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Introduction

An organization's marketing and strategic performance are crucial components that fuel the company's expansion and success. Brands must develop efficient and slashing tactics that can improve consumer satisfaction and attention if they intend to survive in the competitive marketplace and attract customers. Due to the activities these firms participate in, a few characteristics including sustainability and brand image have become more popular with consumers in recent years. The focus of this study will be on analysing the marketing initiatives and tactics that Apple has implemented in an effort to increase consumer attraction. Theoretical evaluation will be carried out in the subsections of the report that will demonstrate the significance of important marketing tools in determining the growth and development of the organization. Thus, an STP analysis will be described to focus on the segmentation, target and positioning model. This report will also include a representation of the innovative technologies laid down by Apple and its impact in overall organizational perspective.

Company information of Apple

Apple Inc is a technology company that designs, markets and manufactures communication and media devices such as personal computers, digital music players, iPhones, iPad, Macs, Apple TVs, and a wide variety of software, services and peripherals. Apple Inc, formerly known as Apple Computer Inc, is an American manufacturer. It is headquartered in Cupertino, California (Xie et al., 2018). The product family Apple includes the Macintosh line of desktop and notebook computers. Most of the products are sold online through third-party wholesalers and some of its stores. Apple owns around 125 retail stores in the United States and many stores in different parts of the world (Matta et al., 2019).

Apple was founded in April 1976 by Steve Jobs, Ron Wayne and Steve Wozniak. They invented the first Apple computer, which was named Apple 1. This was a hand-built personal computer of Wozniak. The first product was sold as a motherboard with RAM, CPU and textual video clips. There were no keyboard, monitor or any cases. The first product was sold at a price of \$666.66. later Ron left the team, and Wayne was the one who designed the first logo for the brand, which was later replaced by the logo of

a bitten apple in 1977 (Yang et al., 2019). Later the brand integrated a one-megahertz processor, and it was named Apple 11.

Currently, Apple is identified to be the best technological company by its revenue. The recent reports also indicate that Apple is the second largest manufacturer of mobile phones and the biggest company globally by its market capitalisation. The products introduced in the subsequent years featured innovative technological integration. In the year 1985, the Macintosh chain was developed. A wide product portfolio is a key feature of the brand that has helped them to acquire many other companies over the years. The most recent report indicated that Apple became the first publicly traded company in the US to reach a value of over \$3 trillion (Shu et al., 2019). This is considered one of the most trusted brands in the world. Higher customer satisfaction rates and brand loyalty make Apple stand out from similar organisations in the market. The revenue growth of Apple over the years is given below.

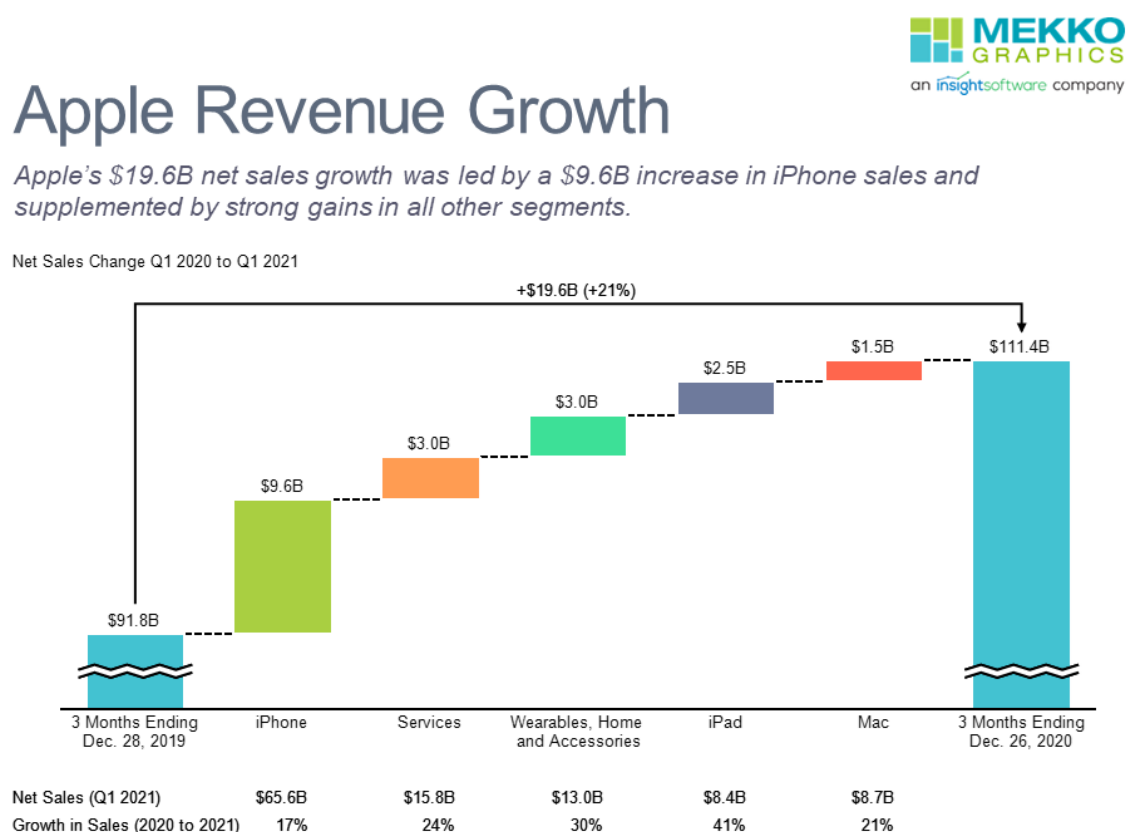


Figure 1: Apple revenue growth (Adopted from Goldstein, 2020)

Marketing strategies of Apple

4Ps of marketing mix

4Ps of marketing mix represents different components of the marketing of Apple such as

Product mix strategy

Multi products are the key factors that determines the marketing of a brand. In case of Apple, they have introduced different kinds of products depending on the customer needs and demand. Diverse and expansive product portfolio of Apple is visible through the wide range of products they are offering to the customers. Their product range includes:

- Personal computers- this includes entire Macintosh line of computers that involves MacBook, iPad, Laptop, Mac desktop, MacBook Pro and iMac.
- iPhone
- wearable devices- Apple watch
- software- MacOS, iLife, Final Cut Pro X etc
- iCloud and Apple pay
- Apple Music
- Cloud services

Developing of these many varieties of customer goods and services for the customers have been considered as an essential part of marketing of Apple.

Pricing strategy

Pricing strategy followed by Apple is a premium category. This particular pricing consideration of the goods makes the products expensive. When compared to the competitors in the market, products of Apple are priced much higher than their goods (Duking et al., 2020). This makes the products only available to a specific group of the society, which is a factor that frames a unique image of the product and thus enhances the demand. Their pricing strategy has been justified by their technological integration in the products. The high quality of display and style of the products are reasonable to the customers with this pricing. Phones of Apple are much expensive than any other smartphones in the market. This premium pricing strategy is a measure adopted by

the company along with premium branding and innovation to assure the profitability and business competitiveness.

Places and distribution mix of Apple

The distribution policy adopted by Apple is through different distribution channels. This includes both companies-owned stores as well as third-party retailers. Distribution components of Apple include mainly Apple store locations, a company-owned websites and online stores, telecommunication companies and authorised resellers (Ahmed et al., 2020). Direct and indirect distribution channels include physical direct stores that directly sell and deal with the products, as well as the online direct channel through an official e-commerce platform that is easily accessible to customers globally. Indirect channels are through third-party retailers that involve authorised distributors, electronic retailers etc. all these stores and platforms are provided with trained persons to support customers. In-house repairs and troubleshooting options are provided in some of the stores (Mohammed and Mustafa, 2020).

Promotional mix of Apple

Promotional aspects are considered the most exciting elements of marketing of Apple. Promotional activities are carried out through different platforms such as advertizing, sales promotion, strong public relations, events marketing, and personal selling. Apple still conducts advertising through moment marketing. Apple also finds an ad spot in google search and ads platforms.

Premium advertising features the product qualities and highlights of the goods. These promotional activities are a great effort from the brand. Discounts for students and business owners are marketing tactics for Apple. Events of Apple and involvement of worldwide developers conference acts as public relation strategy and events marketing initiatives of Apple.

PESTLE analysis

PESTLE analysis is represented through component factors such as

Political factors: Functioning of apple is dependent on influential factors such as taxation, fluctuations in the wages, labor laws, anti-corruption laws and many more. Since Apple outsources its manufacturing in China, the political conflicts between America and China had resulted in changes in the importing and renewal of business

plans with China (Li et al., 2020). This affected high tariff and taxes between these countries and resulted in less demand for Apple products in the China. This also led to increase in the price of products. These political instability affects Apples sales and supply in different countries.

Economic factors: Economic stability of many nations laid down a platform for Apple. These opportunities are well used for business expansion. Increased labor cost in many countries are affecting sales and profitability (Apple, 2020). The premium pricing is making it difficult for Apple to enter into Asian market, where competitors such as Samsung is well established. High end customers are the target group of Apple, this makes Apple to enter all the segments of the community. Increased exchange rates with dollar, makes it expensive for Apple to do business in Europe and other nations.

Social factors: Increasing use of social media and smartphones are an opportunity for Apple to establish and grab customer attention. Brand image of Apple is often affected by its close connection with China, which does not make many of the customers from America satisfied. Hence this progressive necessity of digital devices is opportunity for Apple, unless they intend to develop affordable gadgets (Alemu et al., 2018).

Technological factors: Although Apple products are technologically updates, competitors providing similar products at a lower price are challenge to Apple. This is adversely affecting the brand image and performance of Apple. Apple has another opportunity in developing cloud related apps and devices, where many of the customers are interested in cloud computing. Currently, Apple is emphasised on delivering expensive goods to the customers. This strategy does not match with the high-end innovation strategy.

Legal factors: poor compliance with the legal aspects can lead to adverse brand image of Apple. Similarly protecting the privacy of users is an essential element of these legal frameworks. It is illegal for Apple to deal with private information of users in inappropriate methods. Strict telecommunication regulations are also threat to the functioning of organisation (Xu et al., 2020). the use of services such as Apple pay, software and music are covered by intellectual property laws. This makes the organisation tom be vulnerable against privacy and suit.

Environmental factors: development of energy efficient products such as batteries and devices that emits less heat are environmental friendly (Khalil and Mustafa, 2020).

Sustainability trends in the present scenario enhances the corporate image of company among the customers. Focus on reducing the carbon emission is another step taken by the company in order to sustain in the market. Efficient disposal and recycling of the electronic waste is also performed by Apple.

STP analysis

This marketing strategy that could be explained as segmentation, targeting and positioning is followed by Apple from the beginning of their marketing. segmentation involves the subdivision of customers depending on the products characteristic, targeting is the selection of a particular market category and positioning is meeting the demands of the market segment. STP analysis of Apple is explained as follows

Segmentation

Segmentation strategy of Apple categorise its potential customers into different segments. Apple has used segmentation based on the psychographic, behavioural elements. As per the demographics, the products are based on the job, lifestyle and age of the target population (Yang et al., 2018). Segmentation categories of Apple includes both males and females, those who are aged above 22. Being an expensive brand, Apple targets high end community. These people get to enjoy the devices with advanced technology, designs and capabilities instead. The lifestyle characteristics are often considered to be modern and young.

Targeting

The segment that is been identified to be the most attractive group is considered as the target. The targeting strategies of Apple are based on the fact that youngsters are more influenced by the technology and innovation Apple brings (Riaz et al., 2018). A proactive targeting helps the company to be profitable in the market. Apple keeps the targeted segment satisfied with the continuous updates with technology and technology. These effective targeting enables Apple to be a premium brand that offers high quality products to high end customers.

Positioning

Positioning of the brand is achieved through advertising and promoting the products and services. Brand identity, brand image, its component elements, products and

communication holds a significant place in determining the positioning of the brand. Apple has positioned itself to be a premium brand (Soto et al., 2019). Product features such as unique characteristics, product class and existing competition are used by the brand to position itself in the current position. Product quality and design, and improved technological interventions are also utilised by the brand to attain this positioning.

Innovative marketing strategies of Apple

Although these marketing strategy tools have analysed the different marketing strategies and their effectiveness in developing Apple to become a technological giant, there are a few striking and innovative measures that make Apple stand out from similar ones in the market (Strange and Humphrey, 2019). A significant step taken by Apple is the focus on unique value position rather than price comparison. The strategy of Apple says that price war and dropping price leads to a race to the bottom. An Apple product is considered to be a value. The packaging and unique features make it valuable (Du et al., 2019). This contributes to the competitive advantage of Apple and its market share. Apple has been involved in sharing the benefits with its customers in different ways of cooperating with various other companies. This is followed by Apple as a measure of promoting their new products in an innovative way. This includes integrating digital music with various music players. This new integration with the entertainment sector is helping Apple to enjoy the benefits for their customers. Although this is a great business integration, improving the business scenario of Apple, aids the brand in delivering a better experience to the customers (Foster and Torous, 2019).

Technological progress and the increase in demand always call for bringing forth innovation and advancements. This also leads to the integration of products and industries.

Apple is different from its competitors in technological innovation and giving it value over time. Focusing on main customer groups is an intervention adopted by Apple to develop loyal customers that can have a significant impact on the revenue growth and development of the brand. Technological innovation is making customers attain the experiences of the new model. This willingness of customers is a huge opportunity for Apple (Musacchi and Serra, 2018). In the new product, Apple has developed a

platform for its customers to download software from the app store or to provide applications for Apple for development. These features are only available for Apple customers, and this helps the brand to further develop its customer base.

Viral marketing has been adopted by Apple to make significant changes in their products and the experience they deliver to their customers. This viral marketing includes a rapid spread of Apple products through public praise (Olievieria et al., 2020). This has a greater impact on the crowd of customers, and this spreads very fast among the customers. The establishment of three-dimensional marketing is achieved by Apple. This is based on the good brand influence and strong abilities of the brand (Wu et al., 2020). Compared to other competitors in the field, excellent after-sales service is a noticeable aspect of Apple that can combat the threat raised by many other brands. Development of its own marketing network is achieved by Apple by including manufacturers in the industrial chain, logistics companies, software developers, marketing professionals and many more.

Evaluation of the marketing strategies of Apple

Analysing the marketing strategies of Apple indicates its superior power over the competitors gained by effective strategies in the market. At present, with the continuous development of the economy, electrical products are considered to be an essential part of living. In order to compare with other existing brands in the community, Apple always has a top position with its effective marketing strategies. Advertising in a wide range of resources and celebrity collaborations have made Apple attract more customers towards their products. Since Apple has got many different products in the market currently, with expanding technology, these products are able to maintain the old customers along with attracting new customers to the brand. These new products are opening more chances in the market for Apple (Onal et al., 2019). Similarly, with the increase in the reputation of the brand, people are more likely to purchase goods from Apple.

Although Apple has become a successful firm in technology, there are still weaknesses and various threats. Analysing the competition in the IT industry, it has been noted that the efficiency of Apple's manufacturing unit is relatively low, along with a high cost for the designs. Even with these technological advancements, Apple products are also prone to screen damage and other accidents. These aspects of the

brand make some customers step back from these expensive goods at this price (Bud, 2018). These technological competitions are the biggest threat to Apple. The advancements in other android devices and similar products make Apple be facing a difficult situation in terms of technological intervention. Hence with all these challenges in the marketing field, Apple needs to develop new strategies or scenarios to attain a better technological intervention similar to that of its competitors in the market (Preti and Tarola, 2021). A representation of the growth of Apple is given below

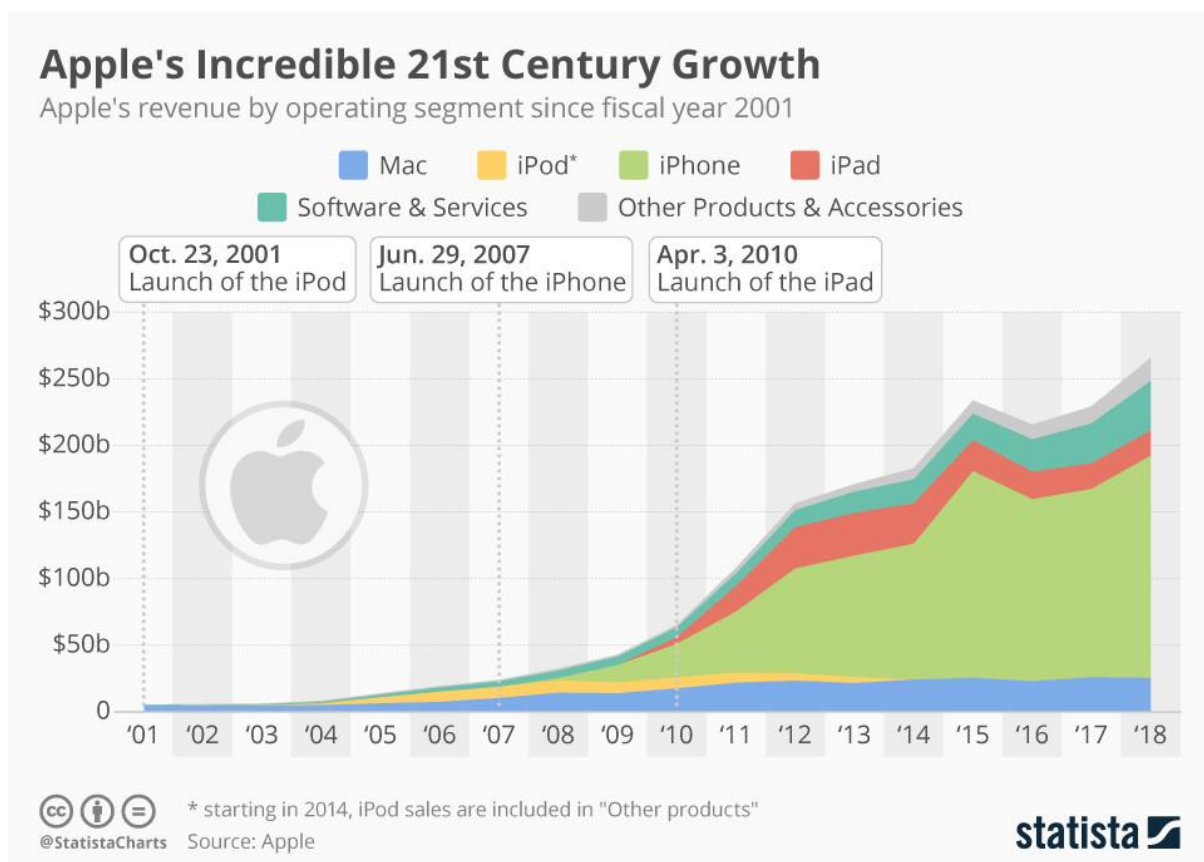


Figure 2: Apple's growth in the 21st century (Adopted from world economic forum, 2020)

Despite of these challenges, few of the strategies of Apple have made a huge impact among the customers group (Ranjibar et al., 2018). The integration with celebrities and marketing campaigns had a better influence in the younger genertaion who makes a significant part of the customers of thbis brand. Similarly, experiential marketing strategy and hunger marketing strategy had a great impact on improving the brand image and brand reputation of Apple (Bot et al., 2018). It is also observed from the reports that there is a significant impact of these strategies and interventions in

improving the growth and revenue of Apple. Apple have been integrated with different carriers to support and communicate their products in an innovative way. This way of cooperating with various carriers to promote a new product concept is a remarkable step taken by Apple (Yamoah and Acquaye, 2019). Marketing strategies of Apple also makes significant impact in other fields as well. Many of the fashion brand companies are influenced by the advanced strategies and interventions that are adopted by Apple. This led to constantly integrating with the trends of Apple products by developing products such as phone cases and add on products of iPhone.

Contribution of the marketing team to the organization

The marketing team of the organisation have a huge impact on the growth and success of any firm. Various marketing strategies and innovative measures make the organisation develop in terms of revenue and competitive value in the market. In the case of Apple, there has been visible growth in revenue over the years (Reis et al., 2018). It has been noted that effective marketing and efficient management has led to the growth of Apple over the years. The success of Apple is obtained through efficient sales and innovative marketing strategies of the team. Apple is recognised as one of the most valuable companies in the world. This is visible through the revenue growth that occurred from \$37 billion in 2008 to \$65 billion in 2010 (Wang et al., 2019). The success of the iPhone was a major contributing factor to this revenue growth and increasing value to the organisation. This success led to the launching of other products and further enhanced the brand image of the company (Li et al., 2018).

Additionally, subscription services that include digital music, video streaming and cloud storage also added a significant portion to the revenue. These subscription services alone led to \$53 billion in 2020, which made this to be the second-largest segment of Apple. The revenue growth in 2021 indicated that Apple generated \$365 billion in revenue, out of which 52% came from the sales of the iPhone (Bai et al., 2018). This reflects the effectiveness of the marketing team of Apple. Next to sales, 18% of the revenue originated through the various services that are offered by Apple to its customers. Similar growth was visible in the home and wearable section of Apple, which led to an increase of 25% in 2021. The introduction of AirPods has had a great influence on customers recently (Hao et al., 2018). In 2020, Apple was able to sell 110 million AirPods and 43 million Apple watches. Although iPhones are contributing to

sales significantly, these devices are also having a role in raising revenue for Apple annually. Services such as Apple music got 72 million subscribers. This segment is considered the second largest besides sales. Overall, 230 million iPhones, 71 million iPods, and 20 million Macs and Macbooks were sold in 2020. There has been a drastic increase in the revenue of Apple over the past decade. In the past year alone, it has raised its revenue by 33% (Tien, 2019). In the past decade, there was a growth from \$108 billion to \$365 billion.

The major portion of revenue is obtained from America, followed by Europe. Additionally, the services besides Apple pay are also utilised by many of the customers, which further adds to the growth and development of the organisation.

Summary of findings

This article has shed light on the many marketing tactics and market interventions used by the Apple brand. The history of the brand gave specifics on how it got involved and how it became a prosperous multinational technological enterprise. Apple's marketing methods are distinctive in keeping the brand alive in the competitive industry since the company places a high priority on innovation and technology advancements in its goods and services. The 4Ps of marketing mix, which provided a clear description of the many elements of Apple's marketing mix, were used to conduct a market analysis of the company. Additionally, a PESTLE analysis showed how Apple's components were analysed in relation to its external environment. As a result, this paper has examined Apple's different marketing initiatives and strategies as well as how they have affected the company's ability to offer value. Innovation is the primary determinant of marketing effectiveness, thus new initiatives like Apple's campaigns and technological integration strategies are assessed in terms of how much value they provide to the organisation.

References

- Ahmed, G.H.G., Fernández-González, A. and García, M.E.D. (2020) Nano-encapsulation of grape and apple pomace phenolic extract in chitosan and soy protein via nanoemulsification. *Food Hydrocolloids*, 108, p.105806.
- Alemu, S.H., Van Kempen, L. and Ruben, R. (2018) Women empowerment through self-help groups: The bittersweet fruits of collective apple cultivation in highland Ethiopia. *Journal of Human Development and Capabilities*, 19(3), pp.308-330.
- Apple, M.W. (2020) Cultural capital and official knowledge. In *Higher education under fire* (pp. 91-107). Routledge.
- Bai, Y., Hibbing, P., Mantis, C. and Welk, G.J. (2018) Comparative evaluation of heart rate-based monitors: Apple Watch vs Fitbit Charge HR. *Journal of sports sciences*, 36(15), pp.1734-1741.
- Bot, F., Calligaris, S., Cortella, G., Plazzotta, S., Nocera, F. and Anese, M. (2018) Study on high pressure homogenization and high power ultrasound effectiveness in inhibiting polyphenoloxidase activity in apple juice. *Journal of food engineering*, 221, pp.70-76.
- Bud, A. (2018) Facing the future: The impact of Apple FaceID. *Biometric technology today*, 2018(1), pp.5-7.
- Düking, P., Giessing, L., Frenkel, M.O., Koehler, K., Holmberg, H.C. and Sperlich, B. (2020) Wrist-worn wearables for monitoring heart rate and energy expenditure while sitting or performing light-to-vigorous physical activity: validation study. *JMIR mHealth and uHealth*, 8(5), p.e16716.
- Foster, K.R. and Torous, J (2019) The opportunity and obstacles for smartwatches and wearable sensors. *IEEE pulse*, 10(1), pp.22-25.
- Goldstein (2021). Apples revenue growth. Available at: <https://www.mekkographics.com/apple-revenue-growth/> . (Accessed on January 2, 2023)

Hao, J., Bijman, J., Gardebroek, C., Heerink, N., Heijman, W. and Huo, X. (2018) Cooperative membership and farmers' choice of marketing channels—Evidence from apple farmers in Shaanxi and Shandong Provinces, China. *Food Policy*, 74, pp.53-64.

Khalil, R.R. and Mustafa, Y.F. (2020) Phytochemical, antioxidant and antitumor studies of coumarins extracted from Granny Smith apple seeds by different methods. *Systematic Reviews in Pharmacy*, 11(2), pp.57-63.

Li, W., Yang, R., Ying, D., Yu, J., Sanguansri, L. and Augustin, M.A. (2020) Analysis of polyphenols in apple pomace: A comparative study of different extraction and hydrolysis procedures. *Industrial Crops and Products*, 147, p.112250.

Li, Z., Teng, J., Lyu, Y., Hu, X., Zhao, Y. and Wang, M. (2018) Enhanced antioxidant activity for apple juice fermented with *Lactobacillus plantarum* ATCC14917. *Molecules*, 24(1), p.51.

Matta, E., Tavera-Quiroz, M.J. and Bertola, N. (2019) Active edible films of methylcellulose with extracts of green apple (Granny Smith) skin. *International Journal of Biological Macromolecules*, 124, pp.1292-1298.

Mohammed, E.T. and Mustafa, Y.F. (2020) Coumarins from Red Delicious apple seeds: Extraction, phytochemical analysis, and evaluation as antimicrobial agents. *Systematic Reviews in Pharmacy*, 11(2), pp.64-70.

Musacchi, S. and Serra, S. (2018) Apple fruit quality: Overview on pre-harvest factors. *Scientia Horticulturae*, 234, pp.409-430.

Oliveira, N.N., Mothé, C.G., Mothé, M.G. and de Oliveira, L.G. (2020) Cashew nut and cashew apple: a scientific and technological monitoring worldwide review. *Journal of Food Science and Technology*, 57(1), pp.12-21.

Önal, B., Adiletta, G., Crescitelli, A., Di Matteo, M. and Russo, P. (2019) Optimization of hot air drying temperature combined with pre-treatment to improve physico-chemical and nutritional quality of 'Annurca'apple. *Food and Bioproducts Processing*, 115, pp.87-99.

Preti, R. and Tarola, A.M. (2021) Study of polyphenols, antioxidant capacity and minerals for the valorisation of ancient apple cultivars from Northeast Italy. *European Food Research and Technology*, 247(1), pp.273-283.

Ranjbar, S., Rahemi, M. and Ramezani, A. (2018) Comparison of nano-calcium and calcium chloride spray on postharvest quality and cell wall enzymes activity in apple cv. Red Delicious. *Scientia Horticulturae*, 240, pp.57-64.

Reis, A., Paulino, D., Paredes, H., Barroso, I., Monteiro, M.J., Rodrigues, V. and Barroso, J. (2018) June. Using intelligent personal assistants to assist the elderly: An evaluation of Amazon Alexa, Google Assistant, Microsoft Cortana, and Apple Siri. In *2018 2nd International Conference on Technology and Innovation in Sports, Health and Wellbeing (TISHW)* (pp. 1-5). IEEE.

Riaz, A., Lei, S., Akhtar, H.M.S., Wan, P., Chen, D., Jabbar, S., Abid, M., Hashim, M.M. and Zeng, X. (2018) Preparation and characterization of chitosan-based antimicrobial active food packaging film incorporated with apple peel polyphenols. *International Journal of Biological Macromolecules*, 114, pp.547-555.

Shu, C., Zhao, H., Jiao, W., Liu, B., Cao, J. and Jiang, W. (2019) Antifungal efficacy of ursolic acid in control of *Alternaria alternata* causing black spot rot on apple fruit and possible mechanisms involved. *Scientia Horticulturae*, 256, p.108636.

Soto, K.M., Hernández-Iturriaga, M., Loarca-Piña, G., Luna-Bárcenas, G. and Mendoza, S. (2019) Antimicrobial effect of nisin electrospun amaranth: Pullulan nanofibers in apple juice and fresh cheese. *International journal of food microbiology*, 295, pp.25-32.

Strange, R. and Humphrey, J. (2019) What lies between market and hierarchy? Insights from internalization theory and global value chain theory. *Journal of International Business Studies*, 50(8), pp.1401-1413.

Tien, N.H. (2019) International distribution policy comparative analysis between Samsung and Apple. *International journal of research in marketing management and sales*, 2020(1), p.2.

Wang, X., Tsai, T., Deng, F., Wei, X., Chai, J., Knapp, J., Apple, J., Maxwell, C.V., Lee, J., Li, Y. and Zhao, J. (2019) Longitudinal investigation of the swine gut microbiome from birth to market reveals stage and growth performance associated bacteria. *Microbiome*, 7(1), pp.1-18.

World economic forum (2020). Apple's growth in the 21st century. Available at: <https://www.weforum.org/agenda/2019/05/apples-incredible-21st-century-growth> (Accessed on December 30, 2022)

Wu, C., Li, T., Qi, J., Jiang, T., Xu, H. and Lei, H. (2020) Effects of lactic acid fermentation-based biotransformation on phenolic profiles, antioxidant capacity and flavor volatiles of apple juice. *Lwt*, 122, p.109064.

Xu, J., Zhou, L., Miao, J., Yu, W., Zou, L., Zhou, W., Liu, C. and Liu, W. (2020) Effect of cinnamon essential oil nanoemulsion combined with ascorbic acid on enzymatic browning of cloudy apple juice. *Food and Bioprocess Technology*, 13(5), pp.860-870.

Yamoah, F.A. and Acquaye, A. (2019) Unravelling the attitude-behaviour gap paradox for sustainable food consumption: Insight from the UK apple market. *Journal of cleaner production*, 217, pp.172-184.

Yang, S.H., Nam, C. and Kim, S. (2018) The effects of M&As within the mobile ecosystem on the rival's shareholder value: The case of Google and Apple. *Telecommunications Policy*, 42(1), pp.15-23.

Yang, T., Ma, H., Zhang, J., Wu, T., Song, T., Tian, J. and Yao, Y. (2019) Systematic identification of long noncoding RNA s expressed during light-induced anthocyanin accumulation in apple fruit. *The Plant Journal*, 100(3), pp.572-590.