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# A STUDY ON ASSESSMENT OF A NEED FOR DIGITAL SIGNATURES AND THE COMPANY PREFERENCE

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### ABSTRACT

A s Digital Signature Certificates are mandatory to use for filing tax, e-tendering, ROC etc. The Government of India has made mandatory as per the CCA guidelines. There are major number of Chartered Accountants who use Digital Signature Certificates over Contractors and Businessmen. As there are many players in the market who provides the service of the digital signature certificates, Aadhar based EKYC, Non EKYC and Cryptographic tokens there is a heavy competition in the market. The main key factors to acquire the new customers is to be find out to form the marketing strategies to attract the customers.

As this is the Service sector it is important to know how much satisfied the customers with their service providers and it is also important to know those service factors. The purpose of the study is to assess the need for digital signatures. It will help understand the attitude of customers towards the company. The study will be conducted at Bangalore Urban where the company is located. The information for the study will be obtained using both primary and secondary data. The method used for the study is explorative and descriptive research. The primary data is collected through direct interview with the help of the questionnaire, and the methodology used for the study is SPSS software and cross tabs, chi-squares were used to analyze the input data and secondary data is collected using various books, journals and website. **KEYWORDS:** Competition, Consumer Behaviour, Digital Marketing, Digital Signature, Internet

# NEED TO STUDY THE TOPIC

Digital Signature Certificates have great advantages over paper and pen signatures. It makes easy for filing the tax, e-tendering and ROC etc. There are many players in the market who provides services like Tokens, EKYC and Non EKYC. So it is important for the company like Digixi Technologies to know about the market. The study is essential to know about the awareness level of the customers for the services provided by the service providers. The important service factors which are necessary to keep the customers happy. The marketing strategies which are necessary to acquire the new customers and the services they want from the service providers.

# **REVIEW OF LITERATURE**

**Vivek Urpit (2012)** this paper concentrates on the development of Internet and web innovation has brought forth such a variety of new ideas in Business one of such illustration is rise of virtual saving money. Virtual keeping money is one of the most recent developing patterns on the Indian saving money Scenario. Utilization of virtual managing an account, however introduce in India was rest confined to outside banks. Today a large portion of open parts banks branches in metros and urban communities, have electronic front office operations (client exchange) and their back office operation and data administration framework are additionally progressively

getting modernized and coordinated. Notwithstanding, it might be noticed that the conventional 'block and mortar' managing an account with manual framework continues to win in many banks' rustic branches in urban zones as well, the majority of the urban co-agent banks keep on using the manual arrangement of saving money. The article considers the similarly investigation of genuine managing an account and virtual saving money in India and its part in encouraging associations with clients and giving them more esteem. The proposed study incorporates the development need and significant, strengths driving, benefits and negative marks of genuine managing an account and virtual keeping money. This work will incorporate the similar investigation of virtual managing an account and genuine (Traditional Banking) saving money. Results have demonstrated that virtual company (managing an account) can deliver money related prizes for the association.

**S. Poonkuntran & R. S. Rajesh (2012)** an article entitled "Chaotic model based semi fragile watermarking using integer transforms for digital fundus image authentication."

This paper proposes another reversible, subtle, semi delicate watermarking plan for the verification of advanced fundus pictures that fulfils eight compulsory prerequisites.

They are reversible, alter location, limitation of adjustment, vagueness, limit, and complete visually impaired identification, semi delicacy and security. The proposed plan produces the watermark progressively utilizing turbulent framework and it is implanted utilizing whole number change as a part of reversible way. It correctly finds the altering ranges in the pictures and recognizes the watermark in complete visually impaired methodology without utilizing the information of both unique picture and watermark. It is discovered subjectively that 30,000 bits is the best size of the watermark for the proposed plan to guarantee the security and it is accomplished for the PSNR estimation of around 60 dB at a normal by holding great level of impalpability. The proposed plan is touchy to the jittering, geometrical and sifting assaults and it adjusts around 40 % of bits in the watermark for jittering and geometrical assaults, around 45 % of the bits in the watermark for separating assaults to verify the pictures.

**Amitabh Ojha, G.P. Sahu, M.P. Gupta (2013)** an article entitled "Antecedents of paperless income tax filing by young professionals in India: an exploratory studyThis paper proposes another reversible, subtle, semi delicate watermarking plan for the verification of advanced fundus pictures that fulfills eight compulsory prerequisites. They are reversible, alter location, limitation of adjustment, vagueness, limit, complete visually impaired identification, semi delicacy and security. The proposed plan produces the watermark progressively utilizing turbulent framework and it is implanted utilizing whole number change as a part of reversible way. It correctly finds the altering ranges in the pictures and recognizes the watermark in complete visually impaired methodology without utilizing the information of both unique picture and watermark. It is discovered subjectively that 30,000 bits is the best size of the watermark for the proposed plan to guarantee the security and it is accomplished for the PSNR estimation of around 60 dB at a normal by holding great level of impalpability. The proposed plan is touchy to the jittering, geometrical and sifting assaults and it adjusts around 40 % of bits in the watermark for jittering and geometrical assaults, around 45 % of the bits in the watermark for separating assaults to verify the pictures.

**Gautam Ray (2014)** an article entitled "Doing Business in India: Opportunities and Challenges" The paper depicts the difficulties and the developing chances of working together in India. It discovers high connection between's compound yearly development rates of India's significant States in 1999-2006 period and destitution decay rates in these States amid the four decades, 1960-2000.The investigation recommends that neediness

Decrease is a powerful informative component of India's financial development as of late. The paper contends that India's destitution decrease pattern is economical as it is established upon the emancipation of the poor in law based India and the ace poor vote winning procedure cutting over all major political gatherings. In perspective of the ensuing increment in the extent of the BOP market, focusing on BOP business sector is a triumphant business procedure in India.

**Dr Sumanjeet (2010)** an article entitled "The state of e-commerce laws in India: a review of Information Technology Act." This paper is to fundamentally look at the Indian IT Act 2000 and IT (Amendment) Act 2008 in the light of e-trade point of view to recognize the present status of e-business laws in India. The paper exhibits a basic reflection on the current ecommerce laws in India. The paper depends on the Indian IT Act 2000 and IT (Amendment) Act 2008. The paper presents basic substance examination of different procurements of IT Act in e-business point of view. The paper additionally highlights lawful issues emerging from e-trade. There are numerous imperative issues which are basic for the achievement of e-business that have not been secured or

legitimately tended to by IT Act. The paper uncovers that the present IT Act is powerless on different fronts and without sound lawful structure e-trade can't make an example of overcoming adversity in India. Indian Government must value that for protected and secure business environment on the internet, a sound legitimate structure is required. This paper proposes that there is solid need to present separate laws for e-business in India. The paper recognized different provisos/issues/ shortcoming of existing ecommerce laws in India. These issues ought to be tended to by Government of India to secure the interests of Indian programming commercial ventures, BPO segment and different partners. The issue recognized in the paper is to some degree new, auspicious and intriguing, thinking about its significance to monetary improvement in developing economies, for example, India. Manmohan Chaturvedi (2013) an article entitled "Analyses of issues of information security in Indian context." The motivation behind this paper is to endeavour to fill the need to recognize basic in arrangement security issues at national level, both specialized and social in the Indian connection, and make a structure of these issues to give intriguing administrative bits of knowledge about the progressive system. Current writing advocates pertinence of both specialized and social issues in a potential structure to address national and hierarchical data security concerns. Such a structure can control clients in creating understanding for technique in the maize of critical data security issues and their mind boggling interdependency. Delphi technique is used to recognize as etoftopical issues with assistance from individuals from a digital security bunch. These issues are further broke down utilizing Interpretive Structural Modeling(ISM) to force request and course to the unpredictable connections among them. The examination utilizing ISM makes a structure of these issues and gives fascinating administrative insights about their progression. These bits of knowledge are utilized to prescribe organized activity for data security at national and hierarchical levels.

**Yao Chang Yu · Ting Wei Hou (2014)** an article entitled "An efficient forward secure group certificate digital signature scheme to enhance EMR authentication process he frequently used digital signature algorithms, such as RSA and the Digital Signature Algorithm (DSA), lack forward-secure function." The outcome is that, when private keys are restored, dependability is lost. At the end of the day, electronic therapeutic records (EMRs) marked by repudiated private keys are no more trusted. This huge security danger obstructs EMR selection. This paper proposes an effective forward-secure gathering endorsement advanced mark plot that depends on Shamir's (t,n) limit plan and Schnorr's computerized signature plan to guarantee dependability is kept up when private keys are recharged and to build the effectiveness of EMRs' verification forms regarding number of authentications, number of keys, forward-secure capacity and seeking time.

Shomnath Dutta (2015) an article entitled "DIGITAL BUSINESS: A NEW CUSTOMER - SAVVY BUSINESS PLATFORM FOR INDIAN BANKING & RETAIL SECTORS - & CHALLENGES" This paper clarifies about Globalization, deregulation and overall monetary incorporation has raised current business display into another stature with the development of 3G, Broadband, WAP innovation and came about a quantum jump change in client shrewd business approaches. The "digital method of business adds another measurement to the exchange and innovation interface and declares another stage for getting to be client centered to guarantee "survival for the fittest . Business under advanced stage through online course gives the fullest comfort to the clients readily available and in this manner coming about client delightment. Leaps forward in web and telecom innovation have shirked the whole world and conveyed basically to the screens of our portable and PC. This article demonstrates how through bridling the force of "Going Digital by web, versatile and remote innovation, Banking and Retail divisions of India have scaled up their twin aphorisms of "client friendliness and "client convenience to give delightful shopping and keeping money experience to the end clients. The paper furthermore, ventilates the current and future obstructions upsetting the energy of computerized business in retail marketing and keeping money exchange. At long last the paper reaches a visionary inference in regards to the possibility of client insightful business technique of conveying 24x7 - "Branchless Banking and "Storeless Shopping experience on computerized front inside the structure of developing economy of India.

### STATEMENT OF THE PROBLEM

Digital signatures have proven to be more secure alternative as more and more processes are getting automated like EPFO Online Transfer Claims, Form 16/ Form 16 A Signing, ROC e-filing, DIN, Internet Banking, e-Tendering, e- Governance, e – Procurement, Applying licenses for DGFT. Digital Signatures ensure that the contents of a message or document have not been altered or tampered with in transit. However, it is necessary to analyze and examine the need towards such a product which is slowly gaining importance because of the many advantages it offers over using paper and pen. As digital

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signatures provide the ease of access and efficiency in making transactions, more and more people are opting for such services. Thus, the study attempts the need for digital signatures for the companies.

### SCOPE OF THE STUDY

The Study is aimed solely for the university purpose and the data collected for the research is limited to the 50 respondents from Bengaluru urban. The research was conducted at Digixi Technologies, Hebbal, and Bengaluru. Which mainly focused on Chartered Accountants, Contractors and Businessmen examining the significance of Digital Signatures, analysing the awareness level of customers towards benefits of using digital signatures and examining the customer's preference towards the company concerning such products.

### **OBJECTIVES OF THE STUDY**

- 1. To examine the significance of digital signatures.
- 2. To analyze the awareness level of customers towards benefits of using digital signatures.
- 3. To examine the customers preference towards the company concerning such products.
- 4. To identify different strategies to promote the digital signatures among the potential customers.

### SAMPLING

A statistical method of drawing representative data by selecting people because of the ease of their volunteering or selecting units because of their availability or easy access. Convenient sampling technique will be used to collect data for the research. The sample size will consist of 50 respondents who are mainly frequently involved in using digital signatures.

# SOURCES OF DATA Primary Data:

Primary data will be collected using a structured questionnaire which covered various dimensions of the research questions

### Secondary Data:

Secondary data can be collected from books, internet, literature and other relevant documents. Magazines, Journals, Fact sheets and Web resources, online libraries and websites are other sources.

# CHI-SQUARE TESTS HYPOTHESIS 1:

Ho: There exist no significant relationship between the service of EKYC DSC and the good quality products.H1: There exist a significant relationship between the service of EKYC DSC and the good quality products.

# Table No.1

# Ratings for the service (EKYC DSC) \* Ratings of the service factors which the respondents are getting from their service providers (Good Quality Products)

### Count

|                 |        | Ratings of the<br>which the respo<br>from their servi<br>Quality | Total |    |
|-----------------|--------|--|-------|----|
|                 |        | Better   |       |    |
| Ratings for the | Better | 4  | 4     | 8  |
| better service  | Best   | 4  | 38    | 42 |
| (EKYC DSC)      | Total  | 8  | 42    | 50 |

# **Chi-Square Tests**

|                                    | Value  | df | Asymp. Sig.<br>(2-sided) | Exact Sig.<br>(2-sided) | Exact Sig.<br>(1-sided) |
|------------------------------------|--------|----|--------------------------|-------------------------|-------------------------|
| Pearson Chi-Square                 | 8.192ª | 1  | .004                     |                         |                         |
| Continuity Correction <sup>b</sup> | 5.457  | 1  | .019                     |                         |                         |
| Likelihood Ratio                   | 6.459  | 1  | .011                     |                         |                         |
| Fisher's Exact Test                |        |    |                          | .016                    | .016                    |
| Linear-by-Linear<br>Association    | 8.028  | 1  | .005                     |                         |                         |
| N of Valid Cases                   | 50     |    |                          |                         |                         |

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 1.28.

b. Computed only for a 2x2 table

**Inference:** From the above Chi-Square table we can infer that the level of significance for Pearson Chi-square is less than 0.05, the Chi-square statistic values does not lay within the acceptance region. So the null hypothesis (Ho) is rejected and alternative hypothesis (H1) is accepted. That means there is a significant relationship between the service of EKYC DSC and the good quality products.

# **HYPOTHESIS 2:**

**Ho:** There exist no significant relationship between the service of Tokens and the low price.

**H1:** There exist a significant relationship between the service of Tokens and the low price.

# Table No. 2

# Ratings for the service (Tokens) \* Ratings of the service factors which the respondents are getting from their service providers (Low Price)

# Count

|                         |      | Ratings of the service<br>respondents are gettin<br>providers (L | Total |    |
|-------------------------|------|--|-------|----|
|                         |      | Better   | Best  |    |
| Good                    |      | 7  | 5     | 12 |
| Ratings for Better      |      | 4  | 14    | 18 |
| the service<br>(Tokens) | Best | 2  | 18    | 20 |
| (Tokens) Total          |      | 13   | 37    | 50 |

**Chi-Square Tests** 

|                                 | Value  | df | Asymp. Sig.<br>(2-sided) |
|---------------------------------|--------|----|--------------------------|
| Pearson Chi-Square              | 9.315ª | 2  | .009                     |
| Likelihood Ratio                | 8.932  | 2  | .011                     |
| Linear-by-Linear<br>Association | 8.311  | 1  | .004                     |
| N of Valid Cases                | 50     |    |                          |

a. 2 cells (33.3%) have expected count less than 5. The

Minimum expected count is 3.12

**Inference:** From the above Chi-Square table we can infer that the level of significance for Pearson Chi-square is less than 0.05, the Chi-square statistic values does not lay within the acceptance region. So the null hypothesis (Ho) is rejected and alternative hypothesis (H1) is accepted. That means there is a significant relationship between the service of Tokens and the low price.

# **HYPOTHESIS 3:**

**Ho:** There exist no significant relationship between the Quick issuance and instant customer Service.

**H1:** There exist a significant relationship between the Quick issuance and instant customer Service.

# Table No. 3

Ratings of the service factors which the respondents are getting from their service providers (Quick Issuance) \* Ratings of the service factors which the respondents are getting from their service providers (Instant Customer Service)

|   | Ratings of the service factors which the<br>respondents are getting from their<br>service providers<br>(Instant Customer Service) |      |        |      | Total |    |
|---|---|------|--------|------|-------|----|
|   | Poor  | Good | Better | Best |       |    |
| Ratings for the service                             | Better  | 0    | 10     | 2    | 2     | 14 |
| factors which the<br>respondents are getting        | Best  | 2    | 8      | 14   | 12    | 36 |
| from their service<br>providers<br>(Quick Issuance) | Total   | 2    | 18     | 16   | 14    | 50 |

### **Chi-Square Tests**

|                                 | Value   | df | Asymp. Sig.<br>(2-sided) |
|---------------------------------|---------|----|--------------------------|
| Pearson Chi-Square              | 10.770ª | 3  | .013                     |
| Likelihood Ratio                | 11.025  | 3  | .012                     |
| Linear-by-Linear<br>Association | 4.165   | 1  | .041                     |
| N of Valid Cases                | 50      |    |                          |

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .56.

**Inference:** From the above Chi-Square table we can infer that the level of significance for Pearson Chi-square is less than 0.05, the Chi-square statistic values does not lay within the acceptance region. So the null hypothesis (Ho) is rejected and alternative hypothesis (H1) is accepted. That means there is a significant relationship between Quick issuance and instant customer service.

### **HYPOTHESIS 4:**

**Ho:** There exist no significant relationship between the low price and good quality products.

**H1:** There exist a significant relationship between the low price and good quality products.

### Table No.4

# Ratings of the service factors which the respondents are getting from their service providers (Low Price) \* Ratings of the service factors which the respondents are getting from their service providers (Good Quality Products)

|   |        | Ratings of the<br>which the re<br>getting from<br>providers (<br>Proo | Total |    |
|---|--------|---|-------|----|
|   |        | Better  |       |    |
| Ratings for the service factors                     | Better | 3   | 10    | 13 |
| which the respondents are                           | Best   | 5   | 32    | 37 |
| getting from their service<br>providers (Low Price) | Total  | 8   | 42    | 50 |

### **Chi-Square Tests**

|                                    | Value | df | Asymp. Sig.<br>(2-sided) | Exact Sig. (2-<br>sided) | Exact Sig.<br>(1-sided) |
|------------------------------------|-------|----|--------------------------|--------------------------|-------------------------|
| Pearson Chi-Square                 | .655ª | 1  | .418                     |                          |                         |
| Continuity Correction <sup>b</sup> | .136  | 1  | .712                     |                          |                         |
| Likelihood Ratio                   | .615  | 1  | .433                     |                          |                         |
| Fisher's Exact Test                |       |    |                          | .413                     | .341                    |
| Linear-by-Linear<br>Association    | .642  | 1  | .423                     |                          |                         |
| N of Valid Cases                   | 50    |    |                          |                          |                         |

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.08.b. Computed only for a 2x2 table

**Inference:** From the above Chi-Square table we can infer that the level of significance for Pearson Chi-square is more than 0.05, the Chi-square statistic values does lay within the acceptance region. So the null hypothesis (Ho) is accepted and alternative hypothesis (H1) is rejected. That means there is no significant relationship between low price and good quality products.

### FINDINGS

From the survey it is found that Most of the respondents who are aged under 31-40 are likely to use digital signature certificates and Most of males are using digital signature certificates as compare to female. This is because there are more number of male Chartered Accounts, Contractors and Businessmen.

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All the respondents deal with digital signature certificates is because the Government has made mandatory to deal with the digital signature certificates while filing the tax, ROC and e-Tendering etc. It is evident from the research that most of Chartered Accountants are using digital signature certificates as compare to Contractors and Businessmen.

From the survey it is found that amount of the using DSC is more for Income Tax because the more number of users of DSC are Chartered accounts and then the contractors use it for E-Tendering and then Businessmen. And it is interesting to note that when compared to the NCODE and EMUDHRA the SIFY Certifying Authority has more number of users.

Almost all the users who are dealing with the digital signatures are aware of what all documents are required to register for the service. All the respondents are from Bengaluru so the service providers are more from the same city.

The EKYC (Electronic-know your customer) device by MANTRA has covered more market as compared to NITIGEN and 3M.

From the survey it is found that the service providers are taking some extra time to collect the documents for the activation of the EKYC service instead of the required time. The service providers do not disclose the required time while providing the service and also the respondents have not asked any details of it. The time taken to activate non EKYC service is more for the most of the respondents.

The person who wants the non EKYC services are not provided by this information about the time required to activate the service by the service providers. Many respondents are happy with the service providing to them by their service providers. Monthly around 100 digital signature certificates are consumed by many users like Chartered Accountants.

The maximum numbers of respondents feel Just Dial is the best way to get to know about the service providers. The customers are happy with their service providers in the service of EKYC DSC. As compared to the EKYC service the Non EKYC service is not up to the mark in terms of the service provided.

The maximum numbers of respondents feel the tokens service provided by their service providers is best. Many are interested to take the service from Digixi Technologies only if they get a lower price than they are paying right now.

Many are interested to buy tokens over EKYC and Non EKYC from Digixi Technologies.

Safenet tokens have managed well to attain a bigger market as compared to E Pass, E Pass Auto and MOSERBAER. The instant customer service provided by the service providers is not up to the mark as compared to other services.

The service providers who are providing good quality service for EKYC devices are also providing good quality products. The users are getting the Tokens for the low prices.

The respondents are getting quick issuance of the products and also the instant customer service. The users are getting good quality products for low price.

### SUGGESTIONS

As many numbers of users are aged under 26-40 and many are male, the company should concentrate on the awareness of the DSC for other ages and for female users. The company should try to concentrate on the Contractors and Businessmen as they are less aware of the product.

The purpose of using DSC for Income Tax is more as compared to E-Tendering and ROC. So the company should concentrate more on Chartered Accountants. There are many service providers in the same city the company should provide good service to their customers.

The MANTRA EKYC device for digital signature processing is more used than NITIGEN and 3M.As many of the service providers are taking more than 2 hours for issuance of the Aadhar based EKYC service, as the actual time requires is only 30 minutes, the company should concentrate more on keeping up with the issuance time as per the CCA guidelines.

Many of the respondents are unaware that the actual time requires for the issuance of the Aadhar based EKYC, the company can attract their new customers by offering them a less time required for the issuance of the service.

As many of the service providers are taking 6 hours to 1 day for issuance of the non EKYC service, as the actual time required is 2-3 hours after submitting the required documents, the company should concentrate more on keeping up with the issuance time as per the CCA guidelines.

Many of the respondents are unaware that the actual time requires for the issuance of the non EKYC, the company can attract their new customers by offering them a less time required for the issuance of the service. Many of the respondents consume on an average 100 DSC, this number can be increased by increasing the number of users.

Some Respondents are not aware of the Digixi Technologies, the company should come up with the new promotion strategies like Pamphlets, Bills, and Advertisements in Newapapers, Ads in Social media and in Just Dial.

As many respondents opined that Just Dial is the best way to get to know about these service providers it is required for the company to advertise in Just Dial.

Currently the users are happy with their service providers but there is bit room in the service of tokens, the company can try selling the tokens more.

The many are not ready to take the service from the new service providers as they are happy with their current service providers, so the company should make some new marketing strategies to attract new customers. The company should sell more tokens than the service of EKYC and non EKYC.

The service providers are providing best services like doorstep delivery, quick issuance, low price, good quality products and they are bit lack in providing the instant customer service. The company should attract the new customers by providing these all services. The company should provide good quality service for EKYC devices and also good quality products.

The users are getting the Tokens for the low prices. So the company should concentrate more on minimizing the price. The company should concentrate on quick issuance of the products and also the instant customer service.

### CONCLUSION

From the findings, the purpose of using DSC is more for Income Tax filings as GOVT has made mandatory. There are many service providers in the same city like Bengaluru so the competition is high.

The current service providers are consuming more than the required time for the issuance of the services, so the company should offer less issuance time to their new customers.

The many of the respondents are not aware of the Digixi Technologies, the company should come up with the new promotion strategies like Pamphlets, Bills, Ads in Newspapers, Ads in Social media and in Just Dial.

The Digixi Technologies should start selling more tokens as compare to the EKYC and Non EKYC devices for the competitive prices.

The Digixi Technologies should attract the new customers by providing the services like doorstep delivery, low price, instant customer service, quick issuance and good quality products. As the research mainly concentrates on Chartered Accountants, Contractors and Businessmen, there is a chance for future study on common people who are using Digital Signature Certificates.

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