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**ANL201**

**DATA VISUALISATION FOR**

**BUSINESS**

**Tutor-Marked Assignment 01**

**JAN 2021 Presentation**

**Submitted by:**

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1a)

Microsoft mission statement is "to empower every person and every organization on the planet to achieve more" (Microsoft, 2019, para.2).

Microsoft mission statement states that Microsoft strive to empower all the organization and people on earth to do more, through the usage of Microsoft's platform, tools and product. Microsoft has create tools and platform that help improve the productivity of small business, competitiveness of large business, effectiveness of non-profits and efficiency of public sector. (Microsoft, 2019)

The mission statement consist of 3 important parts: A.to Empower, B.every organization and person on this planet, c.to achieve more(Microsoft, 2019, para.2).

**A. to empower**

The meaning of “to empower” refer to providing someone with the power or authority to accomplish something (Empower, n.d ). In this case, this refer to Microsoft providing their customer with the tools or products of Microsoft to accomplish something. For instance, empowerment can be in term of providing Ford motor employee with GitHub (product of Microsoft), who will then utilize GitHub to innovate their cars (Microsoft, 2019).

Another example of empowerment, is when a restaurant in Japan (Ebiya) provide their employee with Power BI and Azure ML(product of Microsoft) , who utilize Power BI and Azure ML to help predict their sales and adjust their menu, to ensure the taste of their customers is met (Microsoft.inc ,2019) .

**B. Every organization and person on the planet**

This mean that the market that Microsoft is planning to target includes organization and people across the world (Microsoft, 2019)

**C. To achieve more**

This mean that through Microsoft’s product or tools, this will enable an organization or individual to achieve more . For instance, Ford motor utilize GitHub (product of Microsoft) to not only innovate their cars, but also to achieve more by innovating at a quicker pace as well as communicating with their third party software developer worldwide (Microsoft, 2019).

Another example is the restaurant known as “Ebiya”, which is located in Japan. The restaurant not only utilizes Power BI and Azure ML to predict their sales in order to adjust their menu to ensure that the taste of their customers is met , but also to achieve more such as improving the level of customer satisfaction, reducing food waste , preparing customer orders more quickly and predicting the timing of customer visits (Microsoft.inc ,2019) .

1b)

In my opinion, the complete Microsoft vision statement for 2020 is as follow:

Microsoft is a company in the technology sector whose mission is “to empower every person and every organization on the planet to achieve more” (Microsoft, 2019, para.2). Microsoft aim to create local growth , impact, and opportunity worldwide. The tools and platform provided by our company will improve the productivity of small business, competitiveness of large business and efficiency of public sector.In addition, it also empower human ingenuity, improve health and educational outcome and also assist start-ups that are new.

Even if the new intelligent edge and cloud era has arrive, we persist in transforming our business to gain dominance in the new era .We combine product and technology together into solution and experience, that are value adding to our customer. Computer are now more ubiquitous and powerful from the cloud to edge in this next stage of innovation. The capabilities of artificial intelligence is advancing exponentially, driven by the world's knowledge and data.

With the mixed reality and internet of things ('IOT'), virtual and physical world come together to create experience that are richer ,which reflect the context around people,  the places that people has travel ,the things that people utilize as well as people's relationship and actions. The experience of a person using technology covers a range of devices and is becoming more multi-sensory and intuitive via ink, eyes and speech interactions.

I will explain why the vision statement is above as follow and break it down into the following parts:

In my opinion, the Microsoft vision statement is hinted to be under paragraph 2 of the shareholder letter. This is because a vision statement define the ideal state that the organisation want to attain in the future and the action to achieve it. A vision statement also state the organisation strategic direction, purpose ,its perspective for the long term and what the organization want to be when the mission statement is accomplish, as well as the organisation future and current objective (Cox, n.d ). As for mission statement, it is define as the purpose of the existence of an organization, and indicate the current objective of an organization. It also indicate the practical action that you take to attain the vision statement. The mission statement is planned 5-10 years out, while the vision statement is planned for 10 years out or more. This mean that the vision statement serve as a guide or roadmap for the organisation objective and is what the mission statement is trying to achieve (Tay & Tan, 2021).

Part 1)"**Microsoft is a technology company whose mission is to empower every person and every organization on the planet to achieve more”** **(Microsoft, 2019, para.2).**

The part 1 of the vision statement above is similar to the mission statement. A mission statement is planned for 5-10 years out , and indicate the practical action that you take to attain the vision statement. As a vision statement is what the mission statement is trying to achieve, this mean that the mission statement is part of vision statement. Hence, in my opinion, part 1 is included in the Microsoft 2020 vision statement.

Part 2) **Microsoft aim to create local growth ,impact, and opportunity worldwide.**

Part 2 take reference and is rephrase from the part in the shareholder letter at paragraph 2, where it states that the Microsoft will ensure that the technology created by them will help to benefit everyone worldwide (Microsoft, 2019).

In my opinion, part 2 is included in the Microsoft 2020 vision statement. This is because the part in the shareholder letter describe the strategic direction of Microsoft (e.g. Microsoft will ensure that the technology created by them will help to benefit everyone worldwide), which is typically included in an vision statement. Hence, part 2 is included in the Microsoft 2020 vision statement Microsoft, 2019).

Part 3) **The tools and platform provided by our company will improve the productivity of small business, competitiveness of large business, effectiveness of non-profits and efficiency of public sector.In addition, it also empower human ingenuity, improve health and educational outcome and also assist start-ups that are new.”**

Part 3 take reference and rephrase from the part in the shareholder letter at paragraph 2, where it states that Microsoft will improve the productivity of small business, competitiveness of large business and efficiency of public sector, and that it also empower human ingenuity, improve educational and healthcare outcome and also assist start-ups that are new (Microsoft, 2019).

In my opinion, part 3 is included in the Microsoft 2020 vision statement. This is because it describe the ideal state that Microsoft want to attain with their Microsoft services and product (e.g. improve the productivity of small business), and the Microsoft current and future objective for their services and product (e.g. assist start-ups that are new and empower human ingenuity), all of which are typically included in an vision statement. Hence, part 3 is included in the Microsoft 2020 vision statement Microsoft, 2019).

Part 4) **Even if the new intelligent edge and cloud era has arrive, we persist in transforming our business to gain dominance in the new era .We combine product and technology together into solution and experience, that are value adding to our customer.**

Part 4 in the vision statement above take reference and rephrase from the part in the shareholders letter under “technology breakthrough” where it states that the next innovation phase is being shape by the intelligent edge and intelligent cloud era ,powering intelligent system and that Microsoft is integrating and innovating product and technology to empower and benefit their customer.

In my opinion, part 4 is included in the Microsoft 2020 vision statement. This is because the part in the shareholder letter under “technology breakthrough” describe the strategic direction that Microsoft want to take in the new intelligent edge and cloud era(e.g transforming Microsoft business to gain dominance in this new era), and the action that they will take achieve the desire state(e.g integrating and innovating product and technology to empower and benefit their customer), all of which are typically included in an vision statement. Hence, part 4 is included in the Microsoft 2020 vision statement Microsoft, 2019).

Part 5) **Computer are now more ubiquitous and powerful from the cloud to edge in this next stage of innovation. The capabilities of artificial intelligence is advancing exponentially, driven by the world's knowledge and data.**

Part 5 in the vision statement above take reference and rephrase from the part in the shareholders letter under “technology breakthrough” where it states that the next innovation phase is being shape by the intelligent edge and intelligent cloud era ,and help power intelligent system like computer which would not be possible previously.

In my opinion, part 5 is included in the Microsoft 2020 vision statement. This is because the part in the shareholder letter describe the long term perspective of microsoft (e.g the next innovation phase is being shape by the intelligent edge and intelligent cloud era ,and help power intelligent system like computer which would not be possible previously), which are typically included in an vision statement. Hence, part 5 is included in the Microsoft 2020 vision statement Microsoft, 2019).

Part 6) **The capabilities of artificial intelligence is advancing exponentially, driven by the world's knowledge and data.**

Part 6 in the vision statement above take reference and rephrase from the part in the shareholders letter under “Data and AI”, where it state that the Al analytics capabilities is accelerating due to the data being feed and convert into an AI and by using Azure machine learning, developer with are able to develop AI,which would cause capabilities of artificial intelligence to advanced

In my opinion, part 6 is included in the Microsoft 2020 vision statement. This is because the part in the shareholder letter state the long term perspective of the Microsoft (e.g Al innovation is accelerating due to the data being able to feed and converted into an AI) which are typically included in an vision statement. Hence, part 6 is included in the Microsoft 2020 vision statement Microsoft, 2019).

Part 7) **With the mixed reality and internet of things ('IOT'), virtual and physical world come together to create experience that are richer ,which reflect the context around people, the places that people has travel ,the things that people utilize as well as people's relationship and actions. The experience of a person using technology covers a range of devices and is becoming more multi-sensory and intuitive via ink, eyes and speech interactions.**

Part 7 in the vision statement above take reference and rephrase from the part in the shareholders letter under “business application” where it states that the mixed reality cloud investment made by Microsoft has connect the physical and digital world together and enable organisation to digitize their interactions, via Hololens2 technology, which allow a person to undergo a more richer experience and interact more intuitively through various type of interactions (e.g. gaze, ink and voice).

In my opinion, part 7 is included in the Microsoft 2020 vision statement. This is because the part in the shareholder letter under “business application” describe the action that Microsoft take to achieve the desired future for mixed reality and internet of things ('IOT') An example of the action they take to achieve the desired future is, Microsoft investing into mixed reality and connect the physical and digital world together and enable organisation to digitize their interactions. This is done through the Hololens2 technology which allow a person to undergo a richer experience and interact more intuitively through various type of interactions. The action they take to achieve the desired future ,is typically included in a vision statement. Hence, part 7 is included in the Microsoft 2020 vision statement (Microsoft, 2019).

1c)

Strategic theme refer to core business strategies are of high level. Strategic theme focus on resource and effort of core functional groups, and is the combination of different activities. The strategic theme of Microsoft are core business strategies that are high level and are consider as their pillar of excellence when utilize throughout the organization. It also define the core area an organisation or company(e.g Microsoft) will concentrate on or do well in to ensure the organisation or company vision(e.g Microsoft vision) is achieved (Tay & Tan, 2021).

Strategic themes are structured to develop a common understanding of the strategic objective and which initiative to concentrated on. Each strategic theme is associated with a “strategic objective”, which is the end state that is desired and must be measurable as it is like an important objectives of an organisation as well as able to be define explicitly. It is also associated with a “strategic initiative” that state the activity, programme or project to achieve the strategic objectives .The organisation strategy can be separated into a few strategic theme, which may influence the 4 perspective of the balanced scorecard (Learning & growth, business internal process, customer, financial) (Tay & Tan, 2021).

Learning and Growth perspective

Under the Learning and Growth perspective, the strategic theme for Microsoft are: Build the intelligent edge and intelligent cloud platform, Technology progress and breakthrough, technology infrastructure, staff competence, goal alignment and Company culture and diversity. These strategic theme will help to support the internal business process.

**Build the intelligent edge and intelligent cloud platform**

Many company are considering employing the usage of digital technology to change the service and product core, optimizing their operation, engage with consumer and empowering their employees.

In this case, the strategic objective of Microsoft is to become the partner of choice and the strategic platform for digital transformation. Being the partner of choice and the strategic platform for digital transformation, there is a lot of opportunity for Microsoft to partner with other organisation and assist that organisation’s digital transformation.

The strategic initiative is that Microsoft invest continuously in datacentres as well as other edge and hybrid infrastructure which support Microsoft services. Azure cloud has built in AI based security, with a compliance coverage that is comprehensive and is trusted.

The strategic measures are labor cost, cost per unit of computational resources deploy and geographic and customer patterns. This is based on the 3 economies of scale below.

There are 3 economies of scale which could benefit microsoft's cloud business: improve the usage of resources related to network, storage and computing; multi tenancy location which will reduce the labor cost for application maintenance; computational resources are deploy in datacentre at a reduce cost per unit compare to smaller datacentre; datacentres that can aggregate and coordinate diverse application demand, geographic and customer patterns.

Microsoft is one of the two leader in providing cloud computing. Microsoft azure is able to function globally and offer trusted compliance and security, artificial intelligence capabilities, development productivity and hybrid consistence. There will an increase in the need for security and computing at the edge, which would speed up innovation across the intelligent edge device spectrum ranging from edge hardware and gateway device to IOT sensor to secure, manage and edge workload.

Organisation can utilize azure in their datacentre with azure stack to ensure the stack is consistent across the intelligent edge and the public cloud. The consistency of Microsoft hybrid infrastructure span security, management, compute, data and identity to assist commercial enterprise and customer in fulfilling their needs and regulatory requirement which are constantly changing. Mixed reality solution are being rapidly developed by Microsoft by combininng new azure device like HoloLens 2 and azure services. Microsoft believe that by merging digital and physical world together, along with utilizing Azure cloud service ,a new opportunity for an entire new workload will present itself and will shape the next computing era.

Microsoft competitive advantage lies in its ability to make data convert into AI. For instance, Azure SQL database allow Microsoft customer to use Microsoft SQL server and implement it into cloud in order to use the AI that is built in. From the research to product process, Microsoft is accelerating the acceptance of technologies in AI across research to products process. Microsoft innovation enable any developer to become a AI developer via Azure Machine Learning models’ new tool where it allow an developer to create an straightforward machine learning model or via the versatile Azure Machine Learning Workbench where developer can use for  sophisticated data science and AI modelling

Recently in 2018, Microsoft has acquire GitHub where developer worldwide use it for programming. With this acquisition, Microsoft can introduce new customer to its developer service and tools, empower developer to increase their productivity throughout the lifecycle of development and increasing the usage of GitHub by different enterprise(Microsoft, 2019).

**Technology progress and breakthrough**

Computing is being embedded in every device and everywhere in the world**.** The next innovation phase is being shape by the intelligent edge and intelligent cloud era ,which in turn power intelligent system and experience that is not possible before, as well as transforming our environment.

The strategic objective is to empower Microsoft customer.

The strategic initiative is to innovate new product and tools and investing into market that are growing and large to empower customer in transforming digitally for the present and long term. For instance ,Microsoft innovate and invest into area related to gaming(e.g xbox), modern workplace(e.g Microsoft 365) , business application(e.g dynamics 365) , data and AI(e.g Power Bi,Azure data factory) and infrastructure and application(e.g GitHub, virtual studio, azure)

In this case, the strategic measures is the amount of new product created(Microsoft, 2019).

**Technology infrastructure**

Technology infrastructure refer to component like data storage, operating system ,networking component, software, hardware needed to manage and operate an organisation like Microsoft(RedHat, n.d).In this case, the strategy objective is to improve the technology infrastructure of Microsoft such as Azure, GitHub and visual studio.

The strategic initiatives are developing and improving the operating system of windows 10 and Microsoft Azure cloud, utilizing artificial intelligence.

The strategic measure would be the number of times the service is disrupted (Microsoft, 2019).

**Staff competence**

Staff competence refer to whether the skills of a employee are able to meet the expectation of an organisation (e.g Microsoft)(The Importance, n.d)

In this case, the strategy objective is to improve the competency of the staff in Microsoft.

The strategy initiative in this case refer to Microsoft training its employees for product and sales support.

The strategic measures would be the number of training the employee went for. (Microsoft, 2019).

**Goal alignment**

Goal alignment refer to the goal of the each department across the organisation being aligned to work toward the organisation (e.g Microsoft) objectives (University of Missouri System, 2019). The strategy objective is to improve the alignment of objective and strategies across all service, marketing, sales and development organisation.

In this case, the strategic initiative is Microsoft reporting their financial result and operating their business in 3 segment: More personal computing, intelligent cloud and, business and productivity processes This will provide a comprehensive view of Microsoft financial and will ensure their objective and strategies is align across the service, marketing, sales and development portion of the Microsoft organisation.

The strategic measure is number of Microsoft goals achieved year by year.(Microsoft, 2019).

**Company culture and diversity**

Company culture refer to the culture of a company or organisation (e.g Microsoft). People who are talented has enable Microsoft to be what it is today. Employee of Microsoft worldwide help customer to succeed and earn their trust. Microsoft understand the importance of putting their employee’s plus their families financial, emotional and physical well-being first .

In this case, the strategy objective is to improve the culture and diversity within Microsoft.

In this case, the strategic initiative is to hire more women and other race (e.g. Hispanic and African American) as well as providing sick leave ,paid vacation and industry-leading benefit and paid leave of absence for circumstances such as family member being ill with a health condition that is serious or a child that has just been born.

The strategic measure is the percentage of gender and race in the Microsoft organisation, and the number of benefits provided to Microsoft employees(Microsoft, 2019).

Internal Business process perspective

Under the Internal Business process perspective, the strategic theme for Microsoft are:Reinvent productivity and business processes**,** computing experience, distribution networks, corporate and environmental social responsibility and brand dominance. These strategic theme will help to support the customer perspective.

**Reinvent productivity and business processes**

In an era where the workplace is evolving rapidly, Microsoft is at a unique position to empower the organisation and people into succeeding. People can use multiple device at the same time, on the go, and are able to work from home due to an evolved computing experience. Such customer's modern expectation, habits and needs encourage Microsoft to integrate third party application, device like Microsoft surface, windows platform and Microsoft office 365 together, to create a Microsoft 365 experience that is more cohesive for the customer.

In this case,the strategic objective is to create a Microsoft 365 experience that is more cohesive for the customer

In this case,the strategic initiative is to improve and innovate Microsoft collaboration and productivity services and tools continuously such as LinkedIn, Microsoft dynamics and Microsoft office. Microsoft 365 integrate enterprise security + mobility, windows 10 and office 365 together, which will assist in empowering the organisation's employee with tools that utilise "artificial intelligence", such tools would help to fuel innovation, increase the teamwork and unlock employee creativity as well as ensuring protection of data and compliance coverage.

Microsoft team is the key part of Microsoft’s modern workplace vision as the digital hub which create an all in one canvas for content, meeting, conversations and teamwork. Through social selling, business to business sales is transform when Microsoft relationship sales solution integrate LinkedIn sales dynamics and navigator together. By integrating LinkedIn recruiter and learning with dynamics 365 for talent together, it would assist profession in human resource to scout for talent. Employee that may lack technical expertise are able to analyse data, automate workflow and create custom application with Microsoft power platform.

The scenario above indicate how Microsoft’s collaboration product and tools can help to instil teamwork, unlock creativity as well as simplifying management and security. With microsoft's collaboration product and tools, small, medium or large organisation are able to digitize function that are business critical as well as meeting the expectation of customer when using their business application. This will allow Microsoft to get new customer as well as increase existing customer’s engagement and usage.

The strategic measure would be the number of product and tools that a particular product integrate with.

**Computing experience**

Computing experience refer to the experience of the customer when using Microsoft’s product and service. The strategy objective is to improve the customer’s personal computing experience when using Microsoft’s product and service.

In this case,the strategic initiative is integrating third party application, different devices, windows platform and Microsoft office 365 together to create a more cohesive experience for the customer.

The strategic measure would be the number of product and tools that a particular product integrate with.

**Distribution networks**

Distribution networks refer to the distribution of Microsoft service and product through channel such as resellers, distributors, direct and original equipment manufacturer. The strategy objective is to improve the Microsoft distribution networks.

In this case, the strategic initiative is Microsoft directly engaging and working with reseller, original equipment manufacturer and distributor as well as selling service and product through retail and online store and digital marketplaces.

The strategic measure would be the number of resellers, distributors, direct and original equipment manufacturer that Microsoft is working with (Microsoft, 2019).

**Corporate and environmental social responsibility**

Microsoft strive to create a future that is sustainable, where technology provide opportunities and benefit to everyone. While understanding the importance of advancing social and environmental progress ,the management of Microsoft and the rest of the organisation work together to maintain their commitment to environmental sustainability and corporate social sustainability. The climate issue cannot be tackle by only one company .However, as Microsoft is a technology company that span across worldwide, it in in a unique position to increase the speed of digital transformation for all organisation and company in the world in order to create a low carbon future.

The strategic objective is to increase the speed of digital transformation for all organisation and company in the world in order to create a low carbon future.

In this case, the strategy initiative is to broaden Microsoft work via advocacy, partnerships, investments, operating across social responsibility and environmental initiatives

The strategy measures would be the carbon emission level that Microsoft emit (Microsoft, 2019).

**Brand dominance**

Brand dominance refer to the dominating the particular sector that the organisation or company is in. For instance, Microsoft is in the technology sector. The strategy objective is to ensure that Microsoft continue to be a leader and dominate in the technology company .

In this case, the strategic initiative is Microsoft entering geographic market that are new, identify and take advantage of disruptive technology trend , and create new service ,product and experience for their consumer.

The strategy measures would be number of newly created product (Microsoft, 2019).

Customer perspective

Under the customer perspective, the strategic theme for Microsoft are:, product fit, brand image, shopping experience, trust and create more personal computing. These strategic will help to support the financial perspective

**Product fit**

Product fit refer to a company providing a market with a product that can meet the customer’s expectation and need (Jorenson, 2015).

The strategy objective is to ensure that Microsoft create product and service that are able to meet the customer’s expectation and need.

In this case, the strategic objective is Microsoft integrating third party application, different devices , windows platform and Microsoft office 365 together to create an all in one Microsoft 365 experience for the customer ,in order to meet the customer’s expectation and need.

In this case,the strategic measures would be customer satisfaction level(Microsoft, 2019).

**Brand image**

Brand image refer to the “image” or perception of a company brand (Kaemingk, 2019).The strategy objective of Microsoft is to improve the brand image of Microsoft and maintain a brand image of a trustworthy organisation.

In this case,the strategic initiative is Microsoft applying the three pillars approach in all the service and product of Microsoft: AI that is responsible, cybersecurity and privacy.

The strategic measure would be Microsoft customer rating the “trustworthiness” of Microsoft (Microsoft, 2019) .

**Shopping experience**

Shopping experience refer to the customer experience when shopping for product and service. The strategy objective of Microsoft is to improve the shopping experience for the customer.

In this case, the strategic initiatives is providing Microsoft customer with, many choice, interface which are simple to use, security, value and compatible with various software and hardware productivity application, for the device ,platform and software product that Microsoft is selling .Another strategic initiative is selling service and product like gaming ,search and cloud service through retail and online store and digital marketplaces.

In this case,the strategic measures is customer churn rate (Microsoft, 2019) .

**Trust**

Although Microsoft has many opportunity, it all come with responsibility. Fundamentally, responsibility is about sustaining and earning the trust of the community where people work and live ,as well as the partners and customer that Microsoft has empower. It is not possible for progress to happened, if there is no trust.

In this case,the strategic objective to become a trustworthy organisation.

Trust would only happen if Microsoft commit to shared prosperity and success. Customer of Microsoft would only work with Microsoft if their business model is align fundamentally to the company success. A company would not work with a rival company that competes with it, while purchasing technology from them

By focusing on trust, Microsoft make sure that their customer have confidence in the technology of the service and product while using it.

In this case, the strategic initiative is Microsoft applying the 3 pillars approach in all the service and product of Microsoft: AI that is responsible, cybersecurity and privacy.

The strategic measure would be Microsoft customer rating the “trustworthiness” of Microsoft (Microsoft, 2019) .

**Create more personal computing**

This refer to providing user with a computing experience that is more personal, by placing user at the experience “core”. The strategic objective is to provide user with a computing experience that is more personal by placing user at the experience “core, and empower user to interact with technology in a way that is more dynamic, engaging and intuitive.

In this case ,the strategic initiative is Microsoft striving to integrate device, windows and office together, in order to create a experience that is more cohesive for customer. The usage of Window 10 is constantly increase due to it being the most productive and secure operating system. Window 10 allow people to achieve more with AI-first interfaces such as mixed reality experience ,immersive 3d content storytelling, inking ,Cortana and voice activated commands.

Besides that, window also help to power new "intelligent edge" devices that are constantly increasing, as well as support the Microsoft 365 and cloud business strategy. Microsoft also aim to monetize windows through search advertising, subscriptions, services and gaming

Microsoft focus on marketing and design first party device to stimulate demand, create new device categories and drive innovation for the window ecosystem. Microsoft has also release new surface devices such as the surface hub 2s ,which integrate the surface hardware with window and Microsoft team so that it would encourage organisation teamwork.

Microsoft are constantly researching and preparing to take advantage of the huge opportunity in gaming industry from the creation of game to the distribution of game and how the game is being view and play. Currently, Microsoft has an competitive advantage with window 10 as it is the PC operating system that is most popular , and the Xbox one console ,where the Xbox live community is highly engage and constantly increasing.

Using service such as Xbox game pass and mixer, Microsoft aim to engage and grow the network of Xbox live member more frequently and deeply as well as integrating their gaming asset across work, mobile, console and pc. Microsoft also aim to empower gamer with the ability to play whatever games they prefer, whoever they prefer and whichever devices they prefer.

The strategic measure is the customer satisfaction index (Microsoft, 2019) .

Financial perspective

Under the financial perspective, the strategic theme for Microsoft are: Using financial resource productively and financial growth.

**Using financial resource more productively**

This refer to the money used to finance the activities and operation of a company (Igi Global, n.d).

In this case, the strategic objective of Microsoft is to decrease the operating margin.

In this case, the strategic initiative is investing into the research and development of devices and infrastructure of Microsoft to lower the operating margin.

In this case, the strategic measure is operating margin (Microsoft, 2019).

**Financial growth**

This refer to change in the company revenue or earning (growth, n.d). In this case, the strategy objective of Microsoft is to improve their revenue.

In this case, the strategic initiative is Microsoft investing into the research and development of devices and infrastructure (e.g Microsoft azure cloud) to improve their revenue (e.g cloud revenue) .

In this case, the strategic measure is revenue(Microsoft, 2019).

1d)

“Data visualisation process consist of: a) data collection and storage,b)data pre-processing,c) graphic engine,d) Human visual and cognitive processing” (Tay & Tan, 2021, p.SU2-3). In my opinion, there are a few challenges in each part of the data visualisation process for the purpose in creating Microsoft’s annual report and shareholder letter as below:

**a)Data collection and storage**

The challenges for data collection and storage are: Standard of data collection are inconsistent, Insufficient staff training to collect data and Data accuracy

**Standard of data collection are inconsistent**

One of the challenge face in data collection and storage process , is that the data collection standard are inconsistent. For instances, the practises for financial reporting is using generally accepted accounting principles(GAAP) in United States ,while the practises for financial reporting at countries such as Singapore adhere to international financial accounting standards (IFRS) (Ross, 2019).On the other hand, china also has their own Chinese accounting standards which is about 90% similar to IFRS( Lee,2020). For example in Microsoft case, the Microsoft's organisation is quite big and span across worldwide in many different countries such as China, Singapore and United States . The practise for financial reporting differ in countries such as China, Singapore and United States ,which mean the financial data collected is inconsistent. This may pose a difficulty in creating the financial portion of Microsoft annual report, and indicating the financial detail in the shareholder letter (Craft.co, 2021).

**Insufficient staff training to collect data**

Another challenges face in data collection and storage, is that staff the may have insufficient training to collect data for the creation of annual report and shareholder letter. Being a technology company primarily, Microsoft employee and management may have insufficient training in collecting data needed to craft financial reports for the annual report. Without sufficient training, Microsoft employee may not know why they need to collect that specific data ,or whether they need to include some of their assets or data into the financial report (e.g office equipment) (Microsoft ,2019).

Although Microsoft can hired internal or external auditor to audit their financial statement, the financial statement is crafted with data from employees from different departments in Microsoft(e.g R&D expenses from research and development department and employee salaries from human resources department) who have insufficient training and are not familiar if they should add in a particular data from their respective department .This may result in discrepancies between the data submitted by the different headquarters worldwide , and may pose issues when creating the financial portion of the annual report, and indicating the financial detail in the shareholder letter (Microsoft ,2019).

**Data accuracy**

One of the challenges of data collection and storage may be ensuring the accuracy of data. When collecting the data require, it is important to verify the data as there may be some form of inaccuracy due to human error when entering the data. For example in Microsoft case, the Microsoft's organisation is quite big and span across worldwide in many different countries. It may pose a challenges to verified the data accuracy from all of its different firm worldwide. Also, there may be a possibility that the data entered by a human is inaccurate. For example, the data of Microsoft's revenue may be enter wrongly, which will cause the financial portion of the annual report and the financial detail in the shareholder letters to be inaccurate (Microsoft ,2019).

**b)data pre-processing: Transform data so people are able to understand it**

The challenges for data pre-processing stage are: missing data, combining data together, data type is wrong

**Data may be missing**

One of the challenges of data pre-processing process is that, some data may be missing when undergoing data pre-processing to create the annual report and shareholder letter. .An organisation consist of many firm where their data is store in many different system (e.g Microsoft excel, sql database etc).Thus, some form of data are bound to be missing (e.g expenses) due to human error when entering the data and other factor. If there are some form of data missing, it would affect the data pre-processing, making it difficult to transform the data into something that people are able to understand it ,as well as creating the annual report and shareholder letter (Microsoft ,2019).

**Combining data together**

One of the challenges of data pre-processing may be combining the data together to transform the data into something that people are able to understand it. An organisation consist of many firm where their data is store in many different system (e.g. Microsoft excel, SQL database etc). For example in Microsoft case, the Microsoft's organisation is quite huge and span across worldwide in many different countries. It may be difficult to, combine the different data and information from different firm altogether into something that people are able to understand it ,as well as creating the annual report and shareholder letter (Microsoft ,2019).

**Data type is wrong**

One of the challenges of data pre-processing is that the data type is wrong. For example in Microsoft case, the Microsoft's organisation is quite big and span across worldwide in many different countries such as United States, Singapore and China. These countries used many different currency such as US dollar for United States, Singapore dollar for Singapore and RMB for china. When pre-processing the financial data from the different countries, some countries headquarter may submit their financial data in their local currency instead of the US dollar. This would pose challenges in the data pre-processing, as Microsoft would have to ensure all financial data are calculated in US dollar across all headquarters. If not, there will be error in the financial portion of the annual report and shareholder letter’s financial detail (Microsoft, 2019).

**c) Graphic engine: graphic algorithm and display hardware to enable visualisation of data on screen**

The challenges for graphic engine stage are: Determine which chart to display the visualisation of data

**Determine which chart to display the visualisation of data**

One of the challenges of graphic engine is to determine which chart to display the visualisation of data. For instance, the amount of financial data that an organisation such as Microsoft has is vast. Microsoft must decide which graph or chart is the best chart to present its information on the annual report, whether it be line ,bar or pie chart. For example, Microsoft decided that the line graph will be used present the share price increase compare to the Nasdaq computer index and S&p 500 index (Microsoft ,2019).

**d) Human visual and cognitive processing**

The challenges for human visual and cognitive processing are: Determine how to present the information for human to interpret and determine which part to highlight and talk about

**Determine how to present the information for human to interpret**

One of the challenges of human visual and cognitive processing is to determine how to present the information for human to interpret. For instance, the Microsoft annual report consist of many information such as shareholder’s letter and financial report. The typical annual report and shareholder letter can cause information overload on the human cognitive process and may be difficult for shareholders to understand (Paul Wan & co, n.d ).Thus,it is important to determine how to present the information of the shareholder letter and annual report without overloading the cognitive process for human, and simplifying it so that shareholder can understand. For example, using more picture and illustration to explain the Microsoft financial situation and development(e.g “show not tell”)

**Determine which part to highlight and talk about**

One of the challenges of human visual and cognitive process is to determine which part to highlight and talk about. A annual report and shareholder letter is an yearly affair for the organisation to update the shareholders on the organisation status. Hence, the organisation might try to cram as much information as possible in the annual report and shareholder letter to present to shareholder. The typical annual report and shareholder letter can cause information overload on the human cognitive process and may be difficult for shareholders to understand (Paul Wan & co, n.d ).Thus, there may be some challenges to choose which part of the annual report and shareholder letter to highlight and talk about.

1e)

Some interesting point in the 2019 Microsoft’s annual report are: 1)Cash dividend declared per share has been steadily increasing year by year , 2) if you invest $100 into Microsoft Stock, S&P 500 index as well as Nasdaq computer index in June 2014 for 5 years,the return of your investment in Microsoft is better than the S&P 500 index and Nasdaq computer index 3)Microsoft operating income has been steadily increasing year by year and 4)Revenue in different segment is increasing year by year

**1) Cash dividend declared per share has been steadily increasing year by year**

**Summarise the data**

Dividend: percentage of the profit that the company has made that is paid to shareholders (Maverick, 2020)

One of the interesting point of the 2019 Microsoft’s annual report is that the cash dividend per share has been steadily increasing year by year

Cash dividend declared per share (2015):1.24

Cash dividend declared per share (2016):1.44

Cash dividend declared per share (2017):1.56

Cash dividend declared per share (2018):1.68

Cash dividend declared per share (2019):1.84

Over the year, the cash dividend declared per share(2015):1.24 has increase to cash dividend declared per share:1.84(Microsoft ,2019).

**Why is this point interesting? /Is this point good or bad?**

This point is interesting as the cash dividend declared per share provide some insight about the company financial situation. It is also interesting as an increase in the cash dividend declare per share does not necessarily mean that it is good for the company (Maverick, 2020).

Typically, an increase in the cash dividend declare per share is view by investors as a positive indicator, as this imply that the company cash flow and net profit is increasing and that it is performing well. It also imply that the company is optimistic about its own future development. Hence, it is able to pay more dividend to its shareholders (Maverick, 2020).

On the other hand, it may also imply that there are lesser growth opportunity for the company and that instead of investing the excess cash flow into the growth opportunity, the company has instead decided it to distribute their shareholder (Maverick, 2020).

By inferring from the annual report, Microsoft net profit(net income ) has gradually increase from 2015:$ 12,193,000 to 2019:$39,240,000 ,except for the one-off event in 2018 where the net income was decrease to $16,571,000 due to the tax cut and job act being enacted. This imply that the increase in the cash dividend declare per share is good for Microsoft, as it mean that the company cash flow and net profit is increasing, and that Microsoft is performing well. It also imply that Microsoft is optimistic about its own future development. In addition, the increase in cash dividend declared per share would attract new investors to purchase Microsoft shares. Hence, it is good for Microsoft (Maverick, 2020).

**Recommendation**

My recommendation is to increase the cash dividend declared per share year after year if it possible. By doing so, this would signal to investor that the company cash flow and net profit is increasing and that Microsoft is performing well. It would also imply that Microsoft is optimistic about its own future development. This would not only provide current shareholders with a piece of mind but also attract new investors to purchase Microsoft shares or encourage venture investor to invest into the company directly.

**2) if you invest $100 into Microsoft Stock, Nasdaq computer index and S&P 500 index in June 2014 for 5 years, the return of your investment in Microsoft is better than the S&P 500 and Nasdaq computer index**

**Summarise the data**

Stock price: A stock price is equal to the current price of 1 share that is currently being trade in the market. A publicly traded company will typically issue the shares on market to raise capital. The stock price represent the value of the company or whatever the public is prepared to pay for one share, which is a very tiny piece of a company. The stock price will go up or down due to factors related to economy (e.g. recession) or even political (e.g. increase tax on companies) as well as many others (e.g. change of management) (What is Stock Price?, n.d).

Index: An index is a “basket” of companies. It contain many different company shares and each company share is allocated a percentage of an index. The index stock price is calculated by determining the average of all the company share in the index with respect to their percentage .For example, inside the S&P 500 and NASDAQ computer index, Microsoft shares make up 5.6% and 11.3% respectively (Scott, 2020)

The return for Microsoft stock, if you invest $100.00 in June 2014 is as below:

Microsoft (June 2014):**$100.00**

Microsoft (June 2019): **$359.85**- **an increase of about 3.59x from $100**

The return for S&P 500 index ,if you invest $100.00 in june 2014 is as below:

S&P 500 index (June 2014):**$100.00**

S&P 500 index (June 2019):**$166.33**- **an increase of about 1.66x from $100**

The return for Nasdaq index ,if you invest $100.00 in june 2014 is as below:

NASDAQ index (June 2014):**$100.00**

NASDAQ index (June 2019):**$229.01**- **an increase of about 2.29x from $100**

From the above ,we can inferred that microsoft stock has the highest return of the $100.00 investment(include dividend reinvestment) from $100.00 to $359.85,which is increase of about 3.59x(Microsoft ,2019).

**Why is this point interesting? /Is this point good or bad?**

This point is interesting as the typical advice for retail investor has always been to invest in index fund instead of investing into a single company but if they choose the correct company to invest in their return will greater than putting the money into an index fund (Loudenback,2019). Another interesting factor is that the stock performance is correlated to the share price, which inferred that Microsoft share price has tripled (3.51%) from 2014, compare to S&P500 and Nasdaq index price at 1.66x and 2.29x respectively, thus .This is also good for the company ,as the company value/market of Microsoft which is correlated to the share price, has tripled from 2014 to 2019(Microsoft ,2019).

This is good for Microsoft as an increase in share price indicate that the company is doing well. It also signal to investor that the company is valued higher due to positive factors related to economy (e.g. New partnership with other company such as Walmart), political (e.g. decrease company tax) or management (e.g. new CEO). It would also imply that Microsoft is still growing and developing. This would not only provide current shareholders with a piece of mind but also attract new investors to purchase Microsoft shares or encourage venture investor to invest into the company directly (Microsoft ,2019).

**Recommendation**

Microsoft should continue to invest and innovate in the area that it is making money from, and has the potential to expand and grow such as: Azure cloud and gaming. More money should be spend on research and development to come out with new software or hardware in order to maintain their lead in the commercial cloud business as well compete with competitor in the technology industry such as google and Amazon (Microsoft ,2019).

**3) Microsoft operating income has been steadily increasing year by year**

**Summarise the data**

Operating income is used as an indicator of a company profit or an earnings before taxes. It is often refer to as the profit that the business operation generate. It is calculated by subtracting operating expenses from the company gross income (Hayes, 2020)

The operating income of Microsoft has been steadily increasing year by year as shown below:

Operating income (2015):$18,161,000

Operating income (2016):$26,078,000

Operating income (2017):$29,025,000

Operating income (2018):$35,058,000

Operating income (2019):$42,959,000-an increase of about 2 2.37x from $18,161,000 (Microsoft, 2019).

**Why is this point interesting? /Is this point good or bad?**

This point is interesting as the increase of the operating income can provide investors with insight regarding the company financial situation and the management. For instance, if the operating amount is steadily increasing, it is deem as a positive indicator by investor, which is also a good thing for the Microsoft. This is because it implies that the management of Microsoft is able to generate more company revenue, while ensuring the overhead, production cost and expenses is controlled. Thus, the increase of the operating income steadily throughout the years is a good thing for Microsoft (Hayes, 2020)

This is also good for Microsoft as the increase in operating income steadily throughout the year, indicate that the company is doing well under the hands of the current management. It would also signal to investor that the company is well prepared for the future under the hands of the current management. This would not only provide current shareholders with a piece of mind but also attract new investors to purchase Microsoft shares or encourage venture investor to invest into the company directly (Microsoft, 2019).

**Recommendation**

My recommendation is that Microsoft should maintain the current management without doing much reshuffling as the current management has done a good job to generate more company revenue, while ensuring the overhead, production cost and expenses is controlled. The company should continue to use its excess cash flow to research and invest in the most profitable area such as gaming, Microsoft surface and commercial cloud (Microsoft, 2019).

**4) Revenue in different segment is increasing year by year**

**Summarise the data**

Revenue is refer to as the generated income from the sales of services and goods of a company. In this case, it refer to the income that Microsoft generated from its selling its services and goods (Four Reasons ,2018) .

The revenue for the different segment are increasing year by year as shown below:

Productivity and business process revenue

2017: $29,870,000

2018: $35,865,000

2019: $41,160,000 (32.7% of 2019 total revenue)

Intelligent cloud revenue

2017: $27,407,000

2018: $32,219,000

2019: $38.985, 000(30.97% of 2019 total revenue)

More personal computing revenue

2017: $39,294,000

2018: $42,276,000

2019:$45,698,000(36.31% of 2019 total revenue)

**Why is this point interesting? /Is this point good or bad?**

This point is interesting as it inferred that Microsoft does not particularly focus on one segment only, but instead focus on generating revenue from the 3 different segment year by year. This also mean that Microsoft income source are more diversified as they sought to generate revenue from the 3 different segment (32.7%,30.97% and 36.31%), unlike other technology giant such as Apple and Google ,where majority of their revenue come from iPhone sales (62.8%) and advertising(70.4%) respectively(Desjardins, 2019) .It is also interesting as increasing in revenue year by year inferred that the number of customer are buying microsoft’s product and service are increasing year by year, which is also a good thing for Microsoft.

In my opinion ,having a diversified revenue sources is a good thing as Microsoft does not need to overly rely on one revenue sources to generate income. Different revenue segment increasing year by year also indicate that the company are able to align their strategies and objective well across the organisation in the different segment, which is a good point. An increase in revenue year by year would allow Microsoft to create more revenue sources, reinvest into their own business, advertise their company more and acquire company.This is also another good point (Four Reasons, 2018).

**Recommendation**

My recommendation is that Microsoft should maintain the current management without doing much reshuffling as the current management has done a good job to generate more company revenue from the 3 different segment. The company should continue to use its increased revenue to create more revenue sources, reinvest into their own business, advertise their company more and acquire company (Four Reasons, 2018).

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