

Cues To Deception in Islamic Websites Text-Based Content and Design: A Systematic Literature Review

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Abstract— Deception in the virtual environment is rapidly growing, especially with Islamic websites (I-web). This paper presents the current evidence relative to the investigation of cues to deception in Islamic websites text-based content and design. To meet the objective of this study, a systematic literature review (SLR) has been applied. The findings from the systematic literature review (SLR), includes a set of 12 primary studies out of 625 extracted papers and a total of 15 cues which have, as well been acknowledged. The cues were divided into two components, text-based content and design. Of which, nine text-based content cues were identified, equivalent to 60% of the overall cues, and another 6 cues (40%) were on design. Majority of the text-based cues were related to the use of fake and weak Hadith, while the design cues were more related to the uncertain appearance and poor design of the Islamic websites. The findings of this study may serve the users, content providers and websites designers on the possible cues that constitute deception in the Islamic websites, textual content and design. The cues may guide users in selecting the right information, which are reliable, credible, and valid, particularly in the context of Islamic knowledge and teaching.

Keywords— Cues, Deception, Text, Design, Content, Islamic Websites, Systematic Literature Review

I. INTRODUCTION

The way people seek information has changed from the traditional sources, such as books and journals, to online platforms such as social media and the World Wide Web. As of now, individuals use the Internet for Islamic purposes, to learn Islam be it for the Muslims, Non-Muslims and the Muslim reverts. Many websites which exist claim to be Islamic, but continue to evolve day-by-day making it difficult for users or visitors to recognize if the websites are deceiving or not. The nature of the online medium opens a great deal of opportunities for online information deception to increase in a persuasive manner [13]. Deception can be regarded as a complex and multidimensional phenomenon.

The performance of individuals in the detection of deception is low [9]. [2] And [3] reported that this is worsening in spreading false Islamic teaching and knowledge on the claimed to be “Islamic websites.” Thus, there is a crucial need to identify the types of deception in Islamic websites, textual content and design.

There is also a belief that there were underlying cues in its demonstration across contexts and domains and in this study, Islamic websites.

II. DEFINITIONS

A. Deception

Generally, deception is defined as the careful attempt, to conceal, fabricate, and/ or manipulate in any different way,

factual and/or emotional information, by verbal and/ or nonverbal (cues) means, in order to create and maintain in another or in other a belief that the correspondents (communicators) himself/ herself considers deceitful, regardless successful or not [10].

B. Cues

The cues to deception were defined as the piece of manipulated information [5], the cues to deception can be found in text-based content and design of the websites.

C. Websites Content

The Websites content is “the material in the website.” Which may contain: documents, data, applications, e-services, images, audio and video files, personal web pages, archived E-Mail messages, text and many more [11].

D. Text

Text is the primary content of most informational Islamic websites [12]. In other words, people come to visit a website for its content, because they have specific informational needs. The website’s text-based content is the content written on the web page. The text-based content can also be inside images or may be in the form of blocks of text. The content is written intentionally for the specific website, not copied and pasted from other sources [6]. The website’s textual content can come in the form of word(s), from a few sentences ranging all the way to multiple paragraphs on end.

E. Design

The design element also plays a vital role to attract users to visit a website. A website design is the art and process of combining elements of design such as (line, shape, texture, logo, navigation bar) into a pleasant arrangement that are displayed on the websites to the online users [1]. People can be influenced by the look and feel of the website [14]. In this context, deception in Islamic websites is defined as the websites text-based content and design that were deviated and contradict the Islamic teaching and learning (by *Ahlu-Sunnah wa'l-Jama'ah*). This is done by concealing, fabricating, and/ or manipulating in any way factual and/or emotional information, by verbal and/ or nonverbal cues (means) in order to create or maintain a wrong belief to mislead users.

III. SYSTEMATIC LITERATURE REVIEW

Conducting a literature review is considered a crucial part of most academic works. The literature review is used to identify gaps in current research in order to suggest areas for further investigation. This section presents the current shreds of evidence relative to the cues to deception in Islamic websites text-based content and design, and will be carried through a systematic literature review (SLR). A *Systematic literature review (SLR) is the "process of identifying, assessing and interpreting all available research evidence with the purpose to provide answers to specific research questions" [7].*

This SLR paper is aimed to summarize the existing evidence concerning cues to deception that might exist in Islamic websites, content and design. The specific objective of this SLR, is to: identify, analyse, synthesize, and summarize all existing information about cues to deception in Islamic websites text-based content and design through unbiased manner. This study adopted the SLR method in general, based on original guidelines proposed by [8] because it is well structured and indicates a step-by-step process to find and select the relevant studies for a specific topic.

These guidelines were conducted in three phases: planning, conducting the review and reporting the result. These phases were done by formulating the SLR research question, followed by identifying and conducting an exhaustive and comprehensive search. Selection criteria were developed to select the primary studies. Data was extracted and finally, the SLR report and findings were presented.

a) PLANNING SLR

The research question was developed based on the PICOC framework as discussed in the following section.

□ Formulating research Question

In formulating the research question, the authors focus on five elements known as PICOC, which stand for: populations, interventions, comparison, outcomes, and context of the research questions. Table 1 shows the PICOC summary.

TABLE I
SUMMARY OF PICOC.

Population	Articles that contain cues to deception in Islamic websites.
Intervention	cues to deception in textual content and design
Comparison	None
Outcomes	Cues, indicate, sign, elements, factor
Context	Review of cues to deception from all forms of online Islamic context (textual content-based and design)

In PICOC, the authors did not include any comparison for cues to deception in Islamic websites' content and design, because it was not appropriate to our research objective. The SLR aims to answer the following research question (RQ): *what were the cues to deception in Islamic websites content and design?*

□ Development and validation of Review Protocol

The review protocol defines the activity that needs to be carried out. The review protocol helps reduce biases that can be made by the researcher and define the sources selections and searching process for the SLR. The following subsections present the details of the review protocol in this study. To formulate the search string, the keywords were derived from the PICOC with words and their synonyms. Also, new words were identified in the selected papers. Boolean "OR" was used to integrate the words with synonyms. The Boolean "AND" was used to link the major terms from PICOC. Therefore, the full and the complete search string derived was:

((("cues" OR "indicate" OR "sign" OR "elements" OR "factor") AND ("deception" OR "misleading" OR "fake" OR "distrust" OR "mistrust" OR "anti")) AND ("Islamic website" OR "Islamic web" OR "Islamic web based" OR "digital Islamic content") AND ("content" OR "information") AND ("Islamic web design" OR "Islamic website design" OR "design feature"))).

□ Inclusion and Exclusion Criteria

The inclusion and exclusion criteria were used to select the relevant studies. The following table 2 shows the inclusion and exclusion criteria used for this SLR.

TABLE II
INCLUSION AND EXCLUSION CRITERIA

Inclusion	Exclusion
Studies on the deception in the textual content and design example for example messages, email, forum, websites, CMC	Studies on the deception in audio, video, animation of the websites.
Covered studies published and unpublished within the period from 2000 to 2018	the papers presenting claims by the author(s) without presenting the cues of deception.
Papers were written in the English language only	Papers were written in the language other than the English language (e.g., Russian, Chinese).

□ Quality checklists

A Quality checklist is to ensure the selected articles were examined in greater depth to assess their quality. The checklist consists of eight questions as in Table 3.

TABLE III
QUALITY CHECKLIST [4] & [8].

Questi on-Id	Question	Answer
Q1	Were the aims of the paper clearly stated ?	Yes/ No/ Partially
Q2	How has knowledge been extended by the research?	Yes/ No/ Partially
Q3	How well does the evaluation address its original aims and purpose?	Yes/ No/ Partially
Q4	How well defined is the sample design/target selection of cases/documents?	Yes/ No/ Partially
Q5	How well was data collection carried out?	Yes/ No/ Partially
Q6	How has the analysis of the result been conveyed?	Yes/ No/ Partially
Q7	How well were the contexts and data sources retained and portrayed?	Yes/ No/ Partially
Q8	How clear and coherent is the reporting for the cues?	Yes/ No/ Partially

b) CONDUCTING SLR

The primary search used for this SLR is based on the search string. And the study selection procedure applied systematically in selecting the primary studies. Firstly, the papers' titles were examined to exclude studies unrelated to the research focus. Then the abstract and the keywords

in the remaining studies were reviewed. In case either the abstracts or the keywords did not provide the necessary information, the results and conclusion sections were then reviewed to determine if the study was relevant. Next, the remaining studies were filtered in accordance with the inclusion and exclusion criteria and quality checklists discussed before.

□ Identification of Relevant Literature

To identify the relevant literature for the SLR, the research strings strategy was formulated. The initial search was done on online databases. The articles' search process was separated into three phases; phase 1: online database search, phase 2: citation-based search, phase 3: references-based search.

Phase 1: online database search - the authors searched through Google Scholar, IEEE, Emerald Insight, Scopus, Science Direct. The inclusion and exclusion criteria were then applied to remove the irrelevant studies. In the case of the title and abstract, they were not sufficient enough to be used to identify the relevance of the study, the full paper was then rejected. Upon completion of searching through the online databases, IEEE and Emerald Insight were removed due to duplication of articles. Two databases Scopus and Google Scholar were chosen as the baseline databases due to their reputation as the largest abstract and citation databases. Table 4 shows the online sources and the number of retrieved articles with the number of articles included.

Phase 2: citation-based search and related articles: citation-based search is investigated for the papers retrieved from Google Scholar, to find who cited the selected paper in Google Scholar (forward snowballing). So, for this phase these cited articles were checked to retrieve the relevant articles, the result of this phase salvaged only one relevant paper.

Phase 3: Reference-Search: In phase 3, references-based search is examined, we have looked at the reference of each retrieved paper from phase 1 and phase 2 (backward snowballing), however there was no study that met the inclusion criteria for this SLR. Table 4 presents the search result from an online database.

TABLE VI
ONLINE SOURCES FOR THIS SLR

Online Source	No of articles retrieved	No of articles Included
Google Scholar	507	10
Scopus	162	2

□ Bibliography Management and Document Retrieval

The Mendeley software package was also used as the Bibliography management to save and organize the references. The software was very useful in managing many references that were obtained through a literature search.

□ Data Extraction Plan

The data extraction plan was designed to accurately record the information retrieved from each primary study.

□ Quality of The Papers

In order to check the quality of each study, the quality checklist as presented earlier was applied to each paper that was selected. The quality checklist compromised 8 questions, see (table 3). The ration is used to calculate the quality score; the ratio score is yes= 1 point; No = 0 points; partially = 0.5 point. The resulting total quality score for each study ranged between 0 (very poor) and 8 (very good). Table 5 shows the quality score for the included papers.

TABLE VI
QUALITY SCORE FOR EACH PAPER

Paper -Id	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Total Score
p1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.5
p2	0.5	0	0	0	0.5	0	0.5	0.5	2
p3	1	1	1	1	0.5	0.5	0.5	0.5	6
p4	1	1	1	1	1	0.5	0.5	1	7
p5	1	1	0.5	1	1	1	0.5	1	7
p6	1	0.5	0.5	1	1	0.5	0.5	0.5	5.5
p7	1	1	1	1	1	1	1	0.5	7.5
p8	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.5
p9	1	0.5	0.5	1	1	1	0.5	0.5	6
p10	1	0.5	0.5	0	0	0	0.5	0.5	3
p11	1	1	0.5	0.5	1	1	0.5	0.5	6
p12	1	1	1	1	1	0.5	1	1	7.5

The quality measure ranges from very poor to very good, the number of studies used, and the percentage were presented in Table 6.

TABLE VI
QUALITY MEASURE

Quality Measure	Very poor (<3)	Poor (3-<4)	Fair (4-<6)	Good (6-<=7)	Very Good (>7)	Total
NO of Studies	1	1	3	5	2	12
Percentage	8%	8%	25%	42%	17%	100%

□

□

c) SYNTHESIS THE SLR RESULT

Reporting the result involves combining, organizing and discussing the extracted data, and later synthesizing the outcome of the study. In this section, we discuss the answers to our research question; what were the cues to deception in Islamic websites text-based content and design?

Based on the data extracted in the previous phases, the patterns (cues) identified from all selected journal articles were presented in this section. Altogether, 12 papers were retrieved, while from the snowballing (backward) procedures, no new articles were found that relates to the objectives of the study. Out of 12 papers, 15 cues to deception were generated, with 9 cues were related to textual content-based features, and 6 were related to the design of the Islamic websites. Table 7 shows the result for the cues to deception in the text and the design.

IV. CONCLUSION

Identifying cues to deception will help users not to be misinformed by fake Islamic websites. Although there were some studies reported in this area, systematically reviewing and synthesizing the evidence on the cues to deception in Islamic websites textual content and design were not available. To this aim, 12 primary studies from the SLR were identified as in Table 8. Of these, a list of cues to deception based on the textual content and design were generated. Overall, it can also be concluded that there were no studies explicitly discussing the cues to deception in the context of content and design that were specifically related to Islamic websites. The findings from this study may supply important contributions to the researchers as it provides them with useful information about the cues to deception. For future research purposes, which are based on the cues gathered in this study, a framework to identify deception in the Islamic Websites will be built and validated to help users, designers and the public in general to protect themselves from being deceived, and misguided by the wrong directions of Islamic teaching.

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APPENDIX 1

TABLE VII
THE CUES TO DECEPTION IN THE TEXT AND DESIGN OF THE ISLAMIC WEBSITE.

Cues -Id	Cues Name	Cues Description in The Text-Based Content	Paper-Id
CC1	Absence of Acknowledgment	Websites have no contact information (no address; email; phone number of the author; and no acknowledgement of the source of the information)	p1
CC2	Uncertain Hadith	The use of uncertain Hadith	p2
CC3	Misleading Terminology	Misleading set of terminology about Islam	p3
CC4	Diverse Ideology	The diverse sects in Islam such as (Sunni, Shia, Sufi, Nation of Islam). Each of these sects having their own ideology and point of view on Islam, and these ideologies may be biased to their own understandings. Information found to be a disgrace to Islam and with bad translations and controversial information.	p4
CC5	Misleading Statement	Misleading statement without proper trusted references	p6
CC6	Islamophobia Content	The citation of unauthentic hadiths; Too much sectarians information: Low volume of information.	p7
CC7	The use of weak Hadith	The hadith contain extreme feature that were not originated from the Prophet (S.A.W); hadith that contradict the Sunnah; Hadith that shows it is not authentic because the Prophet SAW would not condone to something that is not true; Hadith that predict what would happen and provide Hadith that explicitly contradict the Quran.	p8, p10, p11
CC8	Lack of credibility in the content	Not reliable to obtain Islamic literature which lack of authority and credibility on the Islamic content on the Internet.	P9
CC9	False Ideology	Spreading false Islamic ideologies about Quran and Islam. Fabricated Quranic verses or ideologically biased interpretations of the verses	P4, P12
Cues To Deception in The Design			
Cues-Id	Cues Names	Cues Description	Paper-Id
CD1	Design Contradiction	The design contradicts Islamic teaching.	p1
CD2	Misleading symbols	The use of misleading set of symbols.	p3
CD3	Uncertain and Poor design	The appearance of the websites posed uncertainty, poor design lack of control, and anonymity.	p4, p5
CD4	Lack of Islamic material management	The amounts of Islamic materials which were disorganized, confusing, irrelevant, incorrect, incomplete, and untrue.	P4
CD5	Lack of Metadata	Lack of metadata for efficient and effective discovery and retrieval. The existence of inconsistent usage of Islamic identity and traits.	p5, p9
CD6	Lack of credibility in the design	lack of authority and credibility. With information overload.	P5

TABLE VIII
LIST OF INCLUDED PAPERS DETAILS

Paper-Id	Paper title
p1	Investigating the Act of Deception in Online-Islamic Content
p2	IT in the 21 st century: benefits, barriers & concerns of Muslim scholars
p3	Muslim user interface evaluation framework (Muslim-UI) for Islamic genre website: a quantitative approach
p4	Trust or distrust in the web-mediated information environment (W-MIE): A perspective of online Muslim users
p5	Information Credibility Assessment of Islamic and Quranic Information on the Web

p6	Content Evaluation of Islamic Websites
p7	Developing Text-Based Measurable Reliability Factors for Islamic Websites
p8	Assessment of the Quality of Hadith Information on the Internet
p9	Islamic and Quranic information on the Web: Information Retrieval challenges and user's preferences
p10	Hadith Degree Classification for Shahih Hadith Identification Web Based
p11	The Holy Quran Digitization: Challenges and Concerns
p12	Islam on the Internet: strategic ways for spreading actual Islamic thoughts to reach Muslims and Non-Muslims via Internet technology