampling, Purposive Sampling, Quota Sampling, Dimensional Sampling and Snowball Sampling (Pace, 2021). Etikan & Babatope (2019) explained Non-Probability sampling technique usually used in Exploratory research design and considered as qualitative research in nature.

As mentioned in earlier section Research design and Research Paradigm, researcher is using Causal/Explanatory research and following Positivism paradigm that used quantitative as data

collection method. Hence researcher is using Probability sampling instead of Non-Probability as the sampling method because it aligned with the overall research methodology defined by researcher (Objective, Explanatory and Quantitative). Researcher is using Simple Random sampling which is part of Probability sampling method instead of Proportionate Stratified Sampling. Simple random sampling gives everyone the equal chance of selection within the target populations that currently working in Malaysia Top 3 Telco's companies, any age group, any gender, despite they are managerial or non-managerial positions (Rahman, et al., 2022). Proportionate Stratified sampling is not suitable for this research method because it requires to break the total population of Maxis, Celcom and Digi into different group and draw a sample from each group (Pace, 2021). There is no requirement or reason to break the population based on different Telco's companies because researcher is not comparing or differentiating the people who working in Maxis or Celcom or Digi. Anyone working in Telco's industry will have similar characteristics, belief and mindset, hence researcher will use Simple Random sampling's method and draw the sample from the total population of (Maxis, Celcom, Digi) based on the sample size recommended by Krejcie & Morgan table.

### 3.5.3 Sampling Size

To achieve quality research, sampling size is determined based on Krejcie & Morgan table. According to the latest annual report in 2019, Digi has 1,535 employees (Digi, 2019), Maxis has 3,559 employees (Maxis, 2019) and Celcom has 2,700 employees (Celcom, 2019). Referring to Krejcie & Morgan table, sample size for total population of 7,794 employees is 367 (Table 35).

*Table 35: Sampling Size*

| <i>N</i> | <i>S</i> | <i>N</i> | <i>S</i> | <i>N</i> | <i>S</i> |
|----------|----------|----------|----------|----------|----------|
| 10       | 10       | 220      | 140      | 1200     | 291      |
| 15       | 14       | 230      | 144      | 1300     | 297      |
| 20       | 19       | 240      | 148      | 1400     | 302      |
| 25       | 24       | 250      | 152      | 1500     | 306      |
| 30       | 28       | 260      | 155      | 1600     | 310      |
| 35       | 32       | 270      | 159      | 1700     | 313      |
| 40       | 36       | 280      | 162      | 1800     | 317      |
| 45       | 40       | 290      | 165      | 1900     | 320      |
| 50       | 44       | 300      | 169      | 2000     | 322      |
| 55       | 48       | 320      | 175      | 2200     | 327      |
| 60       | 52       | 340      | 181      | 2400     | 331      |
| 65       | 56       | 360      | 186      | 2600     | 335      |
| 70       | 59       | 380      | 191      | 2800     | 338      |
| 75       | 63       | 400      | 196      | 3000     | 341      |
| 80       | 66       | 420      | 201      | 3500     | 346      |
| 85       | 70       | 440      | 205      | 4000     | 351      |
| 90       | 73       | 460      | 210      | 4500     | 354      |
| 95       | 76       | 480      | 214      | 5000     | 357      |
| 100      | 80       | 500      | 217      | 6000     | 361      |
| 110      | 86       | 550      | 226      | 7000     | 364      |
| 120      | 92       | 600      | 234      | 8000     | 367      |
| 130      | 97       | 650      | 242      | 9000     | 368      |
| 140      | 103      | 700      | 248      | 10000    | 370      |
| 150      | 108      | 750      | 254      | 15000    | 375      |
| 160      | 113      | 800      | 260      | 20000    | 377      |
| 170      | 118      | 850      | 265      | 30000    | 379      |
| 180      | 123      | 900      | 269      | 40000    | 380      |
| 190      | 127      | 950      | 274      | 50000    | 381      |
| 200      | 132      | 1000     | 278      | 75000    | 382      |
| 210      | 136      | 1100     | 285      | 100000   | 384      |

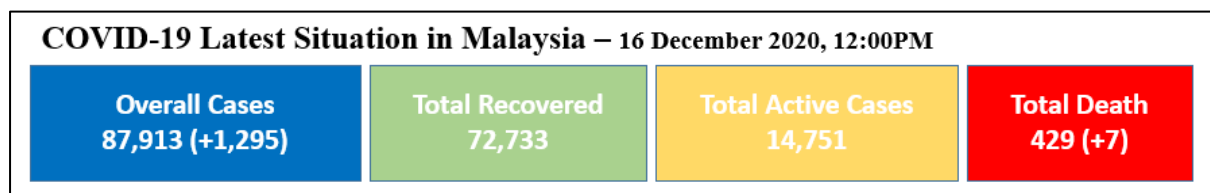
Note.—*N* is population size. *S* is sample size.

Source Adopted from (Krejcie & Morgan, 1970)

### 3.5.4 Pre-test and Valuation of Questionnaires

Due to continue spiked of Covid-19 cases in Malaysia, Defence Minister Datuk Seri Ismail Sabri Yakakob has imposed the Conditional Movement Control Order (CMCO) to all state except Kelantan, Perlis and Pahang (Zolkepli, 2020). Figure 11 was the latest report by Malaysia Minister of Health; overall, we have 87K confirmed Covid-19 cases. Therefore, the Pre-Test evaluation of Survey Questions has conducted thru phone call and email instead of face-to-face meeting.

*Figure 11: Covid-19 Status*



Source (Ministry Of Health, 2020)

The survey has been broken into Section A-Demographic questionnaires and Section B- Research questionnaires. In total, 48 questions derived from six variables that adopted from multiple journals and later submitted to Subject Matter Expert (SME) for Pre-test and Evaluation on 14 November 2020.

Table 36 is the list of SME that invited for this Pre-Test review. All the six SME's has been carefully selected based on few criteria, including working experience in Telco, people manager and having mixture of experience that related to business and digital. Beside the listed prerequisite for SME selection, researcher has intentionally invited the SME from all the three main Telco's in Malaysia (Maxis, Celcom, and Digi) to avoid biasness and a fruitful review.

Initially seven SMEs has agreed to participate in this Pre-Test review but unfortunately, one of the SME unable to make it due to personal reason. Therefore, researcher has conducted the briefing with the six SMEs, explaining on the research purpose and data management policy. Follow up with an email containing the 48 questions that adopted from journal. SME is require going thru the 48 questions, providing their comments for each question and finally endorsed the review. Copy of the SME endorsement and the original Pre-Test Ms Words document attached in the Appendix 2. Overall SME took nine days to review and sent back their response on 23 Nov 2020.

Table 36: SME Involved in Pre-Test

| No | SME Name                 | Company | Position                          | Total Years of Experience in Telecommunications Industry |
|----|--------------------------|---------|-----------------------------------|--|
| 1  | Jessica Chai             | Digi    | Head of Dev&Ops                   | 20 years   |
| 2  | Chan Kah Woo             | Digi    | Head of CoreIT                    | 15 years   |
| 3  | Dr. Yeong Tuck Wai       | Digi    | Program Director (Cyber Security) | 32 years   |
| 4  | Foong Chye Hsia          | Maxis   | Head of Digital Experience        | 18 years   |
| 5  | Puspakaran Alakasundaram | Celcom  | Head of IT Business Applications  | 18 years   |
| 6  | Chong Khai Foo           | Celcom  | Head of IT Digital Enablement     | 14 years   |

Source Author

On 24 Nov 2020, researched compiled the responses into table format using Ms Excel together with the original questionnaire that adopted from journal. It took 17days to complete the normalization process where certain questions have been dropped, modified, replaced, or remain as is. Researcher is going thru each question and decide based on collective feedback from SME. After normalization process, original questions dropped from 48 to 45.

Below is the summary of normalization process:

- Replaced – Original question replaced with question that is more relevant to current Telco Industry.
- Modified – Original question modified mainly due to grammar mistake or potentially creates ambiguity to the respondent.
- Unchanged – No SME commented to the original question, therefore the question retained.
- Dropped – Dropped of original question usually due to repetitive question within the survey.

### 3.5.5 Pilot Test

Researcher selected 60 candidates as the Pilot testing for the survey questions that initially adopted from the relevant journal and later validated by the SME's. The pilot testing gave a preliminary understanding if the questionnaires are ready for Big Data Collection that based on the Sample Size of 367 as listed in above Section. Result of the pilot test will be analysed and presented following the recommendation using SmartPLS tools. While Big Data result collected, analysed, and presented in Chapter 4 and Chapter 5.

### 3.5.6 Data Entry

Researcher is not required to perform any data entry into to computer because researcher is using online survey instead of traditional physical form survey as explained in Data Collection Technique.

Researcher exported the online survey result from Google Form into Comma-Separated Values (CSV) format instead of Excel Spreadsheet (XLS). CSV file save tabular data into delimited text file, require lesser resources to process and most of the Data Science/Analytic tools such as Python, SmartPLS, and SPSS that can support CSV file format instead of XLS format. This finding further supported by Quora Community (2016), Guru99 Community (2020) and Sharma (2020).

### 3.6 Data Collection Technique

As mentioned in research approach section, researcher using Survey Research method. In order to provide a conclusive result, researcher went thru Secondary data such as company annual report, government report and journal. Mainly because secondary data can be obtained easily. Once finalized the questionnaires, researcher used online survey tool for Quantitative data collection. Raw data that obtained thru survey result is analysed using Partial Least Square Structural Equation Modelling (PLS-SEM) as described in Section 3.9.

#### 3.6.1 Type of Survey

Referring to Geldsetzer (2020) latest research, using rapid online survey during Covid-19 outbreak allow researcher to reach out to large number of audiences in short duration with minimal human involvements. Oliver, et al. (2020) recommended to distribute online survey thru any online messaging and social media because of lower cost, faster distribution and safer during Covid-19 outbreak. Further supported by Regmi, et al. (2016), online survey allow researcher to reach out to people who usually hard to reach, lower human error because all data are auto captured by software, and respondent has the flexibility to response anytime/anywhere.

However, they are also other school of thought; Mutepe & Tapera (2018) believed that Traditional Survey (Paper-based survey) able to cover populations that do not have internet access. Ward, et al. (2014) also pointed out the weakness of online survey compared to traditional survey such as biasness. E.g., only millennium who keen to use online survey will do the survey compared to baby boomer who prefer paper and pen. Despite some drawback on online survey, researcher will still proceed to go with data collection thru online survey. Mainly because some of the negative points mentioned above such as no internet access or bias

response from certain generations will not happen in Telco Industry. Employee of any age who worked in Telco Industry will enjoy company benefits such as free/cheaper Mobile Call, SMS, and Data (Internet) usage. Besides that, Malaysia Government has prohibited people from travelling and most of the employees are currently working from home. In summary, online survey is more suitable for current pandemic situations.

### 3.6.2 Online Survey Tool

There is numerous Online Survey Tools in the market, such as SurveyMonkey and Google Form. Iqbal, et al. (2018) clearly mentioned that by using Google Form, it creates a stimulating effect such as embedding video or picture into survey. Google Form is a free tool from Google that allow unlimited respondents and questions. Raju & Harinarayana (2018) has published their case study of benefits to use Google Form at National Conference. According to them, beside is free, unlimited survey, and customer logo but also auto tabulate data into Google Spreadsheet avoiding human mistake. Yet Waclawski (2012) prefer to use SurveyMonkey although with certain fees, because it come with online technical support. The support is crucial in case the questionnaire, or the result of the survey is corrupted (Nagalakhmi & Trivedi, 2015).

Researcher has decided to use Google Form for this thesis after proper considerations on time, cost, and functionality. Recently Ministry of Health (2020) Malaysia has used Google Form (Figure 12) in their Facebook to collect feedback from people regarding acceptance of Covid-19 vaccine. If Malaysia Minister of Health decided to use Google Form to collect the feedback of 30million Malaysian citizens, researcher believed it would not be an issue to collect response of 367-sample size.

*Figure 12: Google Form Used by Health Minister*



Author MOH



Researcher commenced the setting up of questionnaire in Google Form starting 12th Dec 2020 and completed on 15th Dec 2020 follow by online distribution to respondent that currently working in Telco Industry. Researcher has segregated the questionnaire into four main sections.

- Section 1: - Introduction Page (Self-introduction and purpose of the survey).
- Section 2: - Consent Page (To obtain consent from respondent).
- Section 3: - Demographic Page (Gender, Nationality, Year of Birth, Current Company, Current Position).
- Section 4: - Main Page (Total 45 questions derived from variables)

Within seven calendar days, researcher has received 60 responses that qualified researcher to move into Pilot data analysis. Raw data from Pilot Result as shown in Section 3.7.1 Table 37.

### 3.7 Data Analysis Procedure

The data analysis technique used in this research is Partial Least Square Structural Equation Modelling (PLS-SEM). PLS-SEM technique has been used heavily to test hypothesis with multiple variables (Gana & Broc, 2019). Awang, et al. (2016) mentioned in their research that PLS-SEM is famous of statistical method that able to associate with multiple variables. Bhat, et al, (2018) further elaborated the data analysis procedure using PLS-SEM to determine the data fit for the hypothesised model and if according to the conceptual framework. Hizam, et al. (2021) has been heavily using PLS-SEM in multiple of their research and lately used PLS-SEM to analyse the competency of educators in digital virtual environment. Akter, et al. (2022) frequently used PLS-SEM in their research including the latest paper on crafting employee engagement through talent management practices in telecom sector. Once raw data collected, researcher used SmartPLS software to assist the data analysis. SmartPLS is one of the software used for data analysis and was recommended in Hair, et al., (2017) book.

### 3.7.1 Pilot Test Result (Raw Data)

As stated in Section 3.8 Data Collection Technique, researcher has exported the raw data of Pilot Testing Survey from Google Form into CSV format (Table 37). Researcher has successfully collected 60 respondents result from 15th December to 22nd December 2020 that allowed researcher to proceed with validity and reliability testing. To proceed with data analysis using SmartPLS, researcher has replaced each questionnaire with short code as shown in Section 3.4.1 Variables and Measurements. Example ENGA1 is the first question derived from variable Multigenerational Workforce Engagement “I feel engaged when I am empower to handle my work”. Converting questions into unique short code is the requirement for SmartPLS to start analysis without throwing error. For the rating, researcher is using Likert 5-Point Scale (1-Strongly Disagree to 5- Strongly Agree) to capture respondent’s feedback. Bhat, et al., (2018) used Likert 5-Point Scale in their research questionnaire to obtain data for further analysis. Table 38 clearly shown the number of responses (60) collected during Pilot Testing Survey, the numeric data representing the ratings given by respondents (1 to 5) and the header of the CSV files representing the variables used in the survey questionnaire.

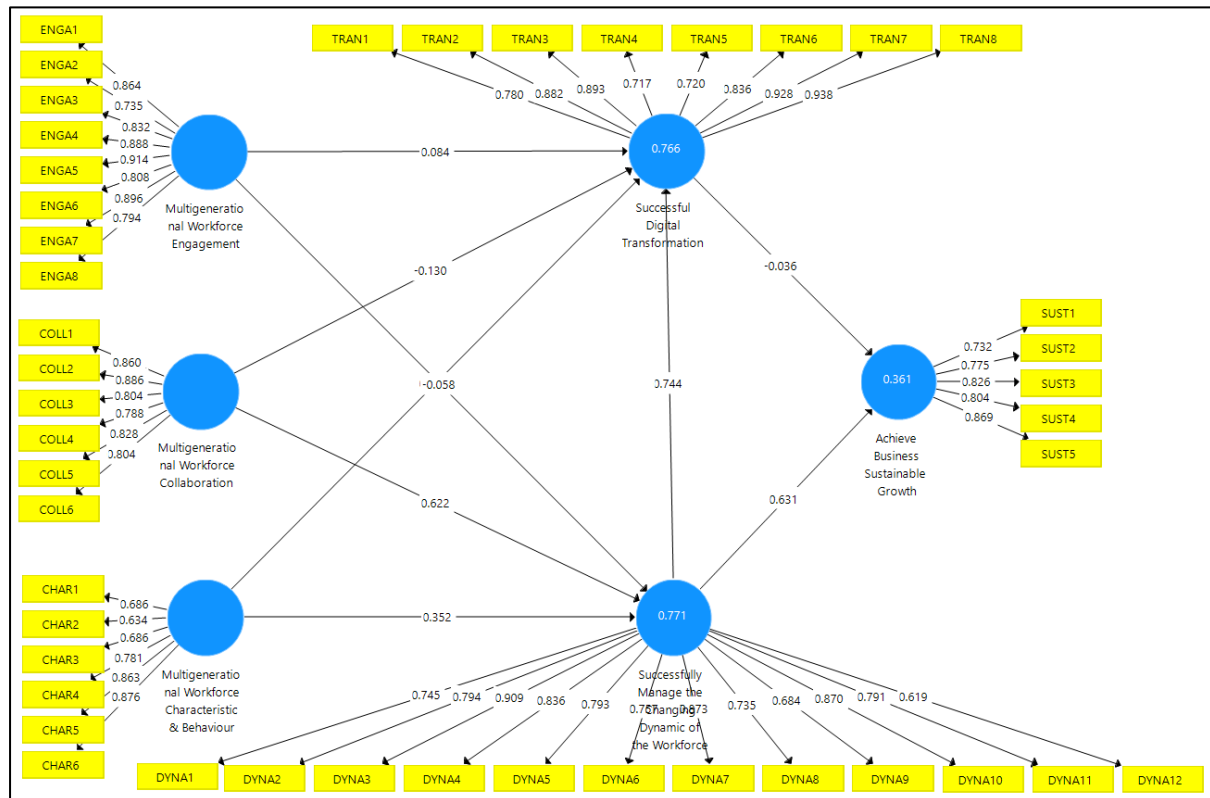
*Table 37: Pilot Test Result (Raw)*

|    | G    | J     | K     | L     | M     | N     | O     | P     | Q     | R     | S     | T     | U     | V     |
|----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1  | Year | ENGA1 | ENGA2 | ENGA3 | ENGA4 | ENGA5 | ENGA6 | ENGA7 | ENGA8 | COLL1 | COLL2 | COLL3 | COLL4 | COLL5 |
| 39 | 1968 | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     |
| 40 | 1980 | 4     | 4     | 5     | 5     | 4     | 5     | 4     | 5     | 3     | 3     | 4     | 4     | 3     |
| 41 | 1974 | 5     | 4     | 4     | 4     | 5     | 5     | 4     | 4     | 5     | 5     | 4     | 3     | 4     |
| 42 | 1975 | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     |
| 43 | 1980 | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     |
| 44 | 1978 | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 4     | 4     |
| 45 | 1986 | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     |
| 46 | 1991 | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     |
| 47 | 1985 | 4     | 5     | 5     | 4     | 4     | 5     | 5     | 4     | 5     | 4     | 4     | 4     | 4     |
| 48 | 1972 | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     |
| 49 | 1965 | 3     | 4     | 4     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 3     |
| 50 | 1973 | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     |
| 51 | 1967 | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     |
| 52 | 1981 | 2     | 4     | 1     | 1     | 1     | 4     | 2     | 1     | 5     | 5     | 5     | 5     | 5     |
| 53 | 1991 | 5     | 5     | 5     | 5     | 5     | 4     | 5     | 5     | 4     | 5     | 5     | 4     | 5     |
| 54 | 1982 | 5     | 5     | 5     | 5     | 4     | 3     | 3     | 4     | 3     | 3     | 3     | 2     | 4     |
| 55 | 1980 | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 4     | 5     |
| 56 | 1976 | 4     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     |
| 57 | 1979 | 4     | 5     | 4     | 5     | 5     | 5     | 5     | 5     | 4     | 4     | 4     | 3     | 5     |
| 58 | 1981 | 5     | 4     | 5     | 5     | 5     | 5     | 4     | 5     | 4     | 4     | 4     | 4     | 5     |
| 59 | 1981 | 5     | 4     | 5     | 5     | 5     | 5     | 4     | 5     | 4     | 4     | 4     | 4     | 5     |
| 60 | 1974 | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 4     | 4     | 4     | 4     | 4     |
| 61 | 1975 | 4     | 4     | 4     | 3     | 4     | 4     | 2     | 2     | 4     | 4     | 2     | 2     | 4     |

### 3.7.2 Factor Loading/Standardised Regressions Weight

Moving to next step of data analysis, researcher has constructed the Hypothesised Model using SmartPLS that based on the initial Research Framework and Pilot Test Result from 60 respondents. Figure 13 clearly shown the Exogenous Variable, Endogenous Variable, Mediating Variables, Pathway/Connections, Path Coefficients, R-Square and Factor Loading value for each question.

Figure 13: Hypothesised Model



Source: Adopted from SmartPLS

In Chapter 3, researcher will only focus on measuring the validity of each question thru Factor Loading/SLF and reliability test thru Cronbach's Alpha. In Chapter 4, researcher will start Big Data Collection once the questionnaires that met the validity and reliability requirements. With big data result, researcher will perform additional test such as Path Coefficients, R- Square, Bootstrapping/Significant Test, and Goodness of Model FIT.

Table 38 derived from the earlier Hypothesised Model and its Standardized Loading Factor value. Referred to the table, each questions meeting the SLF requirements of  $\geq 0.50$  as described by Hair, et al. (2007). Adam (2018), mentioned in his publication that factor loading  $\geq 0.50$  consider valid and acceptable. Loading of  $\geq 0.50$  considered relevant from statistically point of view (Hair, et al., 2019). All the questions derived from each variable have exceeded 0.50, which highest 0.938 and lowest 0.619.

*Table 38: Standardized Loading Factor (SLF)*

| No | Variables/Constructs                                   | Code   | Standardized Loading Factor (SLF) | Validity Conclusion $\geq 0.50$ |
|----|--|--------|-----------------------------------|---------------------------------|
| 1  | Multigenerational Workforce Engagement                 | ENGA1  | 0.864                             | Valid                           |
| 2  |  | ENGA2  | 0.735                             | Valid                           |
| 3  |  | ENGA3  | 0.832                             | Valid                           |
| 4  |  | ENGA4  | 0.888                             | Valid                           |
| 5  |  | ENGA5  | 0.914                             | Valid                           |
| 6  |  | ENGA6  | 0.808                             | Valid                           |
| 7  |  | ENGA7  | 0.896                             | Valid                           |
| 8  |  | ENGA8  | 0.794                             | Valid                           |
| 9  | Multigenerational Workforce Collaboration              | COLL1  | 0.860                             | Valid                           |
| 10 |  | COLL2  | 0.886                             | Valid                           |
| 11 |  | COLL3  | 0.804                             | Valid                           |
| 12 |  | COLL4  | 0.788                             | Valid                           |
| 13 |  | COLL5  | 0.828                             | Valid                           |
| 14 |  | COLL6  | 0.804                             | Valid                           |
| 15 | Multigenerational Workforce Characteristic & Behaviour | CHAR1  | 0.686                             | Valid                           |
| 16 |  | CHAR2  | 0.634                             | Valid                           |
| 17 |  | CHAR3  | 0.686                             | Valid                           |
| 18 |  | CHAR4  | 0.781                             | Valid                           |
| 19 |  | CHAR5  | 0.863                             | Valid                           |
| 20 |  | CHAR6  | 0.876                             | Valid                           |
| 21 | Managing the Changing Dynamic of the Workforce         | DYNA1  | 0.745                             | Valid                           |
| 22 |  | DYNA2  | 0.794                             | Valid                           |
| 23 |  | DYNA3  | 0.909                             | Valid                           |
| 24 |  | DYNA4  | 0.836                             | Valid                           |
| 25 |  | DYNA5  | 0.793                             | Valid                           |
| 26 |  | DYNA6  | 0.757                             | Valid                           |
| 27 |  | DYNA7  | 0.873                             | Valid                           |
| 28 |  | DYNA8  | 0.735                             | Valid                           |
| 29 |  | DYNA9  | 0.684                             | Valid                           |
| 30 |  | DYNA10 | 0.870                             | Valid                           |
| 31 |  | DYNA11 | 0.791                             | Valid                           |
| 32 |  | DYNA12 | 0.619                             | Valid                           |
| 33 | Successful Digital Transformation                      | TRAN1  | 0.780                             | Valid                           |
| 34 |  | TRAN2  | 0.882                             | Valid                           |
| 35 |  | TRAN3  | 0.893                             | Valid                           |
| 36 |  | TRAN4  | 0.717                             | Valid                           |
| 37 |  | TRAN5  | 0.720                             | Valid                           |
| 38 |  | TRAN6  | 0.836                             | Valid                           |
| 39 |  | TRAN7  | 0.928                             | Valid                           |
| 40 |  | TRAN8  | 0.938                             | Valid                           |
| 41 | Achieve Business Sustainable Growth                    | SUST1  | 0.732                             | Valid                           |
| 42 |  | SUST2  | 0.775                             | Valid                           |
| 43 |  | SUST3  | 0.826                             | Valid                           |
| 44 |  | SUST4  | 0.804                             | Valid                           |
| 45 |  | SUST5  | 0.869                             | Valid                           |

### 3.7.3 Construct Reliability and Validity Test Using Cronbach's Alpha

Aside to Factor Loading/Standardised Regressions Weight testing in Section 3.7.3, Construct Reliability and Validity Test thru Cronbach's Alpha is very important as part of data analysis procedure (Cronbach, 1951). Taber (2017) further emphasized the used of Cronbach's Alpha as a statistic tool to analyse and confirm the variables adopted is fit for the research purpose.

Figure 14 is a comparison chart derived from SmartPLS software analysis where blue colour bar represents the Cronbach's Alpha value while orange colour represents the Acceptable Cronbach's Alpha parameter. It clearly demonstrates the reliability of each variable thru the result from 60 Pilot data. Elicited from Hair, et al. (2019), Cronbach's Alpha baseline of  $\geq 0.70$  considered reliable thus all variables listed in Table 39 has met the acceptance parameter of Construct Reliability (CR). Overall, the analysis shown the highest value is 0.943 while lowest is 0.852.

Figure 14: Construct Reliability and Validity Test (Cronbach's Alpha)

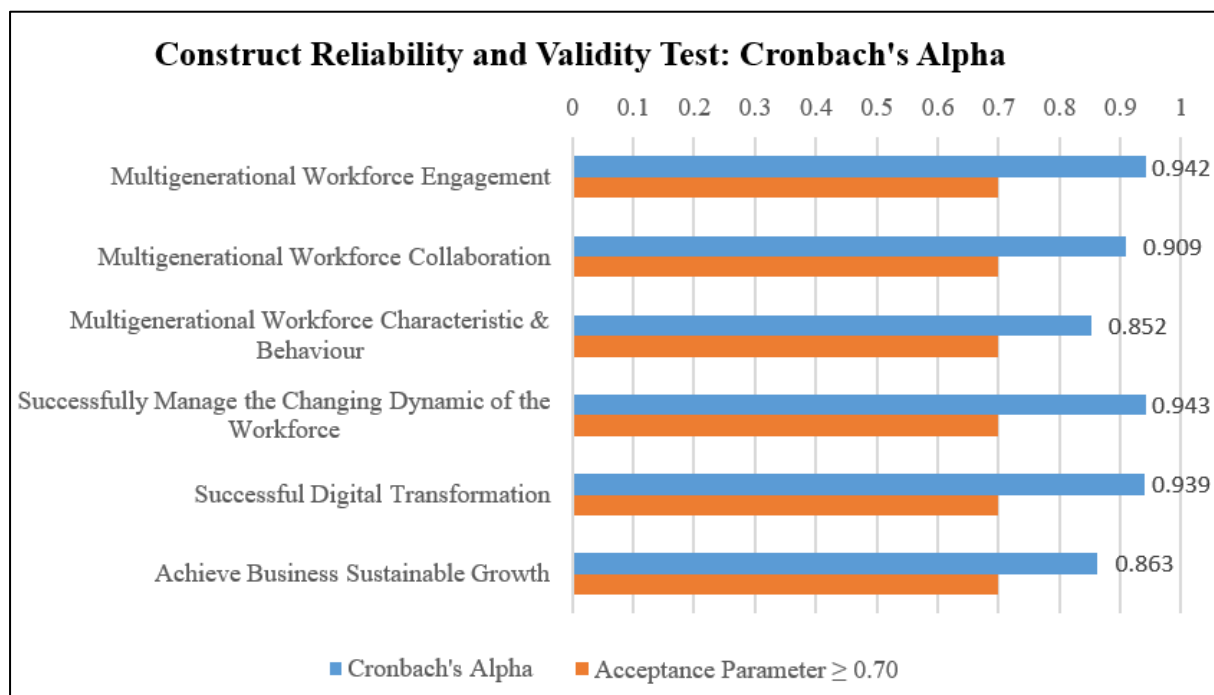


Table 39: Construct Reliability and Validity Test (Cronbach's Alpha)

| Latent Variables  | Cronbach's Alpha | Acceptance Parameter | Conclusion |
|---|------------------|----------------------|------------|
| Multigenerational Workforce Engagement                    | 0.942            | $\geq 0.70$          | Reliable   |
| Multigenerational Workforce Collaboration                 | 0.909            | $\geq 0.70$          | Reliable   |
| Multigenerational Workforce Characteristic & Behaviour    | 0.852            | $\geq 0.70$          | Reliable   |
| Successfully Manage the Changing Dynamic of the Workforce | 0.943            | $\geq 0.70$          | Reliable   |
| Successful Digital Transformation                         | 0.939            | $\geq 0.70$          | Reliable   |
| Achieve Business Sustainable Growth                       | 0.863            | $\geq 0.70$          | Reliable   |

### 3.8 Summary

In Summary, the Hypothesised Model and the Survey questions are reliable and valid for big data collection in section 4. The analysis of 60 Pilot data on validity and reliability thru Factor Loading and Cronbach's Alpha shown that the respondents understand the questions, researcher has approached the rightful person, and the measurement is reliable for each variable. Therefore, researcher will continue to use the same questions for big data collection and target to collect 367 sample sizes.

## Chapter 4: Results and Discussions

### 4.1 Introduction

In Chapter 4, researcher focused on Big Data Analysis that collected thru Online Survey using Google Form. Total population of Maxis, Digi and Celcom is 7,794 and sample size for this research should be around 367 based on Krejcie and Morgan table (Krejcie & Morgan, 1970). However, due to stressful pandemic situations in Malaysia, most of the target respondents are reluctant to participate in survey which directly impacted to data collection. Researcher only managed to collect 332 responses within defined time periods of 7 months as mentioned in Section 1, Scope of the Study. Sample size of 367 responses is based on confidence level of 95% while the actual collected sample size of 332 responses is based on confidence level of 94% which is within the acceptable common confidence level 90% to 99% (Moinester & Gottfried, 2014; Singh & Masuku, 2014; Kaslik, 2021).

To make sure result of the analysis is accurate, researcher has removed 49 responses that considered multivariate outliers using Mahalanobis Distance Method with the assistant of IBM SPSS software.

Leys, et al. (2019) described multivariate outliers as surprising result or patten across multiple variables. If multivariate outliers are not removed, it will distort statistical analysis and produced inaccurate result. Filzmoser & Gregorich (2020) said multivariate outliers are the result that deviated in several elements of the main data structure. Leys, et al. (2019) and others psychologist used Mahalanobis distance method to detect numbers that too far from centroid shape of majority data points. Mahalanobis distance measurement that used to detect the deviation of extreme values was introduced by P. C. Mahalanobis in 1936 (Mahalanobis, 1936). Multiple researchers used IBM SPSS software to analyse and detect multivariate outliers thru Mahalanobis distance method (Masanovic, 2019; Narvaez & Noroña, 2021; Setiawan, et al., 2019).

Below is the data collection summary result:

- Distributed 367/100%
- Collected 332/90%
- Usable 283/77%

In following chapter, researcher segregated the responses into demographic profiles and used Partial Least Square Structural Equation Modelling (PLS-SEM) method to analyse the

Measurement Model and Structural Model. Both model analysis presenting the results including the factor loading, Cronbach Alpha, path coefficients, R-square, Q-square, f-square, direct/indirect analysis, bootstrapping, goodness of Model FIT, hypothesis result and achievement of research objectives (Osman & Sentosa, 2013) with the support of SmartPLS tool (Ringle, et al., 2005). According to Barclay, et al. (1995), PLS-SEM analysis is widely used due to the capabilities to measure all paths simultaneously. Gefen, et al. (2000) mentioned that PLS-SEM analysis can provide accurate analysis even with small sample size.

According to Wong (2013), SmartPLS was developed by Ringle, Wendy & Will in 2005 which later widely used by a lot of researchers due to advance reporting features and friendly graphical user interface. In 1970s and 1980s, an econometrician Herman O. A Wold from Swedish that focus a lot on model and methods creation for social sciences research has emerged the creation of partial least squares path modelling that later transformed into partial least squares equation modelling (PLS-SEM) (Sarstedt, et al., 2017). Later it was further enhanced by Lohmöller in 1989, Bentler & Huang in 2014, Dijkstra in 2014, and Dijkstra & Henseler in 2015 (Aparicio, 2011).



## 4.2 Demographic Profiles

Table 40 is the high-level demographic result in table format that extracted from the survey and is further elaborated using proper chart as shown below. Overall, researcher managed to gather a mixture of responses based on Generation, Company, Position and Gender.

*Table 40: Summary of Demographic Profiles*

| Generation | Count | Percentage (%) | Company | Count | Percentage (%) | Position       | Count | Percentage (%) | Gender | Count | Percentage (%) |
|------------|-------|----------------|---------|-------|----------------|----------------|-------|----------------|--------|-------|----------------|
| Boomers    | 9     | 2.71%          | Celcom  | 21    | 6.33%          | Managerial     | 131   | 39.46%         | Female | 150   | 45.18%         |
| Gen-X      | 140   | 42.17%         | Digi    | 271   | 81.63%         | Non-Managerial | 201   | 60.54%         | Male   | 182   | 54.82%         |
| Gen-Y      | 179   | 53.92%         | Maxis   | 40    | 12.05%         | Total          | 332   | 100%           | Total  | 332   | 100%           |
| Gen-Z      | 4     | 1.20%          | Total   | 332   | 100%           |                |       |                |        |       |                |
| Total      | 332   | 100%           |         |       |                |                |       |                |        |       |                |

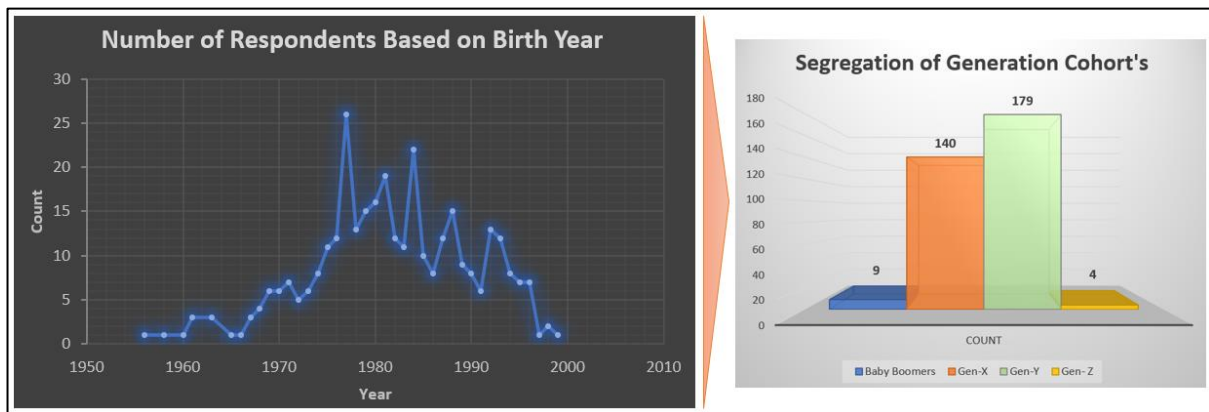
Source: Author

Figure 15 (left) listed below displayed the breakdown of 332 respondents based on year of birth using 2D Line Chart. Thru the line chart, we can identify top 3 group of respondents that born in the same year. Overall, 26 people born in 1977, 22 people born in 1984 and 19 people born in 1981 which is the combination of Gen-X and Gen-Y. As defined in Chapter 1:

- Baby Boomers (1946 – 1964)
- Gen X (1965 – 1980)
- Gen Y (1981 – 1996)
- Gen Z (1997 – 2012)

Meanwhile Figure 15 (right) listed below displayed the segregation of Generation Cohort's based on the defined year of birth above. Researcher has transformed the survey data from the line chart into 3D Bar Chart for clearer comparison. The result clearly displayed the respondents of the survey are from Gen-Y (179 people) and Gen-X (140 people) and the smallest group of people are Baby Boomers (9 people) and Gen-Z (4 people). The demographic result of age group in workforce are aligned with US Workforce data where it consists of 25% Baby Boomers, 33% Gen-X, 35% Gen-Y and 5% Gen-Z (Sjoerdsma, 2021).

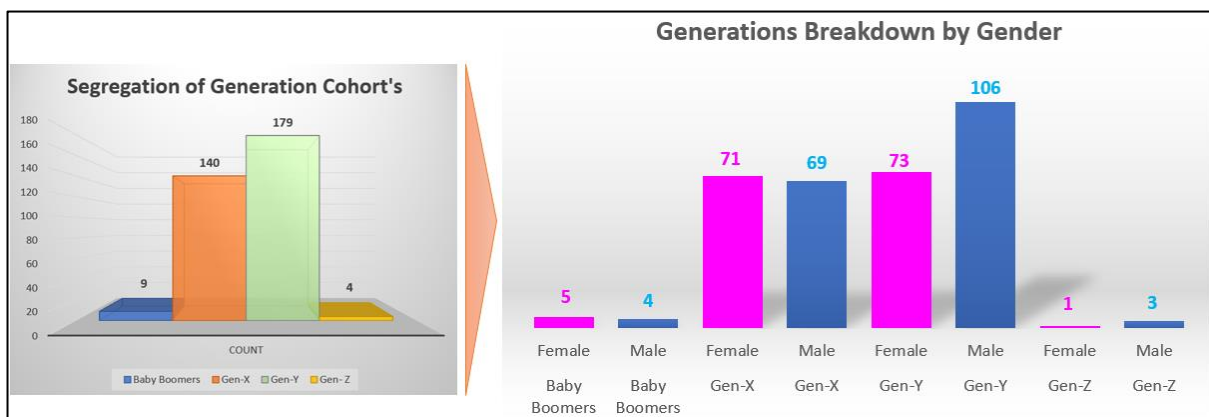
Figure 15: Respondents Breakdown by Birth Year and Generation Cohort's



Source: Author

Based on Figure 16 (left), researcher has further breakdown the generations into Gender (Male/Female) as shown in Figure 16 (right). Pink colour bar chart representing female while blue colour bar chart representing male respondents. Out of 9 Baby Boomers, 5 are female and 4 are male. 140 Gen-X, 71 are female and 69 are male. 179 Gen-Y, 73 are female and 106 are male. Follow by the smallest group Gen-Z which have 1 female and 3 male respondents adding up into 4 people.

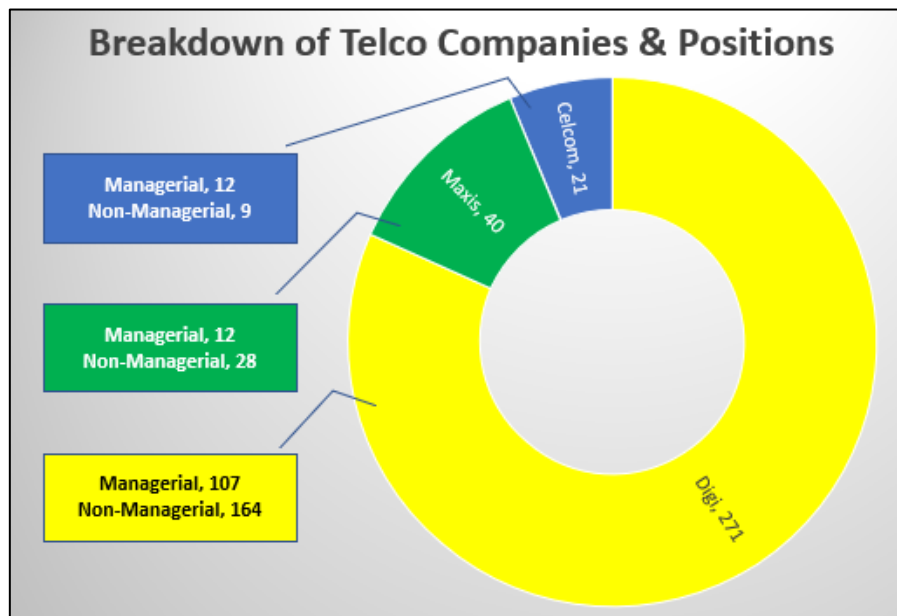
Figure 16: Breakdown of Generation Cohort's by Gender



Source: Author

Researcher has used Sunburst Chart (Figure 17) below to represent the respondent's company and position. Researcher provided three options for "Current Company" Maxis, Celcom, and Digi. For "Current Position", researcher provided 2 options which is Managerial or Non-Managerial. Based on the Sunburst Chart, out of 332 responses, there are 271 responses from Digi, 40 responses from Maxis and 21 responses from Celcom. Colour selected for this chart is based on their company logo (Digi: Yellow, Maxis: Green and Celcom: Blue). To further breakdown of current position of respondents there are Digi (107 manager and 164 non-manager), follow by Maxis (12 manager and 28 non-manager) and Celcom (12 manager and 9 non-manager).

*Figure 17: Breakdown of Respondents Companies Name and Positions*



Source: Author

### 4.3 Measurement Model Analysis

Measurement Model is part of PLS-SEM analysis that measures the latent variables or items or dimension that link to its indicators (Hair, et al., 2012). Measurement models need to be tested for validity and reliability including Standardised Loading Factor (SLF) validity, Cronbach Alpha reliability, Internal Consistent Reliability with rho\_A and Composite Reliability, Convergent Validity with Average Variance Extracted (AVE), Discriminant Validity with Fornell-Larcker Criterion and Heterotrait-Monotrait Ratio (HTMT) (Sarstedt, et al., 2017). After measurement model, the next analysis will be on the structural model.

#### 4.3.1 Indicator Reliability with Standardised Loading Factor (SLF)

Table 41 originated from the Hypothesised Model and its Standardized Loading Factor value. Referred to the table, each questions meeting the SLF requirements of  $\geq 0.50$  as described by Hair, et al. (2007) and Hair, et al. (2019). Adam (2018), mentioned in his publication that factor loading  $\geq 0.50$  consider valid and acceptable. In general, all 45 items in 6 constructs are considered valid. Below only displayed the lowest SLF score for each construct:

- Multigenerational Workforce Engagement, the lowest SLF is 0.713 (ENGA1- I feel engaged when I am empowered to handle my work).
- Multigenerational Workforce Collaboration lowest SLF is 0.629 (COLL4- Through multigenerational workforce collaboration, tasks are well distributed and thereby reduce the workload of employees).
- Multigenerational Workforce Characteristics lowest SLF is 0.725 (CHAR3- I am attracted to company that provide extrinsic (tangible) values/rewards).
- Managing the Changing Dynamic of the Workforce lowest SLF is 0.595 (DYNA11- I prefer to have regular feedback from my supervisor).
- Digital Transformation lowest SLF is 0.857 (TRAN2- Successful digital transformation requires a well-managed transformation activities).
- Sustainable Business Growth lowest SLF is 0.734 (SUST5- To achieve business sustainability, we need to have overall financial performance exceeding competitors).

Although the SLF score for the 6 constructs are considered the lowest amongst other items in the construct but all of it is consider valid and should be used to represent the construct/variables. This also shown that respondent of the survey fully understands and agreed with the questionnaire that obtained from each item.

Table 41: Standardised Loading Factor (SLF)

| No | Variables/Constructs                           | Code   | Standardized Loading Factor (SLF) | Validity Conclusion $\geq 0.50$ |
|----|--|--------|-----------------------------------|---------------------------------|
| 1  | Multigenerational Workforce Engagement         | ENGA1  | 0.713                             | Valid                           |
| 2  |  | ENGA2  | 0.783                             | Valid                           |
| 3  |  | ENGA3  | 0.830                             | Valid                           |
| 4  |  | ENGA4  | 0.846                             | Valid                           |
| 5  |  | ENGA5  | 0.790                             | Valid                           |
| 6  |  | ENGA6  | 0.833                             | Valid                           |
| 7  |  | ENGA7  | 0.776                             | Valid                           |
| 8  |  | ENGA8  | 0.755                             | Valid                           |
| 9  | Multigenerational Workforce Collaboration      | COLL1  | 0.856                             | Valid                           |
| 10 |  | COLL2  | 0.854                             | Valid                           |
| 11 |  | COLL3  | 0.730                             | Valid                           |
| 12 |  | COLL4  | 0.629                             | Valid                           |
| 13 |  | COLL5  | 0.811                             | Valid                           |
| 14 |  | COLL6  | 0.787                             | Valid                           |
| 15 | Multigenerational Workforce Characteristic     | CHAR1  | 0.814                             | Valid                           |
| 16 |  | CHAR2  | 0.741                             | Valid                           |
| 17 |  | CHAR3  | 0.725                             | Valid                           |
| 18 |  | CHAR4  | 0.727                             | Valid                           |
| 19 |  | CHAR5  | 0.851                             | Valid                           |
| 20 |  | CHAR6  | 0.894                             | Valid                           |
| 21 | Managing the Changing Dynamic of the Workforce | DYNA1  | 0.744                             | Valid                           |
| 22 |  | DYNA2  | 0.746                             | Valid                           |
| 23 |  | DYNA3  | 0.783                             | Valid                           |
| 24 |  | DYNA4  | 0.797                             | Valid                           |
| 25 |  | DYNA5  | 0.797                             | Valid                           |
| 26 |  | DYNA6  | 0.661                             | Valid                           |
| 27 |  | DYNA7  | 0.813                             | Valid                           |
| 28 |  | DYNA8  | 0.774                             | Valid                           |
| 29 |  | DYNA9  | 0.626                             | Valid                           |
| 30 |  | DYNA10 | 0.781                             | Valid                           |
| 31 |  | DYNA11 | 0.595                             | Valid                           |
| 32 |  | DYNA12 | 0.746                             | Valid                           |
| 33 | Digital Transformation                         | TRAN1  | 0.858                             | Valid                           |
| 34 |  | TRAN2  | 0.857                             | Valid                           |
| 35 |  | TRAN3  | 0.892                             | Valid                           |
| 36 |  | TRAN4  | 0.878                             | Valid                           |
| 37 |  | TRAN5  | 0.872                             | Valid                           |
| 38 |  | TRAN6  | 0.900                             | Valid                           |
| 39 |  | TRAN7  | 0.874                             | Valid                           |
| 40 |  | TRAN8  | 0.900                             | Valid                           |
| 41 | Business Sustainable Growth                    | SUST1  | 0.769                             | Valid                           |
| 42 |  | SUST2  | 0.736                             | Valid                           |
| 43 |  | SUST3  | 0.814                             | Valid                           |
| 44 |  | SUST4  | 0.830                             | Valid                           |
| 45 |  | SUST5  | 0.734                             | Valid                           |

Source: Adapted from SmartPLS

#### 4.3.2 Indicator Reliability with Cronbach Alpha

According to Lee J. Cronbach, construct reliability test thru Cronbach's Alpha is extremely important as part of data analysis procedure because thru this test, designer of the questionnaires will understand if the measurements are correctly yielding the answer for the research purpose (Cronbach, 1951). Elicited from Hair, et al. (2019), Cronbach's Alpha baseline of  $\geq 0.70$  considered reliable thus all variables listed in Figure 18 and Table 42 has met the acceptance parameter of Construct Reliability (CR). The purple line in the Figure 18 is the baseline set while the 6 green bar charts representing the variables in this thesis. Each of the variables are considered reliable especially on Digital Transformation (0.958) while slightly lower is Sustainable Business Growth (0.839). Although the lowest is 0.839 but according to Hair, et al (2019)  $> 0.9$  is excellent reliability score,  $> 0.8$  is good,  $> 0.7$  acceptable,  $> 0.6$  is questionable while  $> 0.5$  considered poor reliability coefficient. In summary, no item or variable has been removed from this analysis due to meeting the validity and reliability test.

Figure 18: Cronbach Alpha Test

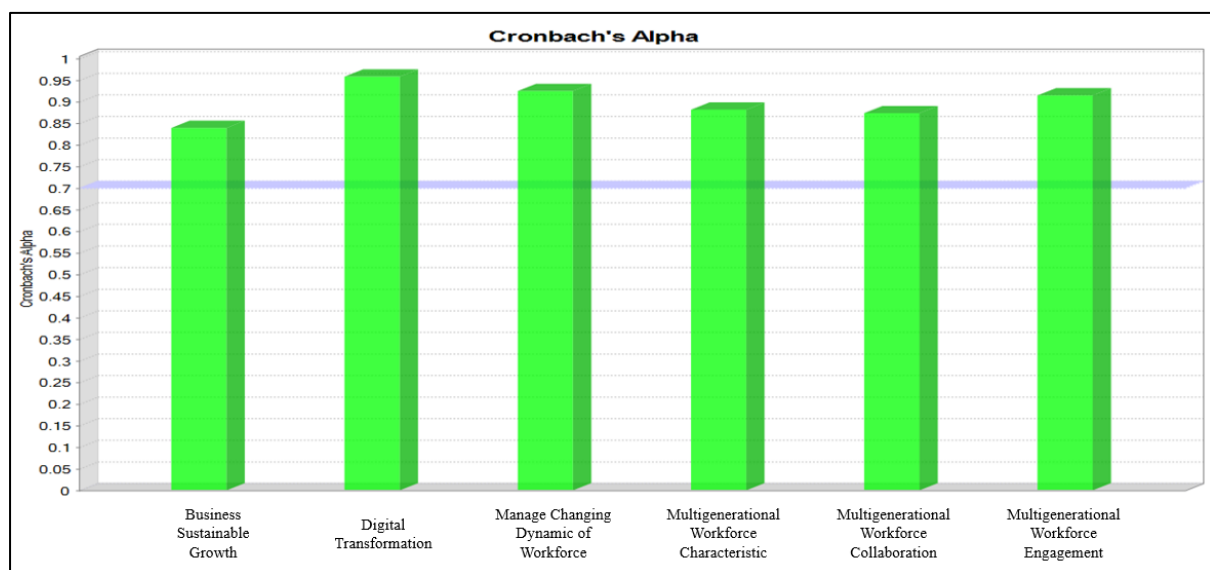


Table 42: Cronbach Alpha Test

| Latent Variables                             | Cronbach's Alpha | Acceptance Parameter $\geq 0.70$ Conclusion |
|--|------------------|---|
| Business Sustainable Growth                  | 0.839            | Reliable                                    |
| Digital Transformation                       | 0.958            | Reliable                                    |
| Manage the Changing Dynamic of the Workforce | 0.925            | Reliable                                    |
| Multigenerational Workforce Characteristic   | 0.881            | Reliable                                    |
| Multigenerational Workforce Collaboration    | 0.873            | Reliable                                    |
| Multigenerational Workforce Engagement       | 0.914            | Reliable                                    |

Source Adapted from SmartPLS

#### 4.3.3 Internal Consistency Reliability with rho\_A and Composite Reliability

There are few ways to measure Internal Consistency Reliability including rho\_A or Composite Reliability. According to Chin (1998), Götz, et al. (2010), Gefen, et al. (2000) and Hair, et al. (2012), composite reliability  $>0.6$  is for exploratory while  $>0.7$  for confirmatory research. While Hair, et al. (2019) suggested to aim for above 0.7 for Internal Consistency Reliability as satisfactory research. Dijkstra & Henseler (2015) suggested to use rho\_A coefficient  $> 0.7$  to assess the reliability of Internal Consistency. Internal consistent in layman term means the questionnaire/items generated to support each construct/variable are consider consistent and yet unique to provide certain information to researcher.

Referring to Figure 19 and Figure 20, both green bar charts that representing the rho\_A and Composite Reliability has exceeded the 0.7 purple line and it means reliable. The details further presented in table format (Table 43) where Sustainable Business Growth (rho\_A:0.858 and Composite Reliability:0.884) has the lowest score compared to Digital Transformation (rho\_A:0.959 and Composite Reliability:0.965) that shown the highest score. All the 6 variables have successfully met the Internal Consistency Reliability test.

Figure 19: rho\_A Test

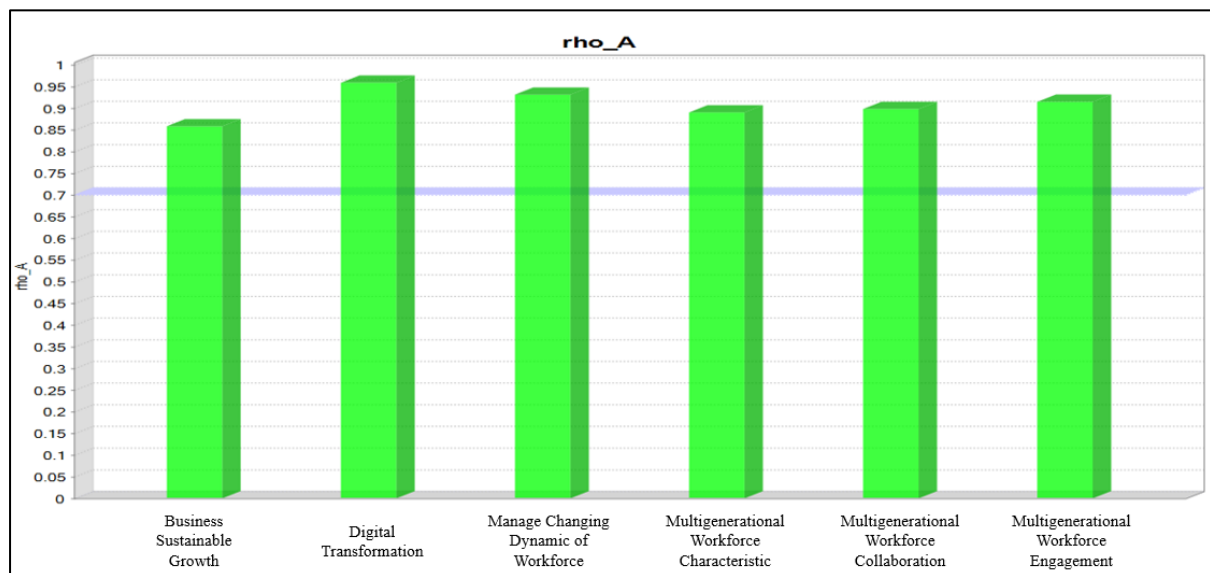


Figure 20: Composite Reliability Test

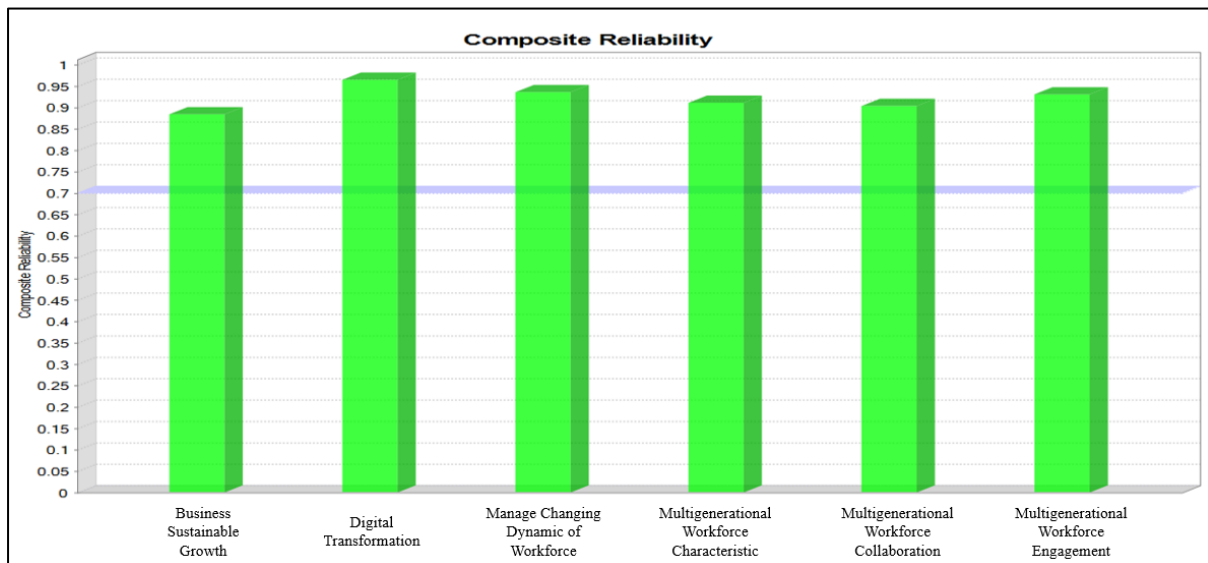


Table 43: rho\_A and Composite Reliability Test

| Latent Variables                             | rho_A | rho_A Reliability $\geq 0.7$ | Composite Reliability | Composite Reliability $\geq 0.7$ |
|--|-------|------------------------------|-----------------------|----------------------------------|
| Business Sustainable Growth                  | 0.858 | Reliable                     | 0.884                 | Reliable                         |
| Digital Transformation                       | 0.959 | Reliable                     | 0.965                 | Reliable                         |
| Manage the Changing Dynamic of the Workforce | 0.931 | Reliable                     | 0.936                 | Reliable                         |
| Multigenerational Workforce Characteristic   | 0.890 | Reliable                     | 0.911                 | Reliable                         |
| Multigenerational Workforce Collaboration    | 0.898 | Reliable                     | 0.903                 | Reliable                         |
| Multigenerational Workforce Engagement       | 0.915 | Reliable                     | 0.931                 | Reliable                         |

Source Adapted from SmartPLS



#### 4.3.4 Convergent Validity with Average Variance Extracted (AVE)

Fornell & Larcker (1998), Bagozzi & Yi (1988) and Hair, et al. (2017) has suggested to use Average Variance Extracted (AVE) Validity  $> 0.5$  as the benchmark for Convergent Validity. Fornell & Larcker (1998) did mentioned that value  $> 0.5$  is acceptable and value  $> 0.7$  is considered very good. Convergent Validity is to show the measurement of each construct is really related or corresponded. AVE measures the level of difference captured in construct against the level or errors. According to Figure 21 and Table 44, Digital Transformation has the highest AVE Value (0.773) that considered very good. Although the rest of the 5 variables AVE value did not exceed 0.7 but it has met the acceptable value of 0.5. Sustainable Business Growth (0.605), Multigenerational Workforce Characteristic (0.631), Multigenerational Workforce Collaboration (0.611), Multigenerational Workforce Engagement (0.627) and Manage the Changing Dynamic of Workforce (0.550). Although Manage the Changing Dynamic of Workforce has AVE that merely exceeded 0.5 but the composite reliability value mentioned in earlier section has exceeded 0.7, which still consider a good variable (Fornell & Larcker, 1998).

Figure 21: Average Variance Extracted (AVE)

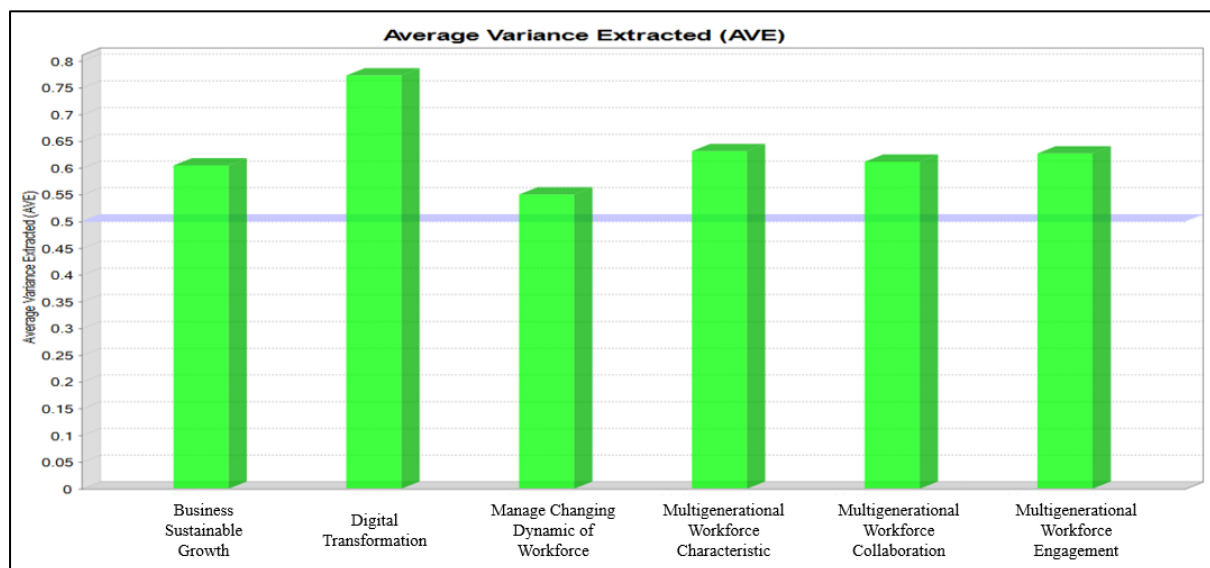


Table 44: Average Variance Extracted (AVE) Validity

| Latent Variables                             | Average Variance Extracted (AVE) | AVE Validity > 0.5 |
|--|----------------------------------|--------------------|
| Business Sustainable Growth                  | 0.605                            | Valid              |
| Digital Transformation                       | 0.773                            | Valid              |
| Manage the Changing Dynamic of the Workforce | 0.550                            | Valid              |
| Multigenerational Workforce Characteristic   | 0.631                            | Valid              |
| Multigenerational Workforce Collaboration    | 0.611                            | Valid              |
| Multigenerational Workforce Engagement       | 0.627                            | Valid              |

4.3.5 Discriminant Validity with Fornell-Larcker Criterion and Heterotrait-Monotrait Ratio

Hamid, et al. (2017) described Discriminant Validity as degree of differences between overlapping construct or the extend of construct that differ from each other. Gopinath, et al. (2021), described Discriminant Validity as measures that should not be related have remained as not related. According to Fornell & Larcker (1998), Discriminant Validity is the actual comparison of the square root of Average Variance Extracted between two constructs are much higher than other correlations constructs. To identify Discriminant Validity, researcher can either used Fornell-Larcker Criterion or Heterotrait-Monotrait Ratio (HTMT). In this paper, researcher has decided to use both methods.

Table 45 are the Fornell-Larcker Criterion result that generated from SmartPLS. Based on the result, the value presented in *Italic* are the value that used to identify Discriminant Validity. Colour coded in green means the variable is different from other variables while red means similar with other variables. Sustainable Business Growth, Digital Transformation, Multigenerational Workforce Characteristic, Multigenerational Workforce Collaboration and Multigenerational Workforce Engagement are showing green values. Only one variable “Manage the Changing Dynamic of the Workforce” is showing red, and values are lower than the variables under the same vertical. Although one of the variables are showing red but the value different is not huge (0.067), therefore it can be ignored and accepted (Hamid, et al., 2017). Further testing of Discriminant Validity is thru Heterotrait-Monotrait Ratio.

*Table 45: Fornell-Larcker Criterion*

|  | Business Sustainable Growth | Digital Transformation | Manage the Changing Dynamic of the Workforce | Multigenerational Workforce Characteristic | Multigenerational Workforce Collaboration | Multigenerational Workforce Engagement |
|--|-----------------------------|------------------------|--|--|---|--|
| Business Sustainable Growth                  | <i>0.778</i>                |                        |  |  |   |  |
| Digital Transformation                       | 0.577                       | <i>0.879</i>           |  |  |   |  |
| Manage the Changing Dynamic of the Workforce | 0.595                       | 0.794                  | <i>0.742</i>                                 |  |   |  |
| Multigenerational Workforce Characteristic   | 0.537                       | 0.743                  | 0.809  | <i>0.795</i>                               |   |  |
| Multigenerational Workforce Collaboration    | 0.495                       | 0.591                  | 0.586  | 0.606                                      | <i>0.782</i>                              |  |
| Multigenerational Workforce Engagement       | 0.446                       | 0.580                  | 0.636  | 0.696                                      | 0.573                                     | <i>0.792</i>                           |

Source Adapted from SmartPLS

Henseler, et al. (2015), Teo, et al. (2008) & Gold (2001) proposed to use value  $< 0.9$  for Heterotrait-Monotrait Ratio (HTMT) when assessing Discriminant Validity in Partial Least Squares Structural Equation Modelling. Based on Table 46, all variables are having value lower than 0.9, therefore it can be confirmed that Discriminant Validity is established. Although some of the measurement has HTMT values that closed to 0.9 but the remaining test and positive result that established in early section can be used to support the variables. HTMT values are explained thru inter-construct correlations and the result clearly shown Discriminant Validity has been established.

*Table 46: Heterotrait-Monotrait Ratio (HTMT)*

|  | Business Sustainable Growth | Digital Transformation | Manage the Changing Dynamic of the Workforce | Multigenerational Workforce Characteristic | Multigenerational Workforce Collaboration | Multigenerational Workforce Engagement |
|--|-----------------------------|------------------------|--|--|---|--|
| Business Sustainable Growth                  |                             |                        |  |  |   |  |
| Digital Transformation                       | 0.627                       |                        |  |  |   |  |
| Manage the Changing Dynamic of the Workforce | 0.643                       | 0.832                  |  |  |   |  |
| Multigenerational Workforce Characteristic   | 0.613                       | 0.805                  | 0.883  |  |   |  |
| Multigenerational Workforce Collaboration    | 0.570                       | 0.618                  | 0.632  | 0.669                                      |   |  |
| Multigenerational Workforce Engagement       | 0.487                       | 0.617                  | 0.686  | 0.775                                      | 0.608                                     |  |

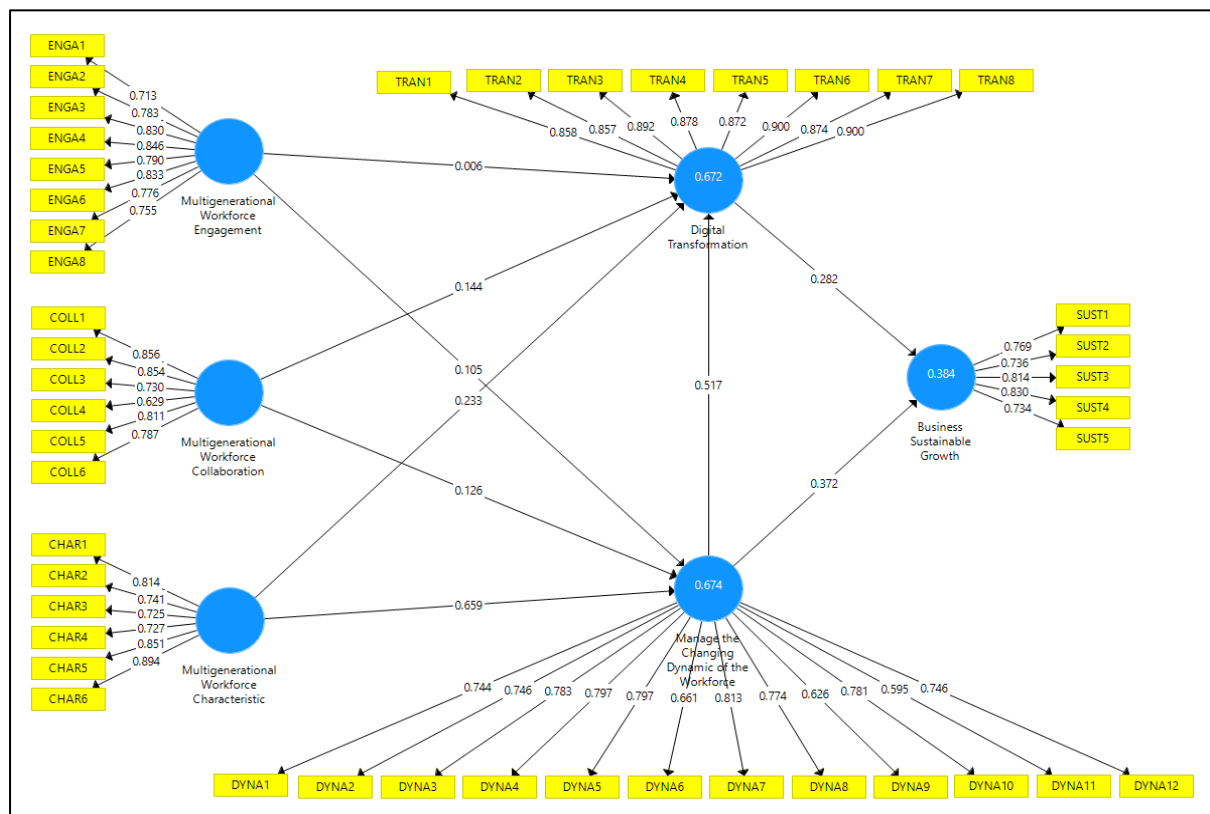
Source Adapted from SmartPLS

#### 4.4 Structural Model Analysis

The next analysis after completion of Measurement Model will be the Structural Model Analysis. It includes the testing of hypothetical dependencies based on Path Analysis, Collinearity Assessment thru Inner VIF, Coefficient of Determination using R-Square, Effective Size f-Square and Predictive Relevance Q-Square (Hair, et al., 2019).

Figure 22 is the hypothesised model that developed using SmartPLS together with the data obtained thru survey. It clearly shown the Exogenous Variable, Endogenous Variable, Mediating Variables, Pathway, Path Coefficients, R-Square and Factor Loading value for each questions/item. As mentioned in earlier section, all factor loading value exceeding 0.5.

Figure 22: Path Analysis Chart



Source Adopted from SmartPLS

#### 4.4.1 Collinearity Assessment

According to Abubakar, et al. (2017), assessment of multicollinearity is crucial to be carried out during regression analysis. During assessment, Inner VIF is used to examines multicollinearity. Problem happens when high correlation of two independent construct with other independents construct. Wong (2013) described multicollinearity as 2 exogenous variables that measuring the same attributes of endogenous variable and showing potential collinearity problems. If yes, decision need to be made either to eliminate or merged into one. Kock & Lynn (2012) advised to investigate two type of collinearity which is the classic vertical collinearity and lateral collinearity.

Hair, et al. (2017), Keith (2014) and Garson (2016) has recommended to use Variance Inflation Factor (VIF)  $< 5.0$ . Anything that above 5.0 would indicate multicollinearity problem that will impact to the empirical significance test of structural model (Hair, et al., 2019). Refer to Table 47, indicated VIF value is from the range of 1.7 to 3.5 which is below the VIF threshold. Exogenous Variables such as Digital Transformation (2.701) and Manage the Changing Dynamic of the Workforce (2.701) towards Endogenous Variable Sustainable Business Growth are below 5.0. For the next set of Exogenous Variables Managing Changing Dynamic of Workforce (3.063), Multigenerational Workforce Characteristic (3.547), Multigenerational Workforce Collaboration (1.749) and Multigenerational Workforce Engagement (2.122) towards Endogenous Variable Digital Transformation is also below 5.0. The last batch will be the Multigenerational Workforce Characteristic (2.217), Multigenerational Workforce Collaboration (1.701) and Multigenerational Workforce Engagement (2.088) towards Endogenous Variable Manage the Changing Dynamic of the Workforce is below 5.0 too. In summary, no multicollinearity problem detected in this structural model. Next section will continue the analysis of structural model thru Coefficient of Determination and Predictive Relevance Assessment (R-Square, f-Square and Q-Square).

Table 47: Inner VIF

|  | Business Sustainable Growth | Digital Transformation | Manage the Changing Dynamic of the Workforce |
|--|-----------------------------|------------------------|--|
| Business Sustainable Growth                  |                             |                        |  |
| Digital Transformation                       | 2.701                       |                        |  |
| Manage the Changing Dynamic of the Workforce | 2.701                       | 3.063                  |  |
| Multigenerational Workforce Characteristic   |                             | 3.547                  | 2.217  |
| Multigenerational Workforce Collaboration    |                             | 1.749                  | 1.701  |
| Multigenerational Workforce Engagement       |                             | 2.122                  | 2.088  |

Source Adapted from SmartPLS

#### 4.4.2 Coefficient of Determination and Predictive Relevance Assessment

Table 48 is referring to the result of Coefficient of Determination or R-Square or  $R^2$  and the result of Predictive Relevance Assessment or Q-Square or  $Q^2$ . Chicco, et al. (2021) described Coefficient of Determination ( $R^2$ ) as the effect to the Endogenous Variable by the Exogenous Variables. In other words, with the independence variables, researcher can predict the potential outcome of a dependent variable. Zhang (2016) said  $R^2$  is to determine the variation of Endogenous Variable thru the predictive effect of the Exogeneous Variables thru structural modelling.

Referring to Chin (1998),  $R^2 < 0.19$  Very Weak,  $0.19 \leq R^2 < 0.33$  Weak,  $0.33 \leq R^2 < 0.67$  Moderate and  $R^2 \geq 0.67$  Substantial. Meanwhile, Hair, et al. (2011) referred  $R^2$  of 0.25 as weak,  $R^2$  of 0.50 is moderate and  $R^2$  of 0.75 is substantial for Endogenous latent variables. Reading from Table 48, Sustainable Business Growth ( $R^2$  - 0.384/38.40%), Digital Transformation ( $R^2$  - 0.672/67.20%) and Manage the Changing Dynamic of the Workforce ( $R^2$  - 0.674/67.40%). If followed Chin (1998) recommendation, Sustainable Business Growth is considered Moderate and Digital Transformation and Manage the Changing Dynamic of the Workforce is considered Substantial. Slightly different with Hair, et al. (2011), where Sustainable Business Growth is considered Weak and Digital Transformation and Manage the Changing Dynamic of the Workforce is considered Moderate.

However, Hair, et al. (2011) did mentioned that different research discipline will require to apply different judgement for Coefficient of Determination ( $R^2$ ). E.g.,  $R^2$  results of 0.2 can be considered as high if is related to human behaviour/art/social science while  $R^2$  results of 0.75 can be considered high if is related to pure scientific/driver research. Which aligned with researcher paper that talked about multigenerational workforce characteristic, engagement, collaboration that impact to changing dynamic of workforce, digital transformation, and sustainable business growth. This result has further confirmed the Goodness-Of-Fit test.

Hussain, et al. (2018) said Predictive Relevance Assessment or Q-Square or  $Q^2$  are used to measure the quality of PLS path model thru blindfolding procedures. In general, recommended  $Q^2$  values must be greater than zero for endogenous latent construct. While Hair, et al. (2011) used blindfolding to obtain cross-validated redundancy for each construct measurement. If the  $Q^2$  larger than zero, it means exogeneous constructs highly predictive for endogenous construct.

Chin (1998), Henseler, et al. (2009) and Hair, et al. (2013) described Predictive Relevance Assessment ( $Q^2$ ) as weak if  $Q^2$  - 0.02, moderate - 0.15 and strong - 0.35. Referring to Table

48, Sustainable Business Growth (0.222) considered moderate predictive while both Digital Transformation (0.510) and Manage the Changing Dynamic of Workforce (0.360) is considered strongly predictive.

*Table 48: R-Square and Q-Square*

|  | <b>R<sup>2</sup></b> | <b>R<sup>2</sup><br/>Percentage</b> | <b>Q<sup>2</sup></b> | <b>Q<sup>2</sup> &gt; 0</b> |
|--|----------------------|-------------------------------------|----------------------|-----------------------------|
| Business Sustainable Growth                  | 0.384                | 38.40%                              | 0.222                | Moderate Predictive         |
| Digital Transformation                       | 0.672                | 67.20%                              | 0.510                | Strongly Predictive         |
| Manage the Changing Dynamic of the Workforce | 0.674                | 67.40%                              | 0.360                | Strongly Predictive         |

Source Adapted from SmartPLS

The next assessment will be the F-Square or  $f^2$  that potential change the R-Square ( $R^2$ ) when the exogeneous variable is removed from the structural model. Removing of any exogeneous variables may or may not impact the endogenous variables (Cohen, 1988).

Cohen (1988) and (Chin, 1998) broken the effect into multiple effect size ( $f^2 > 0.35$  considered large effect size,  $0.15 > f^2 > 0.35$  considered medium effect size while  $0.02 > f^2 > 0.15$  considered small effect size) Anything less than 0.02 can be considered as No effect size. In a simpler term, removing an exogenous variable that have small effect size will not bring much effect to  $R^2$  values of endogenous variable. Refer to Table 49, values that colour coded with green representing large effect size, blue representing medium effect size, black representing small effect size while red considered no effect. Digital Transformation (0.048) and Manage the Changing Dynamic of the Workforce (0.083) to Sustainable Business Growth is considered small effect. Managing the Changing Dynamic of the Workforce (0.266) is considered medium effect to Digital Transformation. It will affect Digital Transformation  $R^2$  value if removing Managing the Changing Dynamic of the Workforce. Slightly different result for Multigenerational Workforce Characteristic (0.047), Multigenerational Workforce Collaboration (0.036) and Multigenerational Workforce Engagement (0.000) towards Digital Transformation  $R^2$  value. The effect size is small to none. Meanwhile the biggest effect size towards the  $R^2$  value of Manage the Changing Dynamic of the Workforce is Multigenerational Workforce Characteristic (0.600). It will bring significant impact if this exogenous variable is removed. The rest of the exogeneous variables such as Multigenerational Workforce Collaboration (0.028) and Multigenerational Workforce Engagement (0.016) shown small to none effect size to Manage the Changing Dynamic of the Workforce. However, from the

Predictive Relevancy  $Q^2$  assessment conducted in earlier section shown all exogenous variables are moderate to strong predictive for endogenous.

*Table 49: F-Square*

| $f^2$  | Business Sustainable Growth | Digital Transformation | Manage the Changing Dynamic of the Workforce |
|--|-----------------------------|------------------------|--|
| Business Sustainable Growth                  |                             |                        |  |
| Digital Transformation                       | 0.048                       |                        |  |
| Manage the Changing Dynamic of the Workforce | 0.083                       | 0.266                  |  |
| Multigenerational Workforce Characteristic   |                             | 0.047                  | 0.600  |
| Multigenerational Workforce Collaboration    |                             | 0.036                  | 0.028  |
| Multigenerational Workforce Engagement       |                             | 0.000                  | 0.016  |

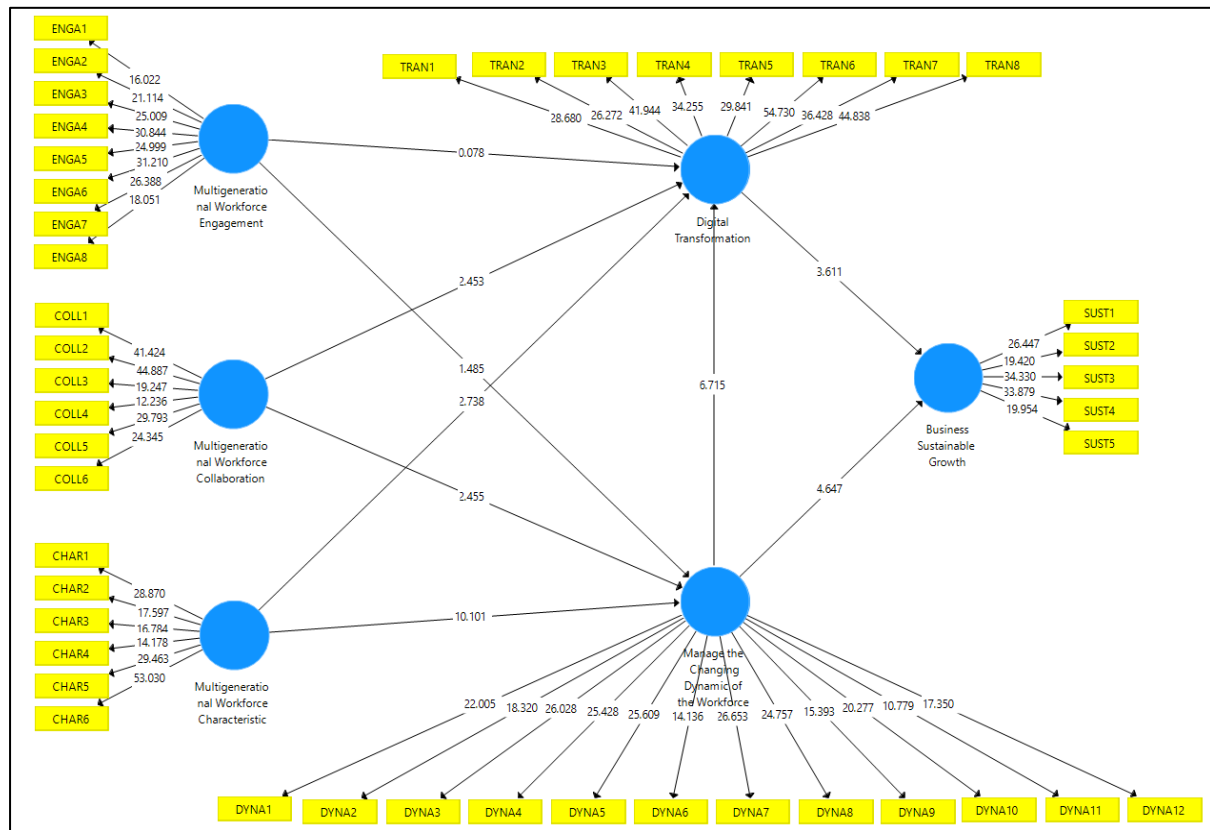
Source Adapted from SmartPLS



## 4.5 Hypothesis Results

Figure 23 generated using the Bootstrapping Method to test the 9 Hypothesis set in this thesis.

Figure 23: Bootstrapping Chart



Source Adopted from SmartPLS

Table 50 is the details examination of Path/Beta Coefficients ( $\beta$ -Value), Significant Test (T-Value) and Probability (P-Value). Including supported or non-supported hypotheses.

Table 50: Bootstrapping

|    | Relationships  | Sample Mean (M) | Standard Deviation (STDEV) | $\beta$ -Value | T-Value | P-Value | Supported or Not Supported |
|----|--|-----------------|----------------------------|----------------|---------|---------|----------------------------|
| H1 | Multigenerational Workforce Engagement -> Digital Transformation                           | 0.010           | 0.077                      | 0.006          | 0.078   | 0.938   | Not Supported              |
| H2 | Multigenerational Workforce Collaboration -> Digital Transformation                        | 0.140           | 0.059                      | 0.144          | 2.453   | 0.015   | Supported                  |
| H3 | Multigenerational Workforce Characteristic -> Digital Transformation                       | 0.234           | 0.085                      | 0.233          | 2.738   | 0.006   | Supported                  |
| H4 | Multigenerational Workforce Engagement -> Manage the Changing Dynamic of the Workforce     | 0.109           | 0.071                      | 0.105          | 1.485   | 0.138   | Not Supported              |
| H5 | Multigenerational Workforce Collaboration -> Manage the Changing Dynamic of the Workforce  | 0.127           | 0.051                      | 0.126          | 2.455   | 0.014   | Supported                  |
| H6 | Multigenerational Workforce Characteristic -> Manage the Changing Dynamic of the Workforce | 0.655           | 0.065                      | 0.659          | 10.101  | 0.000   | Supported                  |
| H7 | Manage the Changing Dynamic of the Workforce -> Digital Transformation                     | 0.517           | 0.077                      | 0.517          | 6.715   | 0.000   | Supported                  |
| H8 | Digital Transformation -> Business Sustainable Growth                                      | 0.281           | 0.078                      | 0.282          | 3.611   | 0.000   | Supported                  |
| H9 | Manage the Changing Dynamic of the Workforce -> Business Sustainable Growth                | 0.375           | 0.080                      | 0.372          | 4.647   | 0.000   | Supported                  |

Source Adapted from SmartPLS

H1 and H4 is the only two hypothesis that having the lowest Beta Coefficients  $\beta$ -Value that slightly above  $> 0$ , Significant Test of T-Value below minimum requirement of 1.96 and

Probability P-Value exceeded 0.05 that considered not significant. Kock (2016), Hussain, et al. (2018) and Ali & Sentosa (2008) mentioned that Hypothesis considered significant, supported, or true if T-Value exceed 1.96 and P-Value do not exceed 0.05. Therefore H1: Did not show significant relationship between Multigenerational Workforce Engagements with the Success of Digital Transformation and H4: Did not show significant interrelation between Multigenerational Workforce Engagement with Managing the Changing Dynamic of the Workforce. Both H1 and H4 is considered not supported.

The rest of the Hypothesis are considered significant and supported for this thesis. H2, H3 and H5 is considered significant and supported because it met the minimum requirement of  $\beta$ -Value, T-Value and P-Value. While remaining H6, H7, H8 and H9 considered highly significant and supported because of strong  $\beta$ -Value, T-Value and P-Value.

H2: There is significant relationship between Multigenerational Workforce Collaboration with Digital Transformation ( $\beta$ -Value: 0.144, T-Value: 2.453, P-Value: 0.015 and Result: Supported). H3: There is significant relationship between Multigenerational Workforce Characteristic with Digital Transformation ( $\beta$ -Value: 0.233, T-Value: 2.738, P-Value: 0.006 and Result: Supported). H5: There is significant interrelation between Multigenerational Workforce Collaboration with Managing the Changing Dynamic of the Workforce ( $\beta$ -Value: 0.126, T-Value: 2.455, P-Value: 0.014 and Result: Supported). H6: There is significant interrelation between Multigenerational Workforce Characteristic with Managing the Changing Dynamic of the Workforce ( $\beta$ -Value: 0.659, T-Value: 10.101, P-Value: 0.000 and Result: Supported). H7: There is significant connection between Managing the Changing Dynamic of the Workforce with Digital Transformation ( $\beta$ -Value: 0.517, T-Value: 6.715, P-Value: 0.000 and Result: Supported). H8: There is significant correlation between Digital Transformation with Sustainable Business Growth ( $\beta$ -Value: 0.282, T-Value: 3.611, P-Value: 0.000 and Result: Supported). H9: There is significant correlation between Managing the Changing Dynamic of the Workforce with Sustainable Business Growth ( $\beta$ -Value: 0.372, T-Value: 4.647, P-Value: 0.000 and Result: Supported).

#### 4.6 Mediating Role Analysis

According to Hadi, et al. (2016), there are three famous Mediating Approaches that used for mediation analysis. Such as The Sobel Test, Baron and Kenny's mediation analysis and The Bootstrap method. The analysis including the determination of the effect of exogeneous variables on endogenous variable (Sentosa & Nik Mat, 2012).

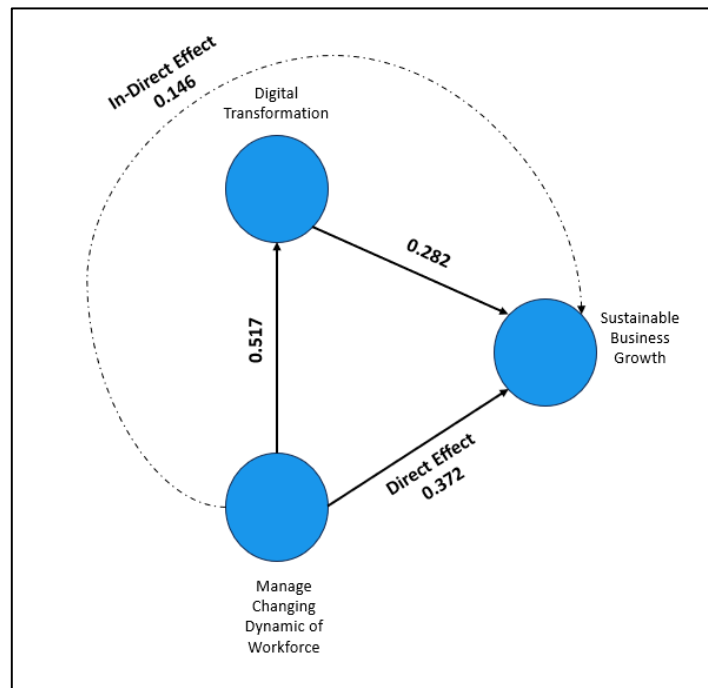
The Sobel Test specialized in t-testing " $t = (\tau - \tau') / SE$  OR  $t = (\alpha\beta) / SE$ " to determine the reduction of effect on exogeneous variables after the introduction of mediator variables in the model (Sobel, 1982). One of the main drawbacks of Sobel Test is the requirement to have large sample data because smaller sampler data will impact to " $\alpha\beta$ " accuracy and indirectly providing a wrong significance "p-values" of mediator (Preacher & Hayes, 2008). It will not happen if the sample size is large enough but the determination of large is very subjective (MacKinnon, et al., 2002). During pandemic situation, it is difficult to collect large sample data for accurate processing.

Baron and Kenny's mediation analysis used hypothesized causal steps to test the logical relationship between exogenous variables (a), intervening variable (c) and endogenous variable (b). All the relationships between variables must be positive and significant to use this analysis. E.g.  $a \rightarrow b$ ,  $a \rightarrow c$  and  $c \rightarrow b$  must be positive and significant to support mediator (Baron & Kenny, 1986). There are few criticisms from other researcher on Baron and Kenny's mediation analysis approach. According to Pardo & Marta (2013), even exogeneous variable and endogenous variable direct relationship is not significant, the effect of mediator can still be there (Shrout & Bolger, 2002) (MacKinnon, et al., 2004).

The third mediation analysis is The Bootstrap Method that evolve from the limitation of Sobel Test and Baron and Kenny's mediation analysis (Preacher & Hayes, 2004). This method is suitable for smaller sample size analysis and do not need any assumptions (Hair, et al., 2013). Bootstrap method allow researcher to test the effect by doing two-time testing, one without the presence of mediator and second with the presence of mediator (Hair, et al., 2017). Hair, et al. (2017) suggested to use PLS-SME to do the Bootstrap/Mediation Analysis that provide an accurate statistical information. There will be no mediation if the beta coefficient of direct path is not significant or indirect path is not significant. But if the beta coefficient is significant during analysis, further calculation can be established using Variance Accounted for (VAF). Formula for VAF is " $(\text{Indirect Effect} / \text{Total Effect}) \times 100$ ". Anything less than 20% can be

considered as no mediation, exceed 80% consider full mediation and value between 20%-80% is consider partial mediation (Hair, et al., 2013).

*Figure 24: Mediator Analysis using Bootstrap Method*



Source Author

Referring to earlier Table 50 Bootstrapping and Figure 24, Beta Coefficients ( $\beta$ -Value) for H9: Managing the Changing Dynamic of the Workforce  $\rightarrow$  Sustainable Business Growth is 0.372 (Direct Effect), H7: Managing the Changing Dynamic of the Workforce  $\rightarrow$  Digital Transformation is 0.517 and H8: Digital Transformation  $\rightarrow$  Sustainable Business Growth is 0.282. Hence the In-Direct Effect beta coefficients value is 0.146. Overall H7, H8 and H9 is significant and supported because the result displayed in Table 53 Beta Coefficients ( $\beta$ -Value)  $> 0$ , Significant Test (T-Value)  $> 1.96$  and Probability (P-Value)  $< 0.05$ .

Researcher used VAF formula to identify the strength of mediator (Indirect Effect/Total Effect) X 100. Therefore  $VAF = (0.146 / 0.518) \times 100 = 28.2\%$ . According to Hair, et al. (2013), VAF 20% consider Partial Mediation and is consider important to have the mediator as part of the equation/modelling.

#### 4.7 Discussions

Results obtained thru Big Data Analysis using (PLS-SEM) Partial Least Square Structural Equations Modelling method as presented earlier can be segregated into three main streams which is the Measurement Model Analysis, Structural Model Analysis and Hypothesis Testing. It is responsible to answer the Research Questions that set during the initial start of this research. The focus of the study is to determine if the Research Objectives is successfully met or obtained. The achievement of Research Objectives will result to the creation of an Integrated Sustainable Business Growth Model for management that will be further explained in Chapter 5.

The 1<sup>st</sup> analysis is Measurement Model Analysis that measures the items that link to its indicators (latent variables). Researcher needs to make sure the items/questions set for each latent variable is reliable and valid for respondent to answer. An inaccurate, invalid, non-reliable questionnaire will lead to wrong outcome and deviation from research objectives. Result shown that all 45 questions are valid and accepted due to exceeding the standard of Standardised Loading Factor (SLF) of  $\geq 0.50$ . All 6 variables also passed the Cronbach Alpha reliability test baseline of  $\geq 0.70$ . Hence it shown that respondents of the survey fully understood the questionnaire set in the survey. Aside to testing the reliability and validity of each variable, researcher need to make sure all the questionnaires generated to support the variable is consistent and unique in providing information to researcher for decision making. Therefore, researcher did an Internal consistency reliability analysis using rho\_A and Composite Reliability; results of all 6 variables exceeded minimum baseline of  $\geq 0.7$ . The measurements of each variable are also considered related and corresponded with each other's due to exceeding the Average Variance Extracted (AVE) baseline of 0.5. The last validity testing of Measurement Model Analysis is the Discriminant Validity testing. Researcher used Fornell-Larcker Criterion and Heterotrait-Monotrait Ratio (HTMT). Discriminant validity testing is to ensure the uniqueness of each variable and confirming of each individual variable identity. All the variables met the discriminant validity testing and considered unique from each other's.

2<sup>nd</sup> Analysis is the Structural Model Analysis that conducted to test the hypothetical dependencies and the structural relationships. It is an important analysis to make sure the hypothesised model developed is correct and the results obtained is accurate to answer the Research Questions and conclude the achievement of Research Objectives. Based on the result

from Collinearity Assessment, no multicollinearity between any two exogenous variables toward endogenous variable. The Inner Variance Inflation factor (IVF) for exogenous variables is below  $<5.0$ , hence researcher did not remove any of the variables or combining the variables. Each of the variables is considered unique and serving the purpose. Researcher also conducted the Coefficient of Determination and Predictive Relevance assessment. Results showed that effects of the endogenous variable by the exogenous variables are considered moderate to high (Coefficient of Determination  $R^2 > 0.2$ ), quality of path model is considered moderate to strongly predictive (Predictive Relevance Assessment  $Q^2$  between  $> 0.15$  to  $0.35$ ) and overall exogenous variables are having moderate to strong effects towards endogenous variable if it removed (F-Square  $f^2$  between  $0.15$  to  $0.35$ ).

The 3<sup>rd</sup> analysis is the Hypothesis Testing using Bootstrapping Method. Based on the details result shared earlier (Path/Beta Coefficients  $\beta$ -Value  $>0$ , Significant Test T-Value  $>1.96$  and Probability P-Value  $<0.05$ ), 2 out of 9 hypothesis are considered not supported due to insignificant relationship between variables. Although H1-Multigenerational workforce engagement with the success of digital information and H4-Multigenerational workforce engagement with managing the changing dynamic of workforce considered insignificant but researcher did not remove it. Mainly because the theoretical, empirical, and statistical evidence provided additional support to this 9 Hypothesis that indirectly answered to Research Questions and achievement of Research Objectives. Below is the details discussion and answer to each of the research questions.

RO1: To study if multigenerational workforce engagement significantly affects the success of digital transformation.

RQ1: Does multigenerational workforce engagement significantly affect the success of digital transformation?

H1: There is a relationship between multigenerational workforce engagements with the success of digital transformation.

Hypothesis Test Result: ( $\beta$ -Value:  $0.006$ , T-Value:  $0.078$ , P-Value:  $0.938$  and Result: Not Supported). Based on the hypothesis test result captured, Coefficients  $\beta$ -Value that slightly above  $> 0$ , Significant Test of T-Value below minimum requirement of  $1.96$  and Probability P-Value exceeded  $0.05$ . Kock (2016), Hussain, et al. (2018) and Ali & Sentosa (2008) mentioned

that Hypothesis considered significant, supported, or true if T-Value exceed 1.96 and P-Value do not exceed 0.05. Hence H1, the relationship between multigenerational workforce engagement with the success of digital transformation is not significant and not supported.

Although the hypothesis test result shown insignificant, but Barišić, et al. (2021) did highlighted one of the key successes to digital transformation is employee engagement. Digital transformation is not an individual effort but rather a group effort. But employee engagement alone is not sufficient. It will require additional support such as training and development, reward management and performance management.

Winasis, et al. (2020) also supported the important of multigenerational employee engagement towards successful digital transformation. Engaged employees is happier, committed, walk the extra steps, and growth mindset. Similar findings from Kerdpitak & Jermsittiparsert (2020) where engaged employees possess growth mind-set that ease the acceptance of new initiative, technology and innovations that introduced by their company. While Trenerry, et al. (2021) said engaged employees is better in adaptability, acceptance to change and possess positive mentality. This is aligned to the terms where multigenerational workforce engagement is a group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which emotionally and professionally connected to achieve company goals.

As mentioned by Winasis, et al. (2020), process and technology can be easily duplicated but not resources. Each engaged resources are unique to the individual organization, and this create competitive advantage. Aligned with Resource-Based Theory (RBT) that introduced by (Barney, 1991). RBT mentioned clearly that resources are unique, immobility and consider heterogeneous. Engaged employees can be further classified as “Valuable” because they help the company to execute the goal such as digital transformation, “Rare” because engaged employees is difficult to be replace compared to disengaged employees, “Imitable” because engaged employees is having the growth mindset that difficult to be duplicated and “Organization” because engaged employees will help to implement the digital information systems that aligned with company needs.

According to Winasis, et al. (2020), to achieve employee engagement, leader need to adapt to transformational leadership. Without the key drivers of leadership, management will not be able to build an engaged culture that support the digital transformation. Purba (2021)

highlighted similar findings where employee's engagement will not happen with poor leadership style. Leader requires to influence and build the relationship with their employees to promote employee engagement. This is aligned with one of the operational theories used in this thesis, Leader-Member Exchange Theory (LMX). In LMX, leader need to provide conclusive inputs (e.g. Company direction towards digital transformation, timeline, and budget), execute process (e.g. Provide support to employees, open discussion and be transparent), obtain the outcomes (e.g. Provide feedback to employees on the success/failure of digital transformation, types of support needed and team learning).

Schneider & Kokshagina (2020) further emphasized the important of employee engagement towards digital transformation with the help of responsive leadership. Leaders need to explain the challenges and directions clearly to employees. Be transparent and open for discussion if employees having doubt on the digital transformation journey. This is aligned with RO7 - To study if managing the changing dynamic of the workforce significantly affects the success of digital transformation.

This means that even the result of surveys shown insignificant between multigenerational workforce engagement with the success of digital transformation, it might not be fully conclusive. Multigenerational workforce engagement alone might not be significant to affect the entire success of digital transformation, hence the support from others variable is critical to the entire hypothesised model. Such as multigenerational workforce collaboration, multigenerational workforce characteristics and managing the changing dynamic of the workforce.



RO2: To study if multigenerational workforce collaboration significantly affects the success of digital transformation.

RQ2: Does multigenerational workforce collaboration significantly affect the success of digital transformation?

H2: There is a relationship between multigenerational workforce collaboration with the success of digital transformation.

Hypothesis Test Result: ( $\beta$ -Value: 0.144, T-Value: 2.453, P-Value: 0.015 and Result: Supported). Based on the hypothesis test result captured, H2 is supported because Multigenerational Workforce Collaboration is considered significant and influence on the success of Digital Transformation.

Although Saha (2023) did mentioned the problems of having multigenerational workforce collaboration, such as difference communication styles, expectations, and work habits but it also brings diversity of experience and talents in Information Technology. Saha suggested to implement proper human resource tools and processes in managing the differences of multigenerational workforce. Organization required the flexibility to continuous shift of adapting to the change of consumer's demand in order to stay competitive in the Information Technology market. Survey questions of "COLL 5 – Through multigenerational workforce collaboration, we have better understanding of customer needs from different age profile" and the Standardized Loading Factor (SLF) 0.811 exceeding standard requirements of 0.5.

Trenerry, et al. (2021) mentioned that the main factor of effective digital transformation is workforce collaboration. The quality of collaboration within team from different group determine the quality of the digital transformation end results. Sivaraman (2020) said collaboration is a viable act that promote knowledge exchange between individual or group that eventually embedding a learning culture within the company. It helps in creating synergy of the workforce and indirectly improve the cooperation, innovation, and creativity amongst them. Great team collaboration and cooperation increased the organization innovation capabilities especially with the involvement of leadership and motivation (Stangrecka & Bagieńska, 2019). The intergenerational collaboration bringing positive impact to the enhancement of innovation, creativity, quicker decision making and better task distribution (Rožman & Tominc, 2019). It means age diversity in workforce collaboration indirectly achieving company goals such as digital transformation or achieving sustainable business

growth because the employees are motivated to work the extra miles due to better workload distribution, faster decision making and having work life balance. This aligned with the key terms of the research where Multigenerational Workforce Collaboration referring to the group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which work together willingly with each other to achieve company goals.

Understanding the acceptance and resistance of employees from different age group allow leaders to prepare for necessary training, management support, and learning motivation towards digital transformation. Nurhas, et al. (2019) further emphasized the main barriers of intergenerational innovation and collaboration is Technological Complexity and No Training Available for Digital Collaboration. Hence leaders need to incorporate proper training and support to their employees in order to overcome the barriers of innovation/digital transformation. Henderikx & Stoffers (2022) clearly mentioned that collaboration between employees and leaders are crucial for the success of digital transformation. With proper collaboration, employees will have clear guidance and directions from leaders while at the same time, leaders will understand the needs and challenges of the employees when come to digital transformation.

Lack of collaboration within divisions, group or teams during design phase will eventually lead to implementation failure or not meeting organization needs (Cichosz, et al., 2020). Mirković, et al (2019) highlighted two key factors for digital transformation, which is speed and employee's collaboration. The important of employee's collaboration towards digital transformation has been highlighted by many researchers not only in recent research but also research dated 5 to 10 years ago. Aligning with the survey question "COLL2 – Multigenerational workforce collaboration, we will be able to increase the innovation and creativity of our employees at work" and result from respondents are majority Strongly Agree and SLF of 0.854. Leaders who successfully understand the similarity and differences of multigenerational workforce will be able to drive the collaboration within them to create new opportunities and overcome challenges (Howe & Strauss, 2007).

With the positive hypothesis results for H2 and the support from multiple latest journals, hence Multigenerational Workforce Collaboration is significantly related to the success of digital transformation of the company.

RO3: To study if multigenerational workforce characteristic significantly affects the success of digital transformation.

RQ3: Does multigenerational workforce characteristic significantly affect the success of digital transformation?

H3: There is a relationship between multigenerational workforce characteristic with the success of digital transformation.

Hypothesis Test Result:( $\beta$ -Value: 0.233, T-Value: 2.738, P-Value: 0.006 and Result: Supported). Based on the hypothesis test result captured, H3 is supported because Multigenerational Workforce Characteristic is considered significant and influence on the success of Digital Transformation.

In the recent research of Barišić, et al. (2021), successful of digital transformation tie back to the successful of human resource management. It depends on the willingness of the employees to participate and support the transformation journey together with the company. One of the key attractors will be the employee characteristic that preferred work life balance and flexible working environment. This is aligned with the questionnaire “CHAR4 - I am more efficient working in a flexible environment” that received highly positive responses from all the 4 generations workforce.

Hanelt, et al. (2020) further supported Barišić, et al. (2021) comments when they mentioned successful digital transformation required organizational change. The behaviour and characteristic of the employees determine and shape the outcome of the transformation. As described in the key terms earlier, multigenerational workforce characteristics refer to the group of employees working under the same company that consisted of different cohort/generations (Baby Boomers, Gen X, Gen Y, Gen Z) which have unique, similar, and different traits from each other's.

As responded in the survey “CHAR2 - I am seeking constant growth and advancement in the workplace” and “CHAR5- I am attracted to company that constantly promote and encourage learning.”, it demonstrated the willingness of multigenerational workforce in supporting organizational change. Although most of the employees are excited about organization change but some of the older employees might be reluctant or worry to change. Hence leader of the company requires constant communications of the change to the employees and provide

necessary support to the employees. By showing high level of transparency through communications, employees from different cohort will be able to accept the organization change.

Sivaraman (2020) mentioned that employee diversity is crucial in organizational change. The diversity of characteristic not only bring new aspiration and innovations but also closing the digital skill set required during digital transformation journey. E.g. Combinations of Baby Boomers and Gen X working experience together with the digital savvy of Gen Y and Gen Z indirectly created a heterogeneous resource. As mentioned in the Resource Based Theory, heterogeneous resources improved the competitive advantage of the company because it cannot be copied by their competitors. Bestman & Orokor (2019) conducted similar study in Nigeria Telecommunications where the result shown mixture of multigenerational workforce characteristic created new way of cooperation, knowledge sharing and handling of information that enhanced overall company performance and innovations. Age diversity positively impact to productivity, satisfaction, creativity, innovation, and adaptation to change (Rožman & Tominc, 2019)

Although Stonehouse & Yu (2019), Blštáková, et al. (2020) and Fahmi, et al. (2020) did highlighted the increased of complexity to have multigenerational workforce characteristic working under the same roof that going thru digital transformation but they also mentioned that this can be overcome with the right leadership and motivation, training and development, and open and transparent communications. Saha (2023) advised human resource to organize communication training to all leaders. With proper communications, leader will be able to motivate their employees in achieving company goal. This will improve the communications style and constructive feedback that suite for each generational cohort. Like survey question of “CHAR6 – I am more energetic working in a motivating environment” which having the highest SLF of 0.894. Similar mitigation steps have been highlighted in Leader-Member Exchange Theory (LMX), such as good relationship between leaders and employees will create an In-Group Member that is high performer, deliver more than require, efficient, sense of belonging to organization and most importantly, increase innovation behaviour. Which is crucial for the success of digital transformation (Breukelen, et al., 2006).

With the positive hypothesis results of H3 and strong support from multiple journals, it can be concluded that the difference of multigenerational workforce characteristic is impacting the overall success of digital transformation.

RO4: To study if multigenerational workforce engagement significantly affects the success of managing the changing dynamic of workforce.

RQ4: Does multigenerational workforce engagement significantly affect the success of managing the changing dynamic of workforce?

H4: There is an interrelation between multigenerational workforce engagements with the success of managing the changing dynamic of the workforce.

Hypothesis Test Result:( $\beta$ -Value: 0.105, T-Value: 1.485, P-Value: 0.138 and Result: Not Supported). Based on the hypothesis test result captured, Coefficients  $\beta$ -Value that slightly above  $> 0$ , Significant Test of T-Value below minimum requirement of 1.96 and Probability P-Value exceeded 0.05. Therefore, H4 is not supported and the interrelation between multigenerational workforce engagements with success of managing the changing dynamic of workforce is not significant.

Although hypothesis test result for H4 shown insignificant and not supported but Wright (2021) did highlight the important of focusing on employee engagement when come to managing the changing dynamic of the workforce. Philip & Netra (2021) also highlighted similar challenges in managing the multigenerational workforce that working in the same company. One of the keys emphasized is to improve engagement within multigenerational workforce. The significant of successful managing the changing dynamic of the organization is thru the retention of good and engaged employees from various generational group (Babel'ová, et al., 2020). Voon & Cheong (2021) also agreed that the success of managing the dynamic of workforce in the organization is not only thru the employee engagement alone. As mentioned in the key terms of managing the changing dynamic of the workforce refers to the ability of leaders to lead thru the understanding of the similarities and differences in behaviours from different cohort/generations that currently working under the same company to achieve company goals.

It is important to understand the expectation of multi-generational employees towards organization change. Especially in current pandemic situations where majority of employees working from home, located in different locations and minimum physical engagement. Survey questions “DYNA 3 – I prefer to have adequate support, DYNA 4 – I prefer to have a good rapport with supervisors, DYNA 5 – I prefer to have a patient and tolerating supervisors and DYNA 11 – I prefer to have regular feedback from my supervisor” results are all related about

the needs to have continuous support, open communication, good rapport, and regular feedback from leaders. Therefore, leaders play an important role in managing this type of internal and external changes. Leadership allows leaders to understand the similarity of each generation's cohort and improve the engagement thru applying targeted communications and rewards (Danley, 2020). To achieve sustainable organization performance and sustainable leadership, organization need to focus on employee engagement and empowerment (Iqbal, et al., 2020). The success of multigenerational employee engagement towards the management of changing dynamic workforce is highly determined by the motivation factor by the leaders (Hemphill, 2020). Motivation factors improve the relationship between employees and leader. It indirectly created a push factor among employee's despite coming from different generation cohorts. Ability to manage the engaged employees will indirectly improve overall company performance.

Philip & Netra (2021) did highlighted the additional key areas that can improve in multigenerational workforce engagement towards the success of managing the changing dynamic of the workforce is targeted communications. Each generations of employees have difference preference of communications medium. E.g., Older generation prefer face to face while younger generations prefer online call.

Even though the statistical results shown insignificant between multigenerational workforce engagement with the success of managing changing dynamic of the workforce, but by incorporating leadership and communications into the equation, it will help to increase the significancy. Hence researcher is not dropping multigenerational workforce engagement with the success of managing changing dynamics of the workforce from the sustainable business growth model development.

RO5: To study if multigenerational workforce collaboration significantly affects the success of managing the changing dynamic of workforce.

RQ5: Does multigenerational workforce collaboration significantly affect the success of managing the changing dynamic of workforce?

H5: There is an interrelation between multigenerational workforce collaboration with the success of managing the changing dynamic of the workforce.

Hypothesis Test Result: ( $\beta$ -Value: 0.126, T-Value: 2.455, P-Value: 0.014 and Result: Supported). Based on the hypothesis test result captured, H5 is supported because Multigenerational Workforce Collaboration is considered significant and influence on the success of Managing the Changing Dynamic of the Workforce.

In future, age diversity, intergenerational cooperations, multigenerational collaborations will be the dominant characteristic in the organizations that lead to the increase of company competitive advantage. Leaders that able to handle the age diversity and aware of the important of intergenerational cooperation will lead to the increase of overall companies' performance (Rožman & Tominc, 2019). Prathima & Mukhopadhyay (2021) highlighted that cross generational mentoring and collaboration will increase the tolerance level between multigenerational workforces. E.g., Gen Z and Gen Y can assist Baby Boomer and Gen X in adopting the latest technology in workplace. Leaders require soft skills such as problem solving, active listening, communication, critical thinking, and flexibility when managing different generations of workforce.

Korhani (2021) in her flexible leadership in managing multigenerational posted the important of leader in getting multiple teams to start collaborating with each other. By having collaboration, it will start relationship building and continue the learning from each other. Leaders need to establish close relationship with their employees such as mentorship rather than having a boss mentality. This statement further supported by the Leader-Member Exchange Theory (LMX), where leaders and followers developed a trust-based relationship. Similar outcome also captured in survey questions "DYNA3, DYNA4, DYNA5, DYNA11 which respondents believed strongly in having a supportive, transparent, patient and tolerating supervisors. Results of the survey indicated that people from different generations in general agreed and motivated with supportive and transparent leaders.

Meanwhile Waizenegger, et al. (2020) requested leaders to continue focus on virtual employee collaboration during pandemic seasons in order to sustain the momentum and deliverables of the company. Wipulanusat, et al (2021) suggested similar proposal as Waizenegger, et al. (2020) for company that having two or more geo-locations thru cross collaboration. They strongly believed this will improve the overall performance of the company by having consistent collaborations. Although managing employees in different geo-locations and allowing work from home policy is possible but leaders still need to take note of the challenges that faced by their employees. If leader failed to notice the challenges, it will cause failure to manage the changing dynamics of the workforce especially in terms of effective collaboration. Main challenges include virtual meeting fatigue, blurring of work live boundaries, role conflicts and negative emotions (Waizenegger, et al., 2020). Therefore, leader need to continue improvising the way of management, targeted communications, empowerment and motivation.

With the encouraging hypothesis results of H5 and strong support from various journals, it can be determined that there is interrelation between multigenerational workforce collaboration with the success of managing the changing dynamic of the workforce.



RO6: To study if multigenerational workforce characteristic significantly affects the success of managing the changing dynamic of workforce.

RQ6: Does multigenerational workforce characteristic significantly affect the success of managing the changing dynamic of workforce?

H6: There is an interrelation between multigenerational workforce characteristic with the success of managing the changing dynamic of the workforce.

Hypothesis Test Result:( $\beta$ -Value: 0.659, T-Value: 10.101, P-Value: 0.000 and Result: Supported). Based on the hypothesis test result captured, H6 is supported because Multigenerational Workforce Characteristic is considered highly significant and influence on the success of Managing the Changing Dynamic of the Workforce.

According to Strauss-Howe Generational Theory, people from similar age group will have similar characteristic, preferences, and attitudes due to influenced of the historical events that happen at that time (Strauss & Howe, 1991). Each generations possess some similarity and differences because they are not only influenced by the historical events but also the attributes of the older generations that brought them up. Due to demographic changes of multigenerational workforce in the organization, leaders need to focus on the generational differences and create an intergenerational synergy (Rožman & Tominc, 2019). It means leaders should not focus on the differences of multigenerational workforce characteristics but to identify the similarities between each generation's cohort.

Mufti, et al. (2021) said the challenges faced by current leader is to identify these differences and similarity to retain them in the organizations. E.g., Baby boomers required a lot of respect and Gen Z easily bored with routine works. Older generations of workforce preferred to be invited for decision making while younger generations of workforce wanted to have supportive and transparent supervisors.

As mentioned by Graen, et al. (2018) in the new LMX-Alliance Framework, leader need to bind themselves with their subordinates to achieve company goal. Clear communications, positive motivation, and promote learnings and development is the basic expectations of multigenerational workforce towards leader. Expectations listed by Graen, et al. (2018) by the employees are matching with the survey questions of "DYNA1 – I prefer to accept changes if it has been well explained , DYNA7 – I prefer to have clear understanding of my role and

responsibility, DYNA8 – I prefer to have a job scope that encourage me to experiment using my initiatives, DYNA10 – I prefer to work in an open and transparent working environment and DYNA12 – I prefer to work in an environment that allow mistake with calculated risk and given a chance to rectify my mistake. It gels between communications, allow to make mistake with calculated risk, transparency, motivation, and clear role and responsibility. All the questions achieved minimum 0.595 to highest 0.813 standardized loading factor score. Results of the survey is responded by Baby Boomers, Gen X, Gen Y and Gen Z, hence it carried a lot of weight in representing their needs

Talmon, et al. (2022) has emphasized multiple time in their research that leaders need to detect and remove potential generational stereotyping and discrimination. Thru knowing the actual characteristic and behaviour of each generation will helps in removing this negative intentions from leaders and other generations. E.g., Older generations will not share knowledge and slow in adapting to newer technology. Younger generations are always lazy and require spoon feeding. Example provided is not necessarily true because older generation willing to share if we included them into discussion. Younger generation is not lazy but more productive at night compared to early in the morning.

Andert, et al. (2019) and Rajput, et al. (2019) conducted survey on Baby Boomers, Gen X and Gen Y. Each generations have their own preference and expectation of leaders. E.g., Boomers and Gen X looking for ambitious and supportive leaders while Gen Y looking for leader that is caring and provide constant feedback. This shown the important of knowing the characteristics of different generations to better manage the changing dynamic of the workforce.

Puhovichova & Jankelova (2020) also claimed that by knowing the characteristic of each generation, leaders able to recruit the right people for the specific job. E.g., Performed analysis of buying pattern thru google analytic tools will be more suitable for younger generations while deriving the long-term plan from the analysis can be supported by older generations of workforce that have in-depth marketing experience.

With the positive hypothesis results of H6 and solid support from various journals, it can be decided that the different characteristic of multigenerational workforce promote success of managing the changing dynamic of the workforce.

RO7: To study if managing the changing dynamic of the workforce significantly affects the success of digital transformation.

RQ7: Does managing the changing dynamic of the workforce significantly affect the success of digital transformation?

H7: There is a connection between successful managing the changing dynamic of the workforce with the success of digital transformation.

Hypothesis Test Result: ( $\beta$ -Value: 0.517, T-Value: 6.715, P-Value: 0.000 and Result: Supported). Based on the hypothesis test result captured, H7 is supported because Managing the Changing Dynamic of the Workforce is considered highly significant and influence on the success of Digital Transformation.

Kraus, et al. (2021) highlighted the important of managerial contributions, organizational factors, and workforce practices in their research of digital transformation in healthcare industry. Managerial contributions, organizational factors and workforce practise is a chain that cannot be separated during the digital transformation. In Dynamic Capabilities Theory (DCT), company need to continuous renew the competency of their workforce, processes, and technology to survive during digital transformation (Teece, et al., 1997). Hence leaders of the company will need to manage the integration and adaptability of the company resources including workforce management.

Mattila, et al. (2021) further supporting DCT where leaders need to constantly promote unlearning when come to digital transformation. This is to avoid employees clinging to the old technology and mindset which eventually slowing down the end-to-end process. Ahmad, et al. (2021) clearly mentioned the basic needs of digital transformation is organization culture, transformation strategy, alignment between higher management and employees, and highly engaged manager. This further supported by the survey questionnaires that related to digital transformation.

All the 8 questions received highly positive feedback from multigenerational workforce that working in Malaysia Top 3 Telco's. E.g., TRAN1 - Successful digital transformation require supportive organizational culture, TRAN2 – Require well managed transformation activity, TRAN4 – Require highly engaged leaders and employees, and TRAN7 – Require well-planned digital business strategy.

Bikse, et al. (2021) mentioned that the most significant problems found in digital transformation is human capital. Without workforce, competency and acceptance, company will not be able to succeed in digital transformation especially during Covid-19 seasons.

Leaders' role is to improve the competency of internal skillset or acquire expertise from external party. Leader responsibility is to change the mindset, behaviour, and culture of their employees. At the same time, managed the integration and alignment between Technology and Business (Fachrunnisa, et al., 2020). Dressler & Paunovic (2021) and Cichosz, et al. (2020) suggested that human resource manager need to design a program to remove the worried and stress of digital transformation from their employees. Success rate will be higher if they practise empowerment, open communications, collaboration between division, engagement, clear organization directions and promote learning and development. It aligned with the key terms for Digital Transformation where it refers to the revolutions of technology and process used in the company to improve flexibility, scalability, efficiency, time to market, values to customer, way to connect to customer and competitive advantage.

With the sanguine hypothesis results of H7 and substantial support from various journals, it can be agreed that there are influence between successful managing the changing dynamic of the workforce with the success of digital transformation.

RO8: To study if digital transformation significantly affects the sustainable business growth.

RQ8: Does digital transformation significantly affect the sustainable business growth?

H8: There is correlation between successful digital transformations with the achievement of sustainable business growth.

Hypothesis Test Result: ( $\beta$ -Value: 0.282, T-Value: 3.611, P-Value: 0.000 and Result: Supported). Based on the hypothesis test result captured, H8 is supported because Digital Transformation is considered highly significant and influence on the Achievement of Sustainable Business Growth.

Recent research by Chen, et al. (2021) shown that digital transformation highly improves the overall business performance, competitive advantage, and the long-term business growth. Digital transformation is crucial for the success of sustainable business growth, because it improve competency and transparency within the company and better customer experience (Almawi, et al., 2020). Aligning with the key terms set for Sustainable Business Growth where it refers to the ability of the employees and leaders working together to overcome existing challenges and to achieve long-term growth of the company thru the measurements of financial performance, customer based, and employee's satisfaction without incurring additional burden to the company such as debt, loan, or equity. When company continue to focus on digital transformation, the employee's satisfaction will improve because majority of the tedious works can be automated, and newer systems are logically more reliable with lesser breakdown. It also indirectly improves customer experience and retention because of additional features from newer systems and lesser downtime due to better scalability.

During Covid-19 pandemic outbreak that happened in early 2020, behaviour of the consumer has shifted from physical to virtual including online shopping, customer care and video conferences. In response to Covid-19, Hai, et al. (2021) has described digital transformation as opportunity for leaders because of it strong influenced in economy. Hence leaders need to promote and encourage their employees to believe in digital transformation and the long-term benefits that can be yield from it.

Opportunity of successful digital transformation will bring long term impact to the overall business growth. E.g., Improve analysis of customer behaviour thru big data, improve time to market, increase labour productivity, better customer experience, and change way of work.

Kraus, et al. (2021) claimed that digital transformation is the key to achieve sustainable competitive advantage for the company. Thru successful digital transformation, company will have better alignment between business and technology (TRAN8), better customer engagement, rapid implementation of digital transformation strategies, digitized legacy solution (TRAN5), simplified solutioning, focus on customer preferences (TRAN7).

Similar findings from Savastano, et al. (2019) where digital innovations increase customer focus, increase productivity, reduce overall operating cost and faster time to market. Part of the innovations including automation of manual task that can drastically reduce human error, accurate and faster deliverables. This aligned with the financial goal of achieving long term sustainable business growth for Telco companies.

Another important point mentioned by Reinartz, et al. (2019) is regarding the impact of long-term customer needs thru innovations such as 24x7 customer services interactions thru bots, higher reach-out rate thru mobile apps, and digital marketing. With the increased of customer touchpoint and better customer experience, it will indirectly improve overall company brand image and financial gain. Above findings are aligned with Resource-Based Theory (RBT) and Dynamic Capability Theory (DCT). RBT purely talked about value creation using firm resources to achieve competitive advantage for the company. With the support of DCT, leader is preparing the organization to adapt to the changing dynamic of the workforce and the disruption of digital transformation. This can be achieved thru renewing existing competency, people mindset, uplift processes, integrate new tools, adapt new technology and replacing end of life technology.

With the positive hypothesis results of H8 and considerable support from various journals, it can be confirmed that the analysis of success digital transformation factor does help in achieving sustainable business growth.

RO9: To study if managing the changing dynamic of the workforce significantly affects the sustainable business growth.

RQ9: Does managing the changing dynamic of the workforce significantly affect the sustainable business growth?

H9: There is a correlation between successful managing the changing dynamic of the workforce with the achievement of sustainable business growth.

Hypothesis Test Result: ( $\beta$ -Value: 0.372, T-Value: 4.647, P-Value: 0.000 and Result: Supported).

Based on the hypothesis test result captured, H9 is supported because Managing the Changing Dynamic of the Workforce is considered highly significant and influence on the Achievement of Sustainable Business Growth. Referring to earlier Table 53 Bootstrapping Beta Coefficients ( $\beta$ -Value) for H9: Managing the Changing Dynamic of the Workforce  $\rightarrow$  Sustainable Business Growth is 0.372 (Direct Effect). It means Managing the Changing Dynamic of the Workforce has higher effect to the achievement of Sustainable Business Growth compared to Indirect Effect ( $\beta$ -Value – 0.146).

Anwar & Abdullah (2021) described human resource management as training, appraisal, compensation, and career progression is an essential factor for organizational performance. Basic measurement of organizational performance including improve in financial number, increased of customer based and happy employees.

Further supported by the positive responses captured thru survey with high standardized factor loading score. The results can be broken into 3 main goals for “Achievement of Sustainable Business Growth”. First goal is to improve financial performance, “SUST1 – To achieve business sustainability, we need to increase organization’s net profit margin and SUST5 – To achieve business sustainability, we need to increase organization’s net profit margin”. Second goal is to increase customer based “SUST2 – To achieve business sustainability, we need to continue increasing customer based” and SUST3 – To achieve business sustainability, we need to continue increasing the Net Promoter Score (NPS) for excellence customer experience. The last goal is to have happy employees “SUST4 – To achieve business sustainability, we need to focus on improving Employee Engagement Score (EES)”.

Elidemir, et al. (2020) highlighted similar finding where high performance management work such as rewards, employee's selection, empowerment, development, and collaboration posses' strong relation with sustainable business growth. To increase the competitive advantage further, company should start incorporating innovative strategies into existing workforce.

Meanwhile, Osazefua (2019) conducted a research on financial sustainability, concluded that retaining talent employees to avoid losses of knowledge and experience is far crucial than operating expenses and account turnover. It is because new joiner will require additional support from leader, additional time to have on-par knowledge with existing employees, and additional expenses for basic training. Hence is better to maintain loyal and talent employees for long term gain. Kerdpitak & Jermstittiparsert (2020) proposed to focus on employee targeted training, learning practices and talent selection.

Mufti, et al. (2021) further expanded the focus of employees in general to detail characteristic of multigenerational workforce. Human considered heterogenous due to their own uniqueness, therefore by understanding the changing dynamic of the workforce, leader can tailor their management style accordingly. As suggested in Leader-Member Exchange (LMX) theory, leader should segregate the employees into grouping (In-Group / Out-Group Member). In-Group members require minimal supervision, higher performer, trust their manager, mutual respect with manager, open communications with manager and potential develop into friendship. While Out-Group members has minimal innovation, require a lot of attention from leaders, normal/low performer, not efficient, no sense of belonging, rarely speak to manager, constant frustration with their manager and only boss-employee mentality. Researcher is not suggesting abandoning the Out-Group members but rather provide more attention to employees that eager and committed to learn while applying difference approach to others. Hitka, et al. (2019) also pointed out the success of achieving long-term sustainable business growth is thru having highly engaged leader and employees.

With the constructive hypothesis results of H9 and substantial support from various journals, it can be proved that successful managing changing dynamic of the workforce does help in achieving long-term sustainable business growth.



#### 4.8 Summary

In Summary, demographic profiles that captured from Baby Boomers, Gen-X, Gen-Y and Gen-Z responses have been tabulated into meaningful data using line charts, bar charts and sunburst charts. In this chapter, researcher has conducted the validity and reliability testing on the Measurement Model using Indicator Reliability with Standardised Loading Factor (SLF), Indicator Reliability with Cronbach Alpha, Internal Consistency Reliability with rho\_A and Composite Reliability, Convergent Validity with Average Variance Extracted (AVE) and Discriminant Validity with Fornell-Larcker Criterion and Heterotrait-Monotrait Ratio (HTMT). All 45 items met the SLF requirements of  $\geq 0.50$  and exceeding Cronbach's Alpha baseline of  $\geq 0.70$ . All the 6 variables have successfully met the Internal Consistency Reliability test because the result of rho\_A and composite reliability  $> 0.7$ . The variables also met the Convergent Validity requirements because the Average Variance Extracted (AVE) Validity  $> 0.5$ . The final testing of the measurement model is the Discriminant Validity using Fornell-Larcker Criterion where only 1 variable "Manage the Changing Dynamic of the Workforce" are slightly lower than the variables under the same vertical. After further testing using Heterotrait-Monotrait Ratio (HTMT), it can be confirmed that Discriminant Validity has been established because all the values are  $< 0.9$ .

After Measurement Model Analysis, researcher also conducted the Structural Model Analysis using Collinearity Assessment, Coefficient of Determination and Predictive Relevance Assessment. So far, no multicollinearity problem detected in the structural model because Variance Inflation Factor (VIF)  $< 5.0$ . Meanwhile result of Coefficient of Determination ( $R^2$ ) is between Weak to Moderate but is consider acceptable because the variables are related to human behaviours. For Predictive Relevance Assessment ( $Q^2$ ), Sustainable Business Growth is considered moderate predictive while Digital Transformation and Manage the Changing Dynamic of Workforce is considered strongly predictive. Besides Coefficient of Determination ( $R^2$ ) and Predictive Relevance Assessment ( $Q^2$ ), researcher also performed the F-Square ( $f^2$ ) to determine the effects if the exogeneous variable is removed from the structural model. The last test in this chapter is the Hypothesis testing using bootstrapping thru Path/Beta Coefficients ( $\beta$ -Value), Significant Test (T-Value) and Probability (P-Value). So far 2 out of 9 Hypothesis are not supported.

## Chapter 5: Conclusion and Recommendation

### 5.1 Introduction

In Chapter 5, researcher focused on the achievement of the overall research objectives (Table 51). As mentioned in earlier chapter, the purpose of this research activity is to assist Malaysia Telco's in achieving long term sustainable business growth that allow management to manage the changing dynamic of the workforce which currently going thru rapid digital transformation. Achievement of each objective linked with hypothesis results that derived from big data analysis conducted in Chapter 4 together with the support of relevant literatures. Researcher provided the outcome or conclusions of the overall thesis, implications of research and the contributions towards body of knowledge and practitioner. Meanwhile researcher also highlighting the limitation of this study including lack of responses from certain generation, lack of overall survey responses due to pandemic challenges and research scope was limited to certain Telco instead of all Telco's in Malaysia. Therefore, researcher has proposed some focus point for future research.

### 5.2 Achievement of Research Objectives (Summary)

Table 51 is the Research Objectives that researcher wanted to achieve thru this research study.

*Table 51: Research Objectives*

| Research Objectives |   |
|---------------------|---|
| <b>RO1</b>          | To study if multigenerational workforce engagement significantly affects the success of digital transformation.                         |
| <b>RO2</b>          | To study if multigenerational workforce collaboration significantly affects the success of digital transformation.                      |
| <b>RO3</b>          | To study if multigenerational workforce characteristic significantly affects the success of digital transformation.                     |
| <b>RO4</b>          | To study if multigenerational workforce engagement significantly affects the success of managing the changing dynamic of workforce.     |
| <b>RO5</b>          | To study if multigenerational workforce collaboration significantly affects the success of managing the changing dynamic of workforce.  |
| <b>RO6</b>          | To study if multigenerational workforce characteristic significantly affects the success of managing the changing dynamic of workforce. |
| <b>RO7</b>          | To study if managing the changing dynamic of the workforce significantly affects the success of digital transformation.                 |
| <b>RO8</b>          | To study if digital transformation significantly affects the sustainable business growth.   |

|            |   |
|------------|---|
| <b>RO9</b> | To study if managing the changing dynamic of the workforce significantly affects the sustainable business growth. |
|------------|---|

### 5.2.1 Hypothesis 1 Finding: Not Supported

RO1: To study if multigenerational workforce engagement significantly affects the success of digital transformation.

H1: There is a relationship between multigenerational workforce engagements with the success of digital transformation.

Hypothesis Test Result: ( $\beta$ -Value: 0.006, T-Value: 0.078, P-Value: 0.938 and Result: Not Supported). Based on the hypothesis test result captured, Coefficients  $\beta$ -Value that slightly above  $> 0$ , Significant Test of T-Value below minimum requirement of 1.96 and Probability P-Value exceeded 0.05. Kock (2016), Hussain, et al. (2018) and Ali & Sentosa (2008) mentioned that Hypothesis considered significant, supported, or true if T-Value exceed 1.96 and P-Value do not exceed 0.05. Hence H1, the relationship between multigenerational workforce engagement with the success of digital transformation is not significant and not supported.

The result of the survey might show insignificant but with the additional support from leaders, employee engagement will be the critical success factor for effective digital transformation. Hence the RO1 “To study if multigenerational workforce engagement significantly affects the success of digital transformation” considered insignificant and not supported from the research statistical results but it can be considered significant and supported with the additional support from other RO.

### 5.2.2 Hypothesis 2 Finding: Supported

RO2: To study if multigenerational workforce collaboration significantly affects the success of digital transformation.

H2: There is a relationship between multigenerational workforce collaboration with the success of digital transformation.

Hypothesis Test Result: ( $\beta$ -Value: 0.144, T-Value: 2.453, P-Value: 0.015 and Result: Supported). Based on the hypothesis test result captured, H2 is supported because Multigenerational Workforce Collaboration is considered significant and influence on the success of Digital Transformation.

With the positive hypothesis results for H2 and the support from multiple latest journal, hence Multigenerational Workforce Collaboration is related and significant to the success of digital transformation in the company.

### 5.2.3 Hypothesis 3 Finding: Supported

RO3: To study if multigenerational workforce characteristic significantly affects the success of digital transformation.

H3: There is a relationship between multigenerational workforce characteristic with the success of digital transformation.

Hypothesis Test Result:( $\beta$ -Value: 0.233, T-Value: 2.738, P-Value: 0.006 and Result: Supported). Based on the hypothesis test result captured, H3 is supported because Multigenerational Workforce Characteristic is considered significant and influence on the success of Digital Transformation.

With the positive hypothesis results of H3 and strong support from multiple journals, it can be concluded that the difference of multigenerational workforce characteristic is significantly impacting the overall success of digital transformation.

### 5.2.4 Hypothesis 4 Finding: Not Supported

RO4: To study if multigenerational workforce engagement significantly affects the success of managing the changing dynamic of workforce.

H4: There is an interrelation between multigenerational workforce engagements with the success of managing the changing dynamic of the workforce.

Hypothesis Test Result:( $\beta$ -Value: 0.105, T-Value: 1.485, P-Value: 0.138 and Result: Not Supported). Based on the hypothesis test result captured, Coefficients  $\beta$ -Value that slightly above  $> 0$ , Significant Test of T-Value below minimum requirement of 1.96 and Probability P-Value exceeded 0.05. Therefore, H4 is not supported and the interrelation between multigenerational workforce engagements with success of managing the changing dynamic of workforce is not significant.

This means that even the result of surveys shown insignificant between multigenerational workforce engagement with the success of managing changing dynamic of the workforce, but we should not be ignoring the benefits of having engaged workforce as mentioned by other

researcher. Leaders play an important role in managing this type of internal and external changes.

#### 5.2.5 Hypothesis 5 Finding: Supported

RO5: To study if multigenerational workforce collaboration significantly affects the success of managing the changing dynamic of workforce.

H5: There is an interrelation between multigenerational workforce collaboration with the success of managing the changing dynamic of the workforce.

Hypothesis Test Result: ( $\beta$ -Value: 0.126, T-Value: 2.455, P-Value: 0.014 and Result: Supported). Based on the hypothesis test result captured, H5 is supported because Multigenerational Workforce Collaboration is considered significant and influence on the success of Managing the Changing Dynamic of the Workforce.

With the encouraging hypothesis results of H5 and strong support from various journals, it can be determined that there is a significant interrelation between multigenerational workforce collaboration with the success of managing the changing dynamic of the workforce.

#### 5.2.6 Hypothesis 6 Finding: Supported

RO6: To study if multigenerational workforce characteristic significantly affects the success of managing the changing dynamic of workforce.

H6: There is an interrelation between multigenerational workforce characteristic with the success of managing the changing dynamic of the workforce.

Hypothesis Test Result: ( $\beta$ -Value: 0.659, T-Value: 10.101, P-Value: 0.000 and Result: Supported). Based on the hypothesis test result captured, H6 is supported because Multigenerational Workforce Characteristic is considered highly significant and influence on the success of Managing the Changing Dynamic of the Workforce.

With the positive hypothesis results of H6 and solid support from various journals, it can be decided that the different characteristic of multigenerational workforce promote success of managing the changing dynamic of the workforce.

#### 5.2.7 Hypothesis 7 Finding: Supported

RO7: To study if managing the changing dynamic of the workforce significantly affects the success of digital transformation.

H7: There is a connection between successful managing the changing dynamic of the workforce with the success of digital transformation.

Hypothesis Test Result: ( $\beta$ -Value: 0.517, T-Value: 6.715, P-Value: 0.000 and Result: Supported). Based on the hypothesis test result captured, H7 is supported because Managing the Changing Dynamic of the Workforce is considered highly significant and influence on the success of Digital Transformation.

With the sanguine hypothesis results of H7 and substantial support from various journals, it can be agreed that there is significant influence between successful managing the changing dynamic of the workforce with the success of digital transformation.

#### 5.2.8 Hypothesis 8 Finding: Supported

RO8: To study if digital transformation significantly affects the sustainable business growth.

H8: There is correlation between successful digital transformations with the achievement of sustainable business growth.

Hypothesis Test Result: ( $\beta$ -Value: 0.282, T-Value: 3.611, P-Value: 0.000 and Result: Supported). Based on the hypothesis test result captured, H8 is supported because Digital Transformation is considered highly significant and influence on the Achievement of Sustainable Business Growth.

With the positive hypothesis results of H8 and considerable support from various journals, Successful digital transformation does help in achieving sustainable business growth.

#### 5.2.9 Hypothesis 9 Finding: Supported

RO9: To study if managing the changing dynamic of the workforce significantly affects the sustainable business growth.

H9: There is a correlation between successful managing the changing dynamic of the workforce with the achievement of sustainable business growth.

Hypothesis Test Result: ( $\beta$ -Value: 0.372, T-Value: 4.647, P-Value: 0.000 and Result: Supported).

Based on the hypothesis test result captured, H9 is supported because Managing the Changing Dynamic of the Workforce is considered highly significant and influence on the Achievement of Sustainable Business Growth.

With the constructive hypothesis results of H9 and substantial support from various journals, it can be proved that ability to manage the change dynamic of the workforce does influence the achievement of long-term sustainable business growth.

### 5.3 Conclusions

Since 2015 to 2019, Top 3 Telco's in Malaysia (Maxis, Digi, and Celcom) has shown year on year declining mode in overall financial performance including Revenue, PAT, EBITDA and EBITDA Margin. At the same time in history, Gen Z has just jointed the workforce making four different generations working under the same roof. The four generations of workforce consist of Baby Boomers, Gen X, Gen Y and Gen Z. Each generation possess different characteristic, way of engagement and collaboration with each other's creating additional complexity for Telco to manage this changing dynamic of the workforce. Beside leading and managing the workforce, Telco need to focus on the rapid digital transformation to embrace impact of Industrial Revolution 4.0 and continue to achieve long-term sustainable business growth. Future of Telco Industry is currently in critical state due to the latest indirect/direct impact of Covid-19 pandemic to the ecosystems that started since 2020.

Based on the above problem statement, it is critical to carry out this research to determine the influence of each variable and propose a Sustainable Business Growth Model to help Telco in achieving long-term sustainable business growth.

### 5.4 Contribution to Knowledge and Managerial Implications

Following is the contribution to body of knowledge and managerial implications that derived based on the results of the research.

#### 5.4.1 Contribution to Body of Knowledge

Table 52 compiled from the latest research (2018 – Present) that related to long-term sustainable business growth in telecommunications company. So far researcher unable to find any research conducted on Achieving Sustainable Business Growth in Malaysia Telco's that focus on employees, customers, digital transformation, and financial growth. Referring to Table 52, majority of research conducted in Malaysia are usually related to corporate social responsibilities (e.g., Green Initiatives, Reduce Wastage and Reduce CO<sub>2</sub>) or similar research

but conducted on non-Malaysia Telco which might not be suitable for Malaysia Telco Industry due to difference culture, challenges, and needs.

Hence one of the contributions to body of knowledge is providing holistic research on long-term sustainable business growth thru the support of underpinning theory and structural model analysis. Underpinning parent theory used is Resource-Based Theory (RBT) with the support of Strauss-Howe Generational Theory, Leader-Member Exchange Theory (LMX) and Dynamic Capability Theory (DCT). The combinations of multiple theories provided a holistic guidance in developing sustainable model. E.g., Resource-Based Theory talked about achieving long term competitive advantage due to unique of each company resources, Strauss-Howe Generational Theory talked about multigenerational workforce/employees that working under the same roof, Leader-Member Exchange Theory described the relationship of employee's management and Dynamic Capability Theory described the constant changes due to new technology. Based on Chapter 4, the assessment of F-Square or ( $f^2$ ) that potential change the R-Square ( $R^2$ ) when the exogeneous variable is removed from the structural model, proven that most of the exogeneous variables are considered large effect to the endogenous variables if the exogeneous variable is removed. Thus, the recommended variables and its measurement are critical for the body of knowledge especially for Malaysia researcher.

*Table 52: Compilation of Research Journal Related to Long-term Sustainable Growth*

| Journal  | Description   | Author                    |
|--|---|---------------------------|
| Sustaining the Yellow Heart: responsible business by reducing inequalities at Digi Malaysia                                    | To develop a strategic sustainability brand thru sustainability report, safe internet, reduce inequalities and stakeholder values.            | (E-Vahdati, et al., 2022) |
| Business strategy for environmental social governance practices: evidence from telecommunication companies in Malaysia         | To gain competitive advantage and sustain the business, corporate need to incorporate Environmental Social Governance into business strategy. | (Jasni, et al., 2020)     |
| Corporate social responsibility environment in Malaysia: Lessons learned from the effectiveness of the CSR programme by Axiata | One of the important elements for Axiata to sustain in business is Corporate Social Responsibility (CSR)                                      | (Azid & Tahir, 2019)      |
| Branding Corporate Social Responsibility on Public Listed  | To find the long-term sustainable branding in Maxis and Axiata.   | (Ahmad, 2019)             |



|  |  |                                 |
|--|--|---------------------------------|
| Telecommunications Companies in Malaysia   |  |                                 |
| The Influence of Customer Experience on Customer Loyalty in Telecommunication Industry   | To achieve long term sustainability thru increasing customer experience which indirectly increased customer loyalty.                             | (Imbug, et al., 2018)           |
| Critical success factors for sustainable entrepreneurship in Pakistani Telecommunications industry: a hybrid grey systems theory/ best-worst method approach | Focus in CSR including reduce digital illiteracy, helping young start up and targeting poor community in Pakistan.                               | (Muhammad Muneeb, et al., 2020) |
| Corporate Competence Determining Factors in China Telecom Industry in Achieving Customer Satisfaction  | In order to achieve long term financial growth, telco need to focus on achieving customer satisfaction. Thru brand image and affordable pricing. | (Chun, et al., 2019)            |
| Entrepreneurship Innovation Model for Telecommunications Enterprises in Ukraine  | Long term sustainability and competitive advantage thru innovations and digital focus.   | (Drobyazko, et al., 2019)       |

Table 53 below is the latest compilation of multigenerational workforce that currently working in telecommunications industry around the world. Referring to the table, researcher unable to find any research conducted in Malaysia Telco that focus on multigenerational workforce, hence researcher extended the search globally.

At the same time, limited study on management of multigenerational workforce (Baby Boomer, Gen X, Gen Y and Gen Z), working in Malaysia Telco's that going thru digital transformation to achieve long-term sustainable business growth. Most of the research focused on Baby Boomer, Gen X and Gen Y because Gen Z only entering the workforce in the last 5 years. Aside to limited study on 4 different generations, it also challenging for researcher to identify a complete study that related to this topic. Most of the research is either segregated the managing multigenerational workforce with achieving sustainable business growth or digital transformation with sustainable business growth.

For this reason, the second contribution to body of knowledge is by provide a compilation of survey responses from Baby Boomer, Gen X, Gen Y and Gen Z that currently working in Malaysia Telco (Maxis, Celcom, Digi). Partial Least Square Structural Equation Modelling method has been used to analyse and present the results. Although Baby Boomer is reaching

retirement age and Gen Z just stepping into the same working environment, but is crucial to understand the similar characteristic, way of collaboration and engagement towards achieving long-term sustainable business growth. Based on the Average Variance Extracted (AVE), all the latent variables such as sustainable business growth (0.605), Digital Transformation (0.773), Managing Changing Dynamic of the Workforce (0.550), Multigenerational Workforce Characteristic (0.631), Multigenerational Workforce Collaboration (0.611) and Multigenerational Workforce Engagement (0.627) are exceeding 0.5. The construct of the variables is considered relevant and useful for future researcher.

*Table 53: Compilation of Multigenerational Workforce Working in Telco Industry*

| Journal   | Description   | Author                   |
|---|---|--------------------------|
| The impact of generational diversity amongst corporate leaders on organizational performance in the telecommunication industry in Zimbabwe  | Study of the influence of generational diversity with organizational performance (profitability, market share and employee motivation). | (Mazikana, 2022)         |
| Exploring Leadership Styles That Attract and Retain Millennials   | Exploring in retaining and attracting Millennials working at Southeaster United States.   | (Rush, 2020)             |
| A Study of the Generational Differences in Work Values of Generations X, Y, and Z   | Analysing the difference in work value within Gen X, Gen Y and Gen Z in American Telecommunications Industry.                           | (Dick, 2019)             |
| A Review of Flexible Work Arrangements Initiatives in the Nigerian Telecommunication Industry   | Study of flexible work arrangements in Nigerian Telco between Traditionalist, Baby Boomer and Millennials.                              | (Opeyemi, et al., 2019)  |
| The Influence of Generational Diversity Management and Leader–Member Exchange on Innovative Work Behaviours Mediated by Employee Engagement | In depth study of Baby Boomers, Gen X and Gen Y preferences when come to employee engagement in Indonesia Telco Industry.               | (Hapsari, et al., 2019)  |
| Influence of Workplace Diversity on Organizational Harmony of Telecommunication Companies in Rivers State Nigeria.                          | Traditionalist, Baby Boomers, Gen X and Gen Y diversify workforce working under the same roof in Rivers State Nigeria Telco company.    | (Bestman & Orokor, 2019) |

|   |  |                       |
|---|--|-----------------------|
| Role of Talent Management in Career Development of Generation Z: A Case Study of a Telecommunication Firm | To discover the right career development process for Generation Z that working in Turkey Telco Industry. | (Arar & Oneren, 2018) |
|---|--|-----------------------|

Table 54 below listed seven famous models in the market that focus on Achieving Sustainability. Out of 7 models, there are 3 models that specially focus on Environmental or Green Initiatives Sustainability. The models include The Seven Faces of Mount Sustainability, Cradle to Cradle and The Sustainable Value Framework. Creator of this model believed the future survival of the firm depends heavily in creating minimal wastage, reduce carbon footprint and recycle. These 3 models did not talk about multigenerational workforce collaboration, characteristic, engagement, and long-term financial growth.

The Bottom of the Pyramid Sustainability model that introduced by Prahalad and Hart is focusing in maximising the spending power of the largest low-income population. Aside to that, they also advised firm to continue provide support to this group of people so they can jump out from poverty. This model is not covering multigenerational workforce collaboration, characteristic, engagement, and digital transformation.

Balanced 3 sustainability model including Seven Level of Sustainability, Stakeholder Management and Multiple Stakeholder Management. It mainly focusses on motivating and aligning with stakeholders of the firm to achieve long-term sustainability. These models do not cover the multigenerational workforce collaboration, characteristic, engagement, digital transformation, and long-term financial growth.

Therefore, the third contribution to body of knowledge will be the introduction of (BSBG) Bryan's Sustainable Business Growth Model that covering the end-to-end researcher topic in achieving long-term sustainable business growth for Malaysian Telco that having multigenerational workforce working under the same roof and going thru digital transformation. In this model it addressed some of the limitations found in the earlier sustainability models and created the first Sustainability Model that tailor made for Malaysia Telco's. The measurement items adapted and adopted in this research proven significant reliability and validity coefficient, therefore demonstrates positive empirical contribution. Hair, et al. (2011) did mentioned that Coefficient of Determination ( $R^2$ ) results of 0.2 can be considered as high if is related to human behaviour/art/social science. The endogenous variable

for achieving sustainable business growth is 0.38/38.2% which can be considered as high/significant endogenous variable.

*Table 54: Famous Sustainability Models in the Market*

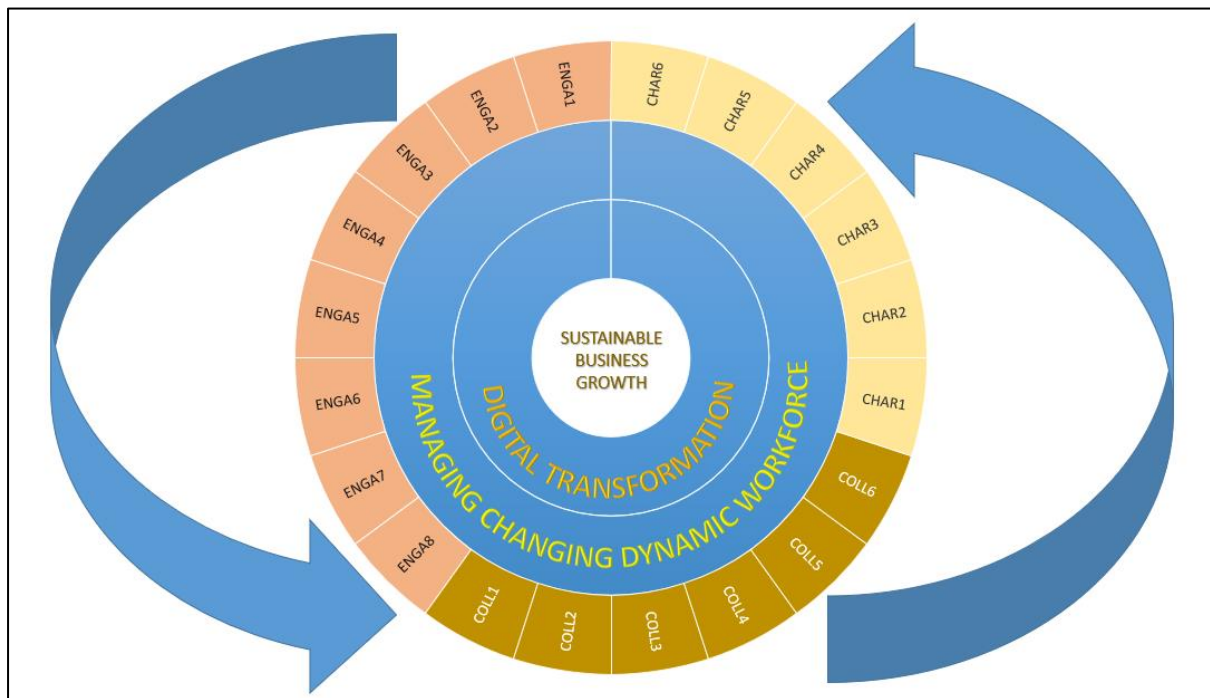
| Model                                   | Description   | Author                          |
|---|---|---------------------------------|
| The Seven Faces of Mount Sustainability | Anderson believed no firm can achieve a green environment thru brown factory. Firm must climb the seven level one stage at a time such as creating renewal energy and eliminate waste.  | (Anderson, 1999)                |
| Cradle to Cradle                        | They believed waste of one person can be food for others. To achieve long term environmental sustainability, firm need to incorporate science and technology to produce quality output with minimum waste.                                    | (McDonough & Braungart, 2002)   |
| The Sustainable Value Framework         | Hart and Milstein focused in creating a long-term environmental sustainability and at the same time not hurting shareholders profit and stakeholder benefits. Models consist of 4 quadrants including Internal, External, Today and Tomorrow. | (Hart & Milstein, 2003)         |
| The Bottom of the Pyramid               | Targeting the largest population in the pyramid which having the lowest income. This model allowed firm to change their product line to suit the needs and long-term trying to transform the lower income society into middle income society. | (Prahalad & Hart, 2002)         |
| Seven Levels of Sustainability          | Focus on achieving long term sustainability thru organizational motivation. Similar to Maslow Hierarchy of Needs.   | (Barrett, 1999)                 |
| Stakeholder Management                  | Identifying distinguish features of stakeholders as part of stakeholder management. Firm should create values to stakeholder instead of shareholders.   | (Freeman, 1984)                 |
| Multiple Stakeholder Sustainability     | Author understands that forcefully changing an organizational culture will not work, therefore they trying to introduce a model that can achieve a win-win outcome from multiple stakeholders.  | (Trompenaars & Woolliams, 2009) |

#### 5.4.2 Managerial Implications

It is cleared that achieving a sustainable business growth for Telco companies in Malaysia are crucial. End of the days, the existence of the company is based on the ability to maintain and generate healthy business growth year on year. Based on the survey result collected from multigenerational workforce working in the top 3 Telco's company shown that Sustainable Business Growth means having a group of happy employees, delighted customers, and healthy financial numbers. Most of them agreed that the most crucial item is having a group of happy employees that believed in their company, willing to work towards company goal and having positive mindset in accepting change. As described in Resource Based Theory (RBT), resources are unique and difficult to be duplicated by the competitors which indirectly created a competitive advantage for the company. The next item is having loyal customers, willing to spend and help in promoting to others. Business continues to growth when loyal customers remain supportive and new customer based continue increase. The third item is increase of company net profit margin and overall exceeding financial performance of the competitors. In general, net profit margin or net income or profit after tax is the money left after deducted the revenue with overall expenses and taxes. Benefit of healthy/positive book value will attract potential investors, ability to invest for future growth and capable to meet employees need.

Result of this thesis contributed to the development of Bryan Sustainable Business Growth's Model (Figure 25) that crucial for management of the company to achieve a long-term sustainable business growth. BSBG Model is developed in a simple to understand and yet powerful model for management of the company that currently experiencing business stagnating, drop of market share, down trend of revenue gain, low morale of the employees and dropping of customer based. BSBG Model eased management in achieving the long-term sustainable business growth thru managing the changing dynamic of the workforce and at the same time going thru rapid digital transformation. The BSBG Model is similar to a "Rotary Combination Lock" that used in Safe Box. By understanding the BSBG Model, management will have the key to unlock the full potential of their company. The big arrow sign represents the need of continuously evaluating, modifying, and implementing the changes based on the internal and external factors such as changed of Company Directions, Industrial Revolution 5.0 and Generation Alpha in future.

Figure 25: Bryan's Sustainable Business Growth Model (BSBG)



Source: Author

The BSBG Model outer layer allowed management to understand their internal employees better in order to motivate and lead them into achieving company goals. As mentioned earlier, nothing can be achieved without “people/resources”. Although we have multigenerational workforce working under the same roof but each unique code in the outer layer of BSBG Model carried the preferences or needs that agreed by Baby Boomers, Gen X, Gen Y and Gen Z. Based on results from this thesis, management need to focus specially on Multigenerational Workforce Characteristic and Multigenerational Workforce Collaboration. It will not be feasible for management to execute all the preferences listed in the outer layer unique code concurrently.

Therefore, start with the highest preferences of each segment such as CHAR5 and CHAR 6 under Multigenerational Workforce Characteristic. Management should invest in promoting learning and development for their employees and continue to create a motivated environment. Employees feel motivated and attracted to the company when they are having the opportunity to attend training, pickup new knowledge, try out new roles, allow to fail and constant received positive and constructive feedback from their manager. Employees from different generations are overall more attracted to the company and willing to contribute extra when their company is a fun environment to work at, promote constant career growth, provide extrinsic

values/rewards, flexible way of work, encourage self-development and learning and lead by motivated management. It is easier for management to focus on the similarity and preferences of multigenerational workforce rather than findings the differences. The 6 identified key for multigenerational workforce characteristics is the similarity preferences of Boomer, Gen X, Gen Y and Gen Z. Howe & Strauss (2007) mentioned in Strauss-Howe Generational Theory that leaders will be able to handle crisis, fixed difficult problems and create new opportunity if they can align all four generations together by understanding the similarity and differences of each generations.

On Multigenerational Workforce Collaboration, management can look into COLL1 and COLL2 that employees believed working together in a synergy environment promote innovation and creativity. Management needs to create a collaboration environment such as large discussion room, forming cross department task force, providing appropriate guidance and constant words of encouragement. Employees willing to collaborate within internal and external team when company recognized the important of synergies between multigenerational workforce, believed it will increased the innovation and creativity of employees, believed collaborating within different generations of employees create faster decision making, believed task will be distributed based on each generations strength to lighten up the overall workloads, believed customer needs from different age group can be easily meet when different generation of employees collaborate together and believed age diversify employees provide more positive outcome to the company

Although the 3<sup>rd</sup> segments Multigenerational Workforce Engagement might not have significant contribution compared to 1<sup>st</sup> and 2<sup>nd</sup> segments, but it is a good guiding point for management to work on due to highly positive feedback received from respondents. Example ENGA 4 and ENGA 6 shown substantially important for employees to feel engage when they are rewarded according to their contributions. Management will need to periodically evaluate their rewarding systems (tangible and intangible) including salary adjustment according to market price, incentives, claims, bonuses, self-development courses, insurance, maternity leave, and total annual leave. Employees are truly engaged when they are empowered to handle their work, having full access to required tools and resources for their daily work, being recognized for their work well done, rewarded based on their contributions, allow to share personal ideas and suggestion, company benefits meet my needs, positive company image and it take employees' personal feedback seriously. There is a lot of positive advantage to have

engaged employees because they are happy, positive, open mindset, willing to contribute to the company, walk the extra miles and loyal to the company.

As we are entering the inner layer of BSBG Model, management will need to focus on Managing the Changing Dynamic of the Workforce and Digital Transformation. The relationship between Multigenerational Workforce Characteristic and Multigenerational Workforce Collaboration is significant to this layer. There are 12 items under Managing Changing Dynamic of the Workforce and 8 items under Digital Transformation. Within 12 items, it can be categorized into 4 main categories which is communications, supervisor, role and responsibilities, and way of work. Management needs to constantly provide feedback to employees by having an open two-way communication. Relationship building between supervisors and employees are crucial because employees expect to have a supportive, tolerance, approachable supervisors and able to provide clear role and responsibilities. The last vital categories that management need to take note off, is way of work. It needs to be open, transparent, allow calculative mistake and promote innovations/new ideas. By having a proper formula/model to manage the changing dynamic of the workforce, it will eventually elevate the success rate. This is further supported by Barney (1991) in his Resource-Based Theory (RBT) that organization will be able to achieve long-term competitive advantage or sustainable growth if their resources are valuable, rare, imitable, and organizationally setup (VIRO). Managers need to know how to tie all this loose string together to achieve the overall company goal. This statement further supported by Dansereau, et al. (1975) Leader-Member Exchange Theory (LMX). According to LMX theory, relationship between leader and subordinates are considered heterogeneous.

When come to Digital Transformation, the 8 items can be categorized into 3 main categories which include planning, scalability, and collaboration. All digital transformation activities will require proper planning including having proper alignment between transformation and customer needs, management expectation and working level understanding, and project management activities and timeline. During digital transformation, management should also focus on the flexibility of scaling up and scaling down their systems/operations to meet the present and future demand. The digital platform should be capable to auto scale up when there is a surge of traffic from customers demand due to certain promotions and auto scale down after promotion end. This promotes reduction of operating expenses by maintaining different processing setup during off peak and peak seasons. The last category is about the important of



having proper collaboration. It needs to have a tight collaboration between internal employees with external vendors for knowledge sharing in digital transformation. Internal employees having in-depth knowledge of the internal system capabilities and limitations while external vendors will have broader knowledge on their digital products. Both managers and employees need to be highly engaged and collaborate with each other to achieve the desire goal. Without proper collaboration between managers and employees will either lead to delay in project delivery, increased of expenses and wrong deliverables. Inter-division collaboration such as Technology Division with Business Division is highly important. A lot of failure happens when technology is not aligning with business such as bringing in highly sophisticated and costly systems that is not serving or meeting customer needs. Or putting in unrealistic demands that technically not feasible to have. Digital transformation will be the vehicles for the company and their people to achieve the end goal. Teece, et al. (1997) has mentioned in their Dynamic Capability Theory (DCT) that firm need to renew existing competency, technology, and processes effectively in-order to cater for rapid technological advancement. Firm need to possess the ability to adapt, integrate and reconfigure the resources to compete in the rapid changing environment. This aligned with the model where company need to continue to align, evaluate, change, and evolve to achieve long-term sustainable business growth.

In summary, to achieve long-term sustainable business growth for the company, management is advised to follow the recommendations from the BSBG Model because each of the sections/layers/categories within the model are inter-related and significantly important to each other's.

### 5.5 Limitation of Study

Like other thesis, this thesis also poses some limitations and challenges. 1<sup>st</sup> limitation as mentioned by Sjoerdsma (2021), currently only 5% of the US workforce is under Gen-Z categories. Majority of another workforce is either from Gen-X (33%) and Gen-Y (35%). Therefore, the survey result captured during the research journey and online journal articles has limited or minimal representation from the youngest generations (Gen-Z). It will be very interesting to have more feedback and research coming from the youngest generations because of their distinct characteristic, preferences, way of work, influence of technologies and many more.

The 2<sup>nd</sup> limitation is the lack of survey responses received for this thesis. After removal of certain responses due to multivariate outlier, the remaining total valid responses/sample size are slightly lower than Krejcie & Morgan recommendations. 2<sup>nd</sup> limitation was an indirectly impacted by Movement Control Order (MCO) in March 2020 due to Covid-19. It was a panicked situation, people rushing to stock up daily grocery, no proper standard operating procedures, company rushing to activate online capabilities for employees to work from home, high death rate, and high unemployment rate. It took Malaysia almost 18months to stabilize the situations. During the pandemic moments, people was reluctant to participate in interview session, reluctant to fill up online survey, avoiding physical meetup and having other important priorities than assisting in this thesis. Akter, et al. (2022) mentioned similar challenges in their latest research where response rate is lower due to Covid-19 pandemic restrictions and challenges. Lack of responses might limit the actual findings of the thesis.

The 3<sup>rd</sup> limitation is the lack of diversify studies of Malaysia's Telco. The research only focused on the 3 main major Telco's in Malaysia (Maxis, Celcom, Digi) that derived from total subscriber based. The decision of only including the top 3 main Telco's into the study might potentially lead to common method bias. It might produce a different perspective or conclusion to this thesis if it involved other smaller players such as U-Mobile and TIME. Reasons because smaller players will have different vision and mission, targets, way of work, focus, workforce management, and flexibility in change. The additional responses from people working in smaller Telco potentially influence the outcome and priority of Sustainable Business Growth Model.

### 5.6 Suggestion for Further Research

The limitations highlighted in earlier sections allow other researcher to continue research, expand and contribute to the future body of knowledge and practitioner. It will be more fruitful if future studies can focus in applying longitudinal research especially put additional focus in Gen-Z. Currently only 5% of the workforce is Gen-Z and they are very new to the working environment. It will potentially provide future researcher new perspective when number of Gen-Z joining the workforce increased and they are getting more matured. By applying longitudinal research such as observing Gen-Z for longer period of time researcher will have better understanding of the changes in Gen-Z such as characteristic, way of collaboration, way of engagement, acceptance of change, and acceptance of future industrial revolution. Baby Boomer will eventually be exiting the workforce in few more years and is very crucial for companies to understand the changing dynamic of their employees that only consist of Gen-X, Gen-Y and Gen-Z. Will newer generations able to accept and adapt to their senior way of workings and at the same time helping the company to achieve sustainable business growth?

Second focus point for future research is to increase the sample population and sample size by including smaller Telco player such as U-Mobile and Time. Larger amount of sample size that collected from big, medium, and small Telco might provide new discoveries compared to data collected purely from big Telco. Medium and smaller player might have different approach when come to achieving sustainable business growth, flexible way of work, and lesser processes. Besides increasing the number of Telco, researcher should also increase the sample size and data collection method. Once pandemic is over, people will be more open in having face to face interview, group discussion or even participate in physical survey. Researcher can decide to use mix approach such as qualitative and quantitative research method. Example, conducting one to one interview or group discussion will allow researcher to construct a more relevant questionnaires for quantitative research.

Lastly, the same framework can be applied to other industry such as Financial Industry. Researcher should target financial industry because FinTech will be the coming trend and greatly impact to companies that is not prepared. So far financial industry is the only industry that slower in adopting to digitalization. Mainly because they govern by a lot of rules, regulations, and tedious processes. As we speak, Industrial Revolution 5.0 (IR5.0) is emerging where we talk about “Personalization”. It will be beneficial to financial industry, if we can provide them with a workable model to tackle the changing dynamic of the workforce, transformation and achieve sustainable business growth. IR5.0 not only talk about

digitalization but moving into personalization where human work side by side with machine using human intelligence and cognitive computing.

## 5.7 Summary

In summary, the last chapter talked about the achievement of research objectives based on the hypothesis test results conducted in Chapter 3 and concluded in Chapter 4. During the evaluation of test result, only H1 and H4 is considered insignificant and not supported because the Coefficients  $\beta$ -Value that slightly above  $> 0$ , Significant Test of T-Value below minimum requirement of 1.96 and Probability P-Value exceeded 0.05. Hence RO1 “To assess multigenerational workforce engagement with the success of digital transformation” and RO4 “To study the relation of multigenerational workforce engagement with successful managing the changing dynamic of the workforce” is considered no achievement. Although test results do not support the research objectives but based on multiple literature review, multigenerational workforce engagement does play an important role in both digital transformation and managing the changing dynamic of the workforce. Besides support obtained thru literature review, other test result in Chapter 4 for 45 items such as Standardised Loading Factor, and Cronbach Alpha proved to be valid and reliable too. Hence all the variables are maintained and used in the creation of New Sustainability Model for this thesis.

The contribution of this thesis including contribution to body of knowledge and contribution to practitioner. The contribution including the holistic research on long-term sustainable business growth with the support from underpinning theory and structural model analysis. Compilation of survey responses from Baby Boomer, Gen X, Gen Y and Gen Z that currently working in Malaysia Telco (Maxis, Celcom, Digi). Introducing the BSBG Model's that covered the end-to-end researcher topic in achieving long-term sustainable business growth for Malaysian Telco that having multigenerational workforce working under the same roof and going thru digital transformation. Last and not least is the details explanation of BSBG Model's benefits and functions to leader/manager of the company. Beside contributions, the limitation faced by researcher including limited participants from Gen Z, slightly lower response rate due to pandemic and multivariate outlier and the research is not extended to smaller Telco company such as U-Mobile and Time. Researcher proposed 3 suggestions for future research including conducting longitudinal research of Gen Z, extend sampling to other Telco's and apply the framework into other industry such as Financial Industry.

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## Appendix

### Appendix 1: Questionnaire/Online Survey

Section 1 of 10

## A Survey on Top 3 Telecommunication Service Provider in Malaysia

Dear Sir/Madam,

My name is Cheong Kong Ming (Bryan) Student ID#1713749 and currently doing my final year in Doctorate of Business Administration (DBA) at University of Wales Trinity Saint David.

The purpose of this survey is to test the hypothesis and provide a conclusion to the research on achieving long term business sustainable growth for Malaysia Telco that currently going thru digital transformation and also managing the changing dynamic of the workforce.

All Information that you have provided will be kept strictly confidential and only will be used for academic purposes. For any enquiries, do drop an email to [bryan.cheongkm@gmail.com](mailto:bryan.cheongkm@gmail.com)

Entire survey will require approximately 10 minutes of your time.

Thank you very much for your participation.

Section 2 of 10

## Consent Form

Description (optional)

I confirm that I have read and understand the information for the above study. I have the opportunity to consider the information, ask questions and have had these answered satisfactorily. \*

☐ Yes

I understand that my participation is voluntary and I am free to withdraw at any time, without giving any reason. \*

☐ Yes

I agree to take part in the above study. \*

☐ Yes

Section 3 of 10

## Profile

Description (optional)

Gender \*

☐ Female

☐ Male

Nationality \*

☐ Malaysian

☐ Non Malaysian

Year of Birth (e.g. 1990) P/S: This is one of the most important data for the entire research paper \*

Short answer text

Current Company \*

☐ Maxis

☐ Celcom

☐ Digi

Current Position \*

☐ Non-Manual

☐ Managerial

Section 4 of 10

## Multigenerational Workforce Engagement

Section 1 of 6

I feel engaged when I am empowered to handle my work. \*

Strongly Disagree      1      2      3      4      5      Strongly Agree

☐      ☐      ☐      ☐      ☐

I feel engaged when I have access to tools and resources to perform my job efficiently. \*

Strongly Disagree      1      2      3      4      5      Strongly Agree

☐      ☐      ☐      ☐      ☐

I feel engaged when my performance is recognized. \*

Strongly Disagree      1      2      3      4      5      Strongly Agree

☐      ☐      ☐      ☐      ☐

I feel engaged when I get reasonable rewards in accordance to my contributions. \*

Strongly Disagree      1      2      3      4      5      Strongly Agree

☐      ☐      ☐      ☐      ☐

I feel engaged when my ideas and suggestions are recognized in my company. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I feel engaged when company benefits met my needs. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I feel engaged with the positive image of my company in the industrial sector. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I feel engaged when my company takes feedback from the voice of employees \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Section 5 of 10

## Multigenerational Workforce Collaboration



Section 2 of 6

In the company, it is important to emphasize the synergy of multigenerational workforce. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Through multigenerational workforce collaboration, we will be able to increase the innovation and creativity of our employees at work. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Through multigenerational workforce collaboration, we can enable the employees to make faster decisions. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Through multigenerational workforce collaboration, tasks are well distributed and thereby reduce the workload of employees. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Through multigenerational workforce collaboration, we have better understanding of customer needs from different age profile. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Through multigenerational workforce collaboration, we can fully benefit from the age diversity of our employees. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

## Multigenerational Workforce Characteristic & Behaviour



Section 3 of 6

I am more energized working in a fun workplace. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I am seeking constant growth and advancement in the workplace. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I am attracted to company that provide extrinsic (tangible) values/rewards. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I am more efficient working in a flexible environment. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I am attracted to company that constantly promote and encourage learning. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I am more energetic working in a motivating environment. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Section 7 of 10

## Managing the Changing Dynamic of the Workforce



Section 4 of 6

I prefer to accept changes if it has been well explained. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I prefer to have clear and regular communications with my colleague. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I prefer to have adequate support. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I prefer to have a good rapport with supervisors. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I prefer to have a patient and tolerating supervisors \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |



I prefer to be encouraged to ask questions. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I prefer to have clear understanding of my role & responsibility. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I prefer to have job scope that encourage me to experiment using my initiatives. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I prefer to work in a self-organizing team. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I prefer to work in an open and transparent working environment. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I prefer to have regular feedback from my supervisor. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

I prefer to work in an environment that allow mistake with calculated risk and given a chance to rectify my mistake. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Section 8 of 10

## Successful Digital Transformation



Section 5 of 6

Successful digital transformation requires a supportive organization culture. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Successful digital transformation requires a well-managed transformation activities. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Successful digital transformation requires to leverage on both external and internal knowledge . \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Successful digital transformation requires highly engaged managers and employees. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Successful digital transformation requires to grow applications capabilities. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Successful digital transformation requires to develop dynamic and scalable capabilities. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Successful digital transformation requires a well-planned digital business strategy that aligned with customer needs. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Successful digital transformation requires active collaboration between Business and Technology. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

Section 9 of 10

## Achieve Business Sustainable Growth



Section 6 of 6

To achieve business sustainability, we need to increase organization's net profit margin. \*

|                   |                       |                       |                       |                       |                       |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

To achieve business sustainability, we need to continue increasing customer based. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

To achieve business sustainability, we need to continue increasing the Net Promoter Score (NPS) for excellence customer experience. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

...

To achieve business sustainability, we need to focus on improving Employee Engagement Score (EES). \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

To achieve business sustainability, we need to have overall financial performance exceeding competitors. \*

|                   | 1                     | 2                     | 3                     | 4                     | 5                     |                |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly Disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly Agree |

## Closing



Thank you very much for your time and effort to participate in this research paper.

Your feedback is extremely valuable for this research paper because you allowed us to further understand the need, interest, view, behaviour, of different generations working in the Telco industry that currently going thru rapid digital transformation.

Above survey questions was adopted from recent journals and further validated by multiple Subject Matter Experts (SME) that has 14 to 32 years of working experience in Telco Industry.

Once again, thanks alot for your participation.

## Appendix 2: SME Endorsement and Recommendation of Pre-Test Questions



Pre Test  
Questionnaires DrYec



Pre Test  
Questionnaires Foong



Pre Test  
Questionnaires Jessica



Pre Test  
Questionnaires Kah W



Pre Test  
Questionnaires Khai F



Pre Test  
Questionnaires Puspa