

The Impact of Information Security International Standards

Enhancing the Efficiency of E-Publishing over Cloud Computing

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Abstract— This paper aims to determine the role of international standards for data security to increase the efficiency of E-Publishing over cloud computing by a case study to a sample of academics and researchers, and to achieve the objectives of this paper a questionnaire was developed to gather data from samples and analyze these data by using fuzzy logic tools, it also pursuited to add knowledge to E-Publishing, its concepts and the role of information security international standards to promote E-Publishing in Arab.

The researchers concluded in this paper many outcomes and the most significant one was international standards which have a crucial and important role in increasing the efficiency of E-Publishing over cloud computing via limiting the access to documents by (hackers, illegal access, unauthorized access and plagiarism) and enforces the role of control institutions to preserve researchers and authors copyright.

Researchers recommend using international standards on information security to enforce E-Publishing over cloud computing, addition to that it is set up an Arabic institute to issue information, standards which are compatible with the Arabic culture and environment.

Keywords- E-Publishing, Cloud Computing, Information Security Standards

I. INTRODUCTION

There is no doubt that information and communication revolution that the modern world faces have an impact and reflection on, institution's management, natural assets, and services that it provides. Especially, after the huge immigration which information social faces in the 1990s the rapid growth of information and communication technology that gave the world a merge of computer techniques and long distance communications, a rise of developed networks and all the subsidiaries of E-Publishing.

All the mentioned above has a significant effect on gathering information broadly, therefore it achieved a crucial role of returning back the academic structure which is accredited by academic institutions and deliver it to the consumers, E-Publishing has made a great change in various technical and administrative procedures and especially E-Publishing over cloud computing. More than that many

institutions were following this developed event and issue standards, rules, and principles to deal with and dump all the risks.

II. E-PUBLISHING

E-publishing is not a recent or new concept it has been mentioned and discussed in the previous century, but a rapid growth and development of the concept have been made in the 1990s; this development was because of the technical improvements and evolution of networks (E-system).

According to (Le Coadic, 1994) E-Publishing can be defined as "one of the most topics that will develop in future and it will be used broadly to publish articles swiftly, ease of access to them and a perfect way for research methods"^[1].

(Bloor, 2000) mentioned that E-Publishing is a term initiated to cover a set of various information techniques and communications to be used for transferring a book content over networks (E-system) or mobile storage devices^[2].

E-Publishing was defined by (Vickers and Martyn, 1994) as an application that requires from users to use electronic devices for receiving a document or a book content^[3].

Where (Chennupati et al., 2006) defined this term as computer application prepared by the author to contain data and information for a specific sample of people and distribute it via information and communication techniques^[4], where E-Publishing is a complete process aims to provide different types of information for a variant sample of users.

E-Publishing is classified according to (Deschamps, 1994) as following^[5]:

- E-Books
- E-Courses
- E-Conferences
- Discussion lists
- Information bulletins

Therefore, E-Publishing can be defined as "the ability to access documents via World Wide Web (Internet) or mobile

storage devices which could not be as same as the hard copy; it contains same content with other facilities”.

(Saxena, 2009) assumed that E-Publishing is applied for the equation^[6]:

E-Publishing = E-System Techniques + Computer Techniques + Communication Techniques + Publish

Where E-Publishing adds four terms together which is shown as well in figure (1):

E-System Techniques which intended of all techniques that provides capital and effort to increase the capital; *computer techniques* it means using computer to simplify work, take advantage of processor speed in processing data, storage capacity and employee it to work; *communication techniques* it's intended to employee the qualifications of communication networks in transferring information & Data; *Publish* such as editing, composition and promotion.

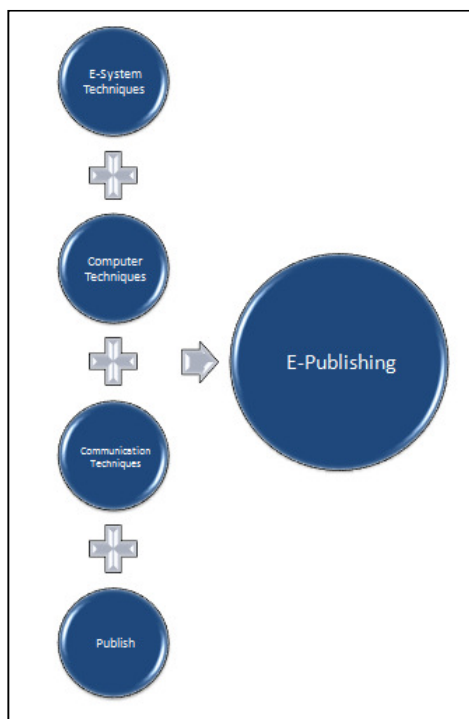


Figure 1. The Components of E-Publishing

Traditional publishing and E-Publishing doesn't differ only in two phases as following^[7]:

1. It doesn't include using real materials such as ink and papers to print the final outcome.
2. There is no hard copy distribution for the publishers.

That mentioned above is because the final outcome must be electronic (digital) and intangible, therefore the outcome can be read over World Wide Web (Internet) through the use of computers, tablets, and smartphones and it could be printed as

the United States of America according to the desire of the customer.

III. E-PUBLISHING OVER CLOUD COMPUTING

The meaning of E-Publishing over cloud computing is that book content, and electronic documents which contain information and data will be published using storage capabilities of world wide web.

Therefore, the documents will be available to everyone who has the cost authorized access to download it which will ease the access, reduce cost and time.

There is a number of publishing security issues within cloud computing, where they comprehensive many techniques like; *communication networks, database, operating systems, virtual simulation, resource scheduling, coefficients management, synchronization monitoring and storage management*, all these made cloud computing security one of the most necessary conditions to achieve E-Publishing process successfully. For this all hardware equipment, must be set in a safe and secure location, data encryption, consider suitable policies with a national agreement to use international standards on information security for exchanging data and providing appropriate software to detect and delete malware programs^[8].

A. The pros and cons of electronic publishing over cloud computing

There are many advantages the can be extracted from E-Publishing over cloud computing^[9]:

1. Rapid access to the required document.
2. Reduction of publishing cost and storage cost.
3. Deliver contents that cannot be provided by mobile storage devices due to the size of data such as HD video clips.

On the other hand, there are some disadvantages that effected using by all countries and societies, as mentioned below^[10]:

1. The issue of Internet speed *download and upload* and its availability especially in the outgrowth countries.
2. Cost of used devices to read electronic documents such as *a laptop, tablet and smartphone* has been increased.
3. Intellectual property rights (*IPRs*) are the most dangerous problems on E-Publishing over cloud computing, where most of the applied legislations in various countries could not ensure the protection of author's rights in front of hackers and plagiarism.

B. Security Requirements for E-Publishing over Cloud Computing

To secure the E-Publishing over cloud computing process there is a must to provide the following^[8]:

1. Support data storage efficiently and use encryption algorithms on data.
2. Manage & store huge amount of data via high-security cloud software.
3. Set security criteria to control the rank of authorization.
4. Applying international standards of information security in active and efficient manner.

IV. INFORMATION SECURITY

Many information security (InfoSec) organizations set a definition for this topic, as mentioned below^[11]:

1. According to ISO, they defined (InfoSec) as; preserve information confidentially and integrity with the ease of access to information, it also provides authenticity, accountability and reliability.
2. CNSS organization definition was; protecting information and information system from unauthorized access and editing on data, it also provides authenticity and integrity.
3. Where ISACA organization definition is: the insurance that only authorized user can gain and deal with detailed information confidentially and integrity.

On the other hand, many researchers and authors defined (InfoSec) as "process of preserving (IPRs) of the organization"^[12], or "a confirmation that information is secured and risks are managed"^[13]

(InfoSec) can be defined generally as "a region of various specialties for study workshop activities on security mechanisms developments to preserve information everywhere, protect its storage and mobility from threats"^[11].

A. International standards of information security:

In order to insurance information trading generally whether electronically or hardcopy, many organizations issued standards, regulations, and rules, related to information security. The most important standards are listed below^[14]:

1. ISO Standards; ISO is known as an international organization for standard unification, it was established in 1947 where it's a non-governmental institute that corporate with electronic technique committee (IEC) and international union of communication (ITU), mentioned below is the information security standards related to this organization:
 - ISO 27001: this standard introduces a periodic model (PDCA) which stands for (Plan-Do-Check-Act) and aims to determine the necessary needs to establish, execute, operate, exhibit, enhance and document information security management system.
 - ISO 27002: the standard includes some policies, security policy orientation; organize of information security, human resource insurance, and assets management.
- ISO 15408: this standard aids in evaluating, verify and certificate security insurance for technical products and also evaluate devices and software allocated to E-Publishing.
- ISO 13335: consist of principles and directions serial to document concepts, modeling security of information and communication techniques management, select technical security controls and administration guidance for network security.
2. COBIT Standard; its considered as control framework that connects information techniques and work requirements and organizing information techniques activities in an information security process model, the standard was constructed by Governmental Information Techniques Institute (GITI) in 1995.
3. ITIL Standard; represents a set of best practices in information technique management (ITSM) and it focuses on the services of information techniques processes where it is the main role for users. It was issued by Office of the United Kingdom Trade Government (OGC).
4. Regulations and rules related to information security; there is many regulations, direction principles and rules, such as:
 - SOX Act: stands for Sarbanes-Oxley Act this rule raised in 2002 after the scandals of WorldCom and Enron firms, the purpose of issuing at the beginning was to improve disclosure accuracy and reliability in American financial market but later it became an Icon of information security through developing for interior monitoring of E-Publishing.
 - COSO Act: it stands for Committee of Sponsoring Organization of the Trade Way Commission and it's a framework that starts from interior control and improves control means to deploy information electronically by environment monitoring and risk evaluation.
 - HIPAA Act: this term stands for The Health Insurance Portability and Accountability Act which is a rule dedicated in United States of America aims to enhance information security for Healthcare, set main regulations to protect information that threats safety and security of original information and detect unauthorized access to it.
 - FISMA Act: the term came from Federal Information Security Management Act, where it's used to manage federal information security and functions periodically as a risk evaluation for information and set strategies to provide security for networks, information systems and E-Publishing.
 - FIPS Act: stands for The Federal Information Processing Standards this means a standard to process

federal information, it's considered as a set of official publishes related to accredited direction principles and standards for E-Publishing, auditing, certificate and urgent planning.

Figure (2) depicts the most significant international standards for information security which is used in E-Publishing information insurance in many countries.

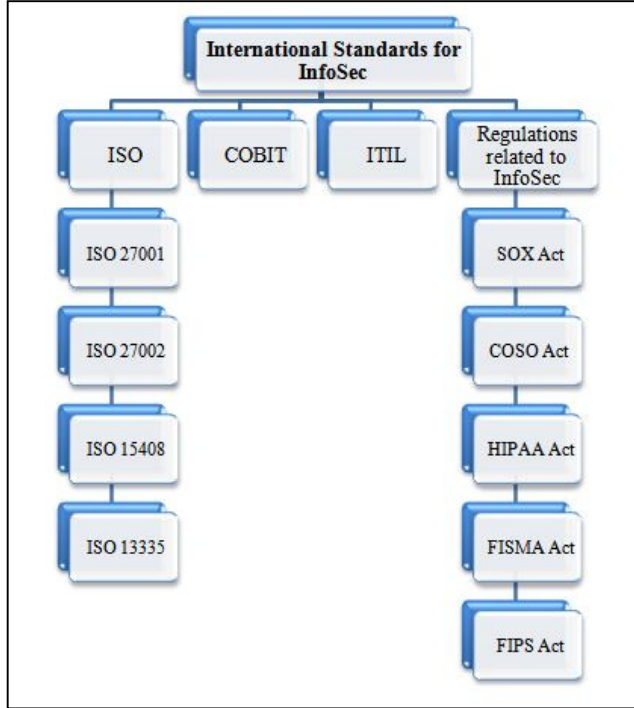


Figure 2. International Standards for Information Security

V. EXPERIMENTAL SECTION (DATA ANALYSIS)

To measure an impact of international standards on information security to enhance the efficiency of E-Publishing over cloud computing, a questionnaire form was designed by researchers which consist of 4 axes (A, B, C, and D).

Where selecting, an axis is done through assists of research literature reviews, this axis includes 10 questions related to information security and E-Publishing where 100 questionnaire

forms were distributed to academics and researchers of different specialties as shown in the table (1).

Table 1: Case Study Samples

S/N	Certificates	Position	Orientation	Amount
1	Bachelor	Practitioner	Technical	20
2	Bachelor	Researcher	Academic	20
3	Diploma	Practitioner	Technical	20
4	M.Sc.	Lecturer	Academic	20
5	Ph.D.	Lecturer	Academic	20

Fuzzy logic tools have been used to analyze the results of gathered questionnaire form via applying it in MATLAB software to gain real results that aren't subject to personal strain and according to sampler's opinion.

A. Questionnaire Form Axes

Questionnaire form is categorized into (4) Axes to familiarity case study in a subjective manner, these Axes are:

1. The role of information security international standards to limit hacking and illegal copies problems.
 - A Axes: The purpose of this axis is to measure impact of applying international standards for information security to limit hacking and illegal copies, a significant ratio of (40%) is determined for (A) Axis and assign percentage weights for axis questions as shown in Table (2) according to sampler's opinion then determine weight percentage for the Axis in all, this is depicted in Table (4) after that all processed outcomes are gathered via fuzzy logic tools as shown in Table (4).

Table 2: Sampler's Opinion about (A) Axis

Q. Code	Ext. Disagree	Disagree	N.	Agree	Ext. Agree	Q. Weight
A ₁	5	11	22	50	12	0.125
A ₂	4	6	23	42	25	0.1
A ₃	8	8	27	33	24	0.0875
A ₄	4	0	16	41	39	0.0875
A ₅	6	12	8	39	35	0.125
A ₆	7	5	21	32	35	0.125
A ₇	5	7	7	41	40	0.15
A ₈	6	8	8	45	33	0.05
A ₉	3	9	4	56	28	0.075
A ₁₀	2	5	20	44	29	0.075

Table 3: Measure of Ratio Weights for Questionnaire According to Axis and Form in all

Q. Code	Extremely Disagree		Disagree		Natural		Agree		Extremely Agree	
	Axis	Form	Axis	Form	Axis	Form	Axis	Form	Axis	Form
A ₁	0.625	0.25	1.375	0.55	2.75	1.1	6.25	2.5	1.5	0.6
A ₂	0.4	0.16	0.6	0.24	2.3	0.92	4.2	1.68	2.5	1
A ₃	0.7	0.28	0.7	0.28	2.3625	0.945	2.8875	1.155	2.1	0.84
A ₄	0.35	0.14	0	0	1.4	0.56	3.5875	1.435	3.4125	1.365
A ₅	0.75	0.3	1.5	0.6	1	0.4	4.875	1.95	4.375	1.75
A ₆	0.875	0.35	0.625	0.25	2.625	1.05	4	1.6	4.375	1.75
A ₇	0.75	0.3	1.05	0.42	1.05	0.42	6.15	2.46	6	2.4
A ₈	0.3	0.12	0.4	0.16	0.4	0.16	2.25	0.9	1.65	0.66
A ₉	0.225	0.09	0.675	0.27	0.3	0.12	4.2	1.68	2.1	0.84
A ₁₀	0.15	0.06	0.375	0.15	1.5	0.6	3.3	1.32	2.175	0.87

information security to preserve publishing rights. Therefore, a significant ratio of (30%) is determined for (B) Axis and assign percentage weights for axis questions as shown in Table (5) according to sampler's opinion then determine weight percentage for the Axis in all, this is depicted in Table (6) after that all processed outcomes are gathered by using fuzzy logic tools as shown in Table (7).

Table 4: Measure of Compatibility About the Axis

Acceptance Degree	Axis Impact	Questionnaire Impact
Extremely Disagree	5.125	2.05
Disagree	7.3	2.92
Neutral	15.6875	6.275
Agree	41.7	16.68
Extremely Agree	30.1875	12.075

2. The role of information security international standards on preserving publishes rights for researchers and authors.

- B Axes: The purpose of this axis is to measure an impact of applying international standards for

Table 5: Sampler's Opinion about (B) Axis

Q. Code	Ext. Disagree	Disagree	N.	Agree	Ext. Agree	Q. Weight
B ₁	7	16	20	40	17	0.1
B ₂	9	8	21	36	26	0.125
B ₃	5	8	18	37	32	0.15
B ₄	7	3	16	33	41	0.1
B ₅	6	10	11	37	36	0.125
B ₆	11	6	25	25	33	0.15
B ₇	15	7	16	25	37	0.075
B ₈	12	11	18	29	30	0.05
B ₉	3	9	19	41	28	0.05
B ₁₀	5	13	22	36	24	0.075

Table 6: Measure of Ratio Weights for Questionnaire According to Axis and Form in all

Q. Code	Extremely Disagree		Disagree		Natural		Agree		Extremely Agree	
	Axis	Form	Axis	Form	Axis	Form	Axis	Form	Axis	Form
B ₁	0.7	0.21	1.6	0.48	2	0.6	4	1.2	1.7	0.51
B ₂	1.125	0.3375	1	0.3	2.625	0.7875	4.5	1.35	3.25	0.975
B ₃	0.75	0.225	1.2	0.36	2.7	0.81	5.55	1.665	4.8	1.44
B ₄	0.7	0.21	0.3	0.09	1.6	0.48	3.3	0.99	4.1	1.23
B ₅	0.75	0.225	1.25	0.375	1.375	0.4125	4.625	1.3875	4.5	1.35
B ₆	1.65	0.495	0.9	0.27	3.75	1.125	3.75	1.125	4.95	1.485
B ₇	1.125	0.3375	0.525	0.1575	1.2	0.36	1.875	0.5625	2.775	0.8325
B ₈	0.6	0.18	0.55	0.165	0.9	0.27	1.45	0.435	1.5	0.45
B ₉	0.15	0.045	0.45	0.135	0.95	0.285	2.05	0.615	1.4	0.42
B ₁₀	0.375	0.1125	0.975	0.2925	1.65	0.495	2.7	0.81	1.8	0.54

Table 7: Measure of Compatibility About the Axis

Acceptance Degree	Axis Impact	Questionnaire Impact
Extremely Disagree	7.925	2.3775
Disagree	8.75	2.625
Neutral	18.75	5.625
Agree	33.8	10.14
Extremely Agree	30.775	9.2325

3. The role of information security international standards to reduce the cost of electronic storage.

- C Axes: The purpose of this axis is to measure an impact of applying international standards for information security to reduce the cost of electronic storage. Therefore, a significant ratio of (20%) is determined for (C) Axis and assign percentage weights for axis questions as shown in Table (8) according to

sampler's opinion then determine weight percentage for the Axis in all, this is depicted in Table (9) after that all processed outcomes are gathered by using fuzzy logic tools as shown in Table (10).

Table 8: Sampler's Opinion about (C) Axis

Q. Code	Ext. Disagree	Disagree	N.	Agree	Ext. Agree	Q. Weight
C ₁	19	14	15	28	24	0.1125
C ₂	12	18	19	31	20	0.1
C ₃	17	20	14	27	22	0.1
C ₄	13	11	12	23	41	0.125
C ₅	11	15	13	28	33	0.0625
C ₆	15	19	17	15	34	0.1
C ₇	16	17	18	19	30	0.15
C ₈	12	11	19	28	30	0.075
C ₉	10	19	22	29	20	0.075
C ₁₀	11	12	20	30	27	0.1

Table 9: Measure of Ratio Weights for Questionnaire According to Axis and Form in all

Q. Code	Extremely Disagree		Disagree		Natural		Agree		Extremely Agree	
	Axis	Form	Axis	Form	Axis	Form	Axis	Form	Axis	Form
C ₁	2.137	0.4275	1.575	0.315	1.6875	0.3375	3.15	0.63	2.7	0.54
C ₂	1.2	0.24	1.8	0.36	1.9	0.38	3.1	0.62	2	0.4
C ₃	1.7	0.34	2	0.4	1.4	0.28	2.7	0.54	2.2	0.44
C ₄	1.625	0.325	1.375	0.275	1.5	0.3	2.875	0.575	5.125	1.025
C ₅	0.687	0.1375	0.9375	0.1875	0.8125	0.1625	1.75	0.35	2.0625	0.4125
C ₆	1.5	0.3	1.9	0.38	1.7	0.34	1.5	0.3	3.4	0.68
C ₇	2.4	0.48	2.55	0.51	2.7	0.54	2.85	0.57	4.5	0.9
C ₈	0.9	0.18	0.825	0.165	1.425	0.285	2.1	0.42	2.25	0.45
C ₉	0.75	0.15	1.425	0.285	1.65	0.33	2.175	0.435	1.5	0.3
C ₁₀	1.1	0.22	1.2	0.24	2	0.4	3	0.6	2.7	0.54

Table 10: Measure of Compatibility About the Axis

Acceptance Degree	Axis Impact	Questionnaire Impact
Extremely Disagree	14	2.8
Disagree	15.5875	3.1175
Neutral	16.775	3.355
Agree	25.2	5.04
Extremely Agree	28.4375	5.6875

the Axis in all, this is depicted in Table (12) after that all processed outcomes are gathered by using fuzzy logic tools as shown in Table (13).

4. The role of information security international standards on quick access to the desired goal.
- D Axes: The purpose of this axis is to measure an impact of applying international standards for information security on quick access to the desired goal. Therefore, a significant ratio of (10%) is determined for (D) Axis and assign percentage weights for axis questions as shown in Table (11) according to sampler's opinion then determine weight percentage for

Table 11: Sampler's Opinion about (D) Axis

Q. Code	Ext. Disagree	Disagree	N.	Agree	Ext. Agree	Q. Weight
D ₁	24	25	21	20	10	0.125
D ₂	18	23	22	24	13	0.1
D ₃	25	24	18	27	6	0.075
D ₄	21	26	19	13	21	0.125
D ₅	19	21	17	20	23	0.075
D ₆	23	16	23	15	23	0.075
D ₇	25	19	19	15	22	0.015
D ₈	20	18	21	23	18	0.125
D ₉	23	20	20	21	16	0.11
D ₁₀	15	23	21	20	21	0.175

Table 12: Measure of Ratio Weights for Questionnaire According to Axis and Form in all

Q. Code	Extremely Disagree		Disagree		Natural		Agree		Extremely Agree	
	Axis	Form	Axis	Form	Axis	Form	Axis	Form	Axis	Form
D ₁	3	0.3	3.125	0.3125	2.625	0.2625	2.5	0.25	1.25	0.125
D ₂	1.8	0.18	2.3	0.23	2.2	0.22	2.4	0.24	1.3	0.13
D ₃	1.875	0.1875	1.8	0.18	1.35	0.135	2.025	0.2025	0.45	0.045
D ₄	2.625	0.2625	3.25	0.325	2.375	0.2375	1.625	0.1625	2.625	0.2625
D ₅	1.425	0.1425	1.575	0.1575	1.275	0.1275	1.5	0.15	1.725	0.1725
D ₆	1.725	0.1725	1.2	0.12	1.725	0.1725	1.125	0.1125	1.725	0.1725
D ₇	0.375	0.0375	0.285	0.0285	0.285	0.0285	0.225	0.0225	0.33	0.033
D ₈	2.5	0.25	2.25	0.225	2.625	0.2625	2.875	0.2875	2.25	0.225
D ₉	2.53	0.253	2.2	0.22	2.2	0.22	2.31	0.231	1.76	0.176
D ₁₀	2.625	0.2625	4.025	0.4025	3.675	0.3675	3.5	0.35	3.675	0.3675

Table 13: Measure of Compatibility About the Axis

Acceptance Degree	Axis Impact	Questionnaire Impact
Extremely Disagree	20.48	2.048
Disagree	22.01	2.201
Neutral	20.335	2.0335
Agree	20.085	2.0085
Extremely Agree	17.09	1.709

All the Axes which have been analyzed by measuring the effect of applying international standards for information security to improve the efficiency of E-Publishing were selected because of its cohesion with information security international standards.

In the return to above tables, an impact could be determined for information security international standards to enhance the efficiency of E-Publishing over cloud computing according to sampler's opinion, using fuzzy logic tools as shown in Table (14).

Table (14) Determine the impact of information security international standards to enhance the efficiency of E-Publishing over cloud computing

Degree	A Axis	B Axis	C Axis	D Axis	Total
Extremely Disagree	2.05	2.3775	2.8	2.048	9.2755
Disagree	2.92	2.625	3.1175	2.201	10.8635
Neutral	6.275	5.625	3.355	2.0335	20.139
Agree	16.68	10.14	5.04	2.0085	33.8685
Extremely Agree	12.075	9.2325	5.6875	1.709	28.704

CONCLUSIONS

Researchers have concluded the following results:

- Information Security International Standards effects on the Efficiency of E-Publishing through the limitation of unauthorized copies and hacking, where the results of analyzing questionnaire show that (71%) agrees while (21%) doesn't agree.
- Information Security International Standards can increase security factor for researchers and authors rights where (64%) agreed that there is an effect while (16%) refused.
- Information Security International Standards has an impact on electronic storage costs, results showed that (54%) agree and (30%) don't agree.
- Quick access to the desired goal or document has a relationship with Information Security International Standards, where outcomes showed that (37%) agrees and (42%) doesn't agree.
- Generally, the final results of analyzing questionnaire form proved that (63%) of researchers and academics confirmed there is a robust relationship between Information Security International Standards and the increase of E-Publishing over cloud computing efficiency.

RECOMMENDATIONS

- On the basis of results mentioned earlier, the researchers recommend the following:

- To promote the E-Publishing over cloud computing it's a must to use Information Security International Standards.
- Develop an Arabic institute to issue Information Security International Standards which it goes with the environment and Arabic culture.
- Increase the culture conscious for researchers and academics about Information Security International Standards and its effect on E-Publishing and traditional publishing.

REFERENCES

- Alexandra, Maria, and Aparício, Miranda, 2003, "Access to the Electronic Publishing in African Countries: Some Reflections." In From information to knowledge: Proceedings of the 7th ICC/IFIP International Conference on Electronic Publishing. ELPUB. Minho, Portugal: Universidade do Minho, pp. 62–71.
- Bloor, Kate, 2000, Scientific electronic publishing: European policy strategies. *Library Review*, vol. 49(6), pp. 277-285.
- Vickers, Peter, and Martyn, John, 1994, The Impact of Electronic Publishing on Library Services and Resources in the UK: Report of the British Library Working Party on Electronic Publishing (Library & Information Research Reports), The British Library Publishing Division, UK.
- Chennupati, K.R., Foo, S., and Heng, P.C., 2006, Trends in Electronic Publishing, eLearning and Digital Publishing, Computer Supported Cooperative Work Volume 33, Springer, 111-132.
- Deschamps, Christine, 1994, The Electronic Library, Bielefeld Conference, vol. 44(4), 1994, pp.304-310.
- Saxena, Archana, 2009, Electronic Publishing: Impact of ICT on Academic Libraries, ICAL 2009 – Poster Papers, pp. 670-672.
- Adegoke, Yinka, 2012, Apple jumps into digital textbooks fray, Yahoo News, January 19.
- Hamlen, Kevin, Kantarcioglu, Murat, Khan, Latifur, and Thuraisingham, Bhavani, 2010, Security Issues for Cloud Computing, *International Journal of Information Security and Privacy*, 4(2), 39-51.
- Strudwick, Nigel, 2004, Electronic publishing: the example of BMSAES, available online at: <http://www.thebritishmuseum.ac.uk>
- http://wikibon.org/wiki/v/The_Advantages_of_Electronic_Publishing_or_Paper_PrintingJlkj
- Cherdantseva Y. and Hilton J., 2013, "Information Security and Information Assurance. The Discussion about the Meaning, Scope, and Goals", In: Organizational, Legal, and Technological Dimensions of Information System Administrator. Almeida F., Portela, I. (eds.). IGI Global Publishing.
- Pipkin, D., 2000, Information security: Protecting the global enterprise, New York, Hewlett-Packard Company.
- Anderson, J. M., 2003, Why we need a new definition of information security, *Computers & Security*, 22(4), 308–313.
- Mudarra, Fahad F., 2010, The International Standards of Information Security, Center of Excellence in Information Assurance, King Saud University, KSA.