

## **ISSUING ELECTRONIC MARK SHEETS WITH THE HELP OF DIGITAL LOCKERS – A STEP TOWARDS PAPERLESS ECONOMY**

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### **Abstract**

This paper proposes to eliminate traditional method of issuing printed paper marksheets by Indian Universities and replace it with marksheets in Electronic form or E-Marksheets to the students. Study also explains the benefits of electronic mark sheets to be generated and given to students directly into their Digital lockers by implementing cloud computing technology.

For the purpose of research, primary data has been collected by administering a questionnaire on students and staff members of colleges; to gauge the awareness about digilockers and to analyze level of acceptance, benefits and challenges of issuing E-Marsheets.

**Keywords:** *Digi Lockers, Electronic Mark Sheets, Cloud Computing*

### **Introduction:**

India is witnessing a digital wave. Digital technologies are used in almost all the sectors whether it is education, communication, medicine etc. The increasing usage of digital technologies led the Indian government to think and provide services such as Digital locker or Digilockers. Digilocker is one of the key initiatives of Digital India programme. The initiative was taken to promote a paperless economy and to provide an easy platform to the people for issuing, verifying and storing their documents electronically, thus eliminating the usage of physical documents.

As India is inching towards a paperless economy; the study proposes that government universities across India should descend from the traditional way of issuing paper marksheet to students and move towards a more contemporary paperless system of issuing marksheets electronically.

The elimination of printed mark sheets is possible with the help of technology called cloud computing in combination with the usage of Digi lockers. Cloud computing has a positive impact on the education system across the country. It provides better portability, accessibility and availability of data, content and information. It also provides a collaborative environment for easy sharing or exchange of information. It enables Indian citizens to store their official documents on the cloud.

Right from the 10<sup>th</sup> standard, the government can provide each student with the facility of a Digital locker which will be encrypted and password protected. Since every citizen/student is provided with the aadhar number (unique identification number), it can be used to open and access the Digi locker; where they can view their current electronic mark sheets and even store their other official documents. At every next level of higher studies, student requires to submit the encrypted details of his/her digilocker to the college. When college issues electronic marksheets, students can simply store them in their digilockers and access them whenever and wherever needed. So if universities adapt cloud technology with Digi lockers, this gives hassle-free movement of student's documents and also provides safe and secured environment to both the parties

However issue of authentication of such electronic marksheets needs to be addressed by the university. Since the universities are going to be the issuing authority, a digital signature on behalf of university head is essential to validate the electronic document. Some standard guidelines will be required to be followed by all the universities to maintain uniformity in the process. . It will also solve the problem of attesting the marksheets and documents.

Only if necessary, a copy of electronic marksheet can be printed from computers for documentation. However it should be strictly avoided to promote paperless economy. Even at the time of interview, companies can verify such E-marksheets on their computers along with the other stored documents. Individuals will be saved from physically carrying around or travelling with their important documents. Interviewer will be saved from collecting and storing employees' documents physically for a longer period of time. Paper, physical space along with the other vital resources can be saved because of this concept.

**Statement of problem:**

Every 6 months, all the colleges across India issue traditional paper marksheets to thousands of students. This involves a huge amount of money, time and efforts. Twice a year; Indian universities face this challenge of issuing hard copy of student marksheet on time with limited manpower and financial resources.

Second issue is confronted by the individuals in obtaining and preserving paper marksheets. Since many of the Indian institutes and industries run on merit basis, Marksheets become a vital evidence of proving one's merit. Hence students face this critical task of preserving the paper marksheets for lifetime.

The question that arises here is how the traditional system of issuing and preserving paper mark sheets can be made more efficient and effective? Can Indian universities issue Electronic Mark sheets (instead of paper mark sheets) to students with some digital help?

**Objectives of the study:**

1. To analyze the acceptance of Electronic mark sheets concept by students and college staff members.
2. To identify the potential benefits of issuing E-mark sheets to different stakeholders.
3. To analyze the probable challenges in issuing E-mark sheets.
4. To find out the present level of awareness regarding Digital Lockers.

**Methodology of the study:**

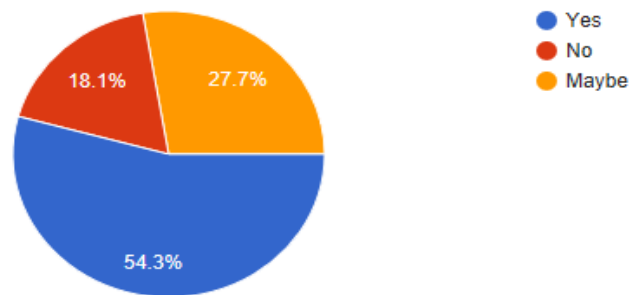
- Primary information has been collected through questionnaire administered on respondents: students, staff members and non-teaching staff across colleges affiliated to University of Mumbai.
- Random sampling technique is adopted to collect information from 90 respondents
- Secondary data has been collected from e-journals and websites.

**Profile of the respondents:**

Respondent class comprises of students, staff members and non-teaching staff members. Student's response is of paramount importance because mainly they are going to be directly affected by such a change. Non-teaching staff members' response is sought since they are the ones who will actually work towards converting this idea into reality. Response of other staff members is taken as they are on the stakeholders; and also being parents their opinion is important.

### **Findings and Analysis of the study:**

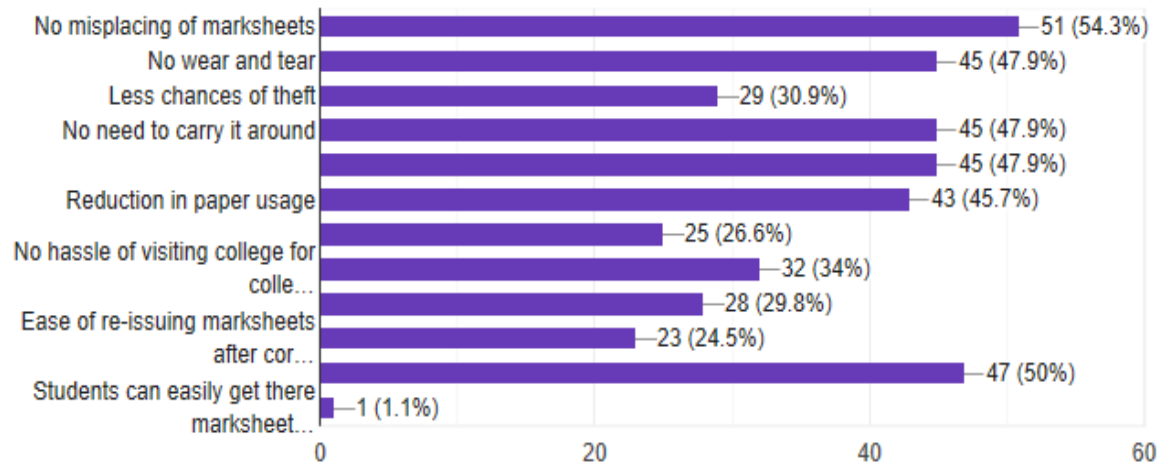
#### **1. Acceptance regarding issuing of Electronic mark sheets by Indian Universities instead of printing hard copies.**



**Figure 1.1: Acceptance of E-mark sheets**

**Response analysis:** 54.3% respondents believe that Indian Universities can issue E-marksheets instead of hard copy. Most of the respondents are techno-savvy. They are open to the notion of eliminating traditional hard copy marksheet and replacing it with an electronic one.

#### **2. Benefits of issuing Electronic Marksheets.**



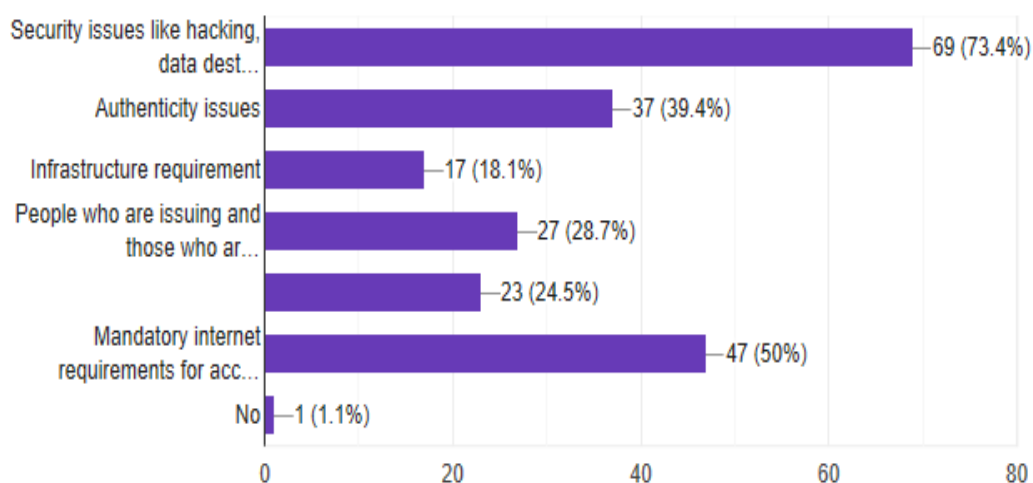
**Figure 2.1: Benefits of E-marksheets**

**Response analysis:** As per respondents' preference order, following are the benefits:

- Respondents say that the most prominent advantage of E-Marksheets is 'no fear of misplacing hard copy of marksheet'. Since E-Marksheet can always be present in electronic form, it can always be retrieved.
- Respondents believe that problem of wear and tear of marksheets in paper form can be avoided.
- Respondents agree that need of carrying around that marksheets for interview and admission purpose will be eliminated. Marksheets in electronic form will be available anywhere and anytime. It will be a convenience to both interviewer and interviewee.
- Main advantage of E-marksheets for whole society will be minimum usage of paper. E-marksheet can save a lot of resources.
- A major advantage for students will be easy procurement of Marksheet after leaving their college post completion of studies. Often out stationed students have to come back to the college just to collect the Marksheet. E-marksheets will eliminate this hassle for students.
- Another benefit of E-marksheets is less chance of theft. So security of marksheet can be better guaranteed.

- For non-teaching staff, there will be relief from the official work that they carry out for issuing mark sheets to students. In electronic form, a lot of their time, energy and cost be saved in the long run.
- Likewise for students; process of procurement of Marksheet will be really quick.
- Last but not the least, there will again be ease and efficiency in reissuing mark sheets to students after the corrections (if any).

### 3. Challenges in implementing Electronic mark sheets concept.



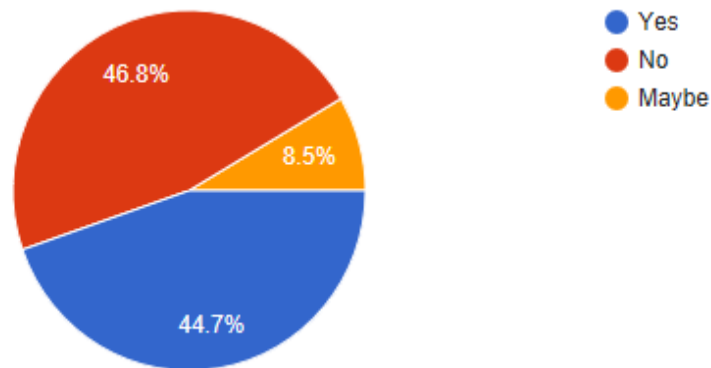
**Figure 3.1: Challenges of E-marksheets**

**Response analysis:** As per respondents' answers, following are the challenges:

- 73.4% respondents are concerned with security issues like hacking and data destructions. Basically educational mark sheets hold a prime significance for one's career. Any threat of hacking and forging to such data poses a problem.
- After security issues, 50% respondents believe that another main problem will be mandatory requirement of internet for assessing e-marksheets online.

- As per respondents, there is a challenge regarding the authentication of electronic marksheets. A system needs to be established to validate the authenticity of electronic marksheets.
- A major requirement is of technical expertise in making this concept feasible. Generation and safe dissemination of E-marksheets at national level requires expertise in software programming.
- Some software is essential to make availability of E-marksheets possible. Respondents say that a training/awareness program is needed for the users (like students) of such software. Training program will impart knowledge about the software's functionality and security.
- Also a sound infrastructure is required by the college to adopt this system efficiently. This may prove to be a real challenge for colleges with fewer resources.

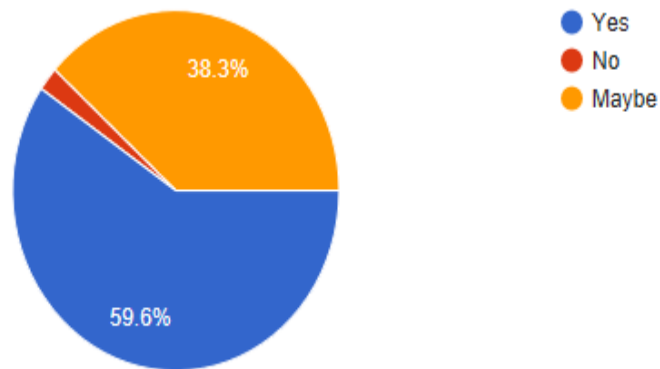
#### 4. Awareness about Digital-Lockers



**Figure 4.1: Awareness about Digital-Lockers**

**Response analysis:** 44.7% respondents say that they are aware of the concept of digital lockers. And an equal percentage of respondents have never heard of it. This suggests that even though respondents are techno-savvy, still there is a scope of creating digital literacy. It can also be analyzed that since half of the respondent class is already aware of it, the concept of e-marksheets can be easily propagated in collaboration with the digital lockers (addressing security issues).

## 5. Increased Safety and efficiency of E-marksheets with the help of Digital-lockers.



**Figure 5.1: E-marksheets with Digital-Lockers**

**Response analysis:** Since electronic security of marksheets seems to be a critical challenge in implementing this concept, 59.6% respondents agree that if digital lockers are provided to individuals, concept of e-marksheets can be easily implemented. However 38.3% respondents are yet not sure; but their opinion can be changed by giving them training sessions.

### **Conclusion and Suggestions:**

- It can be established that there are numerous benefits of issuing E-marksheets instead of hardcopies. Techno-savvy stakeholders are also ready to adapt this concept.
- In the initial phase, the digital process will involve huge cost, technical expertise and time at both university and college level. But once established and implemented, it will save enormous efforts and resources of the government and other stakeholders.
- If the concept of E-Marksheets is cordially accepted by the stakeholders, then it can also be extended to issuing of Electronic Degrees and other relevant documents by the Indian Universities.

### **Limitations of the study:**

- Sample size for the purpose of this study is small. Sample size can be extended



- Data has been collected from the respondents of different colleges affiliated to Mumbai University only. Other Indian Universities need to be taken into account.
- Respondents' colleges are situated in Mumbai only which is a Tier I city. Hence the study takes into account the opinion of respondents belonging to tier I city. Opinions regarding digital awareness might change for colleges situated in Tier II and Tier III cities.

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