Information Sharing Framework for National Resilience

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Abstract
To institute the characteristics of an effective Information Sharing for sustainability, the study mined the different aspects of information sharing under different statuses. The developed understandings became the provision from which the characteristics of effective Information Sharing were drawn. Using Mixed approach Phenomenology as a method of research, the lived experiences and information sharing approaches used into the organization served as pragmatic data which were reflected upon until the devising of understandings about impact on performance of the organizations. The result for study revealed that Information Sharing abilities are distinctive and are practiced by destitution. These practices and styles standout as good instructors, goal-oriented, support society and are obedient to their seniors. Thus the reader will have a wide knowledge about information sharing itself and the theories and thoughts behind it, which covers the different definitions and the aims of information sharing.

Keywords: Information Sharing, Information Sharing Framework, National Resilience.

Introduction
All organizations within the Government are solely responsible for establishing and maintaining the resources and capability to carry out their missions in support of assigned mission or task; there however on occasion may be a circumstance that requires organizations to elevate an issue to a higher authority for resolution (Ali, et al., 2011). In that circumstance the Incident Management (IM) will be used to request a decision within the required background information, option, pros/cons and recommend actions (Harrald, 2006). These decisions at the national level are commonly made by the National Operations Center (NOC); it is structured and equipped to support the Nation’s highest decision making authority. The NOC will utilize the IM as its principle means of access to actionable information in decision-making and to process requests for decisions from organizations throughout the country, and subsequent assignment of missions/task if required (Bigdeli, 2012). Within this structure for timely and sound decision making, supported by real-time/ near real-time accurate pertinent and sufficient information, individuals and organizations can overcome near impossible ads and greatly reduce loss of life, human suffering, grave property damage and failure of critical infrastructure and process /services (Bigdeli, 2012). This study covers the area of the information sharing. Analyzing the different organizational context, information sharing is important component of any organization. To transfer exchange and share the data with other workers, companies and business organizations is essential for every modern type of business. This study will identify different aspects of information sharing (Ismail; Abdullha; Francis, 2009). It could be seen that there is waste area of research in information sharing in any organization. This study contains the analysis of information sharing on national resilience; there are too much technical issues on information sharing the national resilience, as the information sharing is key requirement of all the institutes in the world (Bigdeli, 2012).

Countries around the world have major issues and deficiencies in capability in dealing with hazards that affect their resiliency to respond to and recover from major hazards resulting in significant loss of life and property, grave damage to the environment and huge economic losses. One of the most critical of all deficiencies is a framework of sharing information across all responsible entities in a uniform synchronized real-time manner in order to establish and maintain situation awareness and a common operating picture required to make sound and timely decisions to favorably affect the results of damaging
hazards they may face (Al-Shahi, 2011). The basic problem of this study is to prepare best framework for Information Sharing for National Resilience in the Middle East countries. For this purpose need to study different information sharing frameworks applied in different contents of European and other successive nations. As national resilience is important issue so there need proper care and time to prepare best information sharing framework keeping in mind the growing glance of Middle East (Carson, 2013). To know the perception of government employees appointed or elected officially about information sharing, to constitute a viable information sharing framework and challenges to implement information sharing for national resilience, is the main purpose of this study. This study will assist in improvement of decision makings by exceeding out the core points of information sharing functioning. The study is conducted by focusing the public organizations. The information sharing system improvement will assist in stability of organization by attracting more people from outside states as well as residents to share and collect the information. The collective efforts in the study will contribute the information sharing policies to increase the optimization of decision making not only public organizations but also the private organizations. Following research questions (RQ) were prepared:

RQ1: Why is an “Information Sharing Framework for National Resilience” important?
RQ2: What are the challenges of implementing an “Information Sharing framework for National Resilience”?
RQ2.1: What is the view of governments of Information Sharing framework with respect to National Resilience?
RQ2.2: What are the views of government employees/ operational Information Sharing with respect to National Resilience?
RQ2.3: What is the view of decision makers of Information Sharing with respect to National Resilience?

This study provides advice on the nature of framework for information sharing instruments, their utility for particular aspects of an Information Sharing organization’s expected activities, and selection of particular organizational form appropriate to various proposed courses of conduct. This paper is organized as follows; section 2 will review the literature; section 3 will explore the methodology used in this study; section 4 will present the results of collected data; and finally section 5 will discuss the summary and future work.

**Literature Review**

Being the part of the dynamic world where there are changes occurred in a moment more rapidly than we thought and has been turned towards pushing the diffident to replace with the innovation. Information sharing as looked a great encouragement for the world to shorten the distance and to enhance the knowledge on the one side and on the other side; Incident Management seems to be changing the elegance of consecutively life structure (Ansari Mohammad Ismail, 2012). From the shift to telegraphs to shove the distances from one person to other within no limit, which also have an impact on managing and sharing of the information to the people. Information sharing concept within which different sources of communicating the information and share it with the other people as well as other electronic resources are used to control the operations of the organizations, where people can fetch the operational information and their enactments within the access from the different organizational applications network. The leaders of the organizations getting more assistance within the context, to use the information sharing network in their organizational operations (Hadis Javaheri, 2013).

The information sharing and its management where have changed the style of the businesses and markets it also have the influence on the different operations controlling activities. The Internet and the organizational informational, both collectively in particular gave push towards fetching the attentions of the concerned complications of the society that cannot be denied (Hany Abdelghaffar, 2012). Information network in particular context assist in gaining the administrative information and the gain access over the organization as well as on governmental level while using the Electronic / Internet applications. In contrast to using the application for information sharing, the access and the information sharing material is
restricted to limited access for the people fetching it on the Internet devices. It has been embraced widely across many of the places in the world to control the several activities and too publically information is placed on the Internet server to connect any time and any place of the world. The access as granted in the organizations at any time to the people is considered to be effective within context to characterize more socially oriented application (Hany Abdelghaffar, 2012).

Previous studies were mainly able to share information and knowledge within the organization that has focused individual intentions to the analysis of the organization. It focuses on factors of the behaviors that affect and disturb the sharing of information and knowledge as well (Bock, et al., 2005). In sharing and knowledge sharing of information was examined the researchers social psychology organizational issues which shape decision of individual's about contribution. Research as a supporter of networked collaboration is recognized the significant of sharing information in the resilience context of the country in the supply chain (Guo, et al., 2006).

Dawes (1996) simply explaining the sharing of information, such as information exchange among government agencies, otherwise, they will be able to use the information. Information integration is to merge the processes so that they can be recognized as to form a larger unit of organizational entity, for the purpose of sharing information has been described (Dawes, 1996; Klischewski & Scholl, 2008). The original research showed at this level in the interagency context as researcher was capable to detect only two key studies. The obstacles and benefits that tackled by information sharing are debated in the first part of the study in interagency context. Dawes conceded out an assessment in the state of New York in the second part of the study and analyzed the stance and judgment of 179 government management about the acknowledged barriers, values and benefits of information sharing however the integrations of information. Information sharing brings benefits and results according to the 80% of the managers (Dawes, 1996).

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It is also organizational and process by citizens and businesses in a reversible, criticism in information integration whispered because it has brought transparency (J. Ramon Gil-Garcia, 2009). To establish an agreement with legal and formal framework as a common legislative interagency it is possible to guide the sharing activities and information integration such authority. Information sharing network being its accessibility has widely been adopted by many of the organizations and national resilience either the rural sides or the urban areas does not required the expertise of computer but have to access the organizational network where they can fetch the information about the company as well as for the market context and the application where they can easy access to the national level information within their Internet (Matthew L. Smith, 2014). It has change the culture of the society and shifts the change in the communication of the people. It is more about the socially connectivity within the people and the government administrators while excluding the incompatibilities of Information and technology (Karounos, 2010). The applications of the Internet Applications associated with the organizations are effected the admin programs directly by receiving the views of the society and the society can get their points loaded fully on the servers for the better consequences of their views.

The relationship in between the government and their individual from the populations is helpful at the federal government level with the existence of information sharing network services (W3C Interest Group, 2009), since it enables the particular circumstances of each region to be properly known, so that the federal machine is able to ensure that information is evenly distributed and that all citizens’ wellbeing (Ansari Mohammad Ismail, 2012). The outcome, not surprisingly, is loyalty towards government and the belief that the unique social and cultural character is being maintained through the preservation of the rights of citizens and particularly tribal members to communicate directly with the sheikh responsible for their needs (Ansari Mohammad Ismail, 2012). However, the implementation of public sector reform initiatives has not been easy inclusion information sharing services. The difficulties encountered have arisen from the social and cultural traditions that dominate the administrative structure of the country, creating barriers which are associated with prevalent of social and political patronage and which need to be overcome in E-government. (Hany Abdelghaffar, 2012), observed that has been unique amongst
countries in its public sector reform strategy, through its robust political leadership, the provision of sufficient resources and the adoption of administrative flexibility. The creation of the existing culture in public organizations has facilitated the effective implementation of the reform measures for information sharing network (Martin, 2013).

Many of the countries of the world have planned for their budget to communicate with the citizens and to get aware them for government projects, laws and the political level strategies. The government laws are communicated to the public to know about the forte of their implications in the society. In some of the countries besides the implications of the m-government, they share and communicate to the public with the assistance of the media partners and the other e-resources to get aware the people (Hadis Javaheri, 2013).

One of the most critical of all deficiencies is a framework of sharing information across all responsible entities in a uniform synchronized real-time manner in order to establish and maintain situation awareness and a common operating picture required to make sound and timely decisions to favorably affect the results of damaging hazards they may face. This think greatly affect the decision making (Bigdeli, 2012).

2.2 Hypothetical framework:

The respective hypothetical framework model depicted the different factors that have impact on information sharing network. In the framework, the communication structure shows the way of the communication into the organization, where the people can share their views and ideas to one another. This has direct impact on information sharing network. The social compatibility shows that the information network is often comfort with the use information outside of the organization, whereas public influence reflected that people outside of the organization can also have ability to share the information within the organization. The forth factor is about the integration of the system within the organization by which all the departments are unified with the central network system as shown in Fig.1.

![Fig.1. Hypothetical Framework](image)

The defined hypothesis are examined the dependent and independent variable in order to see relation among the defined Hypothesis. The following hypotheses are constructed to cope up with the relationship and the impact on dependent variable with the independent variable. The hypotheses are:

H1: Social Compatibility has positive impact on Information sharing network
H2: Public influence has positive impact on Information sharing network
H3: Communication Structure has positive impact on Information sharing network
H4: Organization system integration has positive impact on Information sharing network
Methodology

Development of research methodology is crucial in the context of the entire research effort. Development of an appropriate research methodology is crucial in enhancing the effectiveness of business research (Blumberg et al, 2008). Research methodology includes the process of the type of research philosophy used, the type research approach, and the research methods used for data collection (Blumberg et al, 2008). Through determination of appropriate research philosophy and approaches that are relevant to the establishment of research objectives is pivotal for research methodology. Following the selection of research philosophy and the approaches to carry out research, it becomes important to choose a suitable data collection method to maintain the quality of research (Blumberg et al, 2008). The choice of research methodology for this study was determined by setting up research questions and the type of data required finding the answer of these research questions. This technique was recommended by Denscombe (2003). The respective study is based on the collection of the data with two approaches: Quantitative Approach and Qualitative Approach. This is basically called mixed data collection approach. Mixed method research approach is based on the principle of triangulation, which helps to locate the real position by considering two or more coordinates (Denscombe, 2003). This mixed method has been adopted by many researchers in recent years for social research, and Cohen and Manion (1986) have described its benefits as “the ability to expand more clearly the richness and complexity of sample behavior by studying from many points of views, for doing this, using the both quantitative and qualitative data.

Likert Scale questionnaire was designed to collect quantitative data mainly to be able to accurately determine the influence of Information Sharing system style on decision making pattern. However, it was maintaining flexibility sufficient to receive comments from respondents to the questionnaire (Alan Bryman, 2007). Because it is the most direct employees affected by the trickle-down effect from the style of information sharing of top management, the questionnaire, they were aimed at office workers in United Arab Emirates. The data collected by mixed methodology will be analyzed by the using statistical analysis tools. For this purpose, SPSS (Statistical Package for Social Science) will be used with the aim to analyze the data in tabular and graphical form in order to perform an illustrative analysis (Everett, et al., 2013). Furthermore, the statistical measures i.e. central tendency (Mean, Median, and Mode) and Dispersion (Standard deviation and Standard error) will also be used in this study to present the results in quantitative form (Jackson, 2011). In addition, the results will then be analyzed by the use of content analysis to explain and describe the quantitative data. Thus, this way of analysis will be effective to understand the qualitative aspects of the research (Flick, 2014), on the other side, it will be helpful in understanding the quantitative features of the study under consideration.

Samples of 100 people were selected from overall palpation frame. People working into the government organizations were nominated by using systematic probability sampling. As known systematic probability sampling considered as a method of choosing sample for the study from a larger population according to random starting point to fixed or periodic interval. Also 8 people were selected to interview them as focus group. The population frames of the research study are categorized into three frames. These are educational institutes, business firms and hospitals (Black, 2011). In the research, the questionnaire is used to evaluate the study. It takes in depth data information from experienced employees of organization from which will get information about information sharing network effect on organization performance. The measurement scale of questionnaire is in 5-1. Study use Likert scale with scaling from 5 to 1. Where 5 is Strongly Disagree and 1 is Strongly Agree.
Chapter Four: Data Analysis And Findings

Data collection is imperative for any research, but raw data is not meaningful, also one needs to ensure that data doesn’t contain any contamination or extremities to draw conclusions out of it. To make data into meaningful information, one needs to apply some statistical techniques. For this purpose we have used SPSS software, the data collected via the questionnaire was entered into the software and various tests including correlation and regression were performed to know the relationship among various variables and how effective are the independent variables over the dependent variables. This technique is used for the quantifiable data, other than this we have also used qualitative techniques such as interviews and focus groups to know more about the subject and gather understanding of how the pertinent people think and perceive about information sharing infrastructure for national resilience. The purpose of data analysis is to draw meaningful conclusions from the collected data. In this section detailed analysis of both quantitative data and qualitative data and the meaning extracted from them is shared. There are multiple types’ instruments that can be used qualitative research, for this research we have used 2 instruments namely focus groups and interviews. The purpose and motive for both of these was to know more about information sharing infrastructure, the current state of information sharing, the benefits of information sharing and what needs to be done in order to make it more effective for national resilience. The focus group results are arranged into the following table 1.

Table 1. Focus Group Result.

<table>
<thead>
<tr>
<th>Contents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Compatibility</td>
<td>27</td>
</tr>
<tr>
<td>Public Influence</td>
<td>40</td>
</tr>
<tr>
<td>Communication Structure</td>
<td>20</td>
</tr>
<tr>
<td>Organizational System Integration</td>
<td>13</td>
</tr>
</tbody>
</table>

The result of the study shows that the people working in to the public organizations have high level of improvement in the communication system to influence the public. The focus group result shows the 40% influence for the public influence components than other component. The following data of the interview analysis consist of the following responses for the questions asked from the respondents. The data were collected from 8 people who are on the field of Information Sharing and IT system Integrations. Below tables describes the demographic for the interview respondent and the most used way for Information Sharing, as shown in table 2 and table 3. Result in table 4 shows the percentage support from the people working into the public organization.

Table 2. Respondents to Interview.

<table>
<thead>
<tr>
<th>Content</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants</td>
<td>5 participant</td>
</tr>
<tr>
<td>Gender</td>
<td>Male: 03</td>
</tr>
<tr>
<td></td>
<td>Female: 02</td>
</tr>
<tr>
<td>Education</td>
<td>Undergraduate: 05</td>
</tr>
<tr>
<td>Study Completion</td>
<td>United Arab Emirates: 05</td>
</tr>
<tr>
<td>Occupation</td>
<td>Employees: 05</td>
</tr>
<tr>
<td>Age</td>
<td>26 – 30: 05</td>
</tr>
<tr>
<td>Experience</td>
<td>1-3 years: 05</td>
</tr>
<tr>
<td>Employees total number</td>
<td>251-500</td>
</tr>
<tr>
<td>Working Area</td>
<td>Human Resources: 03</td>
</tr>
<tr>
<td></td>
<td>Administration: 02</td>
</tr>
</tbody>
</table>
Table 3. Types of Communication being followed.

<table>
<thead>
<tr>
<th>Types of Communication</th>
<th>Very High</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
<th>Very Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Official Letters</td>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>E-mail</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Fax</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Telephone calls</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Integrated Systems</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other, please specify</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Table 4. Finding of the Interview.

<table>
<thead>
<tr>
<th>Descriptions</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Politics Density</td>
<td>82%</td>
</tr>
<tr>
<td>Financial Density</td>
<td>90%</td>
</tr>
<tr>
<td>Social and Community Density</td>
<td>83%</td>
</tr>
<tr>
<td>Commitment</td>
<td>87%</td>
</tr>
<tr>
<td>Organization Culture</td>
<td>31%</td>
</tr>
<tr>
<td>Organization Culture and Size:</td>
<td>87%</td>
</tr>
<tr>
<td>Interoperability</td>
<td>69%</td>
</tr>
</tbody>
</table>

4.1 Outcomes of the Interview:

The responses collected from this question were generally mixed, all 5 participants acknowledged that information sharing systems were in place and they placed a very important role in the organization, but there is no proper mechanism to measure the effectiveness. They knew that effectiveness and decision making capacity is hampered when the information sharing system experiences technical difficulties. In organization there are more rules for not sharing information like company related information and use of social media, but no guidelines about sharing of information being made mandatory. Though there are some knowledge management guidelines but they too aren’t made mandatory. The only mandatory requirements were pertinent to financial spending and budgetary controls and IT department has to make reports every quarter and present metrics and analytics to management. If information is better shared and reaches everyone in time without any contamination then definitely this will reduce cost but in reality there was an increase in cost due to development of systems and training of employees of how to use them. If information is available there won’t be any false promises or mis-commitments hence all participants agreed that better information sharing can help them build a better and much stronger relationship with their clients. Below is the list of challenges that have hindered implementation of information sharing infrastructure

- A resistance to change
- Lack of awareness
- Lack of readiness
- No power policy or guideline available
- Security concerns
- Technological issues
- Lack of technology orientation
- Interoperability
- Lack of collaboration
Innovation and Sustainable Economic Competitive Advantage: From Regional Development to Global Growth

- Project management failures
- Lack of will

Since the winning of EXPO 2020 bid and 2015 being declared as the year of innovation, some real progress has been made. 3 of the participants think that there organization has become more committed to implementing information sharing infrastructure now and the rest believed that information sharing would only become a priority once the government issues a national guideline or make it a compulsory part. Now there is more emphasis on better knowledge management, predictive analytics and intradepartmental communication. Still some participants believe there needs more external stimuli for it to be fully owned by management and leadership. Employees want unrestricted access to information, but at the same time they resist sharing their own knowledge, even the implementation of better knowledge management systems along with a holistic framework to capture and manage distributed knowledge can address distributed knowledge management from creation to facilitation. Knowledge generation and dissipation need to be embedded in corporate processes has met with internal resistance. There needs to be more training and awareness among employees adapt to such innovative models. All our participants agreed that culture is vital, a learning organization would be able to implement a better information sharing infrastructure than one that doesn’t have a learning culture. Same goes with size and hierarchy levels, the bigger the size of management hierarchy and organization, the more difficult to disseminate information correctly and precisely. Many actions can be taken to foster information sharing among organizations, the participants of the interview responded with the following:

- Organizations must realize that it’s not about how much information one shares but how do they use the information and extract value out of it
- One needs to combat the culture of complacency and develop a sense of urgency
- Government should issue a national policy and guideline for information sharing along with maturity models just like there are guidelines for quality and business excellence.
- There is a golden rule defines illiterates of 21st century that in the present era, an illiterate is not the one who can’t read or write but the one who can’t learn, unlearn and re-learn. To implement a culture for information sharing and knowledge management, a culture for learning, unlearning and relearning must be developed
- There must be a systematic process to make all stakeholders own the information sharing initiative

4.2 Motives of the Focus Group:

Information sharing infrastructure means:

- A system where information can flow freely
- There isn’t any blockage of information
- A system where information is freely but securely exchanged
- A holistic arrangement that ensures that all the information is stored at a central repository or silo and meaning connections or new information can be extracted from it
- Collaboration of knowledge to create more value and make better decisions using information and communication technology
- Proportional, balanced, pertinent, relevant, precise, accurate, secure, safe, timely and judicious availability of information.
- A kind of knowledge management system that ensures that needed information is made readily available

The critical success factors for the implementations of information sharing infrastructure are:

- Strategy, systems and ICT infrastructure
- Security management and protection of information
Continuous improvement
Interdepartmental cooperation
Partnership with vendors
Training and awareness
Interoperability
Scalability
Leadership

**Government needs better information sharing infrastructures because:**
- In a connected world information is competitive advantage
- Better decisions can be made if better information is available
- Better collaboration is possible
- With more sharing the three shall be misunderstanding
- New models can be developed

The government can benefit from better information sharing infrastructure in following ways:
- Reduction of bureaucracy and red tape
- Reduction of complexity and inconsistencies
- Improvements in transparency and also accountability of public funds
- Improved communication between government agencies and other related organisms
- Better and improved tacit knowledge management

### 4.3 Data Analysis:

Based on correlation test following are the findings:

**1. Social Compatibility**
- The correlation “r” was found to be 0.322
- There is a positive sign with “r” this indicates a positive relationship
- The correlation score of “r” is far from the value of one hence we can say there is a positive relationship of 32% among this variable and information sharing network
- 32% won’t be considered a very strong relationship, this is a weak relationship
- The level of significance was found to be 0.05
- The p value is 0.001 that is significantly less than 0.05 hence we can conclude the relation of 32% is statistically significant

**2. Public Influence**
- The correlation “r” was found to be 0.470
- There is a positive sign with “r” this indicates a positive relationship
- The reliability score of “r” is neither faraway nor near from the value of one hence we can say there is a relationship of 47% among this variable and information sharing network
- 47% is neither weak nor strong, it is moderate
- The level of significance was found to be 0.05
- The p value is 0.000 that is significantly less than 0.05 hence we can conclude the relation of 47% is statistically significant

**3. Communication Structure**
- The reliability “r” was found to be 0.219
- There is a positive sign with “r” this indicates a positive relationship
- The reliability score of “r” is very far from the value of one and near zero hence we can say there is a very weak relationship of 21% among this variable and information sharing network
- The level of significance was found to be 0.05
- The p value is 0.028 that is significantly less than 0.05 hence we can conclude the relation of 21% is statistically significant
4. **Organization Systems Integration**

- The reliability “r” was found to be 0.674
- There is a positive sign with “r” this indicates a positive relationship
- The reliability score of “r” is close to the value of one hence we can say there is a strong positive relationship of 67% among this variable and information sharing network
- The level of significance was found to be 0.05
- The p value is 0.000 that is significantly less than 0.05 hence we can conclude the relation of 67% is statistically significant

ANOVA is simply an analysis of variance among the various elements of a dataset. The ANOVA table shows the significance of the model formed with regression equation. The table shows that the model formed for the independent and dependent variable is significance at 5% confidence interval, as shown in table 5 and table 6.

**Table 5.**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>163.289</td>
<td>4</td>
<td>40.822</td>
<td>21.877</td>
<td>.000*</td>
</tr>
<tr>
<td>Residual</td>
<td>177.271</td>
<td>95</td>
<td>1.866</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>340.560</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: ISN.factor
b. Predictors: (Constant), OSI.factor, PI.factor, CS.factor, SC.factor

**Table 6.**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.806</td>
<td>1.151</td>
<td></td>
<td>.001</td>
</tr>
<tr>
<td>SC.factor</td>
<td>-.410</td>
<td>.107</td>
<td>-.553</td>
<td>-3.827</td>
</tr>
<tr>
<td>PI.factor</td>
<td>.021</td>
<td>.080</td>
<td>.023</td>
<td>.264</td>
</tr>
<tr>
<td>CS.factor</td>
<td>.470</td>
<td>.087</td>
<td>.558</td>
<td>5.408</td>
</tr>
<tr>
<td>OSI.factor</td>
<td>.421</td>
<td>.105</td>
<td>.600</td>
<td>4.023</td>
</tr>
</tbody>
</table>

a. Dependent Variable: ISN.factor

The coefficients table shows the hypothesis testing. Hypothesis testing is conducted to know about the impact of independent variables on dependent variable. It is associated with the regression equation but the significance value shows the hypothesis result that have been assumed for the study.

- The result of hypothesis testing shows that when all the independent variables have zero value (no effect) on dependent variable, the Information Sharing Network effectiveness will be decreased by 3.806. The result of this equation is significant for the respective model.
- The first independent variable is Social Compatibility. The result shows that with the change in one unit of this factor, the business will be continue with the value of negative 410. The hypothesis (H1) is accepted for this variable because the significant value is less than 0.05
- The second variable is Public Influence. The regression analysis shows that with the change in one unit of this factor leads the business continuity with 0.021 in the positive direction. The hypothesis (H2) for the respective study is rejected because the significance value is found to be 0.792. And we know that 0.792 is greater than 0.05 hence we Reject the hypothesis
• The third variable is Communication Structure. The analysis shows that with the change in one unit of this variable, the business continuity will be increased by 0.470. The hypothesis (H3) is accepted for the respective variable being the significance value is 0.000 and that is less than 0.05.

• The last independent variable is Organization system integration, the analysis states that organization system integration can impact 0.421. The hypothesis (H4) is accepted for the respective variable being the significance value is 0.000 and that is less than 0.05.

Table 7. Hypothesis Results

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Accept/ reject hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1. Social Compatibility has positive impact on Information sharing network</td>
<td>(p-value 0.000) &lt; 0.05, Hypothesis is accepted</td>
</tr>
<tr>
<td>H2. Public influence has positive impact on Information sharing network</td>
<td>(p-value 0.792) &gt; 0.05, Hypothesis is rejected</td>
</tr>
<tr>
<td>H3. Communication structure integration has positive impact on Information sharing network</td>
<td>(p-value 0.000) &lt; 0.05, Hypothesis is accepted</td>
</tr>
<tr>
<td>H4. Organization system integration has positive impact on Information sharing network</td>
<td>(p-value 0.000) &lt; 0.05, Hypothesis is accepted</td>
</tr>
</tbody>
</table>

Discussion and Future Work

The study aimed to investigate how the information sharing infrastructure helps in achieving National Resilience for public limited or government own enterprises in UAE. Information sharing has always been important for governments around the globe and they have developed many technological systems in the quest for creating a network that would facilitate information sharing. The development of Arpanet and the Internet was also for the sake of information sharing. Various measures and progresses have been made since then and now the world has transitioned into a knowledge economy and many countries have adopted e-government and e-collaboration models for sharing and dissemination of information among various agencies and departments. There has been some work in UAE also to develop information sharing infrastructure but more needs to be done (Al-Khour, 2012) (Ionas, 2014). The study used a mixed model for data collection that is it used both qualitative and quantitative methods to collect data. Focus groups and interviews were done to know more about the phenomena of e-collaboration and information sharing networks in depth. A questionnaire was also used to gather quantifiable data. The results of the study indicate that information sharing systems were in place in public limited organization and government controlled enterprises and they placed a very important role in the organization but there no proper mechanism to measure the effectiveness. Previously these were considered as fancy ideas that appear good on paper but recently especially since the winning of EXPO 2020 bid and 2015 being declared as the year of innovation, some real progress has been made. More guideline and legal structuring can foster the development of information sharing infrastructure. There is a golden rule defines illiterates of 21st century that in the present era, an illiterate is not the one who can’t read or write but the one who can’t learn, unlearn and re-learn. To implement a culture for information sharing and knowledge management, a culture for learning, unlearning and relearning must be developed. There must be a systematic process to make all stake holders own the information sharing initiative. The results of the question are indicating that information sharing is important and various factors play an important. The independent variable was information sharing network and the dependent variables included:

- Social Compatibility
- Public Influence
- Communication Structure
- Organization System Integration

There were four hypotheses for this study:
• H1: Social Compatibility has positive impact on Information sharing network
• H2: Public influence has positive impact on Information sharing network
• H3: Communication Structure has positive impact on Information sharing network
• H4: Organization system integration has positive impact on Information sharing network

Total 3 hypotheses were accepted that were H1, H3 and H4 as it was found that social compatibility, communication structure and organization system integration were found to have critical impact on information sharing network. H2 was rejects as it was discovered that Public influence had no significant impact on information sharing network. Also Public organizations have to deal within the organization and outside of the organization more and have more influence with the public. The research outcomes with the influence factors for information sharing network is social compatibility as well as the public influence for the respective research and concluded with the inclusion of strong communication structure in the organization to make it more healthy working environment, where the people inside and outside of the organizations feels more comfortable with the dealing. However, there are many of the deficiencies into the information system for which the following are the some of the recommendations:

1. The employers needed to be creative in the organizations within which he is working for and to share the commitment with the foster collaboration:
   • They should developed the communication flow by getting them into the outside organizational places and to note down the major changes incurred in the market while communicating with the people
   • The communication should be adjacent within which all the people are flexible to ready for ideas presentation (for mixed group culture people)
2. The practices under the information sharing network support should involve more about the notion practices and to put more effort towards technological adoption
3. Organizational communities and the people outside the organization that should involve in the communication sharing integration for their learning program can take the responsibilities for the enactment accountabilities

The research addressed in this paper suggests that there is a strong link between information sharing and national resilience. Through the consultation of past research and the assessment of important factors to information sharing, the SPSS analysis was carried out to uncover the links between different variables in this study. Through the use of diverse research methodologies such as interviews and focus groups, the data gathered has been analyzed using modern SPSS software. The research shows that the factors of social compatibility significantly impacts information sharing. Moreover, public influence has an impact on information sharing and the communication structure and organization systems are important as well.

As the notion of information sharing infrastructure for national resilience is of critical importance and also of evolving nature, there is definitely room for future research and further depth analysis. Researchers aiming to study this topic further can research upon how information sharing infrastructure is impacted and effect by behavioral attributes or concerns of cyber security. Can various external stimuli like training or awareness foster the process can also be the subject of future study? Another area that one should study how longitudinal of information sharing infrastructure development has increased the efficiency of any particular department? Also in the future the information sharing can be searched for the public as well as the private organization, while analyzing the performance and their improvements for the organization.

The central communication system can be assessed for the both and compared with the each other to know about their differences into the controlling and in succession system in contrast with the performance.

References

Journals

Books

**Online**
