

Factors Influencing SME(s) Companies in Producing Website Considering Web Accessibility Feature: A Preliminary Study

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Abstract. Some previous works indicated that the commercial websites in small and medium-sized enterprises (SMEs) in Malaysia are having serious problems related to accessibility issues. Some websites were revealed to be not in compliance with the W3C accessibility conformance level. The purpose of this study is to explore the phenomenon and examine the factors influencing SMEs companies to produce accessible online content amongst small and medium-sized enterprises SMEs companies considering web accessibility practice. The data were collected and analyzed based on nine key informants working in the respective context. The initial conceptual model was developed based on related theories and previous related studies thus expert analysis reviews were also performed to confirm the relevancy of the instrument designed for this study. The determinant factors discovered are attitude, perceived benefits, and perceived barriers could potentially affect the IT practitioners' intention and companies' decision to produce online content considering accessibility feature. This study intends to furnish both web developers and information technologist in SMEs with some useful insights in order to develop and upgrade the online content or websites in future.

Keywords: Website Accessibility, Website Development, Small and Medium Sized Enterprises

INTRODUCTION

The online news reading has become very popular today, readers are likely to read news online as the Internet provides access to news from millions of sources all over the world which to obtain better understanding of national or international latest news and trends [1]. In previous evaluation studies on web accessibility revealed that current accessibility situation is not equality for everyone includes people with disabilities (PWD) to retrieve information through online [2]. Web accessibility implementation has become an important practice in web development as about 600,000 million PWD in the world who experienced with inaccessibility where this could significantly impact on economy in the world [3].

The related works from Isa [4] and [5] indicated commercial websites in SMEs Malaysia are having serious problems of accessibility issues. Nevertheless, Malaysian and other countries' Government websites were studied and revealed that absence of these web sites in meeting the World Wide Web Consortium accessibility conformance level [6]. Website inaccessibility implies that relevant authorities are not in compliance with Web content accessibility guidelines (e.g.: WCAG) or without considering Web accessibility (WA) implementation at the initial state of web development. As such, non-compliance website might not readable by assistive technologies (e.g.: Screen reader) and an inaccessible website makes barrier or deny assistive technologies to read or transform the web content to braille or [6]. This situation can also bring negative impact (e.g.: negative image) to the organization [7]. Poorly or without implementing Web accessibility (WA) in Government context may create a new source of digital divide and form of discrimination against individuals with disabilities [6]. Indeed, there are only 57.23% of local government websites in Poland are conforming to Aggregate Accessibility Rating [8].

Organizations intend to develop an accessible website due to incentive from WA implementation [9]. Small firms could not able to afford to implement WA due to initial cost can be significant [10] thus demotivated them to implement WA. Government websites and portals are crucial to enable business and all citizens to collaborate and take advantage of e-Government services. A significant accessibility issue discovered in Malaysia government websites and most of Malaysia e-government websites were due to failure in one or more WCAG checkpoints that resulted of non-conformance to WCAG [11]. In another context, the assessment of 21 Dubai e-Government websites revealed that citizens are not able to fully access the Dubai e-Government services and thus the majority of e-Government websites do not pass the basic accessibility conformance level [6]. It was also found that the majority of SME websites have failed to compliance with WCAG 1.0 and encountered high rate of errors (>55%) in context of Malaysia SME [4]. Accordingly, 22 categories of SME websites, which contains 220 websites have been selected as research samples used [4]. In a review of previous studies involving three hundred and seventy two commerce web sites from eight industries showed that 82.53% of 372 commercial websites have serious accessibility problems especially websites from tourism and hospitality industry in Malaysia [12]. Despite of the significance of web accessibility, web developers are still facing inexperience in the accessibility domain and lack of information on how to solve accessibility problems [13].

The aim of this study is to discover and understand the factors influencing implementation of web accessibility among SMEs web developers. Thus, it can help to increase and enhance website accessibility that driven equality access to web resources for everyone including people with disabilities (PWD) in Malaysia.

THEORETICAL BACKGROUND

In achieving the design of the right accessible websites, there should be initiatives to increase the awareness of accessibility guidelines [14]. Web Accessibility Initiative (WAI) is a standards setting for web accessibility and it has been published and accepted across the global [15]. Several guidelines introduced by WAI which are Web Content Accessibility Guideline (WCAG 2.0), User Agent Accessibility Guideline and Authoring

Tool Accessibility Guideline (ATAG) [16]. Apart from WAI, there are various web accessibility guidelines and standards available from different organizations these guidelines tend to help webmasters to create an accessible website.

There are many relevant Web accessibility (WA) models that can be used for the purpose to identify the reasons of failure implementation. Web accessibility integration model (WAIM) tend to examine practitioners to figure out the factors of making website's inaccessible based on three aspects such as social foundations, stakeholder perceptions, and web development. Operational factor have been identified as one of the significant element that influence the firm to decide on adopting web accessibility [17].). Customer and service oriented organizations are much more likely to implement Web accessibility to establish corporate social responsibility strategies in order to elaborate corporate culture with commitment to social values and enhance corporate image [7].

Moreover, in the research model of De Andrés et al.[16], Martínez et al. [10] and Leitner et al. [7] are looking into the financial, economic and size aspect which the firm capital and size would affect firm's decision of Web accessibility (WA) implementation. Technical factor derived from result indicate that seem to have exerted a significant influence on Web accessibility adoption [7]. Whereas, in study of Abou-Shouk et al. [18] claimed that the environmental pressure, manager perceived benefit and barriers to adoption could be significant impact on the adoption of Web accessibility. Indeed, the findings of Nahon et al. [19] discovered the intrinsic motivation, community context and self-efficacy have tremendous impact and main driver to accessibility. The factors derived from existing models that show neither Operational factors nor Corporate social responsibility (CSR) commitment have majority concerns in different contexts and to have exerted a significant influence on Web accessibility adoption.

There is still lack of research to insight the factor influencing implementation of web accessibility and failure reason in context corporate in Malaysia. In order to fill the research gap, this study will be focusing on practitioners' perspective toward firm's decision on implements web accessibility.

METHODOLOGY

This study employed qualitative research method with semi-structured questions in survey form and interview approach. A set of questions were prepared for some web designer and IT practitioners aimed at understanding the phenomenon of web accessibility implementation issues and thus improve web accessibility in Malaysia. In particular, the unit of analysis for this study is practitioners who involved in development or maintenance of selected SME Company's website. Nine key informants from six companies agreed to participate in this study. The role of the participants can be in two categories that are ICT Personnel or JPOM personnel. ICT personnel refers to the person who has IT background such as IT Support, Web developers, Web Programmers, Web project lead, IS professional and whilst Journal Production, Operation and Management (JPOM) refers to the person who maintain and upload the online content into website such as, news content editor & designer, content leads. Thematic analysis approach was used in data analysis process in the study [20].

FINDINGS

Six main themes were initially deduced from literature review which then agreed upon by expert reviewers in terms of relevancy to address the pertinent factors of influencing human behavioral intention to produce accessible website. These are Intention and Attitude, Intrinsic Motivation, Perceived Behavioral Control, Perceived Benefits, Perceived Barriers. The interpretation of qualitative findings can be drawn by noting patterns, explanation, causal flows and propositions [20]. The findings are presented in Table 1.0. Accordingly, we found that Intention and Attitude, Perceived Benefits, are relatively highly important in influencing the participants to employ web accessibility in their company whereby Intrinsic Motivation and Perceived Barriers demonstrated moderate influence on the decision of employing web accessibility.

Factor	Influence on the Intention	Explanation of the evaluation
Attitude	High	The intention and attitude of the users towards web accessibility are significant and users are positive in the production of accessible website. "... If we have sufficient knowledge and skill to make website accessible, why not. As it is value added to company and it may considered as contribution to society ... " (Participant-3), "... I, personally agreed that implementing web accessibility is good to help handicapped people ... " (Participant-4)
Intrinsic Motivation	Moderate	As the practitioner work in a group instead of as freelancer this intrinsically create moderate motivation impact to the intention to produce accessible company's website. "... Initiative to implement web accessibility is group work rather than oneself ... " (Participant-6), "...One's initiative unable to trigger company or group to produce ... " (Participant-2)
Perceived Behavioral Control (PCB)	Low	Indeed, this study has confirmed the practitioners' confident level is tentatively low. However, even the internal individual lack of skill and knowledge that constitutes low confidence, But it would not impact company to produce accessible website if company perceived great benefits. "... Our company have lack of IT skill to produce accessible website and we normally outsource new project..." (Participant-5), "... Employees have no authority to reject the project given by management ... " (Participant-6)
Perceived Benefits (PBE)	High	Even though the awareness of web accessibility was found to be low in study but when they perceived the benefits of web accessibility, they expressed as below:

		<p>“... We have no idea on web accessibility before this interview, but its sound good to implement ...” (Participant-4), “... I believe company’s image could be improved if implementing web accessibility...” (Participant-1), “... An accessible website could attract more customers and increase online traffic to gain profit from online advertisement ...” (Participant-4), “... Increase the use for various users and it is definitely will increase sales for company...” (Participant-3)</p>
Perceived Barriers (PBA)	Moderate-High	<p>The constraints perceived by these companies may highly impact the intention to produce accessible website. “...I only realized and aware of web accessibility in this interview and due to absence of knowledge and skill, this could be the constraint of developing accessible website ... ” (Participant-6) “...we don’t have the tools to check and encounter problem of accessing our website ... ” (Participant-3)</p>

CONCLUSION

This study used qualitative method to explore and understanding the phenomenon of user interest and intention to produce accessible website and these could significantly contribute several perspectives for web developer and IT personals. This study has confirmed the importance of attitude, perceived benefits and perceived barriers that could influence the intention to employ Web Accessibility in preparing online content. On the other hand, Perceived Behavioral Control and Intrinsic Motivation demonstrated low to moderate influence over intention and attitude in regard to applying Web Accessibility element in website development. In future, the findings of this study can be further explored using quantitative method to affirm the statistical reliability.

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