3 METHODOLOGY

This study was conducted in focusing two major findings. They were;

1. Calculating of Level of Informatization as an Index value.
2. Analysis the level of Informatization with an analysis framework.

3.1 Informatization Index

As described in the Literature review, there were number of Indices used to measure or compare Informatization and related information. Therefore, it was decided to calculate the “Level of Informatization” as an Index value, which is referred as Informatization Index in the rest of this study. For this calculation Informatization, which was defined for this study as the Utilization of ICTs, was divided into 11 main components as shown in Table 3.1.

<table>
<thead>
<tr>
<th>Index</th>
<th>Main Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Informatization (Utilization of ICTs)</td>
<td>Utilization of Radio</td>
</tr>
<tr>
<td></td>
<td>Utilization of Television</td>
</tr>
<tr>
<td></td>
<td>Utilization of Telephone (Fixed Line, WLL)</td>
</tr>
<tr>
<td></td>
<td>Utilization of Mobile phone</td>
</tr>
<tr>
<td></td>
<td>Utilization of Computer</td>
</tr>
<tr>
<td></td>
<td>Utilization of Internet</td>
</tr>
<tr>
<td></td>
<td>Utilization of e-Mail</td>
</tr>
<tr>
<td></td>
<td>Utilization of Satellite TV</td>
</tr>
<tr>
<td></td>
<td>Utilization of Storage (CD, DVD, Diskette, etc)</td>
</tr>
<tr>
<td></td>
<td>Utilization of Publications (printed/online)</td>
</tr>
<tr>
<td></td>
<td>Utilization of Software</td>
</tr>
</tbody>
</table>

Table 3.1 – Main Components of the Informatization Index

Each of the main components in Table 3.1 was divided into sub sections as in Table 3.2, by considering the facts considered in the indices described in the literature review. The number of sub components for each main component varied and represent the measurable factors affecting the main component.

After having those main components and sub components, it was required to have a method to calculate the index value. For this calculation Integrated mark analysis approach, which was the method adopted to calculate the China’s Informatization Index, was used. In China this method had been selected out of two methods considered to calculate Informatization Index [22].
<table>
<thead>
<tr>
<th>Index</th>
<th>Main Component</th>
<th>Sub Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilization of Radio</td>
<td>Available at home</td>
<td>Occupied broadcasting time</td>
</tr>
<tr>
<td>Utilization of Television</td>
<td>Available at home</td>
<td>Occupied broadcasting time</td>
</tr>
<tr>
<td>Utilization of Satellite TV</td>
<td>Subscription available</td>
<td>Occupied broadcasting time</td>
</tr>
<tr>
<td>Utilization of Telephone</td>
<td>Available at home</td>
<td>Number of calls taken</td>
</tr>
<tr>
<td>Utilization of Mobile phone</td>
<td>Ownership</td>
<td>Number of calls taken</td>
</tr>
<tr>
<td>Utilization of Computer</td>
<td>Available at home</td>
<td>Frequency of usage</td>
</tr>
<tr>
<td>Utilization of Internet</td>
<td>Available at home</td>
<td>Frequency of usage</td>
</tr>
<tr>
<td>Utilization of e-Mail</td>
<td>Available at home</td>
<td>Frequency of usage</td>
</tr>
<tr>
<td>Utilization of Storage</td>
<td>Ownership</td>
<td>Expenditure as a percentage of monthly income</td>
</tr>
<tr>
<td>Utilization of Publications</td>
<td>Use to access information</td>
<td>Expenditure as a percentage of monthly income</td>
</tr>
<tr>
<td>Utilization of Software</td>
<td>Use to access information</td>
<td>Expenditure as a percentage of monthly income</td>
</tr>
</tbody>
</table>

Table 3.2 – Structure of the Informatization Index with Main and Sub Components
Integrated mark analysis approach used a simple linear weighting method. When this method is used the Informatization Index (II) can be calculated as below:

\[ II = \sum_{i=1}^{n} P_i W_i \]

Here \( P_i \) is the value of the \( i^{th} \) main component of the index and \( W_i \) is the weight for \( P_i \).

In China weights for the index were used by considering the feedback and then averaging the values. For this study the calculation of the values of Index and Main components of the index the same approach was used. With this method the Informatization Index, to be found in this study, is given by the following equation.

\[ II = \sum_{i=1}^{n} \left[ \sum_{j=1}^{m_i} P_{ij} W_{ij} \right] W_i \]

\( P_{ij} \) is the value of the \( j^{th} \) sub component of the \( i^{th} \) main component of the Index. \( W_{ij} \) is the weight of the \( P_{ij} \). \( W_i \) is the weight of the \( i^{th} \) main component of the Index.

For this study, weights for both main components and sub components were calculated by obtaining the ideas of ICT users. Weights for both components types were obtained from more than 30 ICT users. After obtaining those values, in each user’s weighting sub component values for each main component and main component values for the Index were standardized. Then those standardized values were averaged to finalize the weights for each sub component and each main component.

### 3.2 Analysis of the Level of Informatization

#### 3.2.1 Analysis Framework

Analysis framework for this study was developed using the factors considered in the models discussed in the literature review. In the Integrated model of TAM, TTF and CSE (Figure 2.5), “Attitude towards use” and “Perceived Usefulness” were identified as main factors affecting Intention to use, which leads the actual usage. Although in most of the models actual usage was shown as a result of Intention, Updated D&M IS
success model (Figure 2.4) treated those two as a single factor. For this study also Intention to use and actual usage were treated as a single factor as “Usage” which will be treated as the Dependent variable. Therefore, “Attitude towards use” and “Perceived usefulness” were considered as factors that were directly affecting the “Usage.” By considering the updated D&M model, “User satisfaction” was also considered as a factor affecting “Usage.”

Capability approach applied to ICTs (Figure 2.7), had identified “Source of Access to ICT” as a key factor affecting the use of ICT. In this study this factors was used as “Location of Access”, which affect the “Usage”. Another factor that affect the “Usage” was the influence, which is shown in the Unified theory of acceptance and use of technology (Figure 2.3) as “Social Influence.”

Theoretical model used to study TAM in academic environment had considered Computer literacy, Perceived usefulness, and Perceived ease of use as factors affecting computer usage. External variables, which are individual differences, has considered as factors affecting above three factors. Out of those factors, “Perceived usefulness” had already considered as a factor affecting usage. As shown in Integrated model of TAM, TTF and CSE, perceived ease of use affects “Attitude towards use” and “Perceived usefulness” therefore it was not considered in the model used for this study. But “CSE (Computer Self Efficacy)” and “Computer Literacy” were considered only for the Computer usage.
Figure 3.1 – Analysis Framework of This Study.

With all the above considerations, the analysis framework for this study was developed as shown in Figure 3.1. Each of the 11 components of ICT, which had been identified in the literature review, was analyzed with this analysis framework.

3.2.2 Hypothesis Development

General format of the Hypothesis was;

Null hypothesis

\[ H_0 : \text{There is no relationship between Factor}_j \text{ of } \text{ICT}_i \text{ and the Utilization of } \text{ICT}_i \]

Alternate hypothesis

\[ H_a : \text{There is a relationship between Factor}_j \text{ of } \text{ICT}_i \text{ and the Utilization of } \text{ICT}_i \]

In this case, \( \text{ICT}_i \) is one of the ICTs considered; that is one of Radio, Television, Satellite TV, Telephone, Mobile phone, Computer, Internet, Email, Storages, Software, and Publications. Factor\(_j\) was the factors in the left hand side of the analysis framework. There are 11 hypotheses by considering the factor “Location of Access”. Similarly, there are 11 hypotheses for each of the other factors; “User satisfaction”,

21
“Attitude towards use”, “Social Influence”, “Perceived usefulness”, and “Purpose of Use”. Also there are two additional hypotheses, by considering the CSE and “Computer Literacy” for computers. Therefore, totally there are 68 hypotheses in this study.

3.2.3 Operationalization and Questionnaire Development

ICT utilization, divided into 11 sub-concepts with the sub-components of the ICT, will be operationalized as shown in Table 3.3, Table 3.4, Table 3.5, Table 3.6, and Table 3.7. Each concept was considered in two sections as usage and affecting factors. Under usage the variable to measure actual usage of the concept was considered while under affecting factors five independent variables in the analysis framework were considered. In this operationalization table, the question numbers of the relevant question in the questionnaire are also listed. The complete questionnaire used is available in Annexure A.
<table>
<thead>
<tr>
<th>Concept</th>
<th>Variable</th>
<th>Indicator</th>
<th>Measure</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilization of Radio</td>
<td>Location</td>
<td>Location of Access / Ownership</td>
<td>All the locations of accessing the media</td>
<td>Q7.1</td>
</tr>
<tr>
<td></td>
<td>Satisfaction</td>
<td>User Satisfaction</td>
<td>Level of satisfactory about the media</td>
<td>Q5.1</td>
</tr>
<tr>
<td></td>
<td>Usefulness</td>
<td>Perceived Usefulness</td>
<td>How useful the media, as user feels</td>
<td>Q6.1</td>
</tr>
<tr>
<td></td>
<td>Attitude</td>
<td>Attitude towards use</td>
<td>Attitude of user towards the use of media</td>
<td>Q11.1</td>
</tr>
<tr>
<td></td>
<td>Social Influence</td>
<td>Social Influence</td>
<td>Factors that influence the user to use the media</td>
<td>Q9.1</td>
</tr>
<tr>
<td></td>
<td>Purpose</td>
<td>Main purpose of accessing</td>
<td>What is the main purpose (s) of using</td>
<td>Q8.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Favorite program</td>
<td>What is the favorite program (s) of the user</td>
<td>Q10.1</td>
</tr>
<tr>
<td>Usage</td>
<td>Using Radio</td>
<td>Using Radio</td>
<td>Is the respondent using radio</td>
<td>Q2.1</td>
</tr>
<tr>
<td></td>
<td>Occupied Time</td>
<td>Occupied Broadcasting time</td>
<td>Average time spend at a usage</td>
<td>Q13.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilization of Television</td>
<td>Location</td>
<td>Location of Access / Ownership</td>
<td>All the locations of accessing the media</td>
<td>Q7.2</td>
</tr>
<tr>
<td></td>
<td>Satisfaction</td>
<td>User Satisfaction</td>
<td>Level of satisfactory about the media</td>
<td>Q5.2</td>
</tr>
<tr>
<td></td>
<td>Usefulness</td>
<td>Perceived Usefulness</td>
<td>How useful the media, as user feels</td>
<td>Q6.2</td>
</tr>
<tr>
<td></td>
<td>Attitude</td>
<td>Attitude towards use</td>
<td>Attitude of user towards the use of media</td>
<td>Q11.2</td>
</tr>
<tr>
<td></td>
<td>Social Influence</td>
<td>Social Influence</td>
<td>Factors that influence the user to use the media</td>
<td>Q9.2</td>
</tr>
<tr>
<td></td>
<td>Purpose</td>
<td>Main purpose of accessing</td>
<td>What is the main purpose (s) of using</td>
<td>Q8.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Favorite program</td>
<td>What is the favorite program (s) of the user</td>
<td>Q10.2</td>
</tr>
<tr>
<td>Usage</td>
<td>Using Television</td>
<td>Using Television</td>
<td>Is the respondent using television</td>
<td>Q2.2</td>
</tr>
<tr>
<td></td>
<td>Occupied Time</td>
<td>Occupied Broadcasting time</td>
<td>Average time spend at a usage</td>
<td>Q13.2</td>
</tr>
</tbody>
</table>

Table 3.3 – Operationalization for Utilization of Radio and Television
<table>
<thead>
<tr>
<th>Concept</th>
<th>Variable</th>
<th>Indicator</th>
<th>Measure</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Utilization of Satellite TV</strong></td>
<td><strong>Affecting Factors</strong></td>
<td>Location</td>
<td>Location of Access / Ownership</td>
<td>Q7.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Satisfaction</td>
<td>User Satisfaction</td>
<td>Q5.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Usefulness</td>
<td>Perceived Usefulness</td>
<td>Q6.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Attitude</td>
<td>Attitude towards use</td>
<td>Q11.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social Influence</td>
<td>Social Influence</td>
<td>Q9.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Purpose</td>
<td>Main purpose of accessing</td>
<td>Q8.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Favorite program</td>
<td>Q10.3</td>
</tr>
<tr>
<td><strong>Utilization</strong></td>
<td><strong>of Telephone</strong></td>
<td>Using Satellite TV</td>
<td>Using Satellite TV</td>
<td>Q2.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expenditure</td>
<td>Percentage of monthly income spend</td>
<td>Q12.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Subscription</td>
<td>Availability of Subscription</td>
<td>Q14.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupied Time</td>
<td>Occupied Broadcasting time</td>
<td>Q13.6</td>
</tr>
<tr>
<td><strong>Utilization of Telephone</strong></td>
<td><strong>Affecting Factors</strong></td>
<td>Location</td>
<td>Location of Access / Ownership</td>
<td>Q7.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Satisfaction</td>
<td>User Satisfaction</td>
<td>Q5.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Usefulness</td>
<td>Perceived Usefulness</td>
<td>Q6.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Attitude</td>
<td>Attitude towards use</td>
<td>Q11.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social Influence</td>
<td>Social Influence</td>
<td>Q9.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Purpose</td>
<td>Main purpose of accessing</td>
<td>Q8.4</td>
</tr>
<tr>
<td><strong>Usage</strong></td>
<td></td>
<td>Using Telephone</td>
<td>Using Telephone</td>
<td>Q2.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expenditure</td>
<td>Percentage of monthly income spend</td>
<td>Q12.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupied Time</td>
<td>Calls per person</td>
<td>Q17.1</td>
</tr>
</tbody>
</table>

Table 3.4 – Operationalization for Utilization of Satellite TV and Telephone
<table>
<thead>
<tr>
<th>Concept</th>
<th>Variable</th>
<th>Indicator</th>
<th>Measure</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Utilization of Mobile phone</strong></td>
<td>Location</td>
<td>Location of Access / Ownership</td>
<td>All the locations of accessing the media</td>
<td>Q7.5</td>
</tr>
<tr>
<td></td>
<td>Satisfaction</td>
<td>User Satisfaction</td>
<td>Level of satisfactory about the media</td>
<td>Q5.5</td>
</tr>
<tr>
<td></td>
<td>Usefulness</td>
<td>Perceived Usefulness</td>
<td>How useful the media, as user feels</td>
<td>Q6.5</td>
</tr>
<tr>
<td></td>
<td>Attitude</td>
<td>Attitude towards use</td>
<td>Attitude of user towards the use of media</td>
<td>Q11.5</td>
</tr>
<tr>
<td></td>
<td>Social Influence</td>
<td>Social Influence</td>
<td>Factors that influence the user to use the media</td>
<td>Q9.5</td>
</tr>
<tr>
<td></td>
<td>Purpose</td>
<td>Main purpose of accessing</td>
<td>What is the main purpose (s) of using</td>
<td>Q8.5</td>
</tr>
<tr>
<td><strong>Usage</strong></td>
<td>Using Mobile phone</td>
<td>Using Mobile phone</td>
<td>Is the respondent using mobile phone</td>
<td>Q2.4</td>
</tr>
<tr>
<td></td>
<td>Expenditure</td>
<td>Percentage of monthly income spend</td>
<td>Average number of calls taken</td>
<td>Q12.2</td>
</tr>
<tr>
<td></td>
<td>Occupied Time</td>
<td>Calls per person</td>
<td>Average number of calls taken</td>
<td>Q17.2</td>
</tr>
<tr>
<td><strong>Utilization of Computer</strong></td>
<td>Location</td>
<td>Location of Access / Ownership</td>
<td>All the locations of accessing the media</td>
<td>Q7.6</td>
</tr>
<tr>
<td></td>
<td>Satisfaction</td>
<td>User Satisfaction</td>
<td>Level of satisfactory about the media</td>
<td>Q5.6</td>
</tr>
<tr>
<td></td>
<td>Usefulness</td>
<td>Perceived Usefulness</td>
<td>How useful the media, as user feels</td>
<td>Q6.6</td>
</tr>
<tr>
<td></td>
<td>Attitude</td>
<td>Attitude towards use</td>
<td>Attitude of user towards the use of media</td>
<td>Q11.6</td>
</tr>
<tr>
<td></td>
<td>Social Influence</td>
<td>Social Influence</td>
<td>Factors that influence the user to use the media</td>
<td>Q9.6</td>
</tr>
<tr>
<td></td>
<td>Literacy</td>
<td>Computer Self-Efficacy</td>
<td>How user categorize him/her self as a user</td>
<td>Q19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Computer Literacy</td>
<td>What can be done using computer</td>
<td>Q18, Q20</td>
</tr>
<tr>
<td></td>
<td>Purpose</td>
<td>Main purpose of accessing</td>
<td>What is the main purpose (s) of using</td>
<td>Q8.6</td>
</tr>
<tr>
<td><strong>Usage</strong></td>
<td>Using Computer</td>
<td>Using Computer</td>
<td>Is the respondent using computer</td>
<td>Q2.5</td>
</tr>
<tr>
<td></td>
<td>Expenditure</td>
<td>Percentage of monthly income spend</td>
<td>Average frequency of usage</td>
<td>Q12.3</td>
</tr>
<tr>
<td></td>
<td>Occupied Time</td>
<td>Frequency of Usage</td>
<td>Average time spend at a usage</td>
<td>Q16.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Length of usage</td>
<td>Average time spend at a usage</td>
<td>Q13.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Experience</td>
<td>Number of years of experience</td>
<td>Q15.1</td>
</tr>
</tbody>
</table>

*Table 3.5 – Operationalization for Utilization Mobile Phone, and Computer*
<table>
<thead>
<tr>
<th>Concept</th>
<th>Variable</th>
<th>Indicator</th>
<th>Measure</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilization of Internet</td>
<td>Location</td>
<td>Location of Access / Ownership</td>
<td>All the locations of accessing the media</td>
<td>Q7.7</td>
</tr>
<tr>
<td>Affecting Factors</td>
<td>Satisfaction</td>
<td>User Satisfaction</td>
<td>Level of satisfactory about the media</td>
<td>Q5.7</td>
</tr>
<tr>
<td></td>
<td>Usefulness</td>
<td>Perceived Usefulness</td>
<td>How useful the media, as user feels</td>
<td>Q6.7</td>
</tr>
<tr>
<td></td>
<td>Attitude</td>
<td>Attitude towards use</td>
<td>Attitude of user towards the use of media</td>
<td>Q11.7</td>
</tr>
<tr>
<td></td>
<td>Social Influence</td>
<td>Social Influence</td>
<td>Factors that influence the user to use the media</td>
<td>Q9.7</td>
</tr>
<tr>
<td></td>
<td>Purpose</td>
<td>Main purpose of accessing</td>
<td>What is the main purpose (s) of using</td>
<td>Q8.7</td>
</tr>
<tr>
<td>Usage</td>
<td>Using Internet</td>
<td>Using Internet</td>
<td>Is the respondent using internet</td>
<td>Q2.6</td>
</tr>
<tr>
<td></td>
<td>Expenditure</td>
<td>Percentage of monthly income spend</td>
<td>Average frequency of usage</td>
<td>Q12.4</td>
</tr>
<tr>
<td></td>
<td>Occupied Time</td>
<td>Frequency of Usage</td>
<td>Average time spend at a usage</td>
<td>Q13.4</td>
</tr>
<tr>
<td></td>
<td>Length of usage</td>
<td>Average time spend at a usage</td>
<td>Average frequency of usage</td>
<td>Q16.2</td>
</tr>
<tr>
<td></td>
<td>Experience</td>
<td>Number of years of experience</td>
<td>Factors that influence the user to use the media</td>
<td>Q15.2</td>
</tr>
<tr>
<td></td>
<td>Subscription</td>
<td>Availability of Subscription</td>
<td>Is there a subscription available</td>
<td>Q14.1</td>
</tr>
<tr>
<td>Utilization of e-Mail</td>
<td>Location</td>
<td>Location of Access / Ownership</td>
<td>All the locations of accessing the media</td>
<td>Q7.8</td>
</tr>
<tr>
<td>Affecting Factors</td>
<td>Satisfaction</td>
<td>User Satisfaction</td>
<td>Level of satisfactory about the media</td>
<td>Q5.8</td>
</tr>
<tr>
<td></td>
<td>Usefulness</td>
<td>Perceived Usefulness</td>
<td>How useful the media, as user feels</td>
<td>Q6.8</td>
</tr>
<tr>
<td></td>
<td>Attitude</td>
<td>Attitude towards use</td>
<td>Attitude of user towards the use of media</td>
<td>Q11.8</td>
</tr>
<tr>
<td></td>
<td>Social Influence</td>
<td>Social Influence</td>
<td>Factors that influence the user to use the media</td>
<td>Q9.8</td>
</tr>
<tr>
<td></td>
<td>Purpose</td>
<td>Main purpose of accessing</td>
<td>What is the main purpose (s) of using</td>
<td>Q8.8</td>
</tr>
<tr>
<td>Usage</td>
<td>Using e-Mail</td>
<td>Using e-Mail</td>
<td>Is the respondent using email</td>
<td>Q2.7</td>
</tr>
<tr>
<td></td>
<td>Expenditure</td>
<td>Percentage of monthly income spend</td>
<td>Average frequency of usage</td>
<td>Q12.5</td>
</tr>
<tr>
<td></td>
<td>Occupied Time</td>
<td>Frequency of Usage</td>
<td>Average time spend at a usage</td>
<td>Q13.5</td>
</tr>
<tr>
<td></td>
<td>Length of usage</td>
<td>Average time spend at a usage</td>
<td>Average frequency of usage</td>
<td>Q16.3</td>
</tr>
<tr>
<td></td>
<td>Experience</td>
<td>Number of years of experience</td>
<td>Factors that influence the user to use the media</td>
<td>Q15.3</td>
</tr>
<tr>
<td></td>
<td>Subscription</td>
<td>Availability of Subscription</td>
<td>Is there a subscription available</td>
<td>Q14.2</td>
</tr>
</tbody>
</table>

Table 3.6 – Operationalization for Utilization of Internet and E-Mail
<table>
<thead>
<tr>
<th>Concept</th>
<th>Variable</th>
<th>Indicator</th>
<th>Measure</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Utilization of Storage</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affecting Factors</td>
<td>Location</td>
<td>Location of Access / Ownership</td>
<td>All the locations of accessing the media</td>
<td>Q7.9</td>
</tr>
<tr>
<td></td>
<td>Satisfaction</td>
<td>User Satisfaction</td>
<td>Level of satisfactory about the media</td>
<td>Q5.9</td>
</tr>
<tr>
<td></td>
<td>Usefulness</td>
<td>Perceived Usefulness</td>
<td>How useful the media, as user feels</td>
<td>Q6.9</td>
</tr>
<tr>
<td></td>
<td>Attitude</td>
<td>Attitude towards use</td>
<td>Attitude of user towards the use of media</td>
<td>Q11.9</td>
</tr>
<tr>
<td></td>
<td>Social Influence</td>
<td>Social Influence</td>
<td>Factors that influence the user to use the media</td>
<td>Q9.9</td>
</tr>
<tr>
<td></td>
<td>Purpose</td>
<td>Main purpose of accessing</td>
<td>What is the main purpose (s) of using</td>
<td>Q8.9</td>
</tr>
<tr>
<td>Usage</td>
<td>Using Storages</td>
<td>Using Storages</td>
<td>Is the respondent using storages</td>
<td>Q4</td>
</tr>
<tr>
<td></td>
<td>Expenditure</td>
<td>Percentage of monthly income spend</td>
<td></td>
<td>Q12.6</td>
</tr>
<tr>
<td><strong>Utilization of Software</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affecting Factors</td>
<td>Location</td>
<td>Location of Access / Ownership</td>
<td>All the locations of accessing the media</td>
<td>Q7.10</td>
</tr>
<tr>
<td></td>
<td>Satisfaction</td>
<td>User Satisfaction</td>
<td>Level of satisfactory about the media</td>
<td>Q5.10</td>
</tr>
<tr>
<td></td>
<td>Usefulness</td>
<td>Perceived Usefulness</td>
<td>How useful the media, as user feels</td>
<td>Q6.10</td>
</tr>
<tr>
<td></td>
<td>Attitude</td>
<td>Attitude towards use</td>
<td>Attitude of user towards the use of media</td>
<td>Q11.10</td>
</tr>
<tr>
<td></td>
<td>Social Influence</td>
<td>Social Influence</td>
<td>Factors that influence the user to use the media</td>
<td>Q9.10</td>
</tr>
<tr>
<td></td>
<td>Purpose</td>
<td>Main purpose of accessing</td>
<td>What is the main purpose (s) of using</td>
<td>Q8.10</td>
</tr>
<tr>
<td>Usage</td>
<td>Expenditure</td>
<td>Percentage of monthly income spend</td>
<td></td>
<td>Q12.7</td>
</tr>
<tr>
<td><strong>Utilization of Publications</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affecting Factors</td>
<td>Location</td>
<td>Location of Access / Ownership</td>
<td>All the locations of accessing the media</td>
<td>Q7.11</td>
</tr>
<tr>
<td></td>
<td>Satisfaction</td>
<td>User Satisfaction</td>
<td>Level of satisfactory about the media</td>
<td>Q5.11</td>
</tr>
<tr>
<td></td>
<td>Usefulness</td>
<td>Perceived Usefulness</td>
<td>How useful the media, as user feels</td>
<td>Q6.11</td>
</tr>
<tr>
<td></td>
<td>Attitude</td>
<td>Attitude towards use</td>
<td>Attitude of user towards the use of media</td>
<td>Q11.11</td>
</tr>
<tr>
<td></td>
<td>Social Influence</td>
<td>Social Influence</td>
<td>Factors that influence the user to use the media</td>
<td>Q9.11</td>
</tr>
<tr>
<td></td>
<td>Purpose</td>
<td>Main purpose of accessing</td>
<td>What is the main purpose (s) of using</td>
<td>Q8.11</td>
</tr>
<tr>
<td>Usage</td>
<td>Using Publications</td>
<td>Using Publications</td>
<td>Is the respondent using publications</td>
<td>Q3</td>
</tr>
<tr>
<td></td>
<td>Expenditure</td>
<td>Percentage of monthly income spend</td>
<td></td>
<td>Q12.8</td>
</tr>
</tbody>
</table>

Table 3.7 – Operationalization for Utilization of Storages, Software, Publications
3.3 Sampling and Data gathering

For this study, the population was the people in the rural areas, with the definition in all the Pradeshiya Saba (PS) divisions. At present there are 270 PS divisions in Sri Lanka as mentioned in the Introduction. But the sampling population was the people in the rural areas of Sri Lanka, excluding those in North and East provinces, as the accessibility to those provinces is very difficult due to the present situation. This has limited the sample population to 205 PS divisions. As it is very difficult to list all the whole sampling population and the sample space is easily clustered, cluster sampling was used. For this clustering the PS divisions will be used. But when a PS division is considered it was decided to do a clustering again due to the same factors considered above. For this clustering Grama Niladari (GN) divisions were used. Within the GN divisions random sampling was used. Population within a GN division was taken from the latest census available that is the Census of Population and Housing 2001 [23]. Therefore, for this study multistage clustering was used. Selecting the clustering for this study is described in the next section.

3.3.1 Calculating the Sample Size

Sample size was calculated using the below equations and for selection a table similar to Table 3.8 was used.

\[
S = \frac{ss}{1 + \frac{(ss - 1)}{pop}}
\]

where; \( ss = \frac{Z^2 p(1 - p)}{c^2} \)

\( Z \) is the Z value for the relevant Confidence Level (CL)
\( p \) is 0.5 for calculating the sample size
\( c \) is the Confidence Interval (CI)
\( pop \) is the population size [24]
By considering the available time frame and the resources for the study CI and CL was decided as in the Table 3.8. For the first stage clustering used CI and CL were 0.30 and 85% respectively. With those values the selected number of clusters was 6, out of the 205 available. Those 6 PS divisions were selected randomly out of the 205 divisions. As the outcome selected PS divisions were Thanamalwila, Tissamaharama, Welimada, Kandaketiya, Pannala, and Benthota.

At the second stage clustering, required number of GN divisions for the sample were decided with 0.30 CI and 90% CL. With this the selected number of GN divisions was shown in Table 3.9. GN divisions to consider were selected by listing all the GN divisions within the selected PS division and then randomly selecting the required number.
<table>
<thead>
<tr>
<th>PS Division</th>
<th>Population</th>
<th>No. of GND</th>
<th>No. of People from GND</th>
<th>Selected Population</th>
<th>Selected population %</th>
<th>CI</th>
<th>CL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thanamalwila</td>
<td>23158</td>
<td>6</td>
<td>11</td>
<td>66</td>
<td>0.28%</td>
<td>0.25</td>
<td>90</td>
</tr>
<tr>
<td>Tissamaharama</td>
<td>60941</td>
<td>7</td>
<td>11</td>
<td>77</td>
<td>0.13%</td>
<td>0.25</td>
<td>90</td>
</tr>
<tr>
<td>Welimada</td>
<td>93352</td>
<td>7</td>
<td>11</td>
<td>77</td>
<td>0.08%</td>
<td>0.25</td>
<td>90</td>
</tr>
<tr>
<td>Kandaketiya</td>
<td>22309</td>
<td>7</td>
<td>11</td>
<td>77</td>
<td>0.35%</td>
<td>0.25</td>
<td>90</td>
</tr>
<tr>
<td>Pannala</td>
<td>114174</td>
<td>8</td>
<td>8</td>
<td>64</td>
<td>0.06%</td>
<td>0.30</td>
<td>90</td>
</tr>
<tr>
<td>Benthota</td>
<td>46774</td>
<td>7</td>
<td>8</td>
<td>56</td>
<td>0.12%</td>
<td>0.30</td>
<td>90</td>
</tr>
</tbody>
</table>

Table 3.10 – Sample Selection from GN Division Level

From each of those selected GN divisions, number of people to select was done with 0.30 or 0.25 CI and 90% CL (Table 3.10) depending on the population and available resources. With this selection total sample size selected was 417 people. Questionnaires were sent to those selected GN divisions with some known people contacted from the relevant PS division.