

Determinants of employees' intention to exert pressure on firms to engage in web accessibility

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Web accessibility can help reduce the digital divide between persons with disabilities and the web by providing easy access to information on the Internet. Providing web accessibility can be an important element that manifests a firm's corporate social responsibility (CSR) and employees can play a vital role in this process. This paper examines how employees can impact a firm's decision to fulfil their CSR regarding web accessibility. We propose that employees' intention to exert pressure on a firm is primarily influenced by three psychological needs, namely need for control, need for belonging, and need for meaningful existence. Additionally, perceived importance of CSR moderates the relationship between need for meaningful existence and intention. We empirically test the research model using data collected from 106 Chinese employees. The results suggest that for employees to pressure their firms to improve the accessibility of their websites, it is imperative to enhance their perceived importance of web accessibility, and their need for belonging and for a meaningful existence. We present the theoretical and managerial implications arising from our findings.

Keywords: corporate social responsibility; digital divide; web accessibility; moral motives; psychological needs

1. Introduction

The Internet has permeated our work and our personal lives. Despite the advancement in technology and the efforts to promote its pervasive use, the digital divide remains an issue worthy of concern. In addition to income and education, which have commonly been identified as factors inhibiting access to technology and the Internet, the digital divide that exists for people with disabilities appears to be widening and seriously neglected. Currently, approximately 15% of the world's population, or approximately one billion people, live with some form of disability (World Health Organization 2011). In China, the world's most populous country, the total number of persons with disabilities is over 82.96 million, which is 6.34% of the nation's total population. In particular, the number of people with visual impairment is 12.33 million (National Bureau of Statistics of the People's Republic of China 2006).

Among all forms of disabilities, visually impaired individuals are especially unfortunate because they are unable to directly access information of visual modality on the Internet if the content is not made accessible. Just as accessibility features of the built environment allow persons with disabilities to have good access in the physical world, web accessibility can provide them with equal opportunity and rights to share and access information online. Web accessibility can provide persons with disabilities with unprecedented opportunities to lead a more active and socially integrated life. According to the Web Accessibility Initiative of the World Wide Web Consortium (W3C),

web accessibility refers to the situation whereby people with disabilities can use the Internet to perceive, understand, and search information. Web accessibility addresses all types of disabilities that would have an adverse impact on access to the Internet, such as visual disabilities, auditory disabilities, physical disabilities, speech disabilities, cognitive disabilities, and mental disabilities (Henry 2005a). Web accessibility means that the Internet remains accessible regardless of hardware or software configurations, web infrastructure, language, cultural background, geographical position, physical condition, and the mental level of the users (W3C 2014). Accessible websites can be understood and interacted with by everyone to obtain the same information and resources regardless of whether the user is disabled (Thatcher, Bohman, and Burks 2002).

The W3C defines web accessibility as being composed of three essential parts, that is, web developer, content, and user (Henry 2005b). The success of web accessibility depends on the related consciousness of developers and whether they have realised the essentiality of web accessibility. To meet the needs of people with disabilities, web accessibility depends on cooperation between development and design tools from several aspects: authoring tools and development environment, browsers, multimedia and assistive technology, and web content (Chisholm and Henry 2005). Familiarity with assistive technology and testing tools is also highly crucial for creating and evaluating accessible websites (Sierkowski 2002). Web developers usually use authoring tools and evaluation tools to create

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web content. The users adopt web browser, a media player, and assistive technology such as screen reading software to obtain and exchange web content (Henry 2005b).

However, because of unfriendly design and layout, most existing websites are inaccessible to the disabled, especially those with visual impairments. For instance, most of the Forbes 250 corporate websites and 2000 Portuguese enterprise websites demonstrate low web accessibility according to the W3C WCAG1.0, WCAG2.0, and Section 508 standards (Gonçalves et al. 2012, 2013); only 20% of 100 tourist websites in Britain and Germany are accessible (Williams, Rattray, and Stork 2004), and most of the government websites of Jordan, Europe, Asia, and Africa did not meet the standards of web accessibility (Abu-Doush et al. 2013; Kuzma, Yen, and Oestreicher 2009). Due to inaccessible web design, a blind customer could not make purchases at Target.com without human assistance, and Target Corporation was eventually sued over its inaccessible website (CNET News 2007). Aside from visually impaired persons, beneficiaries of web accessibility can also include people with low educational levels, non-native speakers, people using low-speed Internet, and people who are ability-degraded due to ageing. Therefore, web accessibility is not only beneficial to persons with disabilities but also to able-bodied people in special situations (Henry 2005a).

Research on web accessibility has been an active area of inquiry in the field of human-computer interaction (HCI). Researchers mainly study the design of accessible user interfaces for the visual impaireds (Kim, Smith-Jackson, and Nam 2013; Lazar et al. 2007; Lazar, Dudley-Sponaule, and Greenidge 2004). Besides examining the issue of web accessibility from the perspective of interface designers, the widespread promotion of web accessibility is also a common responsibility for firms, governments, and society because it is undoubtedly a prominent global issue given an ageing society. Web accessibility provides better interactivity and social inclusiveness and can be a powerful means through which firms can manifest their corporate social responsibility (CSR) in this information-intensive era. Firms that design accessible websites can be seen as fulfilling their promise and commitment to providing equal opportunity, and inaccessible websites may have a bad influence on the image and reputation of the firm (Henry and Arch 2012).

In fact, firms are increasingly being pressured by many different stakeholders to implement better web accessibility. Government regulation can have great promoting effects. The UN Convention on the Rights of Persons with Disabilities has been ratified by many countries and explicitly asks for governments to guarantee accessibility (United Nations 2006). In the USA, Section 508 emphasises that electronic information resources should be accessible to people with disabilities (Jaeger 2006). The UK passed the Special Educational Needs and Disability Act in 2001 and since then has gradually established a legal framework and regulations related to the implementation of web

accessibility (Terzi 2005). Germany started to put the Barrierefreie Informationstechnik-Verordnung (BITV) into effect in 2002 and requires all federal organisations to make their websites accessible (Aktion Mensch 2002). However, web accessibility has received scant attention in most countries and there are calls for governments to strengthen the legal frameworks to improve the accessibility of government websites (Kuzma, Yen, and Oestreicher 2009). In China, there is currently no law stipulating web accessibility and the concept is still not widely known or accepted by firms and citizens.

As a key stakeholder of a firm, insiders can have a significant impact on a firm's decision to implement CSR initiatives. Employees, being an integral part of a firm, are of immense importance in pushing their firms to engage in CSR activities. For example, Tom Rattray, Associate Director of Environmental Quality at Procter & Gamble (P&G), has pushed P&G to produce less environmentally damaging detergents since 1992 (Mehegam 1996). In addition, instrumental motivations for employees to act as global business citizens are consistent with, and even necessary for, an organisation's economic success (Logsdon and Wood 2004).

Using web accessibility as a research context, we attempt to address the lack of research concerning the employee-centric factors that influence firms to strengthen web accessibility implementation. Specifically, this paper examines the role that general employees can play and examines the psychological needs that impact employees' intention to exert pressure on their employer to provide web accessibility. We first propose a conceptual model and then develop the related hypotheses regarding the determinants that can affect an employee's decision to exert pressure on their employer to provide web accessibility. Next, we use a dataset of 106 Chinese employees to empirically test our model. The subsequent section presents the theoretical model and research hypotheses. Then, we describe the data collection process, followed by the data analysis. Finally, we discuss the results and provide the theoretical and managerial implications drawn from our findings.

2. Conceptual development

2.1. Web accessibility and CSR

The bulk of the literature on web accessibility primarily comprises an introduction and discussion on the standards that affect the development of web accessibility (Brewer 2004), tools (Bradbard and Peters 2008), and the current implementation status of web accessibility (Craven 2006). In addition, there are several researchers studying web accessibility from the legal perspective. Sierkowski (2002) analyses the reasons why websites should provide accessibility from the legal, moral, technological, and commercial perspectives. A series of studies has also explored the laws related to protecting the rights of the disabled in the USA,

analysed obstacles in the law enforcement process and the reasons for low-level web accessibility, and proposed corresponding solutions (Yu 2002, 2003). A similar study probes into the applicability of the British bill that guarantees rights for the disabled in electronic commerce and remote education (Sloan 2001).

A few scholars have likewise examined the influence of stakeholders on web accessibility. It was found that most methods for realising web accessibility are based on an unreasonable economic model, cost too much, and provide too limited benefits; this situation is partly due to the narrow definition of the beneficiaries of web accessibility (Richards and Hanson 2004). The continued low level of web accessibility shows that the effort expended to encourage web designers, tool developers, and policy decision-makers to adopt accessibility standards to build a truly inclusive Internet is insufficient (Sloan 2006). The user-oriented concept of Accessibility 2.0 emphasises that the technological innovation for web accessibility should not be technology-centric but should focus on the needs of users (Kelly 2007). Through a questionnaire survey of 175 website administrators, Lazar, Dudley-Sponaule, and Greenidge (2004) examined the perceptual factors that impact web designers and developers to implement web accessibility. Several reasons for existing low-level web accessibility are suggested, such as lack of consciousness regarding developing an accessible network, time limits, and the pressure to synchronise with existing technology (Curran, Walters, and Robinson 2007). Frank (2008) proposed an accessible behaviour model and discussed the connection between the tendency of retailers to engage in web accessibility activity and the variety of the retailer's products and services, the complexity of its website and the perceived threat of the legal consequences of an inaccessible website. To eliminate the cognitive gap of stakeholders, education about web accessibility for researchers, web developers, and users should be strengthened (Arch 2009).

This study considers a firm's decision to provide web accessibility (i.e. by designing an accessible website) to be a manifestation of CSR. The research adopts the following definition of CSR: the 'corporation considers and addresses problems that may go beyond the narrow economic, technological, and legal requirements; realises social (and environment) benefits while pursuing the traditional economic benefits' (Davis 1973). The improvement of CSR can start with one small step and address only part of the organisation, rather than demanding a top-down strategy. Ample research has examined CSR from an individual level, especially from the perspective of employees. A firm's CSR has a close relationship with a change in management's personal values; CSR is not only driven by economic factors but also by moral factors stimulated by the employees' socially oriented personal values (Hemingway 2005; Hemingway and Maclagan 2004). Moreover, the self-improvement values of management can have a significant positive influence

on perceived ethics and CSR (Shafer, Fukukawa, and Lee 2007). The implementation of a CSR initiative will lead employees to develop an attitude towards society and not just an attitude towards the firm, which suggests that the employees' sense of value and social status have an important impact on their attitudes towards CSR (Rodrigo and Arenas 2008).

Employee-centric CSR suggests that CSR can begin from the bottom of the organisational hierarchy, and it puts employees in an important position to promote the implementation of CSR initiatives (Nord and Fuller 2009). If an employee is considered as being the firm's representative, they are participants and witnesses of CSR whether individually or as a group. As an internal member of the firm, employees will seek organisational commitment, unlike external people such as customers. A firm's CSR implementation can increase the employee-company identification, which at the same time can increase employee commitment (Kim 2010). An external person acts as an onlooker of the firm, not as part of the firm's core functions. Therefore, when employees perceive that a firm is not undertaking CSR or is engaging in injustice, they will most likely have a negative reaction because these actions indicate a mismatch with their personal values and a threat to their psychological needs. Although employees themselves cannot affect CSR policy formulation directly, they will most likely be involved in evaluating CSR activities and be a part of them.

We used the multi-level CSR theoretical model (Aguilera, Rupp, and Williams 2007) as the underlying theoretical framework. Aguilera, Rupp, and Williams's (2007) model attempts to understand why business organisations engage in CSR activities. The model includes four levels of actors, that is, individual, organisational, national, and transnational, and systematically illustrates the factors that influence firms to become involved in CSR activities. As one of the stakeholders who can promote CSR change, employees have three types of psychological motives: instrumental motives, relational motives, and moral motives. These motives result from three types of psychological needs: the need for control, the need for belongingness, and the need for a meaningful existence. These needs can encourage employees to increase their firm's engagement in CSR.

The model posits that the firm's CSR efforts can be perceived by employees and, therefore, can affect the employees' judgment regarding the fairness of the organisation. Concern for justice based on ego or self-service results from a psychological need for control. In other words, the fairness of the firm's processes can help employees to predict the organisation's behaviour more accurately. The employees' perception of the environmental fairness and the thus-created organisational climate will influence their emotions, stress levels, and satisfaction with their employer. The CSR level can also reveal the quality of the relationship between management and employees. The need for

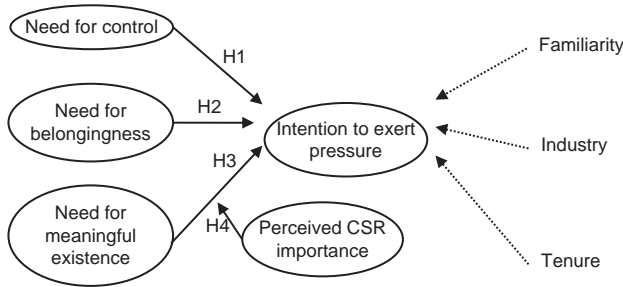


Figure 1. Research model.

belongingness reflects the employees' need for a sense of identity and self-worth, while the need for a meaningful existence significantly affects the employees' intention to promote their firm to engage in CSR.

Figure 1 shows our research model. We focus on the employee's psychological needs and perceptions in regard to the web accessibility responsibility of their employer. We posit that the employees' three types of psychological needs will influence their intention to exert pressure on their firm to engage in CSR regarding web accessibility. Furthermore, we propose that the perceived CSR importance moderates the effects of the need for a meaningful existence on intention to exert pressure.

2.2. Three types of psychological needs

2.2.1. Need for control

Both learning theory (Skinner 1996) and motivation theory (Bandura 1995) have found that human beings have an innate need to control the environment. This need reflects an individual's desire to be able to predict and manage changes in expected results or things of equal importance. Largely, people are self-interest driven. The utility model concludes that people are motivated to seek control because controlling the situation tends to help maximise results (Tyler 1987). By evaluating the services and information that the firm provides to the public, employees infer the organisation's culture and values and predict the firm's behaviour. CSR can help employees to predict the organisation's actions more accurately and thus will allow employees to have a sense of control (Aguilera, Rupp, and Williams 2007). Hence, employees may have an instrumental motive to pay attention to a firm's CSR activities. As a result, employees may regard a firm that participates in CSR as caring about both internal and external persons. Employees pursue and promote their firm's engagement in CSR because they believe that they can benefit from it by meeting their need for control.

H1: The employees' need for control positively affects their intention to exert pressure on their firm to engage in CSR regarding web accessibility.

2.2.2. Need for belongingness

People are social animals (Wright 1994) who look forward to meaningful interactions with others (Baumeister and Leary 1995). In fact, to a certain extent, it is through these meaningful communications that we form our self-identity (Tajfel and Turner 1979). Without these contacts, people may become lonely, depressed, and even anxious. Therefore, people generally have a need for belongingness.

As a member of the firm, most employees will seek a sense of belongingness from other internal persons and management, hoping to become a member of a respectable social group. Therefore, employees can create self-identity and trust in the firm to satisfy their psychological need. The fairness of the firm conveys the quality of the relationship between management and employees (Tyler and Lind 1992). This relationship has a strong influence on an employee's sense of identity and self-worth. When firms devote attention to web accessibility, they are focused on the firm's fairness. Generally, this fairness can contribute to the positive relationships inside the organisation and between the organisation and society. Employees evaluate the attention that their firm pays to this type of relationship through CSR activities. If the employees perceive a high-level CSR, their need for belongingness will be satisfied. CSR activities, such as implementing web accessibility, require management and employees to work together for social benefits. Through this process, employees may obtain additional clues to judge the degree of the firm management's concern about social relationships, which is essential to the employees' need for belongingness (Aguilera, Rupp, and Williams 2007).

H2: The employees' need for belongingness positively affects their intention to exert pressure on their firm to engage in CSR regarding web accessibility.

2.2.3. Need for a meaningful existence

Social psychologists believe that people generally need to seek the meaning of life (Williams 1997), and the purpose of ethics is to search for personal meaning and worth (Becker 1993). People's moral standards are consistent with their values. If people perceive that something is inconsistent with their values, they will react defensively (Cropanzano, Byrne, and Bobocel 2001). Therefore, for employees, if the firm does not provide services and information for vulnerable groups and pays little attention to web accessibility, it is likely to be contrary to the employees' values. This contradiction causes employees to feel defensive regarding the need for a meaningful existence, and it leads them to take certain actions. At this point, the need for a meaningful existence is likely to surpass the need for other benefits. It has been shown that people care about social fairness even though there are no obvious economic benefits and even if it concerns strangers (Kahneman, Knetsch, and Thaler 1986).

The firm's moral behaviour has an effect on the employee's concern regarding a meaningful existence, which may affect the employee's behaviour in the firm (Aguilera, Rupp, and Williams 2007). Employees need to know that they are doing the right things and that they belong to a firm working for social benefits. On the moral level, employees want to work in a firm with a high level of CSR; this desire will sometimes surpass their need for control and need for belongingness (Folger, Cropanzano, and Goldman 2005). This type of moral motive can also affect the employees' involvement in the implementation of CSR: employees not only want to be a member of a firm that demonstrates CSR but also hope to participate in activities that contribute to the social benefit directly. If firms provide web accessibility, it shows that they are concerned about under-privileged people. Hence, employees are likely to influence their employers to implement web accessibility because it is consistent with their own values and ethics to bring equal rights to bear on a vulnerable group's equal access to information.

H3: The employees' need for a meaningful existence positively affects their intention to exert pressure on their firm to engage in CSR regarding web accessibility.

2.3. Perceived importance of CSR

Perceived personal relevance and importance are temporary traits that adjust personal values, beliefs, needs, perceptions, and pressures contextually (Robin, Reidenbach, and Forrest 1996). Because employees are the perceiving subject, to a certain extent, their own values and ethics determine their understanding and views regarding any issue. The perceived relevance and importance of ethical concerns and CSR have an influence on whether an employee takes measures to promote the firm to engage in CSR activities. Relevance and importance also affect the employees' intention to exert pressure on their firm to implement web accessibility.

Compared to the need for control and need for belongingness, which are linked to instrumental and relational motives, respectively, a need for meaningful existence is associated with moral motive. We would expect that individuals' control and belongingness needs are salient under all circumstances and are less context-specific. Hence, they will be less likely to be influenced by the personal relevance and importance of the CSR issue in question. Perceived importance of an ethical issue has been found to be a predictor of moral judgment (Haines, Street, and Haines 2008). Consequently, we expect that the extent to which employees perceive CSR as being an important issue will strengthen the relationship between their need for a meaningful existence and the pressure that they will exert regarding CSR.

H4: The perceived importance of CSR for employees positively moderates the relationship between their need for a meaningful existence and their intention to exert pressure on their firm to engage in CSR regarding web accessibility.

3. Research method

3.1. Sample

The data used to test the model were collected from 106 working adults in China. Table 1 shows the sample characteristics.

3.2. Instrument development

To examine the impact of these factors on employees' intention to exert pressure on their firm to engage in CSR regarding web accessibility, we used a reflective measurement approach to measure each construct in the research model by designing a seven-point Likert scale questionnaire (Table 2).

3.2.1. Need for control

The locus of psychological control is defined as an expectation of rewards or the overcoming of obstacles that can be controlled by one's own action (internal) or other power (external). The Work Locus of Control Scale (WLCS) refers to the locus of psychological control measured in the situation of organisations (Spector 1988). The scale for measuring the need for control was adapted from WLCS and included three items.

Table 1. Sample characteristics.

Category	Number	%
Gender		
Male	72	67.92
Female	34	32.07
Age		
<25	20	18.87
26–30	43	40.57
31–35	25	23.58
36–40	16	15.09
>40	2	1.89
Education		
High school/technical secondary school	2	1.89
College	9	8.49
Undergraduate	62	58.49
Masters and above	33	31.13
Tenure		
< 1 years	24	22.64
1–3 years	25	23.58
4–5 years	22	20.75
> 5 years	35	33.02
Industry		
High technology	48	45.28
Manufacturing	38	35.85
Trade/service	17	16.04
Construction/real estate	2	1.89
Energy/environment	1	0.94
Respondent position		
Employees	74	69.81
Technical staff/managers	10	9.43
Experts/senior managers	13	12.26
Professional/directors	9	8.49

Table 2. Measurement scales for constructs (measured on a seven-point Likert scale).

Construct	Measure
Need for control (NC)	
NC1	I expect that people in our company who perform their jobs well generally get rewarded for it
NC2	I expect that most people in our company are capable of doing their jobs well if they make the effort
NC3	I expect that in our company promotions are given to employees who perform well on the job
Need for belongingness (NB)	
NB1	I desire to feel related with people in my organisation
NB2	I desire to have a sense of togetherness with my co-workers
Need for meaningful existence (NM)	
NM1	We should all be responsible for improving the welfare of others beyond our immediate circle of friends and family
NM2	It is an obligation, not a matter of personal preference, to provide for people worse off even if we are not close to them
NM3	It is important for those who are better off in society to work hard to provide more resources for those who are worse off
NM4	In the healthiest societies those at the top feel responsible for providing better lives for those at the bottom
Intention to exert pressure (P)	
P1	I would be likely to push my company to put in more efforts to improve its CSR on web accessibility
P2	I would probably influence my company to pay more attention to the issue of web accessibility
P3	I would persuade our company to make its website more accessible to the visually disabled
Perceived CSR importance (CSRI)	
CSRI1	Being ethical and socially responsible is the most important thing a firm can do
CSRI2	The ethics and social responsibility of a firm is essential to its long-term profitability
CSRI3	The overall effectiveness of a business can be determined to a great extent by the degree to which it is ethical and socially responsible

3.2.2. Need for belongingness

Based on the notion of belongingness (Kohut 1984), loneliness and social support can reflect the opposite psychological structures; social support means that the individual is attached and connected to society (Newcomb 1990). On the foundation of Kohut's theory of self-psychology, Lee and Robbins (1995) developed two ways to measure a sense of belongingness: the Social Connectedness Scale and the Social Assurance Scale. The scale used to measure the employees' need for belongingness was based on the Social Connectedness Scale and included two items.

3.2.3. Need for a meaningful existence

Social fairness is intended to help others to promote the progress of society. Generally, social fairness is associated with endeavours that help to assure economical and material support for members of society and to strengthen social benefits for people in an under-privileged state. These endeavours and concerns are exact reflections of the need for a meaningful existence. Therefore, we developed the scale to measure the need for a meaningful existence based on the Moral Motive Scale (Janoff-Bulman, Sheikh, and Baldacci 2008). We chose four items related to social justice to evaluate employees' need for a meaningful existence.

3.2.4. Intention to exert pressure

This construct refers to employees' intention to push their firm to engage in CSR regarding web accessibility. The

scale used to measure intention to exert pressure was based on Aguilera, Rupp, and Williams's theoretical propositions (2007) regarding promoting the implementation of CSR. This scale was contextualised to the domain of web accessibility.

3.2.5. Perceived CSR importance

Based on the organisation performance list (Kraft and Jauch 1992), the scale of the Perceived Role of Ethics and Social Responsibility (PRESOR) (Singhapakdi et al. 1995, 1996) was developed to measure the impact of CSR on organisations. The PRESOR scale is divided into two groups (Axinn et al. 2004): the perspective of shareholders and the perspective of stakeholders. We used the three items for PRESOR from the perspective of stakeholders to measure employee's perceived CSR importance.

3.2.6. Control variables

Consistent with the previous research on CSR implementation, employees' working experience with the company, the nature of their company, and their knowledge of the CSR issue may influence their CSR-related behaviours. First, we expect the intention that employees exert pressure on their firm to engage in CSR regarding web accessibility to be affected by tenure, which was coded as the number of years that the employee has worked for the current firm. Next, the intention to exert pressure might also differ across different industries, so the industry was coded with

a dummy variable for different industries. Third, this intention is also likely to be affected by familiarity with web accessibility knowledge, and the scale for measuring familiarity with web accessibility knowledge was adapted from Brucks (1985).

4. Data analysis and results

4.1. Measurement model evaluation

Partial least squares (PLS), as implemented in Smart-PLS Version 2.0.M3 (Ringle, Wende, and Will 2005), were used for the data analyses. PLS can assess the measurement model (relationships between indicator items and constructs), which is within the context of the structural model (relationships among constructs). Furthermore, PLS maximises the explanation of variance and predictions in the theoretical model. Our data set satisfies the criterion that the sample size should be at least 10 times the largest number of structural paths directed at any one construct (Chin, Marcolin, and Newsted 2003).

We used three tests to determine the convergent validity and internal consistency of the five constructs: item loading,

composite reliability of the construct, and the construct’s average variance extracted (AVE).

Table 3 shows the psychometric properties and descriptive statistics. All the item loadings between an indicator and its posited underlying construct factor were greater than 0.7. The composite reliability of constructs all exceeded Nunnally and Bernstein’s (1994) criterion of 0.7, while the AVE was above the recommended threshold of 0.5, adequately demonstrating convergent validity.

Table 4 presents the test for the discriminant validity of the constructs. The diagonal elements are the AVE for each construct, which, for discriminant validity, should be greater than the off-diagonal elements of the square of inter-construct correlations. All the constructs satisfied this requirement.

4.2. Structural model test results

With the assurance of good psychometric properties in the measurement model, the PLS structural model was next assessed. The explanatory power of the model was determined based on the amount of variance the model could account for in the endogenous constructs (intention to exert

Table 3. Psychometric properties and descriptive statistics of the measurement model.

Construct	Item loading	Composite reliability	Cronbach’s alpha	AVE	Mean	SD
Need for control		0.91	0.85	0.77	5.87	1.03
NC1	0.87					
NC2	0.89					
NC3	0.87					
Need for belongingness		0.94	0.86	0.88	5.54	1.15
NB1	0.92					
NB2	0.95					
Need for meaningful existence		0.91	0.88	0.73	5.27	1.26
NM1	0.87					
NM2	0.90					
NM3	0.88					
NM4	0.76					
Intention to exert pressure		0.94	0.91	0.85	4.27	1.37
P1	0.89					
P2	0.93					
P3	0.94					
Perceived CSR importance		0.91	0.85	0.77	5.46	1.27
CSRI1	0.86					
CSRI2	0.89					
CSRI3	0.88					

Table 4. Discriminant validity of constructs.

Construct	Need for control	Need for belongingness	Need for meaningful existence	Intention to exert pressure	Perceived CSR importance
Need for control	0.85				
Need for belongingness	0.56	0.86			
Need for meaningful existence	0.51	0.46	0.88		
Intention to exert pressure	0.33	0.41	0.47	0.91	
Perceived CSR importance	0.43	0.43	0.35	0.40	0.85

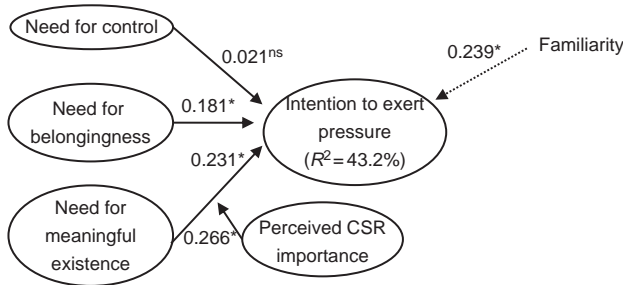


Figure 2. Research model with PLS results. *Significant at $p < .05$.

pressure). The final model, shown in Figure 2, could explain 43.2% of the pressure.

A bootstrapping procedure generating 500 random samples was used to estimate the significance of the path coefficients. Because the hypotheses were unidirectional, they were assessed at a 5% level of significance using one-tailed t -tests. All the hypotheses except for H1 ($\beta = 0.021$, $t = 0.181$) were supported. The need for belongingness had a strong effect on pressure ($\beta = 0.181$, $t = 1.803$, $p < .05$), while the need for a meaningful existence ($\beta = 0.231$, $t = 1.934$, $p < .05$) had a stronger path coefficient and contributed more to improving the pressure that employees exert on their firm. The analyses of the moderating effects suggest that H4 regarding the strengthening effects of perceived CSR importance on the relationship between the need for a meaningful existence and pressure was significant ($\beta = 0.266$, $t = 2.290$, $p < .05$). As for the control variables, web accessibility familiarity was found to significantly affect pressure ($\beta = 0.239$, $t = 2.873$, $p < .01$), while industry and tenure had no significant influences.

5. Discussion and implications

The results reveal that the need for belongingness and the need for a meaningful existence are the key determinants that influence employees' intention to exert pressure on their firm to engage in CSR regarding web accessibility. Furthermore, the perceived CSR importance positively moderates the relationship between the need for a meaningful existence and intention to exert pressure. Among the control variables, familiarity with web accessibility knowledge has a positive effect on intention to exert pressure. Contrary to our hypothesis that employees' need for control positively affects their intention to exert pressure on their firm to engage in CSR regarding web accessibility, we found no support for this relationship. Because the three psychological needs are hierarchical in nature, with the need for control being an instrumental motive, this finding could suggest that in regard to a CSR issue such as providing web accessibility for the visually impaired, relational and moral motives supersede instrumental motives.

This research has made several significant theoretical contributions. First, our study has made an exploratory

attempt to bridge the research on web accessibility and CSR and hence contributes new insights to understand web accessibility as a relatively new CSR issue that warrants attention. We consider web accessibility to be a part of a firm's overall CSR strategy and provide an empirical test of Aguilera, Rupp, and Williams's (2007) theoretical CSR model. Second, a novel aspect of our study is that we have taken the perspective of employees in the study of web accessibility, while most prior studies in web accessibility were from the perspective of other stakeholders such as web designers, web masters, tool developers, and policy decision-makers (Lazar, Dudley-Sponaugle, and Greenidge 2004). Moreover, existing employee-centric CSR research has investigated the impact of employees' individual characteristics such as personal values (Hemingway and MacLagan 2004) and social status (Rodrigo and Arenas 2008) on their CSR dispositions. Little is known about the pivotal role of employees' psychological needs in a firm's decision to implement web accessibility. Our results constitute some of the earliest empirical evidence by contextualising the employee-centric CSR theory proposed by Nord and Fuller (2009) to examine the role of employees in exerting pressure on their employer to engage in CSR regarding web accessibility. Finally, our findings have directly responded to the call by Hochheiser and Lazar (2007) to further understand the issues of accessibility in HCI. From our literature review on web accessibility and CSR, we found that the bulk of the extant research focuses on surveys regarding web accessibility implementation and evaluations of the effectiveness of the web accessibility software. Research concerning the influencing factors on web accessibility and in-depth studies on the social and organisational factors that can influence firms to strengthen their web accessibility implementation is seriously lacking. The insights obtained from this study on how general employees can influence the intention to exert pressure on firms to implement accessibility have enriched the extant HCI web accessibility research to some extent. The deeper understanding gained from the examination of the psychological needs underlying employees to exert pressure on their firm to engage in CSR regarding web accessibility can complement the insights from HCI research taking a technical approach (Hochheiser and Lazar 2007). This is because conformance to the available accessibility guidelines cannot necessarily guarantee usable websites since there is a need to also consider other social and organisational factors in the implementation of web accessibility (Leporini and Patern 2008).

The study also offers several managerial implications for promoting web accessibility by non-profit organisations, policy-makers, and organisations. First, to elevate the influence of employees in promoting a firm's implementation of web accessibility, employees' need for belongingness, need for a meaningful existence, and knowledge regarding web accessibility should be strengthened. Next, our results suggest that when employees perceive CSR as being an

important issue, the influence of their need for a meaningful existence on their intention to exert pressure will be accentuated. Hence, it is crucial for the relevant bodies to take measures to increase the awareness regarding CSR and web accessibility so that we can see more widespread adoption of web accessibility standards in designing websites.

There are some limitations when interpreting the results of this study that provide numerous opportunities for future research. First, the present study only examined employees' influence in promoting implementation of the firm's CSR activities. Employees represent only one type of stakeholder in *Aguilera, Rupp, and Williams' (2007)* multilevel CSR framework. Subsequent research can be extended to other stakeholders that may affect a firm's implementation of web accessibility, including top management, institutional investors, governments, and non-government organisations. The impact of corporate strategy, cost, resources, and the external environment of the firm could also be investigated. Second, cultural differences could have an impact on the relationships between employees and companies. Hence, it would be fruitful to conduct cross-cultural studies involving respondents with different social and cultural values. Third, we have only collected cross-sectional data on the perceptions of employees' current attitude and intention towards exerting pressure on their firm; it would certainly require a longitudinal study to truly investigate whether intention translates into action. Not least, research using a qualitative approach can further enrich our understanding of the interplay between employees' perceptions, values, and firms' CSR actions.

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