‘Don’t be the same, be better’: An exploratory study on police mobile technology resistance

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Abstract

Purpose: This contribution stems from the acknowledgment that the post-adoptive officers' behaviour and utilisation of the mobile technology has not yet been examined. Between 2008 – 2010, the Home Office funded the Mobile Information Programme to increase the visibility of police officers and increase the efficiency and effectiveness of the Police Service. This programme had enabled the roll-out of 41,000 mobile devices to police officers, allowing them to spend a greater percentage of their working time out of police stations. Yet, in 2012, the NPIA's evaluation of the increase in police officers' visibility showed that on average, officers spent around 18 minutes extra per shift out of the station using mobile devices.

Methodology: To overcome the paucity of available data, a pilot study adopting a multi-method approach was conducted in a medium-sized constabulary in the UK. Data collection methods included focus groups, Q cards methodology and an online survey.

Findings: This study sheds light on officers' main reasons for post-adoptive resistance to using the mobile devices and its impact on the quality of police data recorded. Furthermore, it delineates innovative ways of enhancing police mobile technology training to boost technology adoption in police forces.

Keywords: Police Mobile Technology, Work Context, Post-adoptive Technology Resistance, Data Quality, Police Technology Training

Introduction

As police forces are information intensive organisations, the use of information technology in policing has led to the transformation of the social and the organisational life in forces (Ackroyd, Harper, Hughes, Shapiro & Soothill, 1992). For instance, the use of the Police National Computer (PNC) in traffic policing has significantly reduced officers' time spent on checking data such as ownership, road tax and suspicious vehicles leading to enhancing the visibility and "the discretion and autonomy of the 'on ground' officers" (Ackroyd et al., 1992, p.120).

The presence or visibility of uniformed police officers on the street has a direct impact on the public's perception of reassurance (HMICFRS report, 2018). The number of officers on the street is partly a function of the number of officers available to deploy. The use of technology in police forces is expected to increase officer time available for front-line patrol and other operational duties; e-policing is a term used to describe this programme of work (Povey, 2001). As far back as 2006 the Association of Chief Police Officers (ACPO report, 2006) highlighted the positive impact of visible policing on enhancing a community confidence and public's perceptions of security.

Therefore, between 2008 and 2010, the Home Office distributed £71 million to police forces to fund the Mobile Information Programme and a further £9 million to the NPIA (National Policing Improving Agency) to deliver the management of the programme (House of Commons Report, 2012). This programme has enabled the roll-out of 41,000 mobile devices to police officers, allowing them to spend a greater percentage of their working time out of police stations. The main objectives of this programme are to increase the visibility of police officers, boost efficiency and effectiveness of the police service and to reduce bureaucracy (House of Commons Report, 2012). Using these mobile devices, officers can perform policing tasks like issuing traffic tickets, complete Stop and Search forms, conduct PNC security checks on people and vehicles, write witness statements, record entries in the pocket Notebook application, view/update incident logs, take photographs, use Google Maps application, use the E-signature feature, write/receive E-mails and contact victims via texting or calling.
Yet, the NPIA's (House of Commons Report, 2012) evaluation of the increase in police officers' visibility showed that on average officers spent around 18 minutes extra per shift outside a police station (as a result of using the mobile devices in performing policing tasks). Only one in five forces has used the technology effectively to improve their operational processes (House of Commons Report, 2012), hence, the longer-term realisation benefits of the Mobile Information Programme have not been achieved.

Furthermore, in 2016, it was estimated that the total annual spending on police ICT was £1.5 billion per year (National Audit Office, 2016). In 2018/2019, an increase in police force budgets of up to £270 million will largely be spent on police technology and special grants forces (Home Office, 2017). In addition, an extra £130 million will be provided to fund national programmes especially police technology to improve the productivity and make significant gains by enabling officers to spend extra time on the frontline (Home Office, 2017). The Home Office report (2017) claims that if all forces improved mobile working to the same degree as the outstanding forces, this could potentially free up the equivalent of 11,000 extra officers nationally, hence, boosting officers' visibility and efficiency. Therefore, the need to understand the reasons behind the diminished improvement in officers' visibility in police forces despite the generous funding by the UK government in technology projects is

paramount. This is such an under researched area of enquiry which this contribution aims to enfold.

Post-adoptive behaviour is defined as "the extent to which users are making use of features in their IT systems, as well as the extent to which they are gaining understanding of both the software and work processes through training and experiential intervention" (Clark, Jones & Zmud, 2009, p.3). Fadel (2012) argues that understanding the salient factors that characterise the depth or the extent of use rather than frequency of use of different technology features in the post-adoptive stage is rarely investigated despite being essential in promoting positive attitudes towards technology in organisations.

While many aspects of resistance to the use of IT could be examined, this paper focuses on the key reasons for officers' resistance and responses/adaptations during the post-adoptive stage of mobile technology use. Hence, helping senior officers who are keen to roll out the latest technology to satisfy national governmental targets in identifying the technology that fits best with the occupational police culture in their forces. Therefore, in 2016, a pilot study was conducted in a medium-sized Constabulary in the UK. The mobile Kelvin devices (Samsung Galaxy Note 4S) were rolled out two years before the study and the use of the devices was mandatory. Before the roll out of the mobile Kelvin devices at this Constabulary, officers used pen/paper to record policing information; hence, the introduction of the Kelvin devices is a disruptive event and has led to significant changes in work processes and in officers' adaptations.

This study contributes to policing mobile technology literature, by drawing attention to the profound role played by the 'work context' in determining the extent and magnitude of the utilisation of mobile technology in police forces. Also, the study highlights the significance of understanding the causes of officers' resistance in police forces and adopting management interventions that are in congruence with the causes of resistance.

Policing and Mobile Technology Acceptance/Resistance

Most of the Information Technology (IT) research examined technology acceptance and utilisation in voluntary settings where users have a choice over their use. These studies typically measure the use of technology in an organisation in terms of how frequently the IT is used as well as users' intentions to use the technology which does not necessarily imply increased organisational or individual benefit (Bhattacherjee, Davis, Connolly & Hikmet, 2018; Lapointe and Beaudry, 2014; Fadel, 2012). Although these studies are useful in furthering our understanding of the antecedents of adoption and usage of new IT systems (Venkatesh, Morris, Davis & Davis, 2003), they can not be applied to understand the technology use in mandatory settings where users have no choice other than to use the organisation's IT regardless of their IT-skills, personal preferences and intentions of technology use (Koh, Prybutok, Ryan &Wu, 2010; Kashefi, 2014).

Understanding the factors that shape the quality or depth of technology use in mandated organisational Information System is still under-researched (Fadel, 2012). Hirschheim and Newman (1988) claim that forced use of technology often leads to dissatisfaction and user resistance, which impact negatively on the productivity and work quality in organisations. User resistance to change is regarded by many IT professionals as the primary reason for the failure of many technology projects in organisations (Hirschheim and Newman, 1988). Consequently,

research on IT resistance offers a better theoretical lense to investigate factors that engender user resistance in mandatory settings (Bhattacherjee et al., 2018).

A classification of the key factors that contribute to user resistance in organisations has been developed by Markus (1983) as derived from the study conducted by Kling (1980). There are three theoretical perspectives for user resistance; system oriented, people oriented and interaction oriented (Markus, 1983; Kling, 1980). The system-oriented approach suggests that user resistance occurs because of technology-related factors like ease of use, performance and reliability factors and system interface while the people-oriented approach suggests that user resistance occurs because of users' attitudes, experiences and skills, backgrounds and traits (Markus, 1983; Kling, 1980). The interaction-oriented approach suggests that users resist a system because of the interaction between characteristics related to the people and others related to the system such as acquiring different social and political meaning in different settings and that different users perceive the effects of the system differently (Jiang, Muhanna & Klein, 2000).

Hirschheim and Newman (1988, p.399) delineated some of the main causes of resistance to IT adoption in organisations: innate conservatism which they defined as "a reluctance to change the status quo", lack of felt need (where users resist change because they have not been convinced of the benefits of the Information System), training, uncertainty (when employees perceive the new technology as a threat and possess a fear of), lack of involvement in the change, organisational invalidity (when there is a mismatch between specific technology features and the users' work patterns), lack of management support and poor technical quality. Moreover, Jiang et al. (2000) argue that the causes of resistance to change are varied and it is the interaction between the different causes that generate a specific instance of resistance.

Furthermore, age differences among workers have a strong influence on adoption and post-adoption behaviours and attitudes towards technology utilisation in organisations (Morris and Venkatesh, 2000). Their study argues that younger workers are more driven by attitudinal factors (technology usefulness aspects) while older workers are motivated by social and perceptions of behavioural control (relate to the extent to which individuals believe that they have control over factors that influence their behavioural performance like computer self-efficacy and facilitating conditions (i.e. training, IT support) (Ajzen, 2002)) factors. Social factors diminish in the post-adoptive stage as older workers gain more experience with the technology and begin to internalise the opinions of others (Morris and Venkatesh, 2000). Similar results are reported by Poon, Blumenthal, Jaggi, Honour, Bates & Kaushal (2004) who claim that younger American physicians are more comfortable to use the new medical Information System adopted than the more senior doctors. This could be attributed to the possible lack of first-hand experience with similar systems during their education (Poon et al., 2004; Morris and Venkatesh, 2000).

In addition, understanding the process of users' adaptations and its effect on individuals' performance can provide invaluable insight on the complex user responses to disruptive IT events (where the technology newly adopted involve radical changes in the organisational processes (Hsiao-Lan, Wang & Pei-Hung, 2005)). Hence, using the Coping Theory (Lazarus and Folkman, 1984) to explore the underlying factors driving the acceptance and/or resistance of technology in organisations can shed light on the diverse set of users' responses accounting for different emotional and behavioural reactions that may coexist in mandatory use settings

(Ellie-Dit-Cosaque and Straub, 2011; Fadel, 2012). Several research studies have used the Coping Theory to extend the knowledge about the mediating role of these adaptations in the process of technology acceptance and/or resistance (Beaudry and Pinsonneault, 2005; Bhattacherjee et al., 2018; Fadel, 2012; Ellie-Dit-Cosaque and Straub, 2011; Stein, Newell, Wagner & Galliers, 2015; Kashefi, 2014).

The Study

Beaudry and Pinsonneault (2005) used the Coping theory (Lazarus and Folkman, 1984) to develope the Coping Model of User Adaptations (CMUA) as shown in figure 1. They used the CMUA to understand the cognitive and behavioural process that takes place when a new technology is introduced in an organisation, after implementing the new system and the post-adoption adaptations or appropriations on both the individual and the organisation levels.

Lazarus and Folkman (1984, p.141) defined coping as "the cognitive and behavioural efforts exerted to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person." Internal demands refer to personal desires or obligations such as person's need for achievement or challenge, while external demands are imposed by external environment such as job requirements or social pressures. Lazarus and Folkman (1984) posit that individual's coping responses and adaptations to any disruptive event (i.e. the adoption of an IT Information System) are based on a two-stage cognitive appraisal process; a primary and a secondary appraisal. Coping theory does not specify the main attributes of the disruptive events that impact the primary appraisal process (Bhattacherjee et al., 2018).

When a new IT is introduced in an organisation, a primary appraisal process by which users perceive the new system as either an opportunity or a threat takes place. There are several factors identified in the acceptance/resistance literature that affect the primary appraisal process such as personal innovativeness (Lewis, Agarwal & Sambamurthy, 2003), features of technology (Griffith, 1999), the perceived fit between technology and task (Zigurs, Buckland, Connolly & Wilson, 1999), past experiences, performance expectancy and individual's anxiety about a specific situation (Rosen, Sears & Weil, 1987). Furthermore, there are other factors that could influence this process like top management support for a technology, what peers think of the technology and the culture of the organisation (Lewis et al., 2003).

The primary appraisal process is followed by the secondary appraisal process that determines the level of control individuals have over the situation; work, self and technology (Beaudry and Pinsonneault, 2005). The outcome of the primary and the secondary appraisal determine the coping efforts of individuals. The coping efforts are categorised as either problem-focused or emotion-focused (Lazarus and Folkman, 1984). Beaudry and Pinsonneault (2005) argue that problem-focused coping efforts aim at dealing with the situation and changing the environment (e.g., learning new skills, adapting work processes, enhancing the fit with the task and developing new standards of behaviour). Emotion-focused coping efforts change the individual's perception of the situation (e.g. escaping the situation, selective attention or avoidance and passive acceptance). These coping efforts could lead to four principal adaption strategies: benefits maximising, benefits satisficing, disturbance handling and self-preservation (Beaudry and Pinsonneault, 2005).

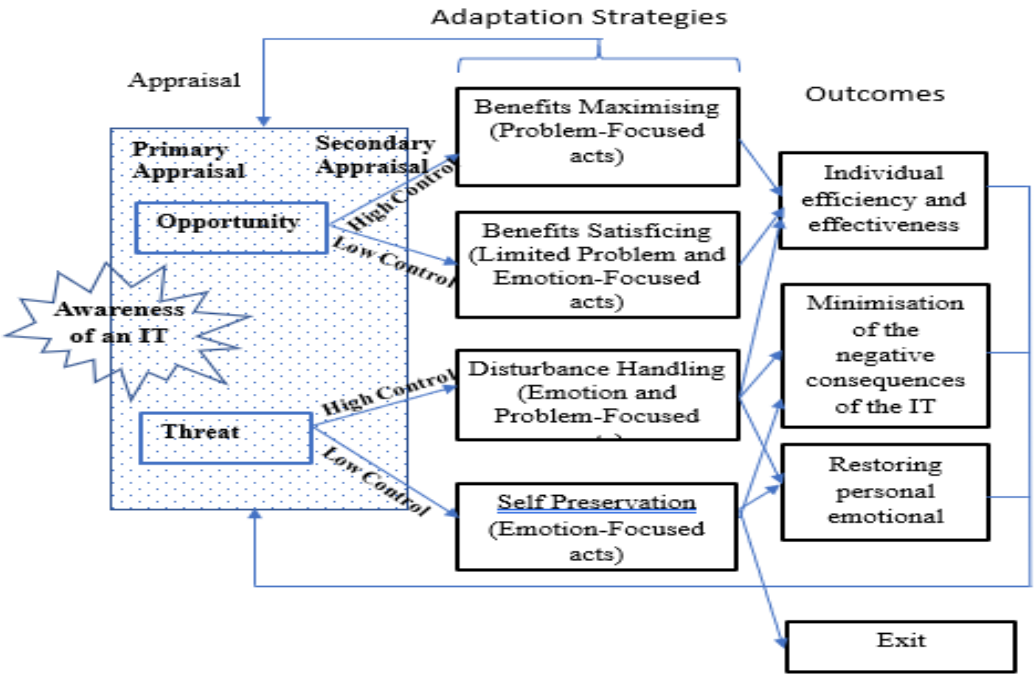

Figure 1 Coping Model of User Adaptation (Beaudry and Pinsonneault, 2005, p.499)

Stein et al. (2015) and Bhattacherjee et al. (2018) claim the coexistence of both acceptance and resistance behaviours (opportunity and threat) towards a given system (in mandatory setting) by the same user. For instance, the user may perceive some system's features as efficiency boosters and regard others as having adverse effects on quality of work generated.

Beaudry and Pinsonneault (2005) and Bhattacherjee et al. (2018) argue the adaptation process is iterative and is highly influenced by the continuous changes in the user/environment relationship. Hence, appraisal (both primary and secondary) influences the users' adaptation efforts, which in turn lead to the reappraisal of the situation (Beaudry and Pinsonneault, 2005; Bhattacherjee et al., 2018). Consequently, additional training and support can potentially be associated with positive individual's appraisal at any stage of usage of the technology and can lead to improved functional efficiency and effectiveness (Beaudry and Pinsonneault, 2005; Rivard and Lapointe, 2012; Fadel and Brown, 2010).

Methodology

The study used a mixed-method approach in data collection as it can "provide a richer, contextual basis for interpreting and validating results" (Kaplan and Duchon, 1988, p.575). Collecting data using different methods facilitates a better understanding of the problem researched (Venkatesh, Brown & Bala, 2013; Almalki, 2016) and boosts the 'robustness of results' through triangulation (Almalki, 2016).

Several forms of data collection were used, namely, focus groups, q-cards ranking and online survey. Nine focus groups sessions were held with a total of 57 officers (7 Criminal Investigation Department (CID) officers, 14 front-line Police Constables (PCs) serving at North, 18 PCs serving at West, 15 PCs serving at South, 2 Police Community Support Officers and 1 PC in HQ) to investigate the positive/negative post-adoptive impact of the mobile Kelvin

devices utilisation. In addition, potential possible avenues of maximising the benefits of these devices to both officers and the Constabulary were discussed. Participants were selected by the Constabulary based on our specific requests for representation from various roles, ranks, Areas of service and IT skills. All sessions were audio-recorded and semi-transcribed. A total of 10 hours of audio recordings was loaded on another program (Atlas.ti) for further analysis and coding. To help foster trust between the researcher and officers, the pitch of the audio files was modified using the Audacity program (to ensure complete anonymity to the semi-transcribed audio clips). Each audio file was split into short audio clips (on average, each clip was 2 minutes long) and transcribed. This method is used to keep the raw data easily accessible and stored in a structured way that facilitates more analysis if needed. A total of 350 clips was used to compile this document. Gebauer and Tang (2008) differentiated between functional and non-functional requirements to study mobile Information Systems. The authors argue that functionality relates to a process the system has to perform or to important information that the Information System needs to contain. On the other hand, non-functionality relates to the behavioural properties of the system (Gebauer and Tang, 2008). Non-functional features include the factors that impact on the operation of the devices such as processor speed, size of keyboard and connectivity (Gebauer and Tang, 2008). Hence, thematic analysis was used to group the transcriped audio clips into three top-level themes; benefits, barriers and enhancements to mobile utilisaiton. Each top-level theme was further divided into functional and non-functional sub-themes as suggested by Gebauer and Tang (2008).

Unexpectedly, it was noticed after the first three focus groups sessions (1 with detectives from CID, 2 sessions with PCs at North) that there were a finite set of problems, benefits and possible enhancements to the mobile devices reported by all participants in all three sessions. There was a need for a mechanism that helps officers evaluate the importance of the raised issues in an objective manner. There were some contradictory viewpoints disclosed in the North sessions that needed clarification. For instance, some officers reported facing some difficulty in synchronizing their devices with the police databases while in another session, other officers reported it as a minor problem (officers attending both sessions were serving at North, hence, both groups of officers work under the same network connectivity conditions). Therefore, using the Q-cards ranking methodology helped officers focus on the key barriers to post-adoption utilisation of the devices as well as the fundamental enhancements to the devices' functionality in an objective manner.

This method proved to be a helpful tool in the remaining sessions held in South, West and with PCSOs. Some sessions were attended by PCs and their Police Sergeants (PSs). It was clear in these sessions that some officers did not feel comfortable sharing their views despite informing the researcher before the start of the session that they were happy to share their opinions (positive and/or negative) of the Kelvin devices (usually before the arrival of the Sergeant to the session). Moreover, the researcher noticed that the choices that PCs made using the Q-Cards method were in many cases contradicting with the Sergeants' views. This method helped PCs convey their ideas without having to say them verbally in the sessions.
Therefore, three sets of cards (orange, green and yellow) were printed with statements in the officers' own words and language. All cards covered the whole range of general opinions about the Kelvin devices reported by police officers at North and CID officers (during the first three focus group sessions). The orange cards focussed on the main benefits of using the Kelvin devices while the green cards presented the key barriers to using the devices in everyday jobs. Finally, the yellow cards focussed on the enhancements that could reduce the barriers to technology post-adoption in the Constabulary. Officers (at West, South and PCSOs) were

asked to rank the cards using a diamond shape provided to them in the sessions as shown in figure 2. They worked in groups of two/three to encourage the exchange of opinions and possible compromises during the process of ranking the cards. There were nearly 9 cards in each deck of cards. Officers had to exclude some cards to be able to fit the remaining cards in the diamond shape. Finally, a weight was assigned to each level and the final score of the statements is calculated.

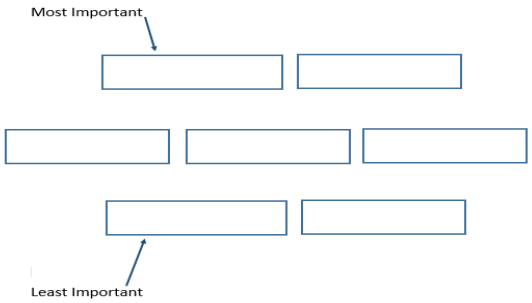

Figure 2 The Q-cards diamond shape sample

Finally, an online survey developed using the Bristol Online Survey tool to validate the focus sessions results, collect further information about the different themes and allow a greater number of officers to participate in the study. The Bristol Online Survey tool was used as it is fully compliant with the UK data protection laws and does not have a limitation on the number of participants allowed. A total of 132 (14% response rate) officers/detectives/staff took part in the survey (90 Police Constables, 20 Sergeants, 6 Inspectors, 6 PCSOs, 2 Managers, 2 Staff, 2 SO2 and 1 Superintendent). The survey questions were a combination of open-ended and closed-ended questions. The closed-ended questions used Likert-scale measures to measure general attitudes and views of officers towards the technology implemented in the Constabulary. Some of the closed-ended questions were adapted from George Mason University Technology survey (Koper, Lum, Willis, Woods & Hibdon, 2015) after getting a formal permission to use parts of the online survey.

The open-ended questions focussed on the Kelvin applications and functions. All survey questions were approved by the Superintendent in charge. The data collected from the online survey was exported to an Excel spreadsheet. The officers' age column was modified to show an age range to facilitate comparisons with other columns. Similarly, officers' years of experience column was expressed as a range. Pivot tables were used to draw comparisons and compare results between different spreadsheet parameters. Graphs were used to display the results of the analysis in the final report. The report was submitted to senior management at the Constabulary. A copy of the survey questions is presented in appendix 1 and a summary of the survey results is included in appendix 2.

Analysis

Understanding and analysing the pilot study results are best accomplished through using Beaudry and Pinsonnault's (2005) Coping Model of User Adaptations to technology. By studying the different users' adaptations to the adoption/post-adoption processes of a technology in an organisation, a myriad of users' responses such as "how users restore emotional stability, modify their tasks, reinvent and adapt to technology, or even resist it" could convey useful information to help management introduce appropriate change interventions to

enhance the utilisation of the technology (Beaudry and Pinsonneault, 2005, p.494). Therefore, the results collected from the focus groups' sessions, the Q-Cards methodology and the online survey are mapped to the four categories or strategies proposed by Beaudry and Pinsonnault's (2005) user adaptations model: benefits maximising, benefits satisfying, disturbance handling and self-preservation.

Benefits maximising: occurring in a situation when the consequences of using the technology are perceived as an opportunity and the users believe they have high control over it (Beaudry and Pinsonneault, 2005). In such instance, the adaptation efforts will mainly be problem-focused. For instance, the pilot study data highlighted the case of young officers who perceived themselves as "IT savvy" and considered adopting the Kelvin devices as an opportunity that can potentially enhance their performance and can ultimately lead to an increased desire to explore the full extent of functionalities. Indeed, many young officers reported exploring several applications that were not covered in the Kelvin devices' training like the Translation application, the First Aid application, the MRG application and the OpenSignal application.

The online survey results further confirmed these findings as it revealed that 74% of participants agreed that younger officers are more receptive to technology and 67% of officers who defined themselves as "IT savvy" were in deed younger than the rest of participants.

Another example of problem-focused adaptation efforts was evident in the case of young officers who reported using alternative techniques to overcome the connectivity and signal problems at police stations. They realised that since all officers in the police station are using the station's Wi-Fi to perform tasks, they should opt to switch off their Kelvin devices' Wi-Fi and use the devices' signal instead, hence avoiding the delays experienced while trying to synchronize important information to police databases. Other officers reported attaching photographs to emails and sending them to their Sergeants instantly to overcome the limited allowance of the number of photos to be sent via the Pronto application. PCSO officers extended the devices' battery life by enabling the power saving option and switching off the Blue-tooth feature.

All officers reported perceiving Google Maps application as an opportunity that enhanced their efficiency. Getting directions using this application drains the Kelvin devices' battery quickly. This has led many officers to use their personal phones' Google Maps application to get directions when their Kelvin devices indicated low battery. Similarly, some detectives used their personal mobile phones to update their corporate Twitter and Facebook accounts in big events when they had no signal/connectivity in their Kelvin devices. Therefore, officers tried to maximise the technology benefits by using their personal mobile phones and adopting problem-focused adaptations.

Moreover, officers acknowledged finding the signal-independent features as both useful and efficiency boosters. This was evident in the data collected from the pilot study results as it revealed that officers heavily used their Kelvin devices' camera in taking photographs in accident scenes and sometimes in more serious cases as it was perceived to have a positive impact on the quality of work they submitted. Officers believed that it is particularly useful as an evidence in some domestic situations as it instantly showed the severity of the situation at the scene. Furthermore, taking photographs using the devices' camera eliminated the need to cease items in damage cases as in most cases it is sufficient to take a photograph and to get the person to sign it using the electronic signature facility.

Additionally, some Sergeants' adaptation efforts were problem-focused as they circulated guidance information (in emails and newsletters) describing how to use some useful applications that were not covered in the Kelvin training like the Translation application. This has led to maximising the benefits of the devices among officers. Sergeants' attitude promoted the problem-focused coping perceptions and helped officers perceive the mobile device as a helpful and useful tool in their Areas.

Benefits satisfying: In this situation, users perceive the new technology as an opportunity, but they feel they have limited control over it. Adaptation efforts are likely to be minimal (Beaudry and Pinsonneault, 2005). Problem-focused efforts will be limited as users feel they cannot do much to reap more benefits and emotion-focused efforts will be limited because users do not feel the need to reduce tensions (as it is not perceived as a threat) (Beaudry and Pinsonneault, 2005). Hence, few benefits are realised from the utilisation of the technology.

Officers highlighted the impact of poor signal and connectivity on using some applications and features; reducing the anticipated benefits of the devices. They emphasised the usefulness of being able to read and update logs using their Kelvin devices as it eliminated the problems encountered when control room staff performed this task on their behalf. This feature is signal-dependent; hence officers can only check/update logs between jobs when they can drive to the nearest place with a stronger signal. This feature (when the devices' signal is strong) enhanced the quality of the recorded logs and reduced time spent in updating logs in police stations. Hence, in this case, fewer benefits are realised because of the low control over the connectivity of the devices.

Many officers reported preferring writing witness statements using their Kelvin devices but finding the predictive text feature frustrating and challenging. As they were unable to switch this feature off, they had to proof-read statements several times to check for text mistakes. This led many officers to avoid using the devices in writing long witness statements to save time and to enhance their efficiency. The same action was taken by many officers to compensate for their limited typing skills.

Moreover, even though young officers reported typing all their witness statements using their Kelvin devices, in some situations they reverted to using their paper notebooks to boost their efficiency. For instance, a young officer reported being called to an accident in which a bus has hit a car and there was another fatal incident at the same time. As all the passengers on the bus are witnesses, she had to write more than 25 witness statements at the scene. The officer used her paper notebook as typing on the device would be too slow to finish the job. Hence, officers' IT skills and poor connectivity of the Kelvin devices reduced their control on the devices and diminished the anticipated benefits of the technology.

Disturbance handling: occurs when users perceive the technology as a threat during the primary appraisal process, but they believe they have some control over the situation (Beaudry and Pinsonneault, 2005). Adaptation efforts in this situation are likely to be "oriented toward one's self (e.g. seeking training), the technology (e.g. reducing the negative aspects of the new system), and the task e.g. adjusting work procedures so that they better fit with the technology" (Beaudry and Pinsonneault, 2005, p.502). This could lead to an increase in the users' efficiency and effectiveness (Beaudry and Pinsonneault, 2005).

For instance, officers who were affected by their peers' stories of witness statements being wiped out of their devices accidently, perceived this feature as a threat. They reported writing

long statements in their paper pocket notebook and then recording this information on their desktops' Pronto application (in police stations). They recorded short statements only using the Kelvin devices. Officers' adaptations, in this case, are focused on benefit-finding; using the Kelvin devices to record short statements instantly and using an adapted strategy in case of longer statements.

Some older officers who claimed to have limited IT skills, reported perceiving the Kelvin devices as a threat when they were first rolled out at the Constabulary. They highlighted the important role played by young officers in helping them learn new IT skills to get better control over the use of the different useful features offered by the devices.

Self-preservation occurs when the expected consequences of the new IT are perceived as a threat and users feel that they have limited control over the situation (Beaudry and Pinsonneault, 2005). In this instance, their adaptations efforts will be emotion-focused and aiming at changing their perceptions of the IT through resistance and avoidance (Beaudry and Pinsonneault, 2005).

Many officers reported doing PNC person checks using their radio devices (even if they have good signal in their Kelvin devices) as they fear for their safety. Using radio devices to perform PNC checks ensure that their colleagues and the control room staff are aware of the job they are doing and of their current location especially when they are single-crewed. In many cases, other officers listening to the radio could get valuable information about people/criminals who police are looking for and want to arrest. Hence, doing PNC person checks using the radio devices could pass important information to other officers about a repeat offender.

The inability of officers to search through the recorded exhibits (in the Kelvin devices' pocket notebook application) because of not having a functional search feature led some of them to revert to using their paper pocket notebook as they trust the traditional methods of recording information more. Similarly, older officers who find typing using the devices' small keyboard time-consuming resisted using the Kelvin devices altogether. They reported reverting to writing statements on paper as they are more efficient using the method they are most accustomed to. Therefore, officers' adaptation efforts in this situation were emotion-focused and clearly manifested through utilisation avoidance.

Discussion

The Role of Context in Understanding Mobile IS User Adaptations

Using the CMUA (Beaudry and Pinsonnault, 2005) to analyse the pilot study results facilitated painting a general picture of the different officers' adaptation and coping behaviours at the Constabulary. However, an important aspect that played a major role in officers' adaptation behaviours was lacking, that is, the use context. The context of use has a profound influence on officers' appraisal of the Kelvin devices' features. For instance, the PNC feature was perceived by officers as both a threat and an opportunity. Officers reported (in the online survey) finding this feature useful but reported (in the focus groups' sessions) avoiding using it as they feared for their safety (unless they are double crewed). This could be attributed to the context in which this feature is being used in. For instance, traffic officers can do vehicle PNC checks while in their police vans (a safe context) while person PNC checks require complete officer attention to the suspect, hence, radio devices are massively used in this context. Another example of perceiving a feature as both an opportunity and a threat is evident when using

Google Maps application. Officers reported being unable to get directions from the application when they are single-crewed (especially that police vans do not have fixed cradles to place phones on while driving) but finding it massively useful in giving them directions otherwise. Moreover, officers perceived being able to write short witness statements as an opportunity however they perceived using the Kelvin devices to record long statements as a threat (as it might get accidently wiped out if they get called to do another job in the middle of the statement). Nevertheless, many officers praised being able to write long historic witness statements using the Kelvin devices in witnesses' houses as the devices enable them to slot in information easily as and when the witnesses recall information. This is feasible because they do not get called for other jobs by the control room while in witness houses. Hence, extending the CMUA to include the use context is significant to better understand users' adaptations in mobile use contexts. The significance of appropriating the technology functionalities to policing work context aligns with Sørensen and Pica's (2005). This can facilitate fitting technology use and expectations to officers' daily tasks (Ioimo and Aronson, 2004), which are focused on reaction and arrest (often referred to as the standard model of policing) (Manning, 2008).

Officers' Acceptance and Resistance Reasons

The pilot study results attempt to show how acceptance and resistance can manifest themselves in practice. The findings suggest that many officers are still using pen/paper to perform some tasks even though the use of the Kelvin devices is mandatory at the Constabulary. These results confirm with Thatcher, McKnight, Baker, Arsal & Roberts's (2011) and Saeed and Abdinnour's (2013) claim that the post-adoption utilisation of the technology process is largely voluntary even if technology utilisation is made mandatory in organisations because users can choose to use a sub-set of the functionalities of the Information System to meet task requirements rather than explore the full range of features.

Key reasons for the acceptance of some of the Kelvin devices' features at the Constabulary are the reliability and the usefulness of these features. Officers perceive taking photographs, the e-signature feature, Google Maps application and reading/updating logs as efficiency boosters and all officers reported using them extensively in performing daily tasks. Nonetheless, the primary reasons for resistance at the Constabulary are different and varied. For instance, organisational invalidity at the Constabulary occurred when officers were told (before the roll out the Kelvin devices) that they will be able to add intelligence information into Red Segma (the intelligence application) to reduce time spent in the frequent visits to police station. Unfortunately, the Red Segma project took longer than anticipated and the application was not ready for utilisation at the time of the Kelvin devices' roll out. Organisational invalidity was manifested in the results of the online survey; 64% believe the Constabulary adopts technologies that are not useful and 61% are not satisfied with how new technologies are implemented in the Constabulary. The disconfirmation of officers' expectations has adversely impacted on their satisfaction with the Kelvin devices (Saeed and Abdinnour, 2013) and ultimately on their continuance of use of the devices (Bhattacherjee, Perols & Sanford, 2008). This incongruence between police forces' technological frames and those of police officers aligns with Lum, Koper & Willis's (2016) study undertaken in two police agencies in the USA and with Chan's (2001) case study of an Australian police force. Technological frames are people's 'particular assumptions, expectations and knowledge of the technology, which then serve to shape subsequent actions toward it' (Orlikowski and Gash, 1994, p.175).

A Police Constable has expressed his frustration stating that:

> *"I just love what I do. You got to enjoy this job to do it. What the Constabulary has put in place over the past two years has made response officers' life so so difficult and so much more stressful. The job for me in ten years has doubled in stress, even the last year."* (Police Constable 1, North)

Another Police Constable seconded his colleague's views and added that:

> *"I do quite like it [Technology]. I am frustrated with it in some respects but I don't want to give it up especially in tickets. On the whole it works, it has a lot of positive for it."* (Police Constable 2, North)

Moreover, the impact of age (officers of longer service) on senior police constables' decision to resist using their Kelvin devices is manifested in the pilot study results. Despite having extensive experience in policing, they lack a first-hand experience in technology as they would have completed high school or college before computers were commonplace. They report finding typing, using the Kelvin devices' small keyboard, time-consuming with no efficiency gain. They prefer using their paper pocket notebook as they can perform tasks much faster using traditional methods like pen/paper. On the other hand, younger officers have been exposed to using personal computers at a relatively early age and can type using both hands quickly and accurately. These views chime clearly with Morris and Venkatesh (2000) and with Poon et al. (2004). Senior police constables' passive resistance could be attributed to 'lack of felt need' where users are not convinced of the benefits of the system (Hirschheim and Newman, 1988; Cockcroft and Beattie, 2009) or a perceived threat of loss of power as argued by Lapointe and Rivard (2005) and Markus (1983). Ultimately, they became reluctant to change the status quo (Innate Conservation) (Hirschheim and Newman, 1988).

The initial Kelvin devices' training conducted by the Constabulary, was limited to one-day and focused on the main features offered by the Kelvin devices with no hands-on practice of the features, thus, senior police constables' substandard technical skills were not improved. Workers in Morris and Venkatesh's (2000) study received two-day training session on the system, during which they had hands-on use with the system as well as IT support. The training was repeated after two weeks to all participants to ensure delivering the highest quality of training to all employees (Morris and Venkatesh, 2000). High-quality training and IT support can potentially contribute to older employees' reported enhancement in technical skills (Morris and Venkatesh, 2000) and possibly to a boost in their perceptions of behavioural control which significantly influence intentions of IT utilisation (Ajzen, 2002; Venkatesh et al., 2003; Elie-Dit-Cosaque, Pallud & Kalika, 2011). Similar recommendation was noted by Ioimo and Aronson (2004) who studied the impact of using mobile computing in a medium-sized police force in Arizona.

Furthermore, the lack of IT support, especially during night shifts, had a negative impact on the successful adoption of the Kelvin devices. This is evident as 58% (most of them are in the age range of 40 and 50) disagree that the Constabulary provide sufficient help and support to officers who are experiencing problems and 48% disagree the Constabulary adequately prepared them to use the devices. Bhattacherjee and Hikmet (2007) argue that training sessions designed to fill this knowledge gap can improve the ease of use and promote the utilisation of

the IT system. In this case, the rectification is deemed congruent as the corrective responses are in congruence with the cause of resistance (Rivard and Lapointe, 2012). IT support (in the form of technical service) is proved to have a direct influence on perceived ease of use (Thatcher et al., 2011) which has a strong influence on users' IT utilisation intentions during technology training interventions (Venkatesh, Speier & Morris, 2002).

Therefore, the reasons for users' acceptance and resistance to change are different and can coexist in the same organisation (Bhattacherjee et al., 2018; Stein et al., 2015). Moreover, the same IT user can appraise some systems' features as opportunity and others as threat (Bhattacherjee et al., 2018; Stein et al., 2015). For instance, 82% (of survey participants) perceived the predictive text option as frustrating, difficult to manage and reduced the quality of witness statements recorded. They also argued that having to input three sets of passwords several times during a shift is causing much frustration among officers and detectives. Nevertheless, they praised their ability to update and view logs using their Kelvin devices while in police vans. They reported being able to launch Google Maps application by pressing on the post code link in the incident logs particularly useful and efficiency booster. Besides, they perceived taking photographs in accident scenes and sometimes in more serious cases as impacting positively on the quality of work they submit.

Officers' inability to read/add intelligence information using their Kelvin devices negatively impacted on their satisfaction with the devices. The lack of IT support at night shifts and the impracticability to contact IT support while dealing with members of the public coupled with many officers' basic technical skills, led to reduced perceptions of the usefulness of the Kelvin devices' features. The pilot study's online survey results indicated that 71% (of participants) believed that the Kelvin devices did not enhance their job satisfaction. 58% were not satisfied with the quality of information they access. CID detectives and senior management reported similar concerns about the reduced quality of witness statements recorded using the Kelvin devices. Officers believed that the reduction of the quality of the recorded statements was due to their inability to focus on typing using the small keyboard, dealing with the frustrating predictive text option and keeping eye contact with the witnesses. Findings from Colvin and Goh's (2005) study conducted in a police force on the US West Coast revealed that information quality was a key factor that can drive mobile technology acceptance among patrol officers. Hence, all these factors influenced officers' post-adoption utilisation and satisfaction with the Kelvin devices. Both satisfaction and perceived usefulness are determined by the degree to which users' expectations of the system are confirmed (Saeed and Abdinnour, 2013).

Moreover, officers' diminished trust in the Kelvin devices is evident as many officers reported using their paper pocket notebook frequently during their shift. Individuals develop a trust relationship with the technology used only if their expectations are confirmed and reliability of the technology is realised (Lippert, 2007). Trust in technology directly influence perceived usefulness, technology utilisation and perceived ease of use (Lippert, 2007; Thatcher et al., 2011). Lippert (2007) claim that the role of trust in technology is a key determinant in sustaining post-adoption utilisation in organisations. Technology trust affects individuals' intentions to explore the full range of functionalities of the adopted IS and consequently limit the post-adoption utilisation preventing organisations from achieving the benefits anticipated from investing in the technology (Lippert, 2007; Thatcher et al., 2011). Both trust in technology and IT support trust have indirect influence on users' intention to explore the technology features and functionalities (Thatcher et al., 2011).

Conclusion

This research has several implications for police IS research and practice. The pilot study answers Lum et al.'s (2016) call for collecting more contextual and qualitative knowledge about the actual causes of technology adoption/resistance in police forces. It also highlights the significance of the role of the work context in the successful adoption of various mobile technology features. Adding work or use context to Beaudry and Pinsonnault's (2005) Coping Model of User Adaptations to technology extends the knowledge about situations where users' primary appraisal of the mobile technology feature is both a threat and an opportunity facilitating a more fine-grained understanding of further possible users' adaptations behaviours. In the context of mobile technology utilisation, we should avoid a dichotomous view about users' primary appraisal of the different technology features because the context of use is a key driver of user adaptations and appraisal in the mobile IS context of use.

Using the Coping theory to explain the causal processes driving different users' adaptations, in mandated settings (i.e. police forces), emphasised the importance of adopting varying management interventions to target different users' adaptations. Inappropriate management interventions to resistance behaviours eventually provoke resistance escalation (Rivard and Lapointe, 2012). At the Constabulary, 70% of the online survey participants reported finding the devices frustrating and not making their work interesting. This could promote Emotion-based adaptations; delaying further realised benefits of the devices. Managers should promote adaptation strategies that are likely to minimise negative emotions associated with the devices. Management interventions that are in congruence with the causes of resistance can bring significant efficiency benefits to organisations (Rivard and Lapointe, 2012).

Enhancing training is highly recommended in the resistance to change literature (Haddara and Moen, 2017; Ali, Zhou, Miller & Petros, 2016) and is regarded as an effective method of improving users' expectations of technology (because it aims to promote problem-focused adaptations). This training should not just address the basic functionalities of the technology but should also accommodate for differences in users' IT skills, age, experiences, tasks, work contexts and culture; ensuring the existence of a good-fit between all these factors. Consequently, the existence of congruence in technological frames (Orlikowski and Gash, 1994) between the different actors using the technology can be feasible to foster a positive impact of technology use in police forces (Chan, 2001).

Current e-learning training packages that police forces are frequently drawing on to train officers are not fit for this purpose (Cockcroft, Shan-A-Khuda, Schreders & Trevorrow, 2018; Schreuders, Cockcroft & Butterfield, 2017). Therefore, training programmes should be designed to extend officers' skills beyond the basic use of the mobile devices (Lum et al., 2016; Ioimo and Aronson, 2004; Bhattacherjee et al., 2018) and promote efficient utilisation of the various features (Kashefi, 2014). They can potentially trigger better compliance with IT usage polices in organisations (Lapointe and Beaudry, 2014; Rivard and Lapointe, 2012).

Furthermore, scenario-based learning should be employed to present best-practise strategies in training programmes. Indeed, some police Forces in the UK used scenario-based instruction in their communication skills training programmes and have reported massive development in their officers' communication skills and a positive effect on building strong relationship with local communities (HMICFRS PEEL: Police Legitimacy Report, 2017). Bhattacherjee et al. (2018) highly recommend organisations to invest in technology training programmes to create a positive user experience as it directly impacts on the technology's perceived usefulness (the

most crucial belief driving IT usage) and attitudes of employees. Lucas (2010) and Bhattacherjee et al. (2018) recommend recruiting champions or super-users in delivering technology training to influence the less enthusiastic users.

Finally, user resistance is of profound importance for the success of technology implementation in organisations as it can alert management to significant systems' modifications, slow the process of change down or even replace the current IT with another that better fits the organisations' needs and goals (Haddara and Moen, 2017; Ali et al., 2016; Bhattacherjee et al., 2018; Stein et al., 2015). Understanding key resistance reasons in organisations can shed the light on salient management interventions that are in congruence with the resistance reasons to boost acceptance of Information Systems.

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Appendix 1. The Use of Kelvin Devices Survey

To what extent do you agree or disagree with the following statements?

1. The use of the Kelvin device helps me to engage in proactive, self-initiated activities. *

2. The use of the Kelvin device helps me to be productive in my daily work.

3. The use of the Kelvin device helps me to improve the way I interact and communicate with the public.

4. The use of the Kelvin device helps me to be more effective in helping victims. *

5. The use of the Kelvin device creates extra work for me.

6. The use of the Kelvin device makes my work interesting.

7. It is important to the public that I am knowledgeable about the latest information technologies. *

8. Using my Kelvin device frustrates me. *

9. The demands of using my Kelvin device take time away from aspects of police work that I enjoy. *

10. Using my Kelvin device enhances my job satisfaction. *

11. Generally, the Kelvin mobile phone is easy to use. *

12. I am satisfied with the quality of information I can access from my Kelvin device. *

13. The Kelvin devices improve communication between me and my line-supervisor. *

14. The Kelvin devices improve relationships between me and other officers/detectives. *

15. My supervisor uses information technology to track and monitor my daily activities. *

16. Supervisors use information technology to identify under-performing officers. *

17. Information technology generates statistics that are valuable in assessing officer performance. *

18. Information technology generates statistics that are valuable in assessing the Constabulary's performance. *

19. My supervisor expects me to use the Kelvin device to identify and respond to crime problems. *

20. Information technology improves supervision and management within the Constabulary. *

General Views on Technology

21. In general, younger officers/detectives are more receptive to using technologies than older officers/detectives. *

22. Up-to-date technology improves the image of the Constabulary in the eyes of the public.*

23. In general, technology functions well in Cumbria Constabulary. *

24. In comparison to my fellow officers, I consider myself "technology-savvy". *

25. I like to experiment with new technologies. *

26. In the Constabulary, officers who use technology in creative or innovative ways are more likely to be rewarded than those who do not. *

27. The Constabulary puts more value on officers making decisions based on data and analysis than on officers using their personal experience. *

Implementation of Technology

28. The Constabulary adequately prepared me to use the Kelvin devices. *

29. Overall, supervisors and senior officers in the Constabulary work hard to generate the widespread acceptance of technology. *

30. I feel that the Constabulary adopts technologies that are designed to meet important needs. *

31. Before implementing a new technology, senior managers work hard to get input from employees. *

32. After implementing a new technology, the Constabulary seeks regular feedback from employees on how it is working. *

33. After implementing a new technology, the Constabulary provides sufficient help and support to employees who are experiencing problems with it. *

34. In general, I am satisfied with how new technologies are implemented in the Constabulary. *

35. The successful implementation of a new technology in the Constabulary depends on supervisors and senior management requiring its use. *

36. The Constabulary tends to adopt technologies that are often not useful. *

Kelvin Devices Applications and Features

37. Name the application/s that you find useful (Please leave blank if you don't think there are any useful applications).

38. Name the application/s that should be removed from the device.

39. Name the application/s that need/s improvement.

40. Would adding an instant messaging application (like Whatsapp) be helpful in communicating with your team? * Yes\No\Maybe

41. Do you prefer using the desktop over using your Kelvin device? * Yes\No

42. How often do you use the desktop to input information other than the intelligence information into Sleuth? *

43. Do you use the Kelvin's pocket notebook feature every day? * Yes\No

44. Do you find typing using the Kelvin keyboard to record information in the Kelvin's pocket

notebook an easy job? * Yes\No\May be

45. Is charging your phone in the middle or towards the end of the shift a challenge? * Yes\No

46. Is the predictive text feature frustrating? * Yes\No

47. Is it important for you to have a policy of use for the Kelvin devices? * Yes\No\May be

Personal Use

48. Do you use your personal mobile phone to *

Tick all that apply.

Check your personal emails

Access your Facebook account

Access your Twitter account

Check other phone applications

E-learning Packages

49. I am satisfied with the e-learning system *

50. The e-learning system helps me improve my job performance *

51. The e-learning system helps the Constabulary to achieve its goal *

52. I prefer to use a handout to learn new material and then take the test on the computer *

53. Adding interactive info-graphics to the e-learning material will help me learn faster. *

54. It would be helpful if I can complete the e-learning course using my Kelvin device. *

For Patrol officers only

55. The use of the Kelvin mobile phone helps me:

Tick all that apply.

Locate wanted persons, suspects and other persons of interest.

Locate vehicles of interest.

Collect and search for information.

Determine how to respond to a crime problem.

Check the history of a specific location or person(s) before responding to a call for service.

Increases my capacity to prevent crime on patrol when not answering calls for service.

Enhances my safety on the job.

Background Information

Finally, we would like to ask few questions about your background

56. What is your rank? *

57. How long have you been working in the police? *

58. What is your age? *

59. Which area are you based in? *

60. Which unit/department are you currently serving? *

61. Did you use your Kelvin to complete this survey? * Yes\No

Appendix 2. Survey Results

General Attitudes Towards the Kelvin Devices

Nearly 70% of the participants found charging their phones in the middle or towards the end of the shift a challenge. 82% found the predictive text feature frustrating. 64% believed that it is important to have a policy of use for the Kelvin devices. 88% of participants preferred using the desktop over using their Kelvin devices. 58% found the Kelvin devices easy to use compared to 40% who thought otherwise. 71% of participants disagreed or strongly disagreed that the Kelvin devices enhance their job satisfaction. Half of participants believed the devices create extra work for them. 70% found their Kelvin devices frustrating. 70% of the participants disagreed that the Kelvin device make their work interesting. 60% disliked typing using the devices' small keyboard.

39% of participants believed the Kelvin devices help them be more effective in helping victims. 66% believed that adding an instant messaging application (like WhatsApp) will be helpful in communicating with their teams.

Useful Applications on the Kelvin Devices

PNC checks, Emails, Stop Search, Storm, Google Maps, Camera, Pronto, Statements, PNLD, First Aid, Keep me safe, ASBRA, Motoring and Law, Ticket issue, Traffic offence report, Twitter, Vehicle/Person search and the torch.

Kelvin's Pocket Notebook

74% did not find typing using the Kelvin devices' keyboard to record information in the Kelvin's pocket notebook application an easy job. In figure 4.4 below, the daily usage of the pocket notebook application is presented.

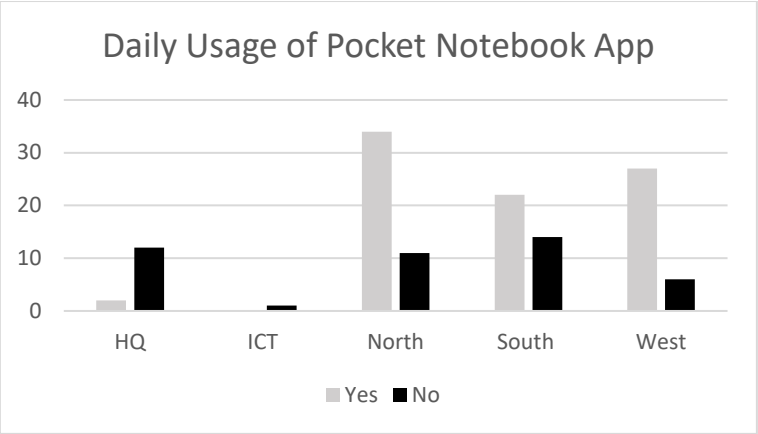

Figure 1 Daily Usage of Pocket Notebook Application

Productivity and Communication using the Kelvin Devices

Response officers are the main users of the Kelvin devices. There were no differences in the number of response officers across the three Areas who find the devices helping them become more productive. Younger response officers (20 – 35 years old) reported finding their Kelvin devices more productive than older response officers across the three Areas.

In addition, 49% of the participants believed that the Constabulary puts more value on officers making decisions based on data and analysis than on officers using their personal experience. 58% were not satisfied with the quality of information that they access using the Kelvin

devices. Only 23% of officers believed that in the Constabulary, officers who use technology in creative or innovative ways are more likely to be rewarded than those who do not.

Officers who disagreed (48%) that the Constabulary adequately prepared them to use the Kelvin devices are mostly in the age range of 41-50 years old.

72% disagreed that the device improves the relationship with other officers/detectives. 74% believed the device does not improve communication with their line supervisor.

Attitudes Towards Technology

76% of participants liked to experiment with new technologies. 67% of participants (most of them are young officers) believed that in comparison to their fellow officers, they consider themselves "technology-savvy". Those who disagreed are mostly officers who are in the age range of 46-50 years old.

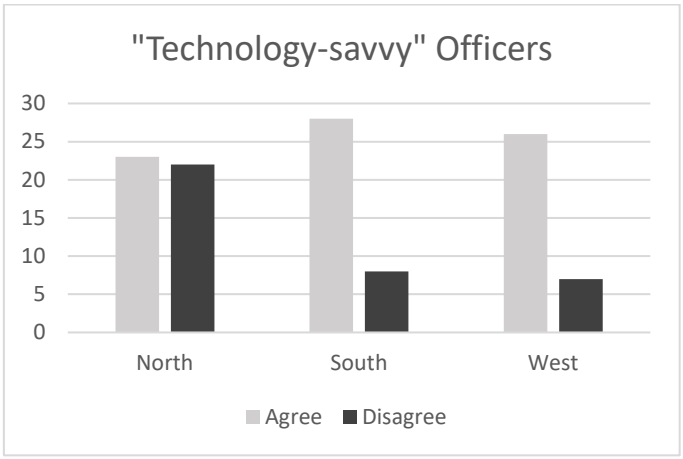

Figure 2 "Technology-Savvy" Officers in Areas

74% of participants believed that young officers/detectives are more receptive to using technologies than older officers/detectives. Only 34% of participants agreed that generally technology functions well in the Constabulary.

The Use of IT by Supervision and Management

Half the participants believed that Information Technology improves supervision and management within the Constabulary. 49% disagreed that their supervisors expect them to use the Kelvin device to identify and respond to crime problems.

53% believed that Information Technology generates statistics that are valuable in assessing the Constabulary's performance compared to 40% who disagreed. 54% disagreed that Information Technology generates statistics that are valuable in assessing officer performance in comparison to 36% who agreed and 11% found it not applicable to their roles.

35% of participants agreed that supervisors use Information Technology to identify under-performing offices, 45% disagreed and 20% reported that it did not apply to their roles. 52% disagreed that their supervisors use Information Technology to track and monitor officers' daily activities compared to 31% who agreed.

The Impact of Using Information Technology on the Public
67% agreed that up-to-date technology improves the image of the Constabulary in the eyes of the public. 66% of the participants believed that it is important to the public that the officer is knowledgeable about the latest Information Technologies.

Most of the officers (65%) did not find the device helping them to improve the way they interact and communicate with the public.

Technology Adoption and Implementation in the Constabulary
64% believed that the Constabulary tends to adopt technologies that are often not useful. 55% agreed that the successful implementation of a new technology in the Constabulary depends on supervisors and senior management requiring its use. 61% were not satisfied with how new technologies are implemented in the Constabulary. 58% disagreed that after implementing a new technology, the Constabulary provides sufficient help and support to employees who are experiencing problems with it (officers' ages ranged between 40 – 51). 77% of participants disagreed that after implementing a new technology, the Constabulary seeks regular feedback from employees on how it is working. 84% of participants disagreed that before implementing a new technology, senior managers work hard to get input from employees.
50% disagreed that the Constabulary adopts technologies that are designed to meet important needs. 64% believed that supervisors and senior officers in the Constabulary work hard to generate the widespread acceptance of technology.

E-Learning System
60% of participants were not satisfied with the E-learning system. 70% believed it does not help them improve their job performance. 50% agreed that the E-learning system helps the Constabulary achieve its goals. 63% did not prefer to use a handout to learn new material and then take the test on the computer. 54% agreed that adding interactive info-graphics to the e-learning material will help them learn faster. 67% disagreed that it would be helpful if they can complete the e-learning course using their Kelvin devices.