

# Effects of Mobile Phone Hacking Awareness on Managerial Usage Pattern at various hierarchical levels

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**Abstract**—With the advancement of technology and technological crimes it becomes pertinent to have awareness of possible hacking of mobile phones and stealing of confidential data. This study focused on identifying that whether any changes comes in the managerial usage pattern of mobile phones if they come to know that their mobile phones can be hacked. Using a personal survey method and quota sampling technique 750 managers were approached from different organizations. The study revealed using chi square technique that awareness of mobile phone hacking is not significantly affecting the managerial usage pattern of mobile phone at lower and upper level positions, however it is affecting significantly at the middle level (functional level) managerial positions.

**Keywords**—Mobile phone hacking, Mobile phone usage pattern.

## I. INTRODUCTION

THE purpose of this research was to check the mobile phone usage pattern of managers at three levels 1) Senior Manager 2) Middle Manager 3) Lower Manager while considering that mobile phone hackers may attempt to grab the confidential data from their mobiles. Mobile phones are getting smarter than before. It is now being used for emailing, file transfers etc. This research mainly focuses on the practices of usage of the mobile phone at different types of managerial positions it is assumed that all managers in this era, either, they are lower, middle or top, use smart phones and devices like them to communicate officially with clients and other companies. This is also assumed that they use all types of communication via mobile phones and behaviors vary from level to level. In December 2007 there were 3.3 billion mobile users across the globe which is 49% penetration rate [10]. Mobile communication systems supporting voice and other data is becoming complex and intense however, it comes with a price. PDAs and smart phones are getting attractive to attackers truly email messaging and mobile service popularity and their addiction to the programs, used by mobile devices such as symbian and linux. Currently there are 35 mobile malware in circulation some of them are cabir and mabir which affect symbian operated systems [4]. The problem is even more acute in the context of mobile malware a problem first given attention in 2006, it has recently been identified.

There will be a comparable number of smart phones, laptops and desktop computers in use. The expected escalation of the problem is both due to the explosive adoption rate of smart phones, and due to their inherent limitations-such as power, memory and bandwidth. The current antivirus tool is unsuitable once new malware accesses threshold. It is not appropriate to push updates. Currently, there are hundreds of malwares a day and updates to AV filter rules several times an hour [5]. When considering the internet, users have to provide their personal information geographic location and sometimes the direct environment is submitted by their mobiles [6]. Due to the technological improvements smart phones have become so popular and widely being used, they are becoming more like laptops and PCs. In the current era all smart phones use i.e 802.11, gsm/3g WLAN bluetooth, Infra red as compared to regular phone as well as they have extra functionality .when calculating the safety we must not only ensure the nonstop violence even besides look into that it might be consumed as a means to join to categorization on groups. Smartphone are now becoming a key factor for professional for communication to cross hierarchy and triangle communication such as calls and emails for example it is an only way to communicate among rescuers. It is not the only issue that, a single packet attacks these devices to freeze their communication or enable someone i.e. attackers to program the device as per the will [9].

Day by day mobile phone usage is increasing and the opportunities of hackers have also been created. Among the users it has become very crucial for users to have awareness about it. So, the research has been done to study the relationship between Managerial Awareness of Mobile Phone Hacking and Managerial Usage pattern at Various Hierarchical Levels.

## Hypotheses

- H1: Awareness of Mobile Phone Hacking of Senior Managers has an effect on retaining current practices
- H2: Awareness of Mobile Phone Hacking of Senior Managers has an effect on keeping important files.
- H3: Awareness of Mobile Phone Hacking of Senior Managers has an effect on keeping important emails.
- H4: Awareness of Mobile Phone Hacking of Senior Managers has an effect on keeping important messages.

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- H5: Awareness of Mobile Phone Hacking of Senior Managers has an effect on closing direct links on accounts.
- H6: Awareness of Mobile Phone Hacking of Senior Managers has an effect on searching for a phone that cannot be hacked.
- H7: Awareness of Mobile Phone Hacking of Middle Managers has an effect on retaining current practices.
- H8: Awareness of Mobile Phone Hacking of Middle Managers has an effect on keeping important files.
- H9: Awareness of Mobile Phone Hacking of Middle Managers has an effect on keeping important emails.
- H10: Awareness of Mobile Phone Hacking of Middle Managers has an effect on keeping important messages.
- H11: Awareness of Mobile Phone Hacking of Middle Managers has an effect on closing direct links on accounts.
- H12: Awareness of Mobile Phone Hacking of Middle Managers has an effect on searching for a phone that cannot be hacked.
- H13: Awareness of Mobile Phone Hacking of Lower Managers has an effect on retaining current practices.
- H14: Awareness of Mobile Phone Hacking of Lower Managers has an effect on keeping important files.
- H15: Awareness of Mobile Phone Hacking of Lower Managers has an effect on keeping important emails.
- H16: Awareness of Mobile Phone Hacking of Lower Managers has an effect on keeping important messages.
- H17: Awareness of Mobile Phone Hacking of Lower Managers has an effect on closing direct links on accounts.
- H18: Awareness of Mobile Phone Hacking of Lower Managers has an effect on searching for a phone that cannot be hacked

## II. LITERATURE REVIEW

In recent years cell phones have become primary element in every one's daily life. Cell phone has been convenient in usage and a medium to get connected in terms of business and young generations as well. The current generation is extremely dependent on this technology via text messages, phone calls, communication networking, etc. Cell phones are the most rapidly growing technology among youngsters as well as for business man and job doers [7].

Mobile phones have become a vital source for communication to each level and a source of revenue to service providers as well. This is one of the innovation come up with some benefits and the consequences as well and even the industry expectations have also been increased widely. Regardless of the expectations occurred individuals have lack of trust in using services [11].

Innovative technologies have set an example in rising industry paradigm for service convergence. The occurrence of portable devices has tied the communication with financial and social aspects via Mobile phone services [11].

Our society has had some elements found of telephone culture, but by the emergence of cell phones invention is completely unavoidable aspect of communication and culture development [2].

In last few years the telecommunication changes have drastically brought a change in our society. The trend for mobile phone services and its usage is increasing day by day. By considering the intense demands of customers the companies are launching their products according to their needs. The common men have now become entrepreneurs by the use of information technology in our daily life. Mobile phone are not only been used as a way to communicate but used for multiple purposes. Keeping mobile phone and personalization on it has also become a fashion trend for every individual. The main purpose where companied are dependent is customer satisfaction towards their product in terms of marketing (DS Chaubey, SMT Zafar, SM Hasan, 2011).

If we look at the security aspects the cellular phones have been targeted for malware attacks. The study has reflected that the hackers could transmit disease mobile phones by using spiteful software which may remove the personal data or else scuttle up the billing of a sufferer. The damage might also humiliate or overkill cellular phones set of connections, ultimately instigate them to collide. And even the financial data may also be on the stake. The smart phone symbolizes a noteworthy menace. They proffer internet usage through which while downloading the files may contain some malicious code can also have more chances to attack. The mobile phones are still not very much explored by the market providers in terms of security. To work against increasing threats the antivirus companies have started their research and development. However, the suppliers are also finding traits to provide improved operating systems and its security (N Leavitt, 2005)

By looking at the social networking cellular phones are playing a vital role in every aspect either for making personal connections or for business transactions. Moreover, the influence of this set of connections point on awareness formation is dependent on the kind of inventive assistance. Blend displays a pessimistic result on information formation, while in combine it has an optimistic outcome. Information formation considerably impacts purpose to utilize cellular phone services. Furthermore, the researchers revealed that put back things happen transversely the assistance types. As a final point, the set of connections apparent capability to espouse inventive cellular phone services has a unique impression on consumption purpose over its service types (M Kleijnen, A Lievens, K de Ruyter, M Wetzels, 2009).

Cellular phone possesses development to be increasingly more admired in latest existence. While, natives belonging to entire age faction discover the consumption of cellular phones useful and convenient, the youth age bracket is more prone in the direction of them and is more dependent lying on them (M Hakoama & S Hakoyama, 2011).

Customers are well-informed among the new-fangled technologies by the media and they sought headed for acceptance of new technologies and new innovations. There are some barriers which influence the adoption of new-fangled technologies. It is exposed that the customers who contain squat information regarding the novelty or else who have

adequate information, the significance jeopardy and reflection obstruction are pessimistically associated towards the acceptance purpose, whilst the conventional hindrance comprise the affirmative affluence on espousal aim [12].

The extensive of cell phones and internet provides a better possibility to the hackers to shape malwares and create spiteful cipher. The kinds of malwares till now come to 150 and the persistence of cellular phone malwares in Unites States are on a leaning position at the moment. The initially recognized bug entitled Cabir was revealed in 2004. This thesis depicted how the mobile phones which contain the classification of Windows and Symbian Windows are assaulted by dissimilar means, Bluetooth and even wireless as well. The rate of the increase of cellular phone viruses in Washington Dc for the year 2004-2012 is examined, which targeted Washington DC metropolitan part which owns a superior danger of virtual violence assaults. This investigation aspires to reveal the affluence of cellular phones viruses on the mobile phones by the consumption of SIS epidemic paradigm and intends several pre-emptive events [13].

Youth confront troubles in get hold of the technology. While, children and youth are often viewed as jeopardy inside this section, their forceful fights demonstrates self-belief in them arising artistic in culture, competent in the direction of conversing the majority of its assessment proficiently. Technology providers are numeral who are offering exclusive software's of the business customs, technology is increasingly so frequently build in the direction of restricting their freedom of alternatives and actions. It was emphasized against these measures over the sight of precise connections labeled as "hacking," wherever the native humorously utilize PC equipment intended for uncontaminated enjoyment of perceiving what can be done by them. It was challenged to intend for a tactic in the direction of new technology which actually appreciates as an alternative of limitations the navigation by youth, representing with the purpose of it should not alone be assisted by them in the direction of improved admiration and carrying their individual technical experiences, even to accept their critical capabilities and thoughts [14].

The growing figure of inter linkage throughout various types of devices consuming all kind of connection paths have prepared the vital oriented ambiance actually everywhere. By causing this safety jeopardy is as ever-present as of many multifarious services which are being consumed to the set of connections at the same point of time. In the computing environment where technology is becoming more and more advanced which sort of facts it have on the grounds of safety shielding for its integrity and the convenience of information as well as the effects of the information sharing security. The management of risk should be highly considered and very proactive on threat examining practices [15].

By looking at the role and consumption patterns of mobile phone they are contributing in making our life style, same as the advertisement of mobile phone are also effective. The popularity gained by the mobile phone companies by

advertising the product like short messaging services. This research emphasizes the behavior of cellular phone consumers towards advertisements. The research has shown a negative response towards short messaging advertisements. The response and behavior have a direct relationship by the customers. Therefore, the findings shows that it's not valuable or appropriate to do advertising on instant messaging unless the permission has been approves by the potential customers [16].

### III. RESEARCH METHODS

*Personal survey method was used to acquire data from 750 managers using quota sampling technique to ensure representation at each of the managerial level. The instrument was a questionnaire having cronbalch alpha of 0.91. The instrument was pre tested to ensure its validity.*

The questionnaire was classified into ten questions in which first and second question was regarding owning a cell phone and keeping important information in it. Third and fourth question was inquired about keeping important and categorizing how important was information to them like official contacts, emails, documents, messages, pictures and direct access/ links to accounts on official sites. The fifth question was inquired about awareness to the respondents on mobile phone hacking. Sixth and seventh question is regarding awareness and how important are these factors were to the respondents. Last three questions belong to the respondent's profile.

#### **Conceptual Framework:**

The research model has been developed to study the relationship between managerial awareness between mobile phone hacking and the usage pattern at each managerial level.

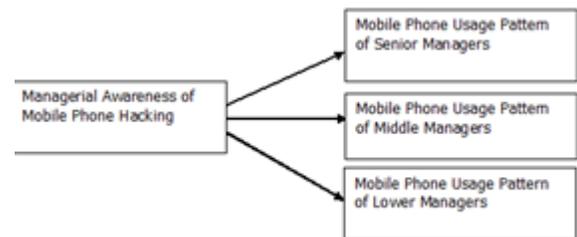


Fig. 1

#### *Statistical Technique*

To study the effect of mobile phone hacking on managerial consumption patterns at different hierarchal levels the Pearson Chi square test has been used to get appropriate results. To gather results managers at different levels were approached to test 18 hypotheses.

#### RESULTS HYPOTHESES ASSESSMENT SUMMARY

Hypotheses	Significant values	Empirical Evidence
H1: Awareness of Mobile Phone Hacking of Senior Managers has an effect on retaining current practices	0.683	Rejected

H2: Awareness of Mobile Phone Hacking of Senior Managers has an effect on keeping important files.	0.658	Rejected
H3: Awareness of Mobile Phone Hacking of Senior Managers has an effect on keeping important emails.	0.138	Rejected
H4: Awareness of Mobile Phone Hacking of Senior Managers has an effect on keeping important messages.	0.30	Rejected
H5: Awareness of Mobile Phone Hacking of Senior Managers has an effect on closing direct links on accounts.	0.083	Rejected
H6: Awareness of Mobile Phone Hacking of Senior Managers has an effect on searching for a phone that cannot be hacked.	0.138	Rejected
H7: Awareness of Mobile Phone Hacking of Middle Managers has an effect on retaining current practices.	0.041	Accepted
H8: Awareness of Mobile Phone Hacking of Middle Managers has an effect on keeping important files.	0.026	Accepted
H9: Awareness of Mobile Phone Hacking of Middle Managers has an effect on keeping important emails.	0.021	Accepted
H10: Awareness of Mobile Phone Hacking of Middle Managers has an effect on keeping important messages.	0.452	Rejected
H11: Awareness of Mobile Phone Hacking of Middle Managers has an effect on closing direct links on accounts.	0.373	Rejected
H12: Awareness of Mobile Phone Hacking of Middle Managers has an effect on searching for a phone that cannot be hacked.	0.01	Accepted
H13: Awareness of Mobile Phone Hacking of Lower Managers has an effect on retaining current practices.	0.369	Rejected
H14: Awareness of Mobile Phone Hacking of Lower Managers has an effect on keeping important files.	0.653	Rejected
H15: Awareness of Mobile Phone Hacking of Lower Managers has an effect on keeping important emails.	0.199	Rejected
H16: Awareness of Mobile Phone Hacking of Lower Managers has an effect on keeping important messages.	0.423	Rejected
H17: Awareness of Mobile Phone Hacking of Lower Managers has an effect on closing direct links on accounts.	0.769	Rejected
H18: Awareness of Mobile Phone Hacking of Lower Managers has an effect on searching for a phone that cannot be hacked.	0.492	Rejected

#### IV. CONCLUSION

Cellular phones have now become a need of every individual. If we look at the consumption of internet day by day it's increasing high in terms of socialization and even for

business transactions as well. The use of internet is actually creating an opportunity for the hackers to attack by intruding through different malwares and they will be able to access the personal information as well as the confidentiality is on stake which seems to be necessarily important for individuals to get aware of it.

This study has shown the association and the analysis of the effect of mobile phone consumption pattern at each managerial level and its hacking awareness.

Pearson Chi square test was applied in this study by gathering data through convenience sampling at each managerial level of 750 respondents to get appropriate results. The analysis presented the mobile phone hacking awareness doesn't have a sound impact on consumption pattern like keeping important emails, messages, official pictures, closing of directs links on accounts and retaining current practices at lower and top managerial positions however it has significant effect on the middle managerial level which is functional managers level probably because they have to carry important data for presentations.

#### V. IMPLICATIONS

This research has shown light among awareness and consumption pattern at each managerial level. The consumers are more tend towards the security of mobile phone hacking preventions but the respondents in this study at middle hierarchal level of managers seem concerned by the hacking of mobile phone and on modifying their usage pattern..

#### VI. FUTURE RESEARCH

For further research more predictors can also be included to check the effect of mobile phone banking consumption pattern at each managerial level and particularly the middle managerial level can further be explored.

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