Website Innovativeness: Development and Validation of the Measure

Edith Tremblay, Yellow Pages Group, Canada
Anik St-Onge, UQAM, Canada
Jean-François Ouellet, HEC Montreal, Canada
Sylvain Senecal, HEC Montreal, Canada

The main objective of the research was to develop a website innovativeness (WSI) measurement scale. Following Churchill (1979), a literature review was performed to define the WSI concept and generate measurement items. Additional items were also generated following thirteen individual interviews with consumers. Next, expert judges were used to purify the scale, which was then used in a large scale data collection (n=278). Two factors, novelty and appropriateness, emerged for the exploratory factor analysis. The proposed WSI measurement scale, in addition to being reliable, showed some evidence of content, discriminant, and construct validity. Based on these findings, theoretical and managerial implications are discussed.

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Edith Tremblay, Yellow Pages Group
Anik St-Onge, Assistant professor, UQAM
Jean-François Ouellet, Associate professor, HEC Montreal
Sylvain Senecal, Associate professor HEC Montreal

ABSTRACT
The main objective of the research was to develop a website innovativeness (WSI) measurement scale. Following Churchill (1979), a literature review was performed to define the WSI concept and generate measurement items. Additional items were also generated following individual interviews with consumers. Two factors, novelty and appropriateness, emerged for the exploratory factor analysis. The proposed WSI measurement scale, in addition to being reliable, showed some evidence of content, discriminate, and construct validity. Based on these findings, theoretical and managerial implications are discussed.

EXTENDED ABSTRACT
Although the Internet is one of the most significant developments in retailing in the last 50 years, e-commerce still has not reached its full potential (Amato-McCoy, 2006). Dholakia and Rego (1998) suggest that a company website does not currently provide significant competitive advantages since it must compete with thousands of similar websites. In addition, consumers do not seem satisfied with current websites and would like to navigate on new and different websites (Blake et al., 2005). In order to get out of this cluttered environment and better satisfy consumers, firms may implement innovative functionalities on their website. In fact, being innovative online may increase website popularity (Dholakia and Rego, 1998). Hult et al. (2004) show that the performance of a firm is influenced by its innovativeness. If the same relationship holds true online, investigating website innovativeness and how it can be assessed becomes an important strategic issue for online retailers. Thus, the main objective of this research is to develop a measure for website innovativeness (WSI).

In the literature, the concept of innovativeness has been studied from several perspectives, including product innovativeness (e.g., Cantalone et al., 2006), consumer innovativeness (e.g., Goldsmith and Holfacker, 1991) and brand innovativeness (Ouellet, 2008). Conceptually, innovativeness is suggested to be a multidimensional construct composed of at least two dimensions: appropriateness and novelty. Sethi et al. (2001) define appropriateness as the “Extent to which a given output is viewed as useful or beneficial to some audience” (p. 74) and novelty as the “Extent to which a concept, idea, or object differs from conventional practice within the domain of interest” (p. 74). Moreover, a recent study of Ouellet (2008) considers another dimension of innovativeness, namely the frequency of novelty introduction. Hence, we propose the following definition of perceived website innovativeness: Consumers’ perception of how frequently a website introduces and updates new features that are beneficial for consumers. This definition encompasses the above three dimensions of innovativeness (appropriateness, novelty, and updating).

In order to develop the WSI measurement scale, we followed the procedure proposed by Churchill (1979). Following the definition of the WSI concept, a set of items were generated based on the literature and on thirteen consumer interviews. Once generated, items where then submit to four e-commerce experts. This step was followed by the development of a questionnaire, which was pretested (n=7) and then sent to a list of consumers via email. The final data collection sample was composed of 278 consumers. At each step the items were modified, eliminated, or unchanged in order to arrive at a final WSI measurement scale.

An exploratory factor analysis with varimax rotation was performed. Based on the screen plot analysis, two factors clearly emerged. The first factor explaining 44.07% of the variance represented appropriateness items and the second factor explaining 24.50% of the variance represented novelty items. In addition, the reliability coefficient was more than satisfactory for each dimension (.977 for the appropriateness dimension and .940 for the novelty dimension). The proposed WSI measurement scale (25 items) and its more parsimonious version (8 items), were tested for discriminant, content, and construct validity. Results strongly support its content and construct validity, while results for the discriminant validity were inconclusive.

From an academic standpoint, the present research extends the concept of innovativeness by showing that it can be applied to websites. As suggested by research on innovativeness (Sethi et al., 2001), appropriateness and novelty form the two dimensions of website innovativeness. The updating dimension did not surface in our analysis, except for the frequent website user group. For this specific group, it seems that the updating dimension of WSI is also an important dimension, which lends some support to the three dimensional view of innovativeness (Ouellet, 2008). However, additional research is needed to support this finding. It has to be noted that the type of websites used for the final data collection, i.e., travel website, is not the best type to test the updating dimension of innovativeness. A type of websites more frequently used by consumers would be better to test the relevance of the updating dimension (e.g., news, weather, portals, etc.).

For managers, this measurement scale could be quite useful. First, the WSI measurement scale can help managers assess the innovativeness of their website and of their competitors’ websites. Furthermore, it can help pinpoint which dimension of WSI is dominant or lacking. Although novelty seems to be the most important dimension, appropriateness also needs to be carefully addressed when innovating. Thus, innovative features must be introduced carefully to ensure that they are useful to consumers. Managers need to surprise consumers, while ensuring that the site is still functional and easy to navigate. Firms can also use the WSI measurement scale to verify the congruence between the innovativeness of their website and their brand. In addition, for frequent visitors, content updating seems to be a relevant aspect to consider.

The main limitation of this research undoubtedly comes from the sampling method used. Since convenience samples were used, results may not be representative of the population. Thus, additional research using different samples is needed to bring additional support to our findings. Future studies should also use confirmatory factor analysis to validate the structure of the proposed scale and its more parsimonious version. Additional studies are needed to retest the discriminant validity of the WSI measurement scale and the relevance of the updating dimension. Finally, the WSI measurement scale should be integrated in a larger conceptual framework in order, for example, to test the impact of innovativeness on outcome variables such as revisit intentions, conversion rates, and satisfaction.
REFERENCES


