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Developing a Marketing Strategy for Mobile Security Applications for Android Devices in the Japanese Market

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I, Rumi Matsumoto, declare that the paper entitled:

Developing a Marketing Strategy for Mobile Security Applications for Android Devices in the Japanese Market

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In Prague, 15.8.2020

Rumi Matsumoto
Abstract

The purpose of this research was to study marketing for a mobile application based on research into, and analysis of, the Japanese market. The main objective of this thesis is to create a six-month marketing plan for Avast s.r.o, which released an Android mobile security application in the Japanese market in 2019. In order to achieve user growth in the highly competitive Japanese market, the market trends, the need for mobile security, the competitive landscape as well as the marketing tools relevant and impactful to this market are studied in this thesis. The marketing strategy for mobile security applications is going to be developed for a Czech cybersecurity company, Avast software s.r.o., which introduced its mobile security applications in Japan in 2018.

The main part of this research analyses the current market situation of the company. The aim of the thesis is devoted to analyzing factors that affect the Japanese market to include consumer behavior, internal and external business environments as well as competitor analysis using the SOSTAC research method, principally supported by other methods: demand analysis, SWOT, PEST. This theoretical framework guides the necessary research of data to create a marketing strategy for mobile security applications. The primary marketing strategy includes app store optimization and social media marketing. The marketing strategy, with available social media tools for the targeted segments of the case study of Avast software, will be introduced based on the research. The evaluation and recommendation for future marketing strategies for six months are introduced in the end.

Keywords: mobile app marketing, SOSTAC, social marketing, marketing strategy, Japanese market, security app, customer acquisition
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1. Introduction

It is an indisputable fact that smartphones have changed the world significantly. Thanks to current technology, mobile devices have become sources of information, a means of instantaneous interconnection and communication with an increasingly globalized world, and a repository of important personal information. As technology continues to rapidly evolve, so too do the sophistication and frequency of cyber-crimes, as evidenced by a substantial uptick in the number of victims of cyberattacks in recent years.

This is especially true of phishing fraud via SMS attacks targeted at Android devices, which have increased significantly over the past year. For instance, it was recently reported that more than one million mobile users in Japan were directed to fraudulent websites from January to March of 2020, which represents a 300% increase from last year (Trend Micro, 2020).

Japanese consumers are currently extremely vulnerable towards cyber-attacks because they lack the higher levels of security applications currently available in other markets. While the need for security products as well as potential threats to personal data have been identified, the risk of private data exploitation is still underestimated, a fact which will be explained later in the thesis. According to a recent survey among smartphone users, only 5.7% answered that they are protected (Information-technology Promotion Agency, Japan, 2019).

There are nearly 100 million smartphone users in Japan, which represents approximately 56% of the population of Japan. The penetration of active smartphones in the Japanese market is going to grow as the number of smartphone users increases. This number is projected to reach 114.6 million by 2024 (Statista, 2020). It is important to note that the use of smartphones has become an important part of daily life with many users spending two to three hours on average on their phones daily, according to the Information Technology Promotion Agency (2019). Because of the potential growth of this market as well as the ever-increasing security threats that, like smartphone use itself, also demonstrates tremendous growth in the Japanese market, smartphone users must consider cybersecurity.
Research Purpose

The purpose of this research is to explore available online marketing communication channels, to identify and develop a specific digital marketing strategy for the Japanese market, and to create a six-month marketing strategy for the case company, Avast Software s.r.o., with an eye towards increasing the user base of Avast Android mobile security applications. In this study, the SOSTAC model, as a theoretical framework, is applied to develop a marketing strategy. This framework includes a situation analysis at Avast s.r.o., SWOT analysis, the creation of clear objectives, strategy and tactics, and Key Performance Identification (KPI). KPI indicators which identify the business ’s success criteria, results, data and measurements against benchmarks (Chaffey & Smith, 2008, p.444)”

The aim of the research is to gather information about the Japanese market to create the marketing strategy. The research for this thesis is limited to the acquisition of new consumers using Avast's mobile security application. The recommended acquisition campaign in this thesis does not support the retention of existing, and does not include any material on budgeting, pricing and demonstrating.

Company Introduction

Avast software is a leading cybersecurity software company headquartered in Prague, the Czech Republic since 1988, and it is one of the largest cybersecurity software providers in the world. The company is traded on the London Stock Exchange and earned $873 million in revenue in 2019. It has expanded its business globally with 20 offices in 11 countries including the United States, Germany, the United Kingdom, and China. Avast software has over 435 million active users, including PC and mobile users, and their products defend against up to 1.5 billion malware attacks and more than 500 million visits to malicious websites worldwide (Avast, n.d.).

Avast entered the Japanese market three years ago when it opened its Tokyo office in 2017. The company provides a variety of security products for Windows and Mac platforms with ▢ ▢%
of the market share for desktop security software in Japan (Avast, 2019). Avast released its security application for smartphones in 2018. Japanese consumer interest in mobile security will soon increase, according to the Japanese regional manager at Avast Japan, Fujimoto (2019), “Identity threats to smartphone users are going to increase. Therefore, the focused products for the next upcoming years should be mobile apps”.

**Research Objectives**

The main objective of the paper is to find the best marketing practices to increase new user acquisition for Avast’s mobile security application in Japan by analyzing the current market situation, consumer behaviors, and competitive analysis. With this in mind, the answers to the following research questions are going to be utilized to develop a strategic marketing plan with competitive advantages.

**Research Question**

The main question to be addressed is: What are the best strategies for mobile security application in the Japanese market to increase installation by 50%, and increase monthly installed users from 200,000 to 300,000. The answers to the following sub-questions also answer the main question:

- What is the total available market?
- What are the needs and wants in the market that defines needs awareness in the market?
- What are the Avast objectives?
- What is the current situation of the case company, Avast?
- What social media marketing tools are available?
- What social media marketing tools should Avast use to increase installation?

By studying the Japanese market for mobile security awareness and available digital marketing tools, this research aims to determine what marketing strategy should be launched to
increase the user base for Avast. Based on the analysis, this paper will introduce its main findings and recommended a marketing strategy for mobile applications.

This paper is only focused on acquiring new installations to increase Avast's user base, therefore, retaining customers is out of the scope of this paper.

**Thesis Structure**

This project-based thesis begins with the background and the objectives for the thesis in Chapter One. To answer the primary question, secondary questions examining the market will be identified. This primary question and its attendant secondary question will clarify the thesis structure and provide an explicit, organized framework that will help in the application of the marketing strategy.

The theoretical framework, SOSTAC model, will be introduced in Chapter Two. This framework is going to be applied to introduce the marketing strategy for this mobile acquisition. The current situational analysis of the case company will be discussed by comparing Avast with competitors and analyzing their current ongoing promotions in Chapter Three. Chapter Four is the recommended marketing plan for Avast complete with an explanation as to why the company should execute the marketing plan.

**Figure 1**

*Thesis structure*

![Thesis structure diagram]

*Note. Created by the author. Copyright 2020 by Rumi Matsumoto.*
Research approach

When it comes to research for business analysis, there are two types of research approaches: deductive and inductive. In deductive research, the theory and hypothesis are created first, and they are going to be tested through a research strategy. On the other hand, in an inductive approach, a theory is developed as a result of the data collected and analyzed during the research. (Sanders et al., 2009). In other words, an inductive approach goes from data to theories, while a deductive approach goes from theories to data.

In this study, the marketing strategy to promote mobile security products in Japan is going to be initiated with the help of academic literature and a theoretical framework. The research and data will be observed, analyzed, and explained based on academic theories. In this manner, the deductive approach will be applied.

Research Method

In terms of data collection, both primary and secondary sources are used to analyze the study of this paper. The data is provided by the case company, Avast. The author’s observations of the company and interviews with the country manager for the Japanese market at the case company are the primary sources. The analysis of the research is based on a variety of secondary sources: used in this paper’s analysis such as industry reports, government reports, journal articles, research reports, textbooks, and newspapers. Due to the nature of this contemporary topic, many online sources were also used to supplement the research. The SOSTAC framework is applied to the thesis’s main analysis by examining the company’s current situation and its environment in order to establish the most effective promotions for the case company, Avast.

2. Theory - Marketing
2.1 Traditional Marketing

Kotler et al. (2005, p.6), define marketing as “marketing is a social and managerial process by which individuals and organizations obtain what they need and want through creating and exchanging value with others”. Therefore, companies need to understand their target market and “The marketing logic by which the business unit expects to achieve its marketing objectives (Kotler et al., 2005, p. 72)” in order to satisfy consumer needs and wants. A marketing strategy is a plan to achieve those organizational goals.

2.2 Digital Marketing

Digital marketing is a set of strategies to communicate with customers. Digital marketing differs from traditional marketing in practice, particularly in customized advertisements, communication models, and available tools. Furthermore, it provides marketing activities to reach and retain customers more efficiently. Although traditionally, marketing was a one-sided approach to consumers, digital marketing allows consumers to have a conversation with a company. In addition to this, customers can create a community where they can talk to other customers such as Trip Advisor and Yelp (Kotler, Kartajaya & Setiawan, 2017, p.51).

2.3 Mobile Application in the Market

The application market is currently one of the most competitive markets worldwide. There are 2 million applications in the iOS app store and 3.5 million available applications in the Google Play app store globally (Miller, 2017). It is important to have a targeted marketing strategy to implement because of this overabundance of applications in the Google Play app store. A unique marketing strategy would allow Avast security software to differentiate its applications from other applications in the Google Play app store. This differentiation is especially important in Japan because it is one of the fastest-growing markets in the app store. One of the most trusted mobile data and analytics platforms, Sensor Tower (2020) recently published its 2020-2024 Mobile Market Forecast. According to the report, the Japanese market is the second-largest market in
revenue for apps. The Japanese market’s revenue is projected to achieve a compound annual growth rate (CAGR) of 8% from 2019 to 2024 and it is expected to increase to $10 billion by 2024, as seen in Figure 2 (below). There are two major types of mobile app marketing: external advertisement (e.g. social media marketing) and organic marketing. As explained by Google Play:

**Figure 2**

*Google Play Revenue by Country*

![Google Play Revenue by Country](image)

*Projected consumer spending for the top five countries*

*Note:* The graph shows overall increasing revenue from 2017 to 2024. 2020-2024 Mobile Market Forecast. Copyright 2020 by Sensor Tower.

### 2.4 Social Media Marketing

Social Media Marketing (SMM) is a subset of digital marketing and certainly one of the most powerful tools for promoting a mobile app. SMM is a method of using social media platforms for marketing. For example, by posting regularly on social media platforms such as Twitter, Facebook, and LINE to actively engage with users or share high-quality content, companies can
also boost visitor traffic to their main website(s). By connecting with friends and customers on social media platforms, companies can deepen communication and create opportunities for new relationships that would not otherwise be reachable by a mere one-sided promotion on a website.

The number of Japanese social networking users is increasing thanks to the younger generations. They use social networking platforms to connect with people and to get information. Social networking usage among Japanese consumers is currently 60% and it has increased by 5.3% year after year. One of the primary reasons for the use of these platforms is "To find information" (57.4%) and approximately 77% of people aged 20 and 39 have the highest usage in social media platforms (Ministry of Internal Affairs and Communications, 2018).

The major social media marketing platforms within Japan are LINE, followed by Twitter, and then Facebook. LINE is a communication tool with the highest user base reach in the Japanese for seven consecutive years, and it is an app which 83% of Japanese smartphone owners use (Nielsen, 2019). LINE has more than 84 million users which covers more than 66% of the total Japanese population with a daily active user rate of 86%. The usage rate of LINE among all competing social media platform users is 82.5%. Of this percentage, LINE users make up 40.6%, thus proving that this company can reach a market generally unreachable by other platform services (LINE Corporation, 2020). Twitter has 5% and Facebook has 1% of the market share respectively, while LINE has 13% in terms of the market share of usage time (Nielsen, 2019).

2.4.1 LINE – the most popular social media platform in Japan

There are two types of services LINE provides for business. One is an official account for business where the company can be friends with the audience to deliver advertisements and provide chat support. The other is called LINE advertisement which is delivered to the timeline and news surface of the LINE app, the top of the chat list, and various other apps such as LINE manga, LINE BLOG. In addition to the purpose of installation, a re-engagement targeting is also provided to deliver advertisements to users who have already installed Avast mobile security application. Targeting for LINE advertisement is also diverse, including age, users’ mobile operating system, user interests, website remarketing, and similarities to existing customers (LINE Corporation, 2020). There are three types of platforms for advertisement delivery, Smart Channel
(top of chat list), LINE NEWS and Timeline where a user can see people’s posts and advertisements.

LINE advertisement is controlled and monitored on a platform called LINE Ads Platform which provides a function for automatic optimization of Ad delivery. For instance, when the target Cost Per Acquisition (CPA) is set, LINE ads platform mechanism automatically bids within the target CPA by machine learning, and more than 60% of companies in LINE advertising accounts implement this system. LINE NEWS has a metric displaying the high number of active users, totaling over 75 million. It is displayed on the top page of the tab that posts the news of the LINE application and during scrolling. It is readable even if an advertisement is in line with a news article, so it is suitable for raising awareness of products and services. In addition to the article list page that flows in from tabs, etc., advertisements can be distributed to the article list page of media accounts of more than 320 media outlets. According to a user survey, 68% of LINE News users refer to reviews and reputations and select a product or service based on those (LINE Corporation, 2020)

**Figure 3**

*LINE Advertisements examples.*

![Image of LINE Advertisements examples](Note. Copyright 2020 by LINE Corporation (2020))
Social media marketing aims to improve a company’s presence and promote its product. It is a place to send and share information with friends. This information from their friends is more valuable than traditional advertising. Chaffey & Ellis-Chadwick (2016) states “Online viral marketing, or buzz marketing, is a form of electronic word-of-mouth marketing. Brands and promotions are discussed and awareness of them transmitted in two main forms, either as pass-along email or discussion in a social network.”

2.5 App Store Optimization

The main technique of organic marketing is App Store Optimization (ASO). It is a process of optimizing the app store page with the ultimate goal of maximizing the number of installations. ASO requires changing each element of the app store, two-axis efforts of measures to improve visibility in the app store, and measures to improve installation ratio. First, it is a search marketing method that makes the app appear high in the app store rankings by analyzing and applying certain keywords. By optimizing the app store page, it increases app visibility in the app store so that more organic users see the app. The higher rank the app is, the more people it can reach. App Annie (n.d.) states that ASO is the most important activity as more than 65% of downloads come from organic searches in an app store. AppAnnie is a company that provides market data and analysis tools for applications. It is used by more than 90% of the top 100 app publishers, and it is the most widely used app research company in the world. Discoverability of the app is mainly driven by targeted keywords with the optimized app store page information that will use to convert page views to downloads. Monitoring trending keywords, consumer behaviors, and competitor analyses will help boost store rankings, increase downloads, and eventually increase revenue.

Second, it is also important to increase the conversion rate with which the app store page converts views into downloads. There are several ASO activities that improve conversion rates. Daan & Kwaky (2018) states that full descriptions, short descriptions, icons, and screenshots are the main ASO activities used to improve conversion rates. Before implementing changes in those areas immediately, Google play has an option for A/B test changes. It is called Google Play listing experiences. This is a free testing tool provided by Google Play Console to let the developer run the test and provide statistical data on the installation.
Note. Google Play listing experiments use actual store traffic and calculate a statistically significant winner. Copyright 2017 by Daan & Kwaky.

Word of mouth is a strong and influential source of data for consumers when deciding on which application(s) to install. Rating and reviews on Google Play Store are evaluated by any users who might install an application. Ratings convey the quick, quantitative information for measuring an app’s quality, and reviews carry the more substantive, qualitative information for measuring an app’s quality (Daan & Kwakyi, 2017”). More than 60% of people think that an app’s rating and reviews are important factors when deciding whether or not to download an app (thinkwithGoogle, 2015). 48% of people take app store ratings into consideration, and 42% check review comments when installing a new app. According to Daan & Jwakyi (2017), the number of ratings and high star rating improves an app’s rank on Google Play Store. Furthermore, taking care of reviews especially negative reviews is crucially important. Suzuki (2019) states that users increase their rating by +0.7 stars on average when they receive a response from developers.

Digital marketing is very important when promoting a mobile application because many find new applications through online advertisements. There are three main ways for a customer to discover an application. On a survey done by Google (2016), based on a sample of 999 people, the discovery of applications through friends and family recommendation (i.e. word of mouth, social
media marketing) was 51%, while 48% discovered apps by browsing app stores such as Google Play Store (i.e. Application Store Optimization, organic marketing). Based on the survey above, this thesis is going to focus on the marketing activities that concentrate on searches in app stores and interaction with friends, including online friends on social media platforms.

2.6 AIDA Model for Mobile Application

Figure 5

AIDA model for mobile application

Note: The AIDA model created by the author. Copyright 2020 by Rumi Matsumoto based on the AIDA concept by Elias. St. Elmo Lewis

AIDA describes a general list of incidents that are probable to occur when a customer engages with advertisements. Li1 & Yu (2013) states that “the goal of marketing is to attract the attention of potential clients, arouse their interest and desire to the final buying action”. The number of potential customers decreases at each step.

AIDA model is a process model, created by St. Elmo Lewis in the 1890s, of how consumers interact with the product or service and whether they will decide to purchase it. In mobile application security (Figure 5), AIDA would be:
• Attention (Awareness): Attract the attention of the customer. This can be done via social marketing campaigns and discover in Google Play.

• Interest: Raise customer interest by introducing the benefits of the product or service. In this stage, a customer evaluates the mobile application on the App store page and gets to know the app and its benefits. The customer either directly comes to the app store page or they search certain keywords in the App Store. Click-Through Rate (CTR), the ratio of clicks to instances of advertisements is 1.52% for this category of application (Adjust, 2019)

• Desire: Convince the customer to want the product or service. At this stage, a customer is convinced to want or need the application. The customer then installs the application for free and experiences the benefits of the application. Conversion from click to install ratio is 14.44% (Adjust, 2019)

• Action: Facilitate the customer’s purchase of the product or service. Action is the purchase of the application when the customer becomes upgrades from free user to paid user.

In this thesis, the purpose of the marketing strategy is to increase customer acquisition for Avast’s mobile security application. Thus, Attention (Marketing activities), Interest (App store page view) to Desire (Installation) are going to be the primary focuses.

3. Avast – Company Overview

3.1 Product Presentation

The mobile security app is called the “Avast Smartphone Security Free Antivirus Application” in Japanese. It was originally released in the tool app category in 2018. The current number of active users from Japan in March 2020 is approximately 141,000 (Similar Web, n.d.). This application uses the freemium monetization model with an in-app purchase that is free to use for the basic features but requires the customer to purchase extended features and services. According to the data analysis tool, Sensor Tower (2020), the total installation from Japan is approximately 1.6 million downloads since January 2014. The main basic functionalities for the
app are virus scans, such as warnings when installing malware or malicious apps, as well as Wi-Fi security, which inspects the safety of public Wi-Fi connections. On top of these free security features, there are many more protections for paid users. There are protections such as Virtual Private Networks (VPNs) to hide the location of the user through the use of an encrypted private network that protects private information from hackers. The App Lock feature allows the user to lock their favorite applications safely with a PIN code. The Anti-Theft Protection feature protects photos and audio as well as tracking the last location used if the phone is stolen (Avast, 2019).

This mobile app can earn sales from both free and paid users. While the paid version earns fees from user subscriptions, the free version also earns sales from running external advertisements within the app. Moreover, paid customers to have the privilege of receiving customer support from the Japanese support team. The price for the mentioned extra features can be purchased at 2,300 yen/22 USD yearly.

Table 1
Avast Mobile Security Android Product Summary

<table>
<thead>
<tr>
<th>Avast Mobile Security Android Product Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name (Japanese)</td>
</tr>
<tr>
<td>App category</td>
</tr>
<tr>
<td>Total number of installs (Japan)</td>
</tr>
<tr>
<td>Monetization model</td>
</tr>
<tr>
<td>Price</td>
</tr>
<tr>
<td>In-app advertisement</td>
</tr>
</tbody>
</table>
| Customer support | • Only for paid users  
  • Contact form (Email) |
| Features for free users | • Virus scan  
  • Wi-Fi Security  
  • Photo album with a PIN (Only 10 photos)  
  • Battery Saver |
Features for paid users

- All features for free users
- Photo Album with a PIN (unlimited)
- App lock
- VPN
- Anti-theft protection

Note. The table above is the product information. Copyright 2020 by Rumi Matsumoto

Avast is currently seeking a better marketing strategy to improve market penetration and expand market share by communicating with the audience in Japan. This development in digital marketing and social media marketing will create a wider presence in online platforms especially for consumer acquisition.

3.2 Avast Market Share

The market share of Avast mobile product needs to improve. There is a significant difference from the first placed competitor, Trend Micro. Based on the number of downloads from March 2019 to March 2020 on Sensor Tower (2020), Avast has 11.07% of the current market share on Google Play. The company with the highest market share in Japan is Trend Micro. The company dominates the user base in the mobile security market in Japan by 51.29% on Google Play Store, cementing its position as the most powerful competitor to Avast.

To first identify the market, two independent organizations that assess and evaluate security applications will be used. These organizations have a list of applications on the market that will serve as the criterion for the eligibility of our competitors in the market. Thus, only those from the list that are also available to the Japanese market should be on the list for comparison. Revenue is critical information to Avast for this thesis; it will be measured by the number of user downloads.
4. SOSTAC Framework Method

It is important to understand how the company can deliver value to customers as well as what customers perceive as value. SOSTAC Planning system is an agile framework created by PR Smith in 1993 that was acknowledged as one of the three top marketing models by the Chartered Institute of Marketing. The principles are a combination of traditional and modern marketing capitalizing on the digital environment (Chaffey & Smith, 2008, p. 439, Smith, 2019, p.10).

Smith (2019) states that SOSTAC is a simple and clear planning template that simplifies the processes that have been chosen by organizations such as KPMG Digital HQ and LinkedIn. Additionally, SOSTAC framework perfectly fits digital marketing planning because this template analyses emerging trends in the market as well as market competitors.

This framework is an excellent process by which to understand the situation and create a better marketing plan. Planning a marketing strategy is a structured process for determining how value is provided to target segments.

SOSTAC stands for situation, objectives, strategy, tactics, actions, and control. This framework (Figure 6) is useful for any marketing plan.

- Situation analysis (S): Where are we now?
- Objectives (O): Where are we going, or where do we want to be?
- Strategy (S): How will we get there?
- Tactics (T): How exactly do we get there?
- Actions (A): What actions will we need to apply?
- Control (C): How do we monitor performance?

(Chaffey & Bosomworth, 2013)
4.1 Situational Analysis

Situation analysis in this paper involves demand analysis, PEST analysis, SWOT analysis, and Competitor analysis. According to Chaffey & Ellis-Chadwick (2016), Situation analysis is “collection and review of information about an organization’s internal processes and resources and external marketplace factors in order to inform strategy definition”. This step defines the company’s marketplace, trends, and competitors. It is a good opportunity to observe and evaluate where the company is in the market.

Situation analysis usually involves macro analyses such as PEST, SWOT, and Competitor Analysis. In this chapter, four different approaches will be executed using Demand Analysis, PEST, SWOT, and Competitor research to understand the Japanese market for mobile security applications for Android, to come up with an appropriate marketing strategy.

4.1.1 PEST Analysis
PEST analysis evaluates external factors that influence the company. PEST stands for political factors, economic factors, social factors, and technological factors. This analysis identifies external
influences on the market trend that impacts the business as either opportunities or threats (Table 2).

**Political factors**

Attention to security threats by the Japanese government increased rapidly after Tokyo had been decided on as the location for the 2021 Summer Olympic Games. Starting on February 20, 2019, there was a mass-hacking project performed by the Japanese government, called the National Operation Towards IoT Clean Environment (NOTICE). Because the government was concerned about the vulnerability of IoT devices from cyber-attacks and the increase of cyber-attacks targeting IoT devices. This project was launched to check the health and safety of IoT users who are often guilty of using an easily guessable password, not updating to the newest software, or checking whether the device is infected by malware (NOTICE, n.d). This project was designed to help consumers be aware of extant security threats.

The number of free Wi-Fi spots has increased rapidly in an effort to create better infrastructure. There are two main reasons for this: the preparation for the Olympic and Paralympic Games in 2021, which was originally planned for 2020, and tourism. It was announced that the government intended to increase the number of public Wi-Fi spots occupied to schools, parks, museums, and tourist attractions by 3 million by the year 2020 (Ministry of Internal Affairs and Communications, 2018)

As a result, smartphone-related security threats are expected to increase, which has confirmed by the Japanese government. As the smartphone ownership rate has increased significantly, personal communications and transactions in cyberspace are taking place on a daily basis. Installation of fraud applications for the purpose of private data hacking, targeted at smartphone users, has become one of the dominant trends. As a part of its cybersecurity implementation policy, the Japanese police are going to strengthen measurements against new methods of unauthorized access through fraud applications by 2021 (The National Center of Incident Readiness and Strategy for Cyber Security, 2019).
Economic factors

Using Free Wi-Fi is becoming ever more common in Japan. Many restaurants, cafes, and convenience stores are equipped with Wi-Fi spots. There were not a significant number of Wi-Fi spots in 2009, (Hornyak, 2016) As the 2021 Olympics loom closer, foreign visitors to Japan will most likely prefer the same widespread Wi-Fi distribution they are accustomed to in their home countries. Therefore, a larger number of public Wi-Fi spots will be established in the future. Nakagawa (2019) argues that an estimated 67% of mobile traffic in Japan will be through Wi-Fi and that Wi-Fi spots will triple to 31 million spots by 2020. Free Wi-Fi users in Japan, circa 2018, was 57.46 million, and its number is forecasted to increase by 22% and reach 70 million users by 2021.

However, the majority of the general public is not aware of the security problems that exist. According to the survey for Public Wi-Fi usage taken by the Ministry of Internal Affairs and Communication (2016), approximately 63% of people surveyed answered either “I don’t know about the threat of Public Wi-Fi” or “I know but I don’t prepare”. Moreover, 64.6% of those who use public Wi-fi answered that “they feel anxious about the security of Wi-Fi but still use it anyway”. However, there are very real privacy threats in using public Wifi. While the need for mobile security exists, there is not a recognized understanding of this need among the general public.

Cases of phishing fraud on smartphones are on the rise, for instance, the theft of personal data, including online activity and personal information as seen in identity and phishing frauds. The Council of Anti-Phishing in Japan (2020) reported fraud cases from January to September 2019 that resulted in a cost of 16.7 billion yen (160 million USD) and increased by 26% since last year. The most dangerous cases in 2019 were unauthorized access to smartphone payment services, phishing, and the unauthorized use of credit cards. One new method involves the hacker sending SMS or emails to their target’s phone to install fake apps or go to a fake website to have the target set up an account. Information Technology Promotion Agency, Japan (2020) also stated that the increase was mostly caused by the increased number of smartphone users in Japan. According to Statista (2020), the number of smartphone users in Japan is projected to reach 114.6 million in 2024, and true to that projection, the number of smartphone users has been rapidly increasing. The
number of Android users also increases every year. According to the research of the Information Technology Promotion Agency, Japan (IPA), the number of Android users has increased by 2% from 2018 to 2019 (2020).

**Social Factors**

Japanese customers tend to be loyal to a brand and product as long as they perceive value in the product or service. According to Haghirian (2016), price, quality, and service are important values for Japanese consumers to build a relationship. Consumer behavior to high brand loyalty is mainly associated with a collectivist culture where people appreciate harmony in a certain group over their own individualism (Haghirian, 2016)

On the other hand, it is crucially important to put an emphasis on maintaining a relationship with customers. As a result of the value in building a relationship between consumers and businesses, consumers expect to stay with businesses for the long term. Therefore, many companies focus on after-care customer service as a competitive advantage. (Synodinos, 2001)

The promotion of national policy will facilitate electronic payment. It is predicted that the number of people who will use cash will decrease significantly. At present, Japan's cashless society is considerably delayed internationally. In 2018, the government announced its “Cashless Vision” with the goal of increasing the cashless settlement rate in Japan to 40% by 2025 (the Ministry of Economy, Trade and Industry, 2018). MM Research Institute (2019) reported that cashless payment market is 65 trillion yen (610 billion USD) in 2018., and it is forecasted to grow at 37.5% and the market will reach 112 trillion yen (1.05 trillion USD) by 2025. Roughly 80% of the target users use credit card when shopping online. According to SB Payment service (2018), nearly 70% of consumers aged 20’s use credit card payment, 82.6% of 30s use credit card, 82.8% of 40s use credit card payment.
**Technological Factors**

Innovation, such as a built-in anti-virus function smartphones can pose a significant threat to the company. Android smartphones have preinstalled malware protection provided for free by Google. The app does not work properly according to third party users. AV-Test (2018) published a blog post about the results of tests that ran on other malware security apps from November 2017 to March 2019, proving that the Google built-in antivirus app had the worst performance. AV-Comparatives does not approve Google’s preinstalled app as mobile security based on the tests they conducted in June 2020 (AV-Comparatives, 2020).

The number of cyber-crimes targeting smartphone users is increasing, especially in cases where Android users download apps on unofficial app stores (Avast, n.d.). As a result, users are at a high risk of mistakenly installing malware apps. This growing threat will increase the demand for mobile security apps for the smartphone.

New methods of malware infection and phishing may impact business sales. According to JC3 Japan Cybercrime Control Center (2019), there are new types of phishing threats targeting consumers. Methods of fraud change very quickly as technology improves. Especially, Adware is a rising problem which accounts for 72% of all mobile malware worldwide. (Avast, 2020). Adware is a free software application for advertising purposes, and many of those applications found are malware designed to steal personal information. Although Adware is not yet a large threat to mobile users in Japan, as it increases globally, there is always a chance of new methods of fraud coming into the country.

30 million flip phone users will be new smartphone users by 2024. Feature phone users may change their phones to smartphones, thus the number of smartphone users will increase. Smartphone uses 5G data service. It is announced that the service to provide 3G is going to end in 2024, therefore, the feature phones will be out of service. They need to change their phone to smartphones, thus the smartphone users will increase (Nihon Keizai Shimbun, 2019).
Table 2

PEST Analysis

<table>
<thead>
<tr>
<th>Political</th>
<th>Economical</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Government’s hacking program NOTICE encourages citizens to protect their privacy</td>
<td>● Increasing the number of Wi-fi spots in Japan for the Tokyo Olympics</td>
</tr>
<tr>
<td>● The intention of the Government to increase public Wi-Fi spots</td>
<td>● Recession may have a negative impact</td>
</tr>
<tr>
<td></td>
<td>● The impact of cybercrime</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social</th>
<th>Technological</th>
</tr>
</thead>
<tbody>
<tr>
<td>● The Japanese are loyal customers</td>
<td>● Innovation of in-built antivirus</td>
</tr>
<tr>
<td>● The customer’s expectation for long-term oriented marketing strategy</td>
<td>● New malware infection and phishing method</td>
</tr>
<tr>
<td></td>
<td>● Smartphone users will increase because feature phones user might need to change their phone to smartphones</td>
</tr>
</tbody>
</table>

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4.1.2 SWOT analysis of case company: Avast

SWOT Analysis

SWOT analysis is one of the most important steps to answer the question “Where are we now?”. SWOT stands for strength, weakness, opportunity, and threats. Strengths are a business’s competitive advantages or physical assets in the market. Weaknesses are business shortcomings that are a disadvantage or liability to the company. Opportunities are the external factors, such as changes in regulations and market trends that can be leveraged to increase sales. Threats are
negative external factors that can influence the business adversely, such as the development of competitive technology.

**Competitor Analysis**

Competitor analysis is done to understand how well competitors are doing in the market. To formulate a strategy, the company should analyze their competitors' services, products, technology, and expertise.

**4.2 Objectives**

Objectives are clearly defined visions directing the company to achieve its business goals. Identifying clear KPIs (Key performance indicators) for the marketing plan is especially helpful for an organization to focus on what needs to be done. Goals should be quantified so that, at the end of the campaigns, it is possible to accurately measure the results achieved and thus direct the marketing campaign more efficiently while minimizing losses of financial resources. To achieve their stated goals, companies need to understand SMART criteria. SMART stands for Specific, Measurable, Attainable, Realistic, and Time-bound. (Chaffey & Smith, 2008). It is fundamental to set goals. By strictly applying this criterion, the probability of reaching specific set goals increases considerably.

Chaffey & Smith (2008, p.22) defines objectives in e-marketing by what they refer to as the 5Ss (Sell, Serve, Speak, Save, and Sizzle). 5S is a holistic set of principles used when developing digital marketing initiatives. Sell means to grow sales, and, in the digital world, this means online marketing activities to acquire and retain new and existing customers respectively. Serve means to create added values to services provided to customers through the internet. It is important to make sure that the service is provided to customers whenever they need it. The product and the service the customers are presented with should be easy to navigate. Speak means to communicate with customers through such tools as social media, blogs, and forums where the company can communicate with existing and new customers. Save means to reduce costs and focus on efficiency. Marketing activities cost, however, by taking advantage of technology
companies can reduce costs. Finally, Sizzle means to spread company brand awareness by producing quality content to customers.

4.3 Strategy

The Strategy step is where a company defines how it will win in the market place. The strategy describes how to get there. The strategy should be comprised of precise instructions on how to achieve and accomplish the goals defined. It needs to be clear and easy to follow to build upon the objectives set out. They also serve as a support activity in their fulfillment. The selection and correct formulation of the strategy should also be pursued taking into account the situation analysis. When designing a strategy, we should also remember that digital marketing is made up of a multi-channel communication strategy. The right strategy should include segmentation and targeting. (Chaffey & Smith, 2008, p. 462).

Identifying the target audience helps understand which segment provides the best opportunities to achieve organizational goals. Market segmentation is the process of dividing a broad consumer base into groups so that companies understand the characteristics of the consumers. A market segment consists of four factors, geographic, demographic, psychographic, and behavioral (Kotler, Armstrong, Saunders & Wong, 1999, p.107).

The organization must decide which segment to focus on once the segments are defined. Targeting is the next step after segmentation to evaluate segments and select one or more target groups to enter. A company should aim to find target segments where they will have a strong competitive advantage that sustain a customer relationship (Kotler, Armstrong, Saunders & Wong, 1999, p.107).

Positioning is how the company wants its target market to see it. Kotler, Armstrong, Saunders & Wong (1999) states that “Market positioning gives a product a clear, distinctive and desirable place in the minds of target consumers compared with competing products.”
4.4 Tactics and Actions

Tactics are the next step in the SOSTAC model after strategy. Tactics are the details of the strategy that facilitates initiatives to achieve objectives. This stage answers the question “What do we need to do to get there?”. The exact marketing tools that are going to be applied are introduced. According to the project objectives set earlier, the tactics that will be used are advertising and social networking.

Implementing the tactics above, the final step of the whole marketing promotion activities. This is the stage where project management is performed. The projects should be organized carefully and critically with consideration of internal resources, capabilities, and experience.

4.5 Control

Control, the very last stage of the SOSTAC method, refers to monitoring whether the objectives are being achieved using KPIs and adjusting activities to ensure that the objectives are achieved. It is a very important part of an online marketing strategy because reviewing the results allows the company to realize the effectiveness or ineffectiveness of marketing efforts. Defined KPIs are useful to evaluate the impact of all activities. For this reason, it is very important to understand what KPI is for each activity when determining goals during the objective stage. For instance, KPIs for online marketing includes numbers of visitors and installations, customer satisfaction surveys, and how the customers were led to the app store.

When collecting, measuring, and analyzing the data, data insight tools should be utilized and monitored, especially to compare consumer trends before and after the promotion is executed. Chaffey & Smith (2008) states that it has to be determined which metrics need to be reviewed by whom and how frequently. Corrective action to modify the current marketing strategies or revise the marketing goal is an essential part of the control process.

5. Analysis
5.1 Situation Analysis

5.1.1 Demand Analysis

Android Use Increasing in Japan

As the demand for smartphones increases, Android users will experience a higher risk of getting infected by malware attacks, ransom demands, and data theft. Android use is on the rise in Japan. The Android user share of the market increased by 3.9% between 2018 to 2019. Currently, 57.2% of smartphone users use Android. Avast’s target group, young working adults aged from 20 to 40s have the highest penetration rate of Android at 59% (Mobile Marketing Data, 2019).

Google Play Store is an open app ecosystem where hackers can easily release fake apps. 2,040 potentially counterfeit apps were discovered after the investigation of a sample group of one million apps. Many of those apps look legitimate by impersonating popular game apps while containing malware to steal personal data (The University of Sydney, 2019). In fact, Android devices were responsible for 47.15% of malware cases, while the iPhone accounted for less than 1 % (NOKIA, 2019)

The Victims of Fraud

The current fraud methods for smartphones are phishing, smishing, and fake apps. Phishing is fraud to steal financially valuable information from Internet users. It usually happens when a user receives a fake email and it directs them to enter their personal information such as credit card or online banking information. Smishing is especially targeted at smartphone users. When a user accesses the URL described in an SMS pretending to be an ‘out of office’ message, the user will be asked for their ID, password, and verification code. The installation of fake apps is also another recent growing trend (Information Technology Promotion Agency, 2019)

Japan Consumer Credit Association (2020) announced the aggregate amount of credit card fraud damage for the fourth quarter of 2019. The amount of damages collected throughout 2019 was the same, but the amount of damages due to number paganization, which indicates the amount of damages in online payments, and other damages amounted to 25.6 billion yen ($239 million
USD). This is an increase of about 16% compared to 21.94 billion yen ($205 million USD) in the previous year. According to Sumitomo Mitsui Card (2020), The average damage was 100,147 yen (936 USD), the lowest was 980 yen ($9 USD), and the highest was 1.6 million yen ($14.9 thousand USD). The most common method of fraudulent use is "phishing fraud" in which 23.1% of people are tricked into misusing their credit card information by responding to an email disguised as a legitimate message from their credit card company or financial institution, or by being guided to a fake site that looks legitimate. "Spoofing" accounted for 20.0%, and "Internet shopping cams" wherein products purchased at the online shop were not sent were 19.0%. Furthermore, more than 57% of those victimized were not aware of the fraud root they were involved in. These statistics clarify and emphasize the need for people to be educated in online security.

Since September 2019, the number of victims of bank transfer crimes related to internet banking has rapidly increased, and the number of victims was high in October and November. The number of occurrences in October was 397, the amount of damages was about 511 million yen (4.7 million USD). The number of occurrences in November was 573, and the amount in damages was about 766 million yen (7.1 million USD). The amount in damages has reached its highest level since 2012 (National Police Agency, 2019). Chebyshev et al. (2020) states that according to Kaspersky Security Network, most of the damage seems to be due to phishing: specifically emails and short messages (SMS) that lead to phishing sites (fake login sites) masquerading as financial institutions (banks). However, during the first quarter of 2019, Japan was only ranked 77 in the world for the share of victims of cybercrime. However, Japan is showing a marked increase.

Meanwhile, there is a transition in internet banking from PCs to mobile devices. The number of mobile banking users is increasing. “Personal computers” accounted for 82.7% of mobile bank use while “smartphones” accounted for 43.2%, which is a substantial increase compared to past surveys. 50% or more males in their thirties, and 70% of females in their twenties use mobile banking. (Myvoicecom, 2020). At 0.57% of the population, Japan had the largest share of unique users in the world attacked by mobile banking trojans in the first quarter of 2020. Mobile banking trojans are usually fake banking apps that steal bank security information. Japanese smartphone users are vulnerable to these security threats. According to a survey among smartphone users by the Information-Technology Promotion Agency, Japan (2019), only 5.7% answered that they are protected against these kinds of attacks. 67.9% of people had installed a
mobile application that was followed by a message stating “you’re infected by virus”. 65.9% of the people, directed by a fraudulent email to change their password because their account was hacked, were tricked into revealing their ID and password.

Private information is being abused through unprotected Wi-Fi. Many users use Wi-Fi and engage in shopping transactions or input their information, such as their identity and credit card information. Active public Wi-Fi users represent 70% of the smartphone population (Mobile Marketing Data Labo, 2017)

**Consumer Behaviors in Online Shopping**

The number of online shoppers using smartphones is growing in Japan. According to the MM Research Institute’s research on consumer’s online shopping in Japan (2019), the online shopping market for consumers is 18.56 trillion yen (185 billion USD), of which 65.4% are PC users and 28.7% are smartphone users. The total online shopping market will increase to 27,760 trillion yen (277 billion USD) by 45.8% by 2024. The main driver of this increase is the usage of smartphones which will increase by 42% and is expected to exceed the number of PC online shoppers by 2024.

Moreover, the Ministry of Economy, Trade, and Industry (2019) states that the transition from PCs to smartphones is progressing among business to customer transactions online. The smartphone user ratio was 39.3% in 2018, and it continues to grow. The number of users shopping with smartphones has been increasing as shown in the figure below.
Figure 7

The number of users shopping with smartphones

Note. The graph shows overall increasing number of smartphone users who shop online.

In terms of payment methods, credit card payments are the most popular among the Japanese market, accounting for 66.1% of all users. Because the transaction of private information occurs online, complete security is necessary as stated by the Ministry of Economy, Trade, and Industry (2019).
Total Addressable Market

Total Addressable Market (TAM) is the scope of an opportunity’s potential. TAM for the mobile security app for Android in Japan is the total number of Android users in Japan. The number of smartphone users is projected to grow from 100 million to 114.6 million by 2025, while the current market share of Android is at 51.2% and expected to grow (Statista, 2020). Therefore, the TAM will be approximately 51.2 million people.

Serviceable Addressable Market (SAM) is the total number of markets the company can reach. Based on the marketing tools applied, such as social media marketing, search marketing, and app store optimization. The serviceable market is made up of active internet users who use online shopping and send personal data on the internet. According to the Ministry of Economy, Trade, and Industry (2019), 39.3% of online shoppers are smartphone users. Furthermore, an estimated 20.1 million people are available in the service addressable market.

Serviceable obtainable market (SOM) is the actual market which the company can serve. Fujimoto (2020) believes that Avast can achieve 10% of the SAM, which is 2.01 million people. Annual revenue per person for Avast mobile security applications is 2,300 yen (22 USD). Thus, the SOM is an estimated 4.6 billion yen (4.3 million USD). To be more specific, the assumed service obtainable market would be 4.92% of Avast’s total revenue (873 million USD).

Figure 8

The Japanese Market

Note. Copyright 2020 by Rumi Matsumoto
5.1.2 SWOT Analysis SWOT for the case company Avast

SWOT analysis for the case company, Avast, and its competitors will explore the key characteristics of the company and the product. Consequently, competitive research is a useful method that can be used for improving sales at existing stores and understanding the competitive advantages of the company and the product.

**Strength**

Avast mobile application for Android is one of the best antivirus software applications in the world, an assertion that has been approved by a trusted third party. According to the latest report published by AV-Comparatives (2020), Avast Mobile Security is on the list of reliable security apps that offer various security functions and features. AV Comparatives is a globally recognized, independent Austrian organization offering systematic testing that checks and evaluates anti-virus software such as PC/Mac-based antivirus products and mobile security products.

Moreover, another app evaluation company, AV-TEST evaluated Avast’s application. Avast’s protection resulted in a rating of 99.1% while the industry average is 96% (AV-TEST - The Independent IT-Security Institute). AV-TEST is a leading international service provider in the fields of IT security and antivirus research. Based in Germany, the company is comprised of 30 IT professionals that regularly test major antivirus products to provide independent and objective results to help users and businesses choose the right security product. Avast’s Android mobile security application is a highly preferred product.

The app has a good reputation, and the quality of security on it is highly respected. The app has a rating of over 4.489 out of 5 based on the most recent 1,559 reviews on Google Play store from May to July 2020 (Google Play, n.d.). Its rating is 15.4% higher than the 3.889 average ratings of its competitors. Even Avast’s main competitor only has a 4.21 rating.

The global company image was established by becoming an active security provider to other markets and countries. The company has physical offices worldwide in the Czech Republic, the United States, the United Kingdom, Germany, Russia, Mexico, Brazil, and Japan. The
company is trusted by more than 430 million users internationally (Avast, 2019). Hence, the worldwide name value is beneficial in building a trusting relationship with customers and partners.

Unlike other anti-virus products, Avast uses a freemium model meaning that the product is partially free forever. There is a free version and a premium version, which can be subscribed to monthly or yearly. This monetization allows the company to have fewer barriers for customers so that the company can attract a large user base.

Although the number of followers on Avast’s social networking platforms is smaller than Trend Micro, its primary competitor, the engagement on those platforms is significant. 7,500 people followed Facebook, and 2,200 people followed Twitter for Avast. 29,000 people follow Facebook and 13,900 people follow Twitter for Trend Micro. This is because Avast has been running campaigns on Facebook and Twitter since the beginning of this year (Fujimoto, 2020). The average interaction per post on Facebook in July for Avast is 1,800, while interaction per post on Facebook is only 31 for Trend Micro. Likewise, 609 average interactions occurred on Twitter for Avast and only 14 for Trend Micro.

**Weaknesses**

Although Avast’s mobile application’s protection quality is high, its competitor, Trend Micro is still leading the mobile protection market. The quality for security is confirmed as trustworthy on AV Comparatives mentioned in Strength. Avast’s protection rate has resulted in 99.9% accuracy for protection and 1 false alarm for security. This is still a highly acceptable score. However, the main competitor, Trend Micro has a 100% protection rate (AV-Comparatives, 2020). Avast’s protection result in AV-TEST resulted in a 99.1% protection rate higher than the average of 96%. However, the main competitor, Trend Micro, has a higher quality of protection. (AV-Test, 2020)

The lack of research and a strategic plan for mobile applications is another weakness that Avast must shore up. Research on targeted markets is an essential activity to create customer-oriented marketing strategies. There is no fundamental research on Japanese mobile markets and consumer behavior in mobile marketing because customer acquisition for mobile apps was never a priority before. Therefore, this paper aims to contribute to research on this topic to Avast.
The click to install rate from app store page views to installation is low. Only 12.23% convert from store page view to installation, while the average conversion rate for this app category is 14.44% (Adjust, 2019).

**Opportunities**

There will be more consumers who complete purchases on their smartphones. According to a recent report by J.P. Morgan (2019), mobile commerce in Japan is forecasted to grow at a compound annual growth rate of 13.6% by 2021. Besides, almost 50% of all transactions are completed through mobile applications. Of these, more than 65% prefer card payments online.

However, security awareness for mobile devices in Japan is still low, which means there is a good opportunity to educate people and capitalize on an emergent consumer base. The Japanese market is at risk of viruses, malware, and identify theft.

Avast can reach more users by implementing new social media marketing platforms like LINE. Avast has a presence in social media platforms such as Facebook and Twitter, but the company still has not entered one of the most popular platforms: LINE. 60% of smartphone users are active on social media platforms, and LINE itself has more than 80% of that smartphone user share. There is a 40% share of social media users who only use LINE (LINE Corporation, 2020). Avast has not reached this share of the market yet.

Avast’s primary audience is the young generation, ranging around 18 to 34 years old, who have the highest smartphone penetration rate. According to data from May to July 2020 via the data analysis tool, Similar Web (n.d.), Avast’s current mobile audience for the official website ranges from 22.66% for ages 18-24 years old, 30.59% for 25-34 years old, and 27.05% for 35-44 years old with an overall gender divide of 62.91% male and 37.09% female. This factor makes it easy for Avast to approach smartphone users. Meanwhile, its competitor, TrendMicro, has a similar gender distribution and attracts a broader audience age range. Trend Micro’s have more than 50% more of the audience group aged +45 years old than Avast’s same age audience.

As mentioned before, the ratio of clicks to installations is lower than the average of 14.44%. This area has the potential to improve its quality by ASO. The app store page including the current
title, short description, and screenshots images should be reviewed and optimized. AB tests on the app store page should take place before implementation.

**Threats**

The industry is changing rapidly, furthermore, there is an increasing number of competitors. In addition to this, as the demand for security increases, there is the possibility that the quality of built-in anti-virus and security will improve. External apps to protect the phone may not be necessary in the future.

**Table 3**

*SWOT for Avast*

<table>
<thead>
<tr>
<th>Strength</th>
<th>Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td>● AV test certified mobile application</td>
<td>● Small number of shares in japan</td>
</tr>
<tr>
<td>● Worldwide image</td>
<td>● Unrecognized in the market</td>
</tr>
<tr>
<td>● High-quality product</td>
<td>● Lack of research and plan for strategy</td>
</tr>
<tr>
<td>● Freemium app</td>
<td>● Lack of awareness</td>
</tr>
<tr>
<td>● Strong Facebook campaign</td>
<td>● Low click to install rate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Mobile phone purchase increase</td>
<td>● Product development in current competitors</td>
</tr>
<tr>
<td>● Lack of security awareness – educate customers</td>
<td></td>
</tr>
<tr>
<td>● New Social Media Marketing, LINE</td>
<td></td>
</tr>
<tr>
<td>● Main audience is the young generation who use smartphones</td>
<td></td>
</tr>
<tr>
<td>● Click to install rate improvement</td>
<td></td>
</tr>
</tbody>
</table>

*Note. Copyright 2020 by Rumi Matsumoto*
5.1.3 Competitor Analysis: SWOT for The Leading Mobile Security Company, Trend Micro

The Japanese company, Trend Micro, headquartered in Tokyo, enjoys strong popularity in the Japanese market. The company is a well-known anti-virus and security solution company for Windows. The first mobile security application for Trend Micro was launched in 2016 in Japan. According to the revenue data of competitors exported from an app data analysis platform, Sensor Tower (2020), Trend Micro’s mobile security application, Virus Buster, is estimated to gain the highest revenue from Google Play Store in Japan. Trend Micro acquired an average of 81,800 app monthly downloads on Google Play Store in the Japanese market from March 2019 to March 2020. In addition to this, they are the most known company in terms of its share of anti-virus software, which accounts for 44.6% of the Japanese PC market (BCN Award, 2020). Trend Micro is not only well-known for mobile security applications, but it also known as a leading anti-virus software in the Japanese market. Trend Micro was established in 1988, specializing in anti-virus software operation in the various areas of network security.

Table 4

Trend Micro Mobile Security Android Product Summary

<table>
<thead>
<tr>
<th>Name (Japanese)</th>
<th>Trend Micro Virus Buster Mobile</th>
</tr>
</thead>
<tbody>
<tr>
<td>App category</td>
<td>Tool</td>
</tr>
<tr>
<td>Total number of installs (Japan)</td>
<td>6 million downloads (Since January 2014)</td>
</tr>
<tr>
<td>Monetization model</td>
<td>30-day trial freemium, in-app purchase</td>
</tr>
<tr>
<td>Price</td>
<td>3.122 yen /yearly</td>
</tr>
<tr>
<td>In-app advertisement</td>
<td>None</td>
</tr>
<tr>
<td>Customer support</td>
<td>• Only for paid users</td>
</tr>
<tr>
<td></td>
<td>• Contact form (Email)</td>
</tr>
<tr>
<td></td>
<td>• LINE</td>
</tr>
<tr>
<td>Features</td>
<td>• Virus scan</td>
</tr>
</tbody>
</table>
Brand Awareness of Trend Micro is strong at 33%, while Avast only covers 8% among Android users in Japan (Avast, 2018). Their top product “Virus buster” is a highly well-known as an antivirus product. The keyword “Virus Buster” generates approximately 4,200 total installs across Google Play Store while “Avast” only generated 280 total installs. Because Trend Micro is a Japanese company based in Japan, more local-focused resources are available. Trend Micro has been operating in Japan since 1992, while Avast just entered the Japanese market in 2017. Furthermore, being based in Japan has given Trend Micro a significant advantage in brand awareness. Additionally, in terms of site visits, the number of direct visitors to the website in July 2020 was 157,215 while it was only 30,014 visitors to Avast website, which means that more than 420% of organic visitors directly visit Trend Micro’s website compared to Avast (Similar Web, n.d.).

The monetization of Trend Micro’s application employs an effective strategy for customer retention: A free trial for the first 30 days is adopted for Trend Micro’s mobile security app. This monetization method allows users to experience the paid version for 30 days, meaning that users, especially beginners to this type of app, can become familiar with the app before purchasing it. After 30 days, the app automatically disables its paid functions. Once the user gets used to using the app on a daily basis, they will be motivated to purchase the paid features.

Trend Micro has an official LINE account for providing chat customer support to users. The company implements two customer support systems: 24-hour Q&A customer support and real-time customer support during business hours. LINE is a popular social media platform used
by most of the Japanese user market. Trend Micro has 261 thousand friends that they can approach with marketing campaigns on the platform. This style of customer support is very oriented to the Japanese market. Avast should follow this customer support model if it wishes to compete with Trend Micro.

The mobile security app developed by Trend Micro was recognized as an excellent product. Trend Micro received a certification from the AV test association based on the result of the product review that took place in January 2020 (AV-Test). The mobile security app for Android had an excellent review from the institution, which stated that the quality of the mobile app met 100% of the security criteria, while the industry average is 96%. It is proven that the product is trustworthy.

Trend Micro’s mobile application has a strong presence in Japan, especially since the company focuses on app store optimization. Trend Micro is currently ranked fifth in the tools category on Google Play Store. According to data from the data analysis tool, Similar Web (n.d.), from May to July 2020, Trend Micro had 434,017 downloads in three months which is more than two times the number of Avast downloads. Regarding install penetration, the average percentage of devices in the defined market with the app installed is 4.76% for Trend Micro, while Avast only has 2.63%. The download number in the same period for Trend Micro is 434,017, while for Avast it is 200,695; there is a more than 116% difference in the number of downloads.

Weakness

Compared to Avast, Trend Micro has a lesser overall rating on the app store which is 4.21 in July 2020 (Sensor Tower). Based on the reviews with ratings of 1 to 2 for 3 months from January to March 2020, the largest negative comments are 26% bugs, 19% subscription problems (such as user contracts being renewed without their permission), 11% annoying notifications, and 10% poor customer support.
7% of reviewers complain about the expensive subscription price of Trend Micro’s product. Based on the price for March 2020, Trend Micro has a 3,180 yen ($29.74) for a one-year license, while a one-year license for Avast is 2,300 yen ($21.51).

All companies are vulnerable to the potential actions of rogue employees. In November 2019, Trend Micro (2019) reported that an employee sold the privacy information of customers resulting in approximately 70,000 of its 12 million customers being affected. This scandal drastically damaged the level of trust Japanese customers have in Trend Micro.

**Opportunities**

Brand awareness generated by social media is a strong opportunity for Trend Micro. 32% of people discover new apps through shared posts on social networks (Google, 2016). Social Media is a place where a company can promote recent updates of their product and also educate the audience about cybersecurity for smartphones. For instance, in July 2020, Trend Micro Japan’s
Twitter account @trendmicrojp had 13,900 followers, while Avast Japan, @AvastJapan only had 2,200 followers. Trend Micro has another account only for customer support @TMsupportJP, and they increase engagement by creating retweets from each other. Similarly, Trend Micro has about 29,000 followers, while Avast Japan has only approximately 7,500 (Fujimoto, 2020).

Financial support by Softbank Corp is an advantage for the company in terms of research and development. 35% of its shares have been acquired by one of the largest conglomerate companies in Japan, Softbank Corp. One of Softbank Corp’s consolidated subsidiaries, SB Technology provides information and communication technology (ICT) services for businesses. Trend Micro developed and provided the Endpoint Protection Platform and Endpoint detection and responses with the collaboration of SB Technology (SB Technology, 2020 & Trend Micro, 2020).

**Threats**

Trend Micro’s smartphone app was offered to Softbank’s mobile users starting in 2016, but this service was terminated in 2018. Softbank is the third-largest mobile telecommunication vendor with a 21.4% share in Japan (Ministry of Internal Affairs and Communications, 2020). Softbank changed its security contract to another mobile security company, McAfee. This was a huge loss for Trend Micro.

The monetization style risks losing users, as the users are required to upgrade to a subscription after the first 30-day trial. If users like the application and finds the application useful, they will become paid users. However, there is a high probability of uninstallation after the trial period as the application becomes unusable. In fact, daily active users on Trend Micro’s application is lower than Avast at 137,249 to Avast’s 141,717 (Similar Web, n.d.). However, Trend Micro’s download rate is higher than Avast’s which may suggest a possible high churn rate.
Table 5

SWOT analysis for Trend Micro

<table>
<thead>
<tr>
<th>Strength</th>
<th>Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Japanese antivirus software company</td>
<td>● Rating on app store</td>
</tr>
<tr>
<td>● Monetization for app product</td>
<td>● Higher pricing in the market</td>
</tr>
<tr>
<td>● Good results on AV test</td>
<td>● Incident with employees</td>
</tr>
<tr>
<td>● Store presence in Google Play Store</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Brand awareness generated by engagement on Social Media</td>
<td>● Loss of partnership</td>
</tr>
<tr>
<td>● The government encourages education for cybersecurity human resources</td>
<td>● Monetization may cause high customer churn</td>
</tr>
<tr>
<td>● Softbank as a shareholder</td>
<td></td>
</tr>
</tbody>
</table>

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5.1.4 Summary of Competitor Research

Table 6

Summary of competition

<table>
<thead>
<tr>
<th>Summary of competition</th>
<th>Avast</th>
<th>Trend Micro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company</td>
<td>Global</td>
<td>Japan-focused</td>
</tr>
<tr>
<td>Audience (mobile users)</td>
<td>25-34</td>
<td>35-44</td>
</tr>
<tr>
<td>Mobile Brand Awareness</td>
<td>8%</td>
<td>33%</td>
</tr>
<tr>
<td>Google Play Store</td>
<td>Market Share</td>
<td>11.09%</td>
</tr>
<tr>
<td>Total Download</td>
<td>1.6 million</td>
<td>6 million</td>
</tr>
<tr>
<td>Monthly download</td>
<td>200K</td>
<td>434K</td>
</tr>
<tr>
<td>Current Active Users (July 2020)</td>
<td>141,717</td>
<td>137,249</td>
</tr>
</tbody>
</table>
The result of the situational analysis suggests several key points. First of all, the demand and the need for security will likely increase commensurately with the increasing number of Wi-fi spots, smartphone users, and cyber-attacks. However, Japanese users have not caught up with the accelerating trend of security threats in this rapidly changing environment. Therefore, proper educational content informing users about security is going to be important. There are many chances for Avast to increase its user base as the market is still largely untouched. Second, there are some opportunities for Avast to plan, clarify its targeting of the younger working generation, market campaigns in untouched platforms, and implement ASO improvements. The product is approved by third party organizations and it is also highly recommended by users. Those positive images of the products should be used as marketing campaigns. Third, Avast is not a well-known

<table>
<thead>
<tr>
<th></th>
<th>App Store Ranking (Tools)</th>
<th>33rd</th>
<th>6th</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>App Store Rating</td>
<td>4.489</td>
<td>4.21</td>
</tr>
<tr>
<td></td>
<td>Monetization</td>
<td>Freemium (free partially forever)</td>
<td>30 days trial Freemium</td>
</tr>
<tr>
<td></td>
<td>AV Comparatives</td>
<td>99.9%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>AV Test (Protection)</td>
<td>99.1%</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Media</th>
<th>Facebook</th>
<th>Twitter</th>
<th>LINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Followers</td>
<td>7500 followers</td>
<td>29K followers</td>
<td></td>
</tr>
<tr>
<td>Engagement (July 2020)</td>
<td>1,800</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Twitter Follower</td>
<td>2200 followers</td>
<td>13.9K followers</td>
<td></td>
</tr>
<tr>
<td>Engagement (July 2020)</td>
<td>609</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Account</td>
<td>No account</td>
<td>260K friends</td>
<td></td>
</tr>
<tr>
<td>Campaigns</td>
<td>N/A</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>App Feature set (Based on paid features)</th>
<th>Virus Scan</th>
<th>Wi-Fi Security</th>
<th>Photo Album with PIN</th>
<th>Battery Saver</th>
<th>Junk Cleaner</th>
<th>VPN</th>
<th>Anti-theft Protection</th>
<th>Payment Protection Mode</th>
<th>App Lock</th>
<th>Support</th>
<th>LINE 24hour Support</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>○</td>
<td>○</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>○</td>
<td>○</td>
<td>x</td>
<td>○</td>
<td>x</td>
</tr>
</tbody>
</table>

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company compared to the competitor, Trend Micro. Brand awareness is low, therefore, the company needs to organize brand awareness campaigns to build recognition of the company in addition to raising awareness of security problems.

5.2 Objectives

Avast aims to expand the market share and increase the userbase in the Japanese market by 50%. The current monthly installation is 200,000 and the aim for this six-month campaign is to have 300,000 installation monthly. In order to measure the results of the promotions, the key performance indicator should be the number of installations increased (Fujimoto, 2020).

Sell and Serve objectives have been chosen for the Avast marketing strategy because the objective aims at increasing the user base and building brand awareness by communicating with the audience. Since the product offered by the company is freemium, where the entry to install is wider, installation can happen easily. Therefore, the focus to achieve the goal of an increased user base will be fulfilled through an objective to approach the audience and thus strengthen the market positions and security awareness in Japan.

The combination of brand awareness campaigns and conversion-focused promotion will be performed for this objective. The content created by the company on the official websites and the posts on online platforms will provide information about security as well as company-related information. Sell objective refers to online marketing activities to attract new customers to increase the number of installations by becoming more visible and credible on Google Play Store. To succeed in the Sell objective, it is important to utilize the Serve objective to help add value. Benefits are often delivered by providing additional customer services. Reviews and feedback are essential during this process because these elements improve the company’s additional value. This creates customer loyalty and a deeper understanding of the needs and problems that the customer may have as well as how the company should solve those problems.

The formulated SMART objectives are the following.

- **Sell**: Achieve 50% increased the userbase in six months by 1) optimizing app store presence to make the application more discoverable, 2) Increase the click to install rate to
the category average of 14.44%, 3) Increase store page visit by utilizing social media marketing campaigns for brand awareness.

- Serve: Improve customer support by encouraging the users to write reviews, listen to customers, and improve support.

5.3 Strategy

5.3.1 Segmentation and Targeting

Situation analysis of the Japanese consumer trends is composed of relevant targeting that identifies characteristics of the market segments. The company’s social media marketing should target consumers between ages 20 to 49 in Japan as the main target user group. The group consists of students and young working individuals who are the main smartphone users in Japan. This is especially true of those in the 30s to 40s age range. These are the ones that have the highest penetration rate of online shopping by credit card on their smartphones. However, there is no geographical limitation to a mobile application.

5.3.2 Positioning

As mentioned in the Segmentation and Targeting section, Avast specifically targets the market ages between 20 to 49 who are active in online shopping and social media platforms. Based on these market insights, the market has a high penetration rate of smartphone users and a low awareness of security.

“Free and high quality” is Avast’s positioning for the targeted market. Because this strategy is designed to increase the userbase of the application, Avast should emphasize its freemium model and promote its “promise to protect smartphones for free forever”. The freemium model allows more users to try out a new product. This model provides Avast with a strategic advantage against its competitors. Because Avast is approved by third parties, it can promote itself as a high-quality product with independently verified credibility.

As mentioned earlier, a lack of awareness of the security and brand needs to be taken into consideration. To get more attention on the product, strong messaging is required. For example, for online shoppers, “Are you shopping online safely?” with an image of a credit card and a hacker.
For those who do not know much of threats, “Did you know the average credit card theft is 100,000 yen?” The point is to emphasize the real number to the audience in the advertisement. This creates a Needs awareness to potential customers.

6. Recommendations and Conclusions
6.1 Tactics and Actions

Table 7

<table>
<thead>
<tr>
<th>Sell objectives</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google Play Store</td>
<td>ASO AB test</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keyword</td>
<td>ASO AB test</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Icon</td>
<td>ASO AB test</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screenshot</td>
<td>LINE Ads Platform</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Advertisements | Note. Copyright 2020 for Rumi Matsumoto

The objective to increase the amount of Avast’s installation by 50% in 6 months consists of three core activities. To achieve this objective, organic marketing needs to be implemented.

- ASO

The ASO project consists of three phases: keyword optimization, icon optimization, and screenshot optimization. As mentioned earlier, more than 65% of downloads come from organic searches on the app store. This is the most cost-effective way to improve the app store page because this can be done internally. Before making a final decision to implement the keywords and designs, an AB test should take place.

For keyword optimization, there are useful platforms, such as App Annie and Sensor Tower, which provide business intelligence solutions to analyze sales trends, mobile data, and
trend keywords. These tools help businesses to discover popular keywords based on consumer activities and optimize the app search by keywords. The mix of common keywords put into the app description helps to improve app rankings on Google Play Store. Avast mobile security for Android is currently ranked 33rd on Google Play Store as of July 2020 (Similar Web, n.d.). The results for app store optimization can be measured by a view of the app page and ranking. These should be tracked weekly to make sure there is no significant drop in those areas.

Icon and screenshot optimization are in phases two and three. It is important because this is the first image the users see, and those results should be measured by page view and conversion rate.

- LINE Ads Platform

Ads within the communication application allow businesses to create an audience similar to users who have purchased in the past, allowing businesses to deliver ads efficiently. Highly accurate targeting is possible with specific attributes such as gender and user age. Users are highly motivated to purchase and are susceptible to influencers. It is more efficient to work with educational content such as security information and product information.

Once registering an account on LINE Ads Platform, advertisements will be displayed in the top frame of the LINE chat list. It will be a banner advertisement, and this ad will direct the user to the landing page of the product/service.

Avast needs to use machine learning to automatically optimize ad bids. Ads distribution is performed while automatically adjusting bids so that the set target can be achieved. It improves efficiency and reduces operating costs. Furthermore, targeted Click Per Acquisition (CPA) should be identified before running the campaign so that Click Per Cost (CPC) can be automatically optimized.
Table 8

Serve Objectives

<table>
<thead>
<tr>
<th></th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LINE Account</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>LINE Chat Plus</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Google Play Store</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responding to</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Reviews</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

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Serve objective to increase customer engagement rate by 100% in six months is going to be planned with various activities connected to Social Media Marketing. In order to achieve this objective, external advertisements will be implemented.

External advertising campaigns are going to be implemented on LINE, as this platform has the highest usage rate. The following marketing tools on LINE will be used:

- LINE Chat plus for customer support service

  Avast is going to provide two types of customer support. 1) Hybrid support with AI for 24-hour customer support, 2) Chat support with customer support to create real-time communication with customers. User satisfaction improves by providing customer service to let them connect anytime, anywhere, for free. New customer support is going to be introduced on Avast’s official website to provide more convenient customer support as well as to attract desktop users. The user must add an Avast LINE account to receive customer support.

- Official Avast LINE Account Activities

  After the user adds an Avast LINE account, Avast can post information on the user’s timeline. Based on demand analysis, useful and educational topics such as security awareness, and statistics about cyber-crime are going to be posted. The post is linked to external Avast website blogs. The plan is to post two blog posts per week connected to LINE accounts. Users can also like the post or share the post as they wish.

- Responding to Reviews on Google Play Store
Besides social media marketing, responding to customer reviews is one of the key Serve activities. Avast should aim to gain an overall rating of 4.75+ out of 5 because this is the benchmark for an excellent app (Daan & Kwaky, 2017). The aim is to respond to every review within 24 hours. This is a part of customer support where the business hears customer’s real voices and answers them directly to solve their problems. KPI for review activity is the improvement of rating, as users increase their rating by +0.7% on average when they receive a response from developers. (Suzuki, 2019). Moreover, customers check reviews when installing the app for the first time. This also provides the impression of high-quality customer care to the audience.

6.2 Control
The Control section answers the question “How do we monitor performance?” The results of ongoing marketing activities are continuously measured during this stage. It is important to identify the clear objective of what outcome will be fulfilled at this stage of the Objective. Monitoring performance provides an overview of customer preferences, trends, and the effectiveness of each marketing activity. Therefore, control should take in part of the plan to ensure that objectives are being met at various time frames based on specific KPIs. The metrics should be identified depending on the marketing activity.

Apart from KPIs for social media campaigns, there are several suitable factors such as the improvement of the app store rating, the number of ratings and reviews, as well as the app store ranking.

6.3 Conclusion
The main objective of the thesis was to develop a social media marketing strategy for the targeted group of the mobile security product for Avast.s.r.o for the Japanese market as well as the recommended execution plan. The evaluation of the market through the SOSTAC model has helped in invoking external and internal business environments to consider further marketing plans. Thus, the combination of demand analysis and SWOT analysis on both Avast and the competitor identified the weaknesses and strengths of both to help develop messaging for targeted users. Thorough research has established an action and control plan for the product.
Local-oriented social media marketing is one of the most effective tools to be used for marketing campaigns for mobile apps. Well-designed strategies based on an understanding of consumer behaviors in the market for six months should provide satisfactory results for the company. Thus, this project will help the company plan for short term and long-term marketing to achieve objectives.
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