OBSERVATION METRICS:

AN IMPACT OF IOT ON LIBRARIES

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ABSTRACT

{Any new technologies which are adapted in library systems are dependent on the user's perspectives and use of information in a way they are needed. Selective approach to use technology and dissemination of information will be based on preference studies. Internet of Things (IOT) the next generation of Internet is information emitting technology through sensors. So observation makes its way here and observation theory will evolve more concertized metrics giving more stress on the concept called" Observation Metrics". The eye of the contention is that the IOT is the future in day to day life; every single entity will be an object emitting information as "observation becomes powerful". Libraries will again play a new role in providing "Information at their will". The Observation model represents the Information flow in context of IOT applications in Libraries and data observed becomes more valid and proceed to information and Knowledge. What is the derivation here is equation for Observation Metrics as the first application formulae}

Keywords: *Library Systems, Observation Theory, Observation Metrics, SCO factors*

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1. OBSERVATION IS POWER:

The eye of this study is "observation theory" is visualized as the future of IOT. The forecasting of the libraries in an era of digital technologies is big data of observations. It has to be rightly accepted and used as applications. New waves are always followed by hopes. When Internet evolved it was the excitement as we use to send data, message and information in varieties of forms. It supplements a thought of "future of libraries" and again the new breed of Internet of things has evolved just making life more complex or more structured with more secured as far as any activity is concerned philosophically "future perfect" making people idle letting ourselves loosened to the machines. Thinking becomes slower as we see how calculators' weak to human minds. The ill effects may has its say which is not of our concern, but scientifically thinking innovativeness with inventions of an object getting connected to a network, this is the way internet of things is conceptualized. Every moment may be measured through a device remotely. It is the world of devices and applications making people smart, the smartest of all is you should know that you are observed, and each observation is information for many for many things. How much of this is useful to library is a question to be answered? It is again the Darwin's Theory of adoptability. Adaptability is mantra of success in a life for existence. The selection of devices like RFID was the first hit library, which is associated with objects like "*Book*", "*Tags*" and '*Antenna*". It does a job of observation with sensors. This is "information" for Library manager and converts into metrics for decision making knowledge derived by the RFID technologies in making libraries more value based information. RFID emits information

and process continues with operations in libraries which are seen as a security and identification based systems.

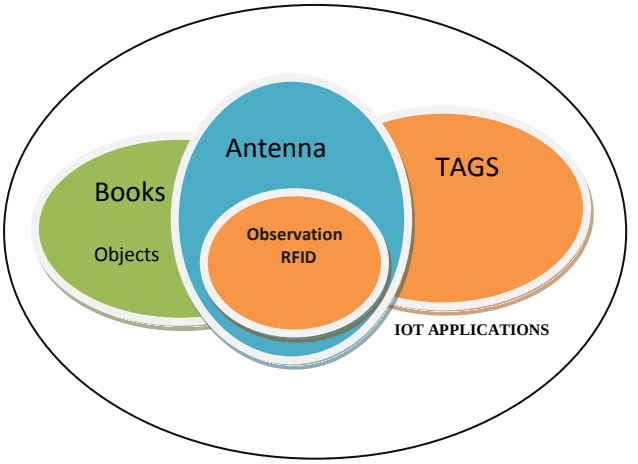


Fig.1. RFID used as IOT Applications

Hence the future of Libraries depends on the trinity factors relevant to IOT.

- Staff Library services using new technology designed by the Library staff (Connectors);
- User of Information : Platform for Information Transfer (Observed Information);
- Books: Devices: Sensors (Object Information).

2. OBSERVATION THEORY AND METRICS

Two things become important here as internet of things is dependent on sensors and sensor measures and creates data or information or knowledge. Sensors are miniaturized tools converged into many functions of data storage, wireless with a battery driven technology. Metrics has become an important component as it develops a direction for

the theory of observation. Many techniques are used to study the data and its use and theories are developed to measure them. Observation was the only thing what libraries relied on the use of the resources and services by the users. Observation is records the movements of activities and the nature makes the movements further the activities relate to the environment. Observation metrics is measuring the sequence of data generated from the devices at different intervals. (OM= Sd+ fq/time X factors in context).For example the sensors detects the changes like temperature and lights creating packets of objects to generating data of things used as report for many purposes. The relevance of using these technologies are more advanced and are being thought off as the next most thrust area of development and Asia is leading in the processes of developing the sensors than other part of the continent assuming to be the multi-trillion dollar industry in the future. (*PWc 6th Annual Digital IQ 2014*)

It will be a sensor world and information emitting technology a decade foresees. Observation plays a vital role and observation theory will evolve as the most used element of qualitative findings for measuring as in case of Library and Information Science as the options of measuring the usage of information. Cognitive role is assimilating to senses will be other observations opined like using mnemonics in library classification. Many a time we assume that sensor will rule the world. This speculation may be whether the sensors will enable the library's role in developing new means of measures is to be seen. Print books being the objects of future? Or e – books downloads is the prime focus of observation? Sensors are developed for many purposes these days. Technology spreads fast as fire. It is

passion for Library professionals to use with new hopes and be part as applications becomes relevant when it is used in libraries. Devices may not be used for just as we have technology but for many reasons as known to us:

1. IOT is dependent on sensors; Get connected to objects and transmit data;
2. Sensors makes its way for finding information through observations related to:
    a. Library Use;
    b. Library Security;
    c. Searching;
    d. Remote access;
    e. Downloading;
    f. Borrowing;
    g. Inter Library Loans;
    h. Visits.

3. LIBRARIES, INFORMATION AND IOT: SILENT INTELLIGENCE

Libraries are the centers which always are seen as a place of historical and past records. The future of libraries in conserving and converging with technology to readdress to the needs of the new dawn of information needs and activities of senses, observation and measures are the focal point in applications of IOT to the libraries. Library transformation from time to time as netted the vision as "*Information for*

all". Transformations since times from print to electronic information versions evolved "*Avatars of formats*" and are "*challenges surpassed through time and lived to the occasions".* More and more information use will be selective. May be selectivity approach in search and use of libraries becomes more prominent. Preferences are also the customization of the library services as per the requirements of the library users. IOT has its say answering these concepts.

Looking at the development and applications scenario's the "*SCO factors*" are "*Sensors*", "*Connectivity*" and "*Observations* "are the major components of IoT irrespective of its areas of application. Thier functions derive"*Information*". This creates knowledge for future use. Many products and devices will rule the world of information .Any products which are designed to serve the clientele needs are the success of the story of the product. Information emitted from the sensors plays vital role in designing new information services and products as per the needs of the users and their way of access. May be selectivity is preference based and customized to the requirement hence selectivity is based preference study of the Library in selecting any devices and services. Observation theory will be the next generation yield of information harvested by the sensors.

Internet of things is the next generation of the internet technologies used for many applications in various imaginable service sectors as in libraries. Libraries has now is monitored by sensors observations and ample way of the information as yield for study results better usage, growth and decision making. Libraries have since long used RFID as one of the information emitting devices with progress in hardware platforms

are well suited system applicable to IOT. New varieties may creep in with more customized options with relevance of the objects associated with it.

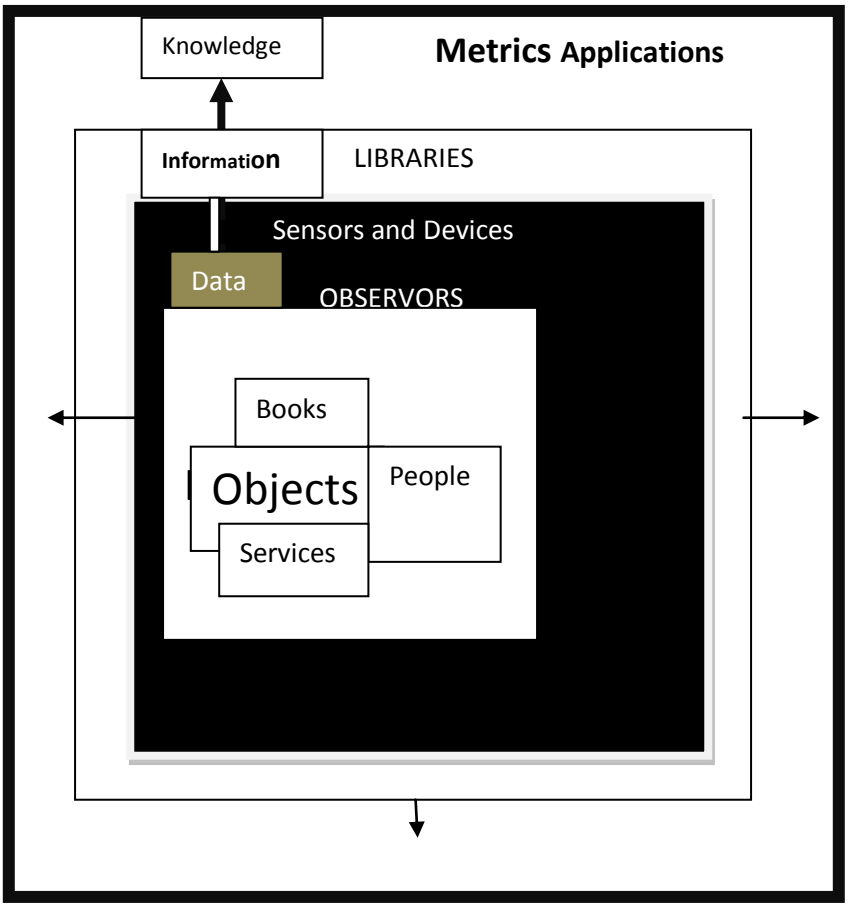


Fig : 2 MODEL of IOT Application to Libraries

Fig No: 2 represent the information flows through IOT systems and its assumed possibilities of the silent observations and the intelligence of the sensors emits data which is information for many as "*Intelligent Data*". The data big or small is useful for libraries in taking decisions for

improving and designing services and usage will be major "*Impact of Intelligent Information*". The "*intelligent knowledge*" derived with many applications and metrics will go a long way and users satisfied with Libraries. It is "Observed silent data emitted through Internet of things (IOT) will work silently to many varied thoughts one could think of Libraries and its future. The Observation theory may look in to issues of choices of the users. Intelligent metrics through observations will be most preferred trends intelligently visualized.. The Observation model represents the Information flow in context of IOT applications in Libraries and data observed becomes more valid and proceed to information and Knowledge. Observation metrics will rule the world benefitting the libraries. What is the derivation here is equation for Observation Metrics as follows:

$$OM = \frac{Sqd + fq \times X}{T}$$

OM= Observation Metrics
Sqd= Sequence of data
fq= Frequency
T=Time
X= Assumed factors

4.CONCLUSION

The observation method is visualized as the future in libraries with applications of internet of things technologies. The forecasting of the libraries in an era of digital technologies is big data of observations. Sensors emits silent data with internet as the link to object/s. Libraries

have to see this as another new thing which has endorsed silently to be used for many functions of the library. "*Observation Theory*" was the only thing libraries relied on the use of the resources and services. The models represent the best way of visualizing the workflow of the activities if IOT is integrated and embedded in library systems. The derived outcome is metrics of observation which can be well supported by observation theories.

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"Man is all, but minds"

-Bhahadaranyaka Upanishad