

The VSP App Adoption by Royal Malaysia Police (RMP) in Law Enforcement

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ABSTRACT

This study aimed at discovering the factors of VSP app adoption by RMP in law enforcement particularly towards crime prevention. Using qualitative methodology of case study design, significant discoveries were obtained through in-depth interviews with five VSP Enforcers from the Crime Prevention and Community Safety department or Jabatan Pencegahan Jenayah dan Keselamatan Komuniti (JPJKK) of Bukit Aman representing the Royal Malaysia Police. The NVivo 12.0 software was used in the process of open, axial and selective coding. The data were analyzed by applying the thematic analysis. The result indicates that the RMP utilizes VSP application due to five salient factors that are; VSP acts as a prevention tool, identity protection, an espionage medium, comprehensible and last but not least, RMP utilizes VSP app in law enforcement in particular to prevent crime due to its functionality.

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1. Introduction

According to the Department of Statistics Malaysia (2018), the crime index ratio per 100,000 people for Malaysia in 2017 was 309.7 which was lower than in 2016 (355.2). Nonetheless, in 2017, six Malaysian states recorded a crime index above the national average, namely W.P. Kuala Lumpur (716.9), Selangor (408.6), Negeri Sembilan (356.6), Melaka (339.2), Pulau Pinang (318.3), and Kedah (315.3) (Department of Statistics Malaysia, 2018). In order to keep the crime index below an alarming level, research must be undertaken on a regular basis to help develop new techniques of supporting crime investigation and prevention. Though there has been numerous researches on the use of social media in enterprises and public organisations, there appear to be little studies on the influence that mobile applications have on their acceptance in police law enforcement. There is presently only empirical evidence about how police and law enforcement use social media, and much less study on its integration with mobile applications, particularly in Malaysia.

As denotes by Snively (2016), the police need to realise that the old, traditional ways of getting the word out, like press conferences and newspapers, are now seen as old-fashioned and slow because they have been replaced by a huge number of real-time social media reports. For instance, when formerly, the community physically had to go to the police station only to report a crime, complaint, or even give information to the police, all of this has been considerably replaced with just a few clicks from anyone's fingers. As a result, law enforcement organisations must handle the duty to provide correctly scheduled updates to critical situations and events, as well as the opportunity to connect their community through a widely used and acceptable

medium of communication, in today's period. Furthermore, this necessitates familiarity with social media, its functions, and its efficacy, both real and perceived (Snively, 2016).

Following protests against law enforcement for a variety of causes, it is critical for law enforcement personnel and agencies to understand and implement the best modes of communication in order to create a healthy connection with the community they represent. Developing a mobile application is expensive and time-consuming, especially when considering future staff training and maintenance costs. Such a substantial expenditure for the creation of a mobile app will not be less expensive than utilising current, free social media sites. With the power of social media nowadays, individuals might viralize a video to attract police attention, and the police will finally investigate.

As stated in the Eleventh Malaysian plan, twelve initiatives are to be implemented to enhance public safety. In addition, enhancing crime prevention in law enforcement is one of the five primary goals (Economic Planning Unit of Malaysian Prime Minister's Department, 2015). With this in mind, the Royal Malaysia Police has expanded its methods of interacting with the public, particularly in the area of crime prevention. Henceforth, Volunteer Smartphone Patrol (VSP) app is developed as a new programme of the RMP that facilitates strategic community participation and interaction for the purpose of crime prevention. Previously, the community could report a crime by visiting the police station, calling the RMP's hotline, or sending Short Message Service (SMS) messages. However, with the advent of VSP, the community can now report any crime and information to the police with the advanced functions such as photo and video uploads as well as GPS coordinates of the crime scene sharing (Ministry of Home Affairs Malaysia, 2022). As indicated by Harun, Che Hamid, & Kassim (2018), VSP app is a new development from the previous Friends of Cop or Rakan Cop, which was the prior community policing programme by RMP in order to prevent and combat crime.

Hence, this study aimed at discovering the factors behind the adoption of VSP app by the RMP in their law enforcement. The researcher utilized the extended version of Technology Acceptance Model (TAM) by Colvin & Goh (2005) to describe the purpose of the VSP app in servicing the members of the audience, who in this research is the RMP law enforcement. The theory indicates four factors affecting the police officers' technology adoption process: (1) ease of use; (2) usefulness; (3) timeliness; and (4) information quality. In fact, RMP law enforcers who are authorized to access VSP app for crime investigation, in this case the VSP Enforcers are determined from the four factors of police's technology acceptance, namely ease of use, usefulness, timeliness and information quality via VSP app platform. In the context of this study, the acceptance of VSP Enforcers is determined through the utilization of VSP app to get crime information and prevent crime.

2. Literature Review

A study by Zhang, Price, & Keynes (2020) entitled Finding and Evaluating Community Policing Apps in Asia asserted that, the prevalence of mobile devices gives new chances for police to connect with residents everywhere. However, scholarly research evaluating these devices is sparse. The assessment of android community policing (CP) applications used in Asia indicated that in the lack of advice, it is difficult to locate acceptable Asian CP apps. The functions, communication methods, and privacy aspects of CP applications were described. The study concluded with a number of design recommendations, including the development of a standardised app store description system and an assessment methodology to aid users in locating and selecting suitable CP applications.

Meanwhile, Brainard & Edlins (2015) acknowledged that social media platforms offer a new avenue for government organisations to engage with, and perhaps work with, their constituents. However, they discovered in their study that, while police departments have and utilise social media, and people are receptive, there is far less contact, which is attributable in part to the non-responsiveness of police departments themselves. As a result, the study determined that, while some police department-resident discussion appeared potential, very little was collaborative.

2.1 Social Media and Mobile Apps Utilization by Law Enforcement

According to Hu & Lovrich (2019), most police departments in the United States claim to utilise social media, and this use is attracting a lot of scholarly interest. The majority of research on police social media use concentrate on the content of police social media websites. However, little study has been undertaken to determine what sorts of police departments are using social media. As a result, the study's goal was to fill this research gap. According to the findings, three factors predict police use of social media: (1) the size of a police agency's workforce (both commissioned and civilian personnel); (2) the level of participation in multi-jurisdictional task forces; and (3) the early use of an official agency website to communicate with the public (Hu & Lovrich, 2019).

Prior empirical studies have demonstrated that crime prevention necessitates a thorough process and a constant momentum in order to limit and prevent crime. Through the VSP mobile app, the efficacy of a crime prevention programme may meet the demands of the community to live in a safe and secure environment and reduce the fear of crime among the community (Harun et al., 2018). The RMP leadership emphasises the notion of community-oriented policing as a motivator for achieving maximum safety sustainability through community participation. This way, the community may assist RMP in combating and preventing crime by participating in community-oriented policing.

Not only that, police departments in other countries have also used mobile apps in law enforcement, including 'Neighbourhood Watch' in Australia, 'Base Team Policing' in Canada, 'Community on Patrol (COP)' in Miami-Dade, 'Koban System' in Japan, 'Community Development & Order System' in Indonesia, and 'Neighbourhood Police Force' in Singapore (Harun et al., 2018).

2.2 Police Technology Acceptance in Crime Investigation and Prevention

Liou's (2019) research titled Technology Application and Police Administration: Concerns and Challenges evaluated crucial issues and obstacles associated with the use of technology to enhance the management of police organisations drew the conclusion that police technology application should be examined from a comprehensive viewpoint to solve not only technology operational challenges, but also organisational, management, community, and policy issues.

In addition, a research on Investigative Decision-making reveals: The purpose of the interviews with detectives was to explore investigative decision-making processes in the context of big crimes as experienced by law enforcement officials. A number of internal elements, as shown by the study's findings, shape the decision-making process as a balancing act between numerous desired outcomes. Detectives tend to evaluate a scenario based on their past experiences, suggesting that the naturalistic decision-making model may be useful in gaining an understanding of investigative decision-making (Spanoudaki, Ioannou, Synnott, Tzani-Pepelasi, & Pylarinou, 2019).

The Validation of the Technology Acceptance Model for Police studied by Colvin and Goh (2005), which focused on the factors influencing police personnel and the technology acceptance process, is one of the prior studies employing TAM that has a high degree of relevance to the current investigation. The study results have expanded the TAM by Davis (1989) from two to four elements that influence the technology adoption process of police officers: (1) ease of use; (2) usefulness; (3) timeliness; and (4) information quality (Colvin & Goh, 2005).

As concluded by Colvin and Goh (2005) in their study on police technology acceptance, the general TAM results indicating that enhancing the technology's ease of use and usefulness will increase adoption by patrol officers were verified. Consideration of the timeliness and quality of the information provided by the new technology was also suggested as a means of obtaining even greater acceptance (Colvin & Goh, 2005). In this present study, therefore, the expanded version of TAM was employed to investigate why the RMP utilizes the VSP app for their law enforcement.

3. Method

This study used a qualitative method that incorporated the interpretive paradigm because it revealed how individuals in their natural environments construct significance and understand the occurrences in their world (Wimmer & Dominick, 2014). Therefore, it is essential to interpret informant's experiences in different parts of the VSP app enforcers' personal experience. As denotes by Creswell & Poth (2016), the researcher's background shapes the interpretation, and the researcher's position as a validating instrument determines how well the cultural, personal, and historical experiences are explained.

3.1 The Case Study Approach

Since the purpose of the study is to discover informants' perspectives on the factors of the VSP app adoption in RMP law enforcement, a case study approach was utilised to collect detailed data. Case study, as described by Yin (1984), is "the empirical investigation that analyses a current phenomenon within the setting of actual life, that is, when the borders between phenomenon and context are not clearly delineated; and when numerous sources of evidence are employed" (Yin, 1984, p.23). Correspondingly, as cited in Hercegovac, Kernot, & Stanley (2020), a case study technique can be utilised when the phenomena of interest occurs in a natural or real-world environment where the distinction between the phenomenon and the context is unclear (Baxter & Jack, 2008; Yin, 2014).

As outlined by Yin (2014), a case study research process is linear yet interactive, involving practical and technical discussions regarding each of the six components of case study research: planning, designing,

preparing, data gathering, analysing, and reporting. Thus, for this study, the researchers used the following case study methods and steps from Yin (2014):

- i) Identifying the study's problem,
- ii) Selecting cases,
- iii) Determining data collection and analysis techniques,
- iv) Field data collection,
- v) Evaluation and analysis, and
- vi) Writing the report for the study.

In sum, the case study-based qualitative research is very adaptive due to the dynamic nature of the process, which is always evolving and unfolding. This has been asserted by Creswell (2013) stating that the research design is the full research process that begins with the conception of a problem and the formulation of research questions and continues through data collection, analysis, and interpretation.

3.2 Informants' characteristics

This study included a total of five informants reflecting the perspectives of VSP Enforcers on the adoption of the VSP app by RMP law enforcement. As emphasized by Creswell (2007), informants must have direct experience with the phenomenon being examined. Thus, in order to achieve the goal of the study, the researcher has described the informant's characteristics and selected based on the following criteria:

- i. Police staff from the Crime Prevention and Community Safety Department or Jabatan Pencegahan Jenayah dan Keselamatan Komuniti (JPJKK) department of Royal Malaysia Police,
- ii. Age range is from 25-60,
- iii. Must possess a VSP app installed on their mobile device (Android/ iOS/ Windows phone),
- iv. Authorized with a VSP access ID and monitoring on RMP's behalf,
- v. Active VSP Enforcer,
- vi. Irrespective of their state of origin,
- vii. Irrespective of marital status,
- viii. Irrespective of race and gender, and
- ix. Irrespective of political ideology.

3.3 Sampling Procedures

This study employed a non-probability sampling method. In specific, the study applied criterion-based purposive sampling, which is the most relevant sample method since it reflects persons who have experienced the phenomenon. As described by Patton (2002) cited in Harsh (2011), criteria sampling requires reviewing and reading every instance that meets a predetermined importance threshold (Harsh, 2011). This has also been professed by Polit & Beck (2010) stating that the objective of the majority of qualitative research is not to generalise, but rather to give a deep, contextualised knowledge of some element of the human experience through the in-depth examination of unique cases.

3.3.1 Sample size, power and precision

According to Creswell (2007), between five and twenty-five informants are recommended for qualitative interviews. Nonetheless, it depends on the aspects that are crucial to the study's aims. This is due to the fact that there is no precise number for the sample, since it will rely on the success of the interviews, the quality of the data, the quality of the data analysis, and the availability of sufficient resources to support the study (Merriam & Tisdell, 2015). As posited by Charmaz (2006), the smaller the research (modest claim), the sooner the data get saturated. For the purpose of this study, a total of five informant interviews were performed with VSP Enforcers in order to collect data.

The Crime Prevention and Community Safety Department or Jabatan Pencegahan Jenayah dan Keselamatan Komuniti (JPJKK) department of Royal Malaysia Police at Bukit Aman headquarters was selected for this study because they are the primary owners and enforcers of the Volunteer Smartphone Patrol (VSP) app. According to the official website of the Royal Malaysia Police and the Ministry of Home Affairs, the Malaysian government has appointed RMP as an implementing agency and the Crime Prevention and Community Safety Department (JPJKK) as an initiative owner (Royal Malaysia Police, 2022). The preliminary investigation

undertaken by the researcher with Bukit Aman indicated that, among the six divisions under the JPJ department, the Division of Data Collection / Analysis Division or Bahagian Pendataan / Analisis is directly responsible for monitoring VSP reports and complaints. The division comprises of police staff between the age of 25 and 60.

In order for informants to participate in this study, they must have a VSP access ID, since their knowledge of the VSP app will help the researcher better comprehend the RMP's use of mobile applications in law enforcement. Downloading VSP into their mobile devices and registered as a VSP Enforcer with a VSP access ID are the first two phases of VSP adoption. However, these two phases are insufficient to assure that law enforcement informants embrace the VSP. To guarantee that the source is categorised as an informant-rich source, he or she must be well-equipped with technology as an active VSP Enforcer who understands how to use the app properly.

3.3.2 In-depth interview and interpretative phenomenology analysis (IPA)

In order to discover the RMP's adoption of the VSP app in law enforcement, this study employed in-depth interviews because they allow the researcher to examine and comprehend the personal experiences of VSP Enforcers. In addition, an in-depth interview permits the collection of information on people's behaviours, emotions, and perspectives. As a result, an interview protocol based on the research questions was designed as a guide to ensure a smooth operation. In this case, the researcher has employed six types of questions by Patton (2002) to elicit responses from the informant. The questions comprise of demographic questions; experience and behaviour questions; opinion and value questions; feeling questions; knowledge questions; and sensory questions.

In addition, the researcher as the instrument in in-depth interviews is applied in this study. This study used a modified version of the Stevick-Colaizzi-Keen approach as described by Creswell (2007) for the Interpretative Phenomenology Analysis (IPA) because it is focused on what people actually do and how they feel. The only way for the researcher to learn about what the participants did is through their reports, which are looked at through the researcher's own experiences. As delineated by Moustakas (1994), which was later revised by Creswell (2007), there are six phases for the IPA as follows:

- i. The researcher links personal experiences with the study's subject,
- ii. After reviewing the transcripts of the participants' interviews, the researcher produces a list of notable notes on their mentoring experiences,
- iii. The researcher aggregates notable notes into larger parts or themes,
- iv. The researcher explains "what" using verbatim quotes from participant interviews about their mentoring experiences,
- v. The researcher explains "how" the atmosphere and circumstance in which the participants were mentored, and
- vi. The researcher formulates a composite depiction of the mentoring experiences of the participants, comprising textual and structural descriptions.

4. Results and Discussion

This section outlined the overall findings and discussion provides through interpretation of Royal Malaysia Police with VSP app adoption in their law enforcement which explained the Research Question (RQ): Why RMP adopts Volunteer Smartphone Patrol (VSP) app in law enforcement? As the result, five salient themes have been developed from the findings as indicated in Table 1.

Table 1. *The Factors Why RMP Adopts Volunteer Smartphone Patrol (VSP) app in Law Enforcement (RQ)*

No.	Theme Derived
1	Prevention tool
2	Identity protection
3	Espionage
4	Comprehensible
5	Functionality

Table 1 shows the themes derived from in-depth interviews with individual informants in discovering the factors behind RMP's adoption of Volunteer Smartphone Patrol (VSP) app in law enforcement.

4.1 Theme 1: Prevention Tool

According to Houle (2017), technology is advancing, and social media has been recognised as a valuable tool for community outreach, crime prevention, and criminal investigation. Their acts are aimed to facilitate public communication and data collection. On the preventative side, all authorities agree that Facebook is beneficial for identifying people by name or location alone and is seen as a useful resource by several departments. In this present study, a number of informants from the Royal Malaysia Police share their common experiences utilising this VSP platform for criminal investigation and crime prevention, which have influenced their reason for adopting the VSP app. VSP itself is considered as a valuable tool for preventing crime in community policing, which is a determining factor in why RMP law enforcers adopt VSP app in law enforcement. With the VSP app, there is no need for multiple additional social media platforms, such as Facebook, Instagram, or Twitter, to be dedicated to crime prevention activities; it is adequate and systematic to have only one platform, such as the VSP app, dedicated to crime prevention activities. This is as stated by the VSP Enforcers in the following excerpts:

“But what I see is that maybe this VSP is more like a tool that can be used in ... in crime prevention lah ... Every time there is a community policing crime prevention activity, indeed ... one of the products we sell is ready .. ready with its', its' banner, program flow, with.. not a demo lah, let's say a talk about narcotics crime or whatsoever, what..or commercial . And one of them is a talk about VSP.” (Informant 1 Line 1177 – 1179)

“First of all we want in crime prevention, we want ... we want ... we want the community to be together. So, what's .. what is the tool what .. what is its' tool. So, at that time we had 11 million smartphone users. So, from there we manipulate lah.” (Informant 2 Line 10635 – 1065)

“The police are not just us conducting intelligence but in fact in terms of prevention and so on, we really need the community. Because the community knows better the situation in their place. In line with the development of technology, Madam, because all users use mobile phones today, so with these apps, we can make it easier for the community to channel information already. As I explained earlier, we really need the community to help the police in crime prevention. But if there are no tools then the informant has to go to the police station. We informed in our talk right Madam, 'okay, please cooperate with the police to provide information.' But if there are no tools, how do they want to provide information. People had to go to the police station. So, with this VSP, it will be easier for the community to channel information. In line with our recommendation to the public, help the police, help the police. So, there must be tools. Yes, the tool is VSP.” (Informant 3 Line 641 - 653)

The findings of this study suggest that the VSP app as a tool for crime prevention provides not only a compelling reason, but also the key reason for RMP law enforcement to utilise the VSP programme in combating crime in this nation. This is supported by Harun et al. (2018), who indicate that the community was recruited to aid the RMP in battling and preventing crime in Malaysia using the VSP app.

4.2 Theme 2: Identity Protection

Previous empirical research has shown that one of the reasons police forces use their own community policing mobile application is to protect informants and their families from threats and dangers posed by the criminals who committed the crimes, as well as to keep the crime information they have gathered safe. Park et al. (2017) asserted that, in the U.S.A., the National Sheriffs Association, which organises neighbourhood watch groups, launched the ICE BlackBox, a smartphone app that lets users record video, track their location, and report to the police in a secure way.

In this study, as professed by the VSP Enforcers, each user's identity is safeguarded via confidential registration procedure that asks them to provide just their chosen nickname and not their phone number. To authenticate and finish the transaction, the system will then transmit a Type Approval Code (TAC) number to the registered VSP user's phone number. In addition, the phone number will be concealed from police officers who receive crime information via the VSP programme. The following excerpts justify the involvement of the VSP Enforcers in the situation:

“Aa .. when you get the TAC that is its' advantage too, it doesn't use your name. Use a nickname. You put the name of whatever you like. So, put it down. So, if s .. the information that reached us we also do not even know who sent.” (Informant 1 Line 1330 – 1333)

“In fact, we store the phone numbers in the server ... Registered members only. Nickname. Aa..It is nickname. Aa .. it cannot be revealed .. Only if there is such let's say there is a case that robbery and so on had to make er .. what is it .. our witness etc., can give the phone number. But that's by record lah.” (Informant 2 Line 1353 – 1361)

“Er .. in this VSP system the public registers as a VSP member and can er .. provide information, through apps yes Madam, yes. They will be registered as their nickname, Madam. is not a real name. Er .. and at the admin level itself we can't know who that person really is. We can't trace his number. He is just introduced in his ID system, ID daf .. aa .. his VSP ID and also his nickname. So, when er.. the public, this VSP member, gave information to the police, the police did not have access to his phone. Because we don't know his phone number.” (Informant 3 Line 401 – 408)

These findings indicate that the Royal Malaysia Police takes the safety and security of informants seriously. Simply by requiring a nickname, each informant's identity is secured. Thus, information shared in the VSP app is highly confidential. This has supported the previous study by Elphick et al. (2021) who found a significant relationship between anonymity and apps that tried to reassure users with words (such as mission statements) and apps that tried to protect users by allowing them to report things anonymously.

4.3 Theme 3: Espionage

According to Deloitte (2015), digital engagement and digital contact management include multi-channel public involvement, online crime reporting and vast-sourced intelligence, investigation via social media platforms, and digital tools for low-risk interaction with police. All of these services can help to relieve the strain on control rooms and call centres. In this study, it was determined that the VSP app not only facilitates connection between police and civilians in community policing, but also serves as an enormous source of intelligence for the RMP to collect information safely in order to combat crimes occurring in this nation. This means that the RMP has the huge opportunity to utilise the VSP app as an espionage tool in collecting information and criminal tips from the public because not only it is simple but also secure. The following quotes demonstrate that VSP Enforcers rely on the VSP app as an espionage source:

“I will definitely use VSP. Because I don't have to look for people anymore to be the source for er .. er .. pay a lot to the fishing uncle who goes to the sea to look for Palaoh people right, who goes in, who goes out, I don't have to ... I'll just use VSP only.” (Informant 1 Line 1607 – 1609)

“And apart from that, as we already know, one of the functions of RMP is to make intelligence to obtain information and so on. The police, for example, Madam, yes, not all of them, for example, detectives, cannot take care of the entire area Madam. For example, let me take the example of Sandakan, Sandakan because Madam had been there in Sandakan before, the detectives who are in Sandakan, for example, 20 people, they could not cover the whole area until Kinabatangan. But with this VSP, they can get the information channelled by people who are close to the rural areas. Provided there is line. Provided there is a line. Ha so this will make it easier for the police to use these apps. Because information is ... one of the needs for cooperation from the community to RMP in crime prevention is information. That's what I put as a priority. Without that information, sometimes the police don't even know.” (Informant 3 Line 691 – 702)

“For the public, aa to channel information to RMP other than .. Usually ordinary public will aa..by telephone only. Through aa..what..aa..call to the police station right. aa..maybe with this VSP it is one of the..one of the other ways to..aa... what do people call... device for him to use for..for this..to communicate with RMP.” (Informant 4 Line 436 – 440)

Evidently, in this study, VSP Enforcers indicated that RMP uses the VSP app as a means of espionage to collect intelligence from the general people. As asserted by Crump (2011), in addition to informing the public, police can utilise social media in four critical areas to combat crime and apprehend criminals: intelligence for policing, real-time information about safety concerns, knowledge exchange between police agencies, and online community policing. Consequently, it is evident that the portability, adaptability, and efficacy of social media platforms give police officers with several opportunities in a range of scenarios (Altunbas, 2013).

4.4 Theme 4: Comprehensible

The findings from Fatih & Bekir (2015) has concluded that the law enforcement agencies have historically had an antagonistic relationship with technology. This is consistent with the findings of Altunbas (2013), who found that, despite the fact that police departments in the United States are increasingly utilising social media, many of these agencies were unable to effectively implement new technologies due to their incapacity to adapt. Therefore, an officer's understanding of the technology itself is essential for ensuring the effectiveness of technology adoption.

This study revealed that one of the factors the Royal Malaysia Police adopt the VSP app in their law enforcement is due to the app's comprehensibility. In this study, VSP Enforcers professed that they fully comprehend how to use and when to utilise the programme for crime prevention since it is not hard for them, which makes it easy to be accepted by law enforcers. The following excerpts support their points of view:

“It's not hard to adopt. Because from the VSP it just let us know where the place is, who is involved, the area, the location is already there, the pinpoint location ... right. Can take pictures. If there is 'mat rempit', we can take a picture, take a video. The challenge is just on how to do that job only.” (Informant 1 Line 1264 – 1267)

“In general, I can say that operating this VSP is not difficult. In fact, it will facilitate my level, for example, if I receive the information, I will channel it to the relevant section. For example, the head of the relevant division for example the head of the criminal investigation division. For example, we are talking about the case of illegal gambling, for instance, I will channel the information to the head of the district criminal investigation division. The head of the district's criminal investigation department will take action. Maybe it takes time because he needed to do intelligence and so on.” (Informant 3 Line 719 – 726)

“Actually, this system in the early stages is a bit difficult, sometimes we ... because we don't understand that rhythm of that system yet. But when we understood already that this thing is actually really easy.” (Informant 5 Line 534 – 536)

In general, the VSP Enforcers' informants acknowledged that the VSP programme aids their work in organising and distributing crime-related data to the appropriate departments and units. Despite this, RMP had difficulties at the outset of the VSP implementation; nevertheless, these difficulties were temporary, as is the case with the adoption of any new technology, which demands an adjustment time. Therefore, with the comprehensible VSP app, it is comfortable and simple for law enforcement to adopt it in order to combat crime in this nation. This verifies the findings of Harun et al. (2018), which imply that in the era of technological advancement, smartphone use plays a crucial role in the distribution of information since the VSP app is so easy to use and manage.

4.5 Theme 5: Functionality

As described by Adukaite, Reimann, Marchiori, & Cantoni (2013), the mobile application functionality feature is a user-performed activity that represents the consumer's perspective on the numerous functions inside a mobile application. In addition to core characteristics, previous empirical research has demonstrated that the functioning of mobile apps depends heavily on mobile commerce, location awareness, and augmented reality (Tarute, Nikou, & Gatautis, 2017).

In the context of this study, the term 'functionality' appears to be a substantial factor in determining the attainment of the VSP community policing programme, which encompasses the functions and features of app technology. The capability of the VSP app allows VSP Enforcers to obtain location, images, and videos linked to the crime reported, then straightaway channel it to the respective departments and units for action. Furthermore, the VSP app will automatically allow VSP Enforcers to track if action has been executed for each report, and an alert will be issued to the respective departments and units. With such functionalities, it is possible that the VSP app is a systematic community policing app in Malaysia, considering there is no other community policing mobile app than VSP in this country at present. This factor validates why RMP adopt it in their law enforcement especially in preventing crime. In this study, the informants who are the VSP Enforcers expressed their opinions in the following excerpts:

“With VSP you can point finger... Point finger means if you are .. you can take a picture you can send... Location ... You share location long..longitude er .. what do we call longitude?..later you can share here. Exactly point off and then you can share the picture... And then you can take the video and send. That is the advantage of VSP.” (Informant 1 Line 208- 235)

“My job is for example if in three days he did not update anything to me, I will be in touch again. ‘When will the information be taken action?’. If he still hasn't update for a week, I will need to ask again when will they take action. So, maybe those things will cause misunderstanding and so on. But our task is actually just to press at the district level to take action immediately. That's how it is, Madam.” (Informant 3 Line 726 - 731)

“Ha, the system is auto. The system is for example if .. if for example I open it. For example, ... If you send now, you're in the system already... Indeed the complaints are received fast ... Af.. af.. after your complaint in which you tested just now, someone else's has already came in.” (Informant 5 Line 1812 – 1814)

Furthermore, the VSP app functionality includes a variety of elements that all work toward the same goal of gathering information in order to prevent crime. There are capabilities in this app for channelling information, uploading photographs and videos, pinpointing location, and also a function called 'Balik Kampung' that notifies RMP if VSP Users leave their houses unoccupied for vacation or going back to hometown. The following are excerpts from the VSP Enforcers' responses:

“There is also a function to report to the police when the house is left empty..ha..okay. Apart from this information, Madam, apart from the information on drugs, crime and so on, in this VSP app, the second function is, for example, Madam wants to leave ... leave home ... on vacation ... go back anywhere ... for a week. In this app we can channel information that our house will be left empty within a week from how many days to how many days and when we channel it to the police, the police in the residential area of your that area, the respective IPD will arrange for periodic patrols on the house which was left empty.” (Informant 3 Line 1267 – 1274)

“Which .. which is what can be in .. in .. community applications with the police, I take an example like er .. during festive season er .. we have ten thousand house information left and there is not one was broken into .. no burglary take place ..Because the police will patrol ... on the house that was abandoned and reported ... That is for those who left homes. The house that was left behind, we asked the police to check and take care of the house that was left behind.” (Informant 2 Line 1247 - 1251)

Evidently, functionality is one of the most important criteria in law enforcement's use of mobile application technology for crime prevention, as demonstrated by this study. VSP Enforcers in this study compliments the existing functions and features of the VSP app, despite the fact that it lacks some of the eight mobile application features suggested by Zhao & Balagué (2015) which includes camera, location awareness, multi-touch gestures, a voice sensor, augmented reality, virtual mirror, mobile video, and mobile payments. In a smartphone application for community policing, for example, the mobile payments capability is unneeded because no monetary transaction is involved. This is due to the fact that the significance of functional elements for each mobile application differs based on consumer preferences and may be substantiated by the findings of each study that caters to distinct objectives.

5. Conclusion

Overall, it was clear from the findings that the research question and research objective of this study were attained. An overview of the research findings to describe the factors behind RMP's adoption of VSP app in law enforcement is summarized into a table. Firstly, RMP adopt VSP app in law enforcement because VSP is seen as a prevention tool to battle crimes in this country. Secondly, the RMP also utilizes VSP app in their law enforcement because of its identity protection as it requires only a nickname, to secure each informant's identity. In contrast, as was the case previously when the Rakan Cop or Friends of Cops system was in use, the registered individual's name can still be detected using the phone number, even if it is combined with a nickname (Harun et al., 2018). Thirdly, it was found that the VSP app serves as an extensive source of espionage for the RMP to securely gather information in order to combat crime. Fourthly, VSP app is comprehensible which facilitates the adoption of the app by the RMP. Despite this, RMP also encountered difficulties at the outset of the VSP adoption. As is the case with the introduction of any new technology, which demands an adjustment period, these obstacles were temporary. Lastly, functionality is a crucial factor in law enforcement adoption of mobile application technology especially for crime prevention. The functionality of the VSP app enables VSP Enforcers to retrieve the location, images, and videos associated with a reported crime, and then send this information directly to the necessary departments and units for action. Thus, making the VSP app as a systematic community policing application in Malaysia at present which justifies why RMP use it in their law enforcement.

The results of the study provide considerable insight into the variables underlying the adoption of the RMP's VSP app by law enforcement. Moreover, study found that the Malaysian government and Royal Malaysia Police must also consider the VSP app necessary. The photo, video, and pinpoint location capabilities of this media have made it a viable alternative to traditional law enforcement, which it has supplanted. The VSP app must be taken seriously as a tool that will improve community policing, particularly in terms of crime prevention.

In conclusion, this study's findings have significant implications for crime prevention efforts in Malaysia. First, in order to obtain a greater diversity of outcomes, this may be addressed in future quantitative or mixed method research. Future quantitative or mixed method research may contribute to the expansion of this field of study and may have significant ramifications for law enforcement agencies, educational institutions, and mobile app developers in particular. Second, future researchers can conduct their own studies using the same VSP app or another mobile app with various demographic samples in order to compare the findings for further debate on the adoption and acceptance of technology. Third, future researchers may study the possibility of extending the existing findings by investigating crime prevention in the country from a different perspective. Future studies might perhaps strive to increase their coverage of methodologies and samples.

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References

- Adukaite, A., Reimann, A. M., Marchiori, E., & Cantoni, L. (2013). Hotel Mobile Apps. The Case of 4 and 5 Star Hotels in European German-Speaking Countries. In *Information and Communication Technologies in Tourism 2014* (pp. 45–57). https://doi.org/10.1007/978-3-319-03973-2_4
- Altunbas, F. (2013). Social media in policing: A study of Dallas-Fort Worth area city police departments. Retrieved from http://search.proquest.com/docview/1667406095?accountid=26642%5Cnhttp://link.periodicos.capes.gov.br/sfxlcl41?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&genre=dissertations+%26+theses&sid=ProQ:ProQuest+Dissertations+%26+Theses+Globa
- Baxter, P., & Jack, S. (2008). Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. *The Qualitative Report*, 13(4), 544–559. <https://doi.org/10.46743/2160-3715/2008.1573>
- Brainard, L., & Edlins, M. (2015). Top 10 U.S. Municipal Police Departments and Their Social Media Usage. *American Review of Public Administration*, 45(6), 728–745. <https://doi.org/10.1177/0275074014524478>
- Charmaz, K. (2006). *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis*. Retrieved from http://www.sxf.uevora.pt/wp-content/uploads/2013/03/Charmaz_2006.pdf
- Colvin, C. A., & Goh, A. (2005). Validation of the technology acceptance model for police. *Journal of Criminal Justice*, 33(1), 89–95. <https://doi.org/10.1016/j.jcrimjus.2004.10.009>
- Creswell, J. W. (2007). *Qualitative inquiry & research design: choosing among five approaches*. Sage Publications.
- Creswell, J. W. (2013). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*.
- Creswell, J. W., & Poth, C. N. (2016). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. California: SAGE Publications.
- Crump, J. (2011). What Are the Police Doing on Twitter? Social Media, the Police and the Public. *Policy & Internet*, 3(4), 1–27. <https://doi.org/10.2202/1944-2866.1130>
- Deloitte. (2015). *The Digital Policing Journey: From Concept to Reality Realising the Benefits of Transformative Technology*. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/public-sector/deloitte-uk-ps-digital-police-force.pdf%0Ahttp://www2.deloitte.com/content/dam/Deloitte/uk/Documents/public-sector/deloitte-uk-ps-digital-police-force.pdf>
- Department of Statistics Malaysia. (2018). *Department of Statistics Malaysia Press Release Crime Statistics, Malaysia, 2018*.
- Economic Planning Unit of Malaysian Prime Minister's Department. (2015). *Eleventh Malaysian Plan 2016-2020: Anchoring Growth on People*. Retrieved from https://www.pmo.gov.my/dokumenattached/speech/files/RMK11_Speech.pdf
- Elphick, C., Philpot, R., Zhang, M., Stuart, A., Walkington, Z., Frumkin, L. A., ... Nuseibeh, B. (2021). Building trust in digital policing: a scoping review of community policing apps. *Police Practice and Research*, 22(5), 1469–1491. <https://doi.org/10.1080/15614263.2020.1861449>
- Fatih, T., & Bekir, C. (2015). Police Use of Technology To Fight. *Police Use of Technology To Fight Against Crime*, 11(10), 286–296.
- Harsh, S. (2011). Purposeful Sampling in Qualitative Research Synthesis. *Qualitative Research Journal*, 11(2), 63–75. Retrieved from <http://search.proquest.com/docview/920894910/41BC710066204835PQ/1?accountid=13042>
- Harun, M., Che Hamid, M., & Kassim, A. (2018). *The Use Of volunteer Smartphone Application (VSP) As A*

- Distributor Of Information Among People With Perak RMP*. 7(12), 40–44.
- Hercegovac, S., Kernot, J., & Stanley, M. (2020). How Qualitative Case Study Methodology Informs Occupational Therapy Practice: A Scoping Review. *OTJR Occupation, Participation and Health*, 40(1), 6–16. <https://doi.org/10.1177/1539449219850123>
- Houle, S. (2017). *What is the Impact of Social Media on Law Enforcement Practices?* Retrieved from <https://cjonline.uc.edu/resources/news/can-social-media-actually-help-law-enforcement/>
- Hu, X., & Lovrich, N. P. (2019). Social media and the police: A study of organizational characteristics associated with the use of social media. *Policing*, 42(4), 654–670. <https://doi.org/10.1108/PIJPSM-09-2018-0139>
- Liou, K. T. (2019). Technology application and police management: issues and challenges. *International Journal of Organization Theory and Behavior*, 22(2), 191–208. <https://doi.org/10.1108/IJOTB-07-2018-0084>
- Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative Research: A Guide to Design and Implementation*. San Francisco: John Wiley & Sons.
- Ministry of Home Affairs Malaysia. (2022). Volunteer Smartphone Patrol (VSP). Retrieved August 7, 2022, from <https://www.moha.gov.my/index.php/ms/terkini/3409-volunteer-smartphone-patrol-vsp>
- Moustakas, C. (1994). *Phenomenological Research Methods*.
- Park, S., Ilincai, E. S., Oh, J., Kwon, S., Mizouni, R., & Lee, U. (2017). Facilitating pervasive community policing on the road with mobile roadwatch. *Conference on Human Factors in Computing Systems - Proceedings*. <https://doi.org/10.1145/3025453.3025867>
- Patton, M. Q. (2002). *Qualitative research and evaluation methods*. Retrieved from <https://www.gwern.net/docs/sociology/1980-patton-qualitativeevaluationmethods.pdf>
- Polit, D. F., & Beck, C. T. (2010). Generalization in quantitative and qualitative research: Myths and strategies. *International Journal of Nursing Studies*, 47(11), 1451–1458. <https://doi.org/10.1016/j.ijnurstu.2010.06.004>
- Royal Malaysia Police. (2022). Polis Diraja Malaysia. Retrieved June 25, 2022, from <https://www.rmp.gov.my/infor-korporate/polis-diraja-malaysia>
- Snively, D. (2016). *Effective Social Media Use by Law Enforcement Agencies: A Case Study Approach to Quantifying and Improving Efficacy and Developing Agency Best Practices Law Enforcement Agencies' College Education Hiring Requirements and Racial Differences in Justifiable*. Retrieved from <https://www.researchgate.net/publication/316540149>
- Spanoudaki, E., Ioannou, M., Synnott, J., Tzani-Pepelasi, C., & Pylarinou, N. R. (2019). Investigative decision-making: interviews with detectives. *Journal of Criminal Psychology*, 9(2), 88–107. <https://doi.org/10.1108/JCP-02-2018-0005>
- Tarute, A., Nikou, S., & Gatautis, R. (2017). Mobile application driven consumer engagement. *Telematics and Informatics*, 34(4), 145–156. <https://doi.org/10.1016/j.tele.2017.01.006>
- Wimmer, R. D., & Dominick, J. R. (2014). *Mass Media Research: An Introduction* 10th Edition. Boston: Wadsworth, Cengage Learning.
- Yin, R. K. (1984). *Case Study Research*. Beverly Hills, CA: Sage.
- Yin, R. K. (2014). *Case study research: Design and methods*. Thousand Oaks, CA: SAGE.
- Zhang, M., Price, B., & Keynes, M. (2020). *Finding & Evaluating Community Policing apps in Asia*.
- Zhao, Z., & Balagué, C. (2015). Designing branded mobile apps: Fundamentals and recommendations. *Business Horizons*, 58(3), 305–315. <https://doi.org/10.1016/j.bushor.2015.01.004>

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