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Website Credibility Assessment: An Empirical - Investigation of Prominence-interpretation Theory

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Abstract:

While a variety of research studies have examined factors that influence individuals' attitudes toward and use of websites, an important yet understudied stream looks at the role of website credibility. We examine website credibility through the lens of prominence-interpretation theory. Fogg (2003) developed this theory to help explain the relationships between what users observe about a website, how they interpret it, and how observation and interpretation together determine website credibility. In this paper, we look specifically at the relationship between prominence and interpretation and how these variables interact to influence attitudes about website credibility. We examined this relationship using a controlled laboratory experiment in which we exposed subjects to a website and asked them what they saw and how they interpreted what they saw. We analyzed these data using discriminant analysis and show that the interaction between prominence and interpretation accurately predicts attitudes about credibility, which offers strong support for prominence-interpretation theory. We discuss these findings and their implications for theory and practice.

Keywords: Credibility, Prominence-interpretation Theory, Laboratory Experiments.

1 Introduction

Ecommerce continues to grow globally, especially due to growth in emerging markets and mobile commerce. Recent predictions call for global B2C sales to reach US\$2.05 trillion by the end of 2016 (eMarketer, 2016), which represents a 22.7 percent increase over 2015. Clearly, consumers have grown comfortable with shopping and, more importantly for merchants, with purchasing on the Web. Since the advent of B2C e-commerce, academic researchers in marketing and information systems have been working to determine why individuals adopt it and what barriers stand in the way of adoption. One stream of early academic research into online consumer behavior focused on factors such as trust, the perceived usefulness of the website, and the website's user friendliness (see, e.g., Gefen, Karahanna, & Straub, 2003). Another stream of early research focused instead on attributes of the e-commerce website itself, such as the website's perceived quality (Cao, Zhang, & Seydel, 2005) or its perceived credibility (Fogg & Tseng, 1999).

Website quality and credibility remain important factors for explaining ecommerce activity. For example, Everard and Galletta (2005) found that website quality was related to trust in the website, which was, in turn, related to the intent to purchase from the website. Wells, Valacich, and Hess (2011) report that perceived credibility moderated the effect of website quality on product quality. One can investigate issues related to website quality and credibility from several different theoretical perspectives. Everard and Galletta (2005) used theories of impression formation and trust, while Wells and colleagues relied on signaling theory (Wells et al., 2011). Another perspective comes from an under-researched, yet potentially important theory called prominence-interpretation theory (PIT) (Fogg, 2003). The basic idea behind PIT is that two things happen when people assess a website's credibility: first, they notice something (prominence); second, they make a judgment about what they notice (interpretation). For people to assess a website's credibility, they must first notice some element of the online experience. PIT also proposes several antecedents to both prominence and interpretation.

Despite PIT's promise for researching website credibility, to date, no one has tested the complete theory. While Fogg et al. (2003) studied prominence, no one has studied the interpretation component of the theory and how prominence and interpretation work together to determine credibility. As such, we test the complete PIT model and to evaluate the theory's potential as a model for conducting research in ecommerce and other fields where credibility is important.

2 Literature Review & Theory

Prominence-interpretation theory (PIT) is not the only approach to website quality that researchers have considered. In Section 2.1, we start our review of the literature by considering other studies of antecedents to website quality. Subsequently, in Section 2.2, we consider PIT.

2.1 Website Credibility & Quality

With the advance of information technologies, the information seeker's environment has expanded with a greater need to distinguish accurate information from noise. Researchers have studied credibility in a variety of fields, including communication, information science, psychology, marketing, and management science, and from an interdisciplinary perspective (Rieh & Danielson, 2007).

No single definition of credibility seems to exist because each academic field that studies it has a slightly different take on it. Tseng and Fogg (1999) define credibility as believability and propose that credibility is a perceived quality in that it does not reside in an object. In the realm of deceptive communication, recent research has found that the sender's perceived credibility is the most important factor in determining whether or not someone will judge that individual as truthful (Bond & DePaulo, 2008).

For e-commerce, a website's credibility is often an important aspect of a consumer's decision of whether or not to purchase from the website. Corritore, Kracher, and Wiedenbeck (2003) posit that credibility, ease of use, and risk are antecedents to online trust. Everard and Galletta (2005) found the intent to purchase from a website depended on trust in the website, and they reason that trust reflects the website's credibility. Wells et al. (2011) found that signals about the credibility of a website moderated the effect of website quality on product quality such that the quality of a website had a stronger effect on product quality if an individual saw the website as credible. In turn, they found that product quality affected purchase intentions. These findings are similar to the ideas of Wang and Emurian (2005), who suggest that four design factors (i.e., graphic design, structural design, content design, and social-cue design) have a prominent role in creating a quality

presentation and that a quality presentation positively influences attitudes about trust. In other words, Wang and Emurian suggest that a quality website says something about the purveyors of the website and their trustworthiness. In similar studies of Web quality, Rieh (2002), Rieh and Belkin (2000), and Rieh and Belkin (1998) found that source characteristics were the main criteria users applied when assessing information quality. In a study of adolescents' assessment of information on the Web, Agosto (2002a, 2002b) found that a website's color and design were important in the evaluation processes.

Website credibility is not a unidimensional concept. For example, Flanagin and Metzger (2003) identify three dimensions of user perceptions of credibility: 1) message credibility, 2) sponsor credibility (i.e., an entity whose interests a website represents), and 3) website credibility. Fogg (2002) specify four types of credibility in assessing information systems: surface credibility, presumed credibility, reputed credibility, and earned credibility. Fogg (2002) argue that, while one's overall assessment of website credibility may hinge on a single type of credibility, the assessment may draw on elements or all four categories at the same time. More recently, Lowry, Wilson, and Haig (2014) investigated the effect of website design and logos on how individuals assessed credibility and found a strong interaction effect of the logo and website design on credibility assessments.

While these studies investigate the downstream effects of website quality and credibility, others have investigated the antecedents to quality and credibility (Table 1). These studies share few antecedents perhaps because the antecedents they study are not theory driven. Rather than propose several direct antecedents to credibility, prominence-interpretation theory (PIT) instead posits that the relationship between what one observes (prominence), what meaning(s) one gleans from the observed objects (interpretation), and how antecedents to prominence and interpretation influence this interaction drive credibility.

Table 1. Antecedents to Website Quality and Credibility

Study	Antecedents to quality/credibility
Eysenbach & Koehler (2002)	Information source, professional design, scientific or official touch, language, ease of use.
Cao et al. (2005)	System quality, information quality, service quality, and attractiveness.
Flanagin & Metzger (2007)	Site genre (media, ecommerce, special interest, or individual), site sponsor, and site message content.
Rains & Karmikel (2009)	Message characteristics: statistical information, testimonials, quotations, references, identification of message author, indicator of message currency; Structural features: third-party endorsements, images, physical address or telephone number, privacy policy statement, navigation menu, name of website operator, links to external websites.

2.2 PIT

Fogg (2003) developed PIT as a way to understand how people make credibility assessments related to the Web and specific websites. In a partial test of the theory, Fogg et al. (2003) collected data from 2584 people who each viewed and judged the credibility of one of 100 websites. In this study, Fogg et al. focused on prominence, and they reported on the 18 most common things that participants noticed. The most noticed factor was "design look", which 46 percent of the study participants mentioned. Similarly, Robins and Holmes (2008) found that the design and look of a website had the strongest effect on credibility assessments.

PIT posits that two things happen when users evaluate credibility online: 1) the user notices something (prominence) and 2) the user makes a judgment or assigns meaning to it (interpretation). Fogg (2003) argues that both factors, prominence and interpretation, must take place to assess a website's credibility. Figure 1 shows PIT's two main components and factors affecting them. Fogg defines prominence as "the likelihood that a website element will be noticed or perceived" (p. 722). PIT posits at least five factors that affect prominence and three that affect interpretation (see Figure 1). The factors affecting prominence are: 1) the user's involvement, which includes motivation and ability to evaluate websites; 2) the website's topic; 3) the user's task, which could be seeking information, making a transaction, and so on; 4) the user's experience (i.e., novice or expert); and 5) individual differences. Of these factors, Fogg says that

involvement, especially in terms of motivation, may be the most dominant factor affecting prominence. Fogg also says that this list of factors is not complete and that other factors likely play a role.

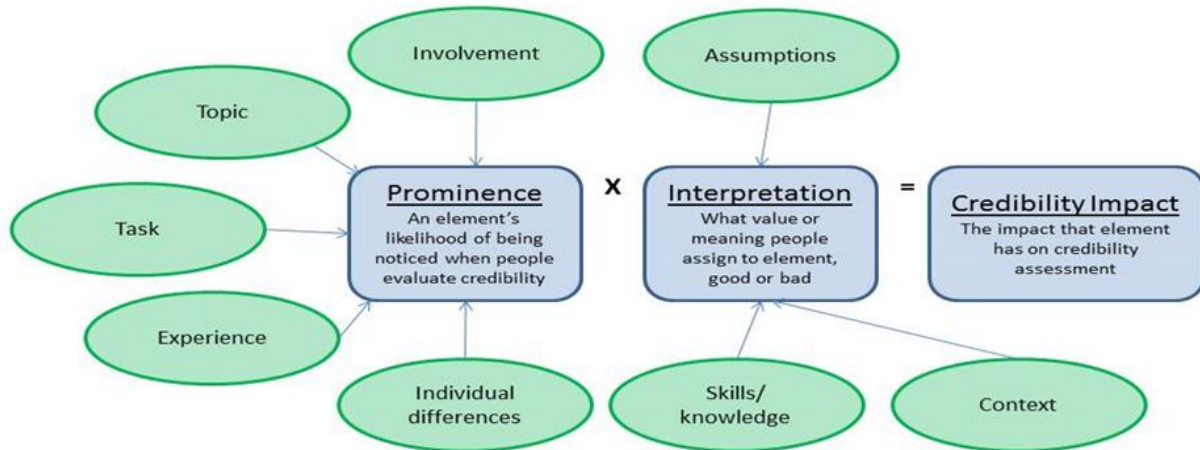


Figure 1. Prominence-interpretation Theory

In PIT, interpretation is “a person’s judgment about an element under examination” (Fogg, 2003, p. 723). The three factors that PIT posts to affect interpretation are: 1) assumptions in the user’s mind (i.e., culture, past experiences, and so on); 2) the user’s skills/knowledge, especially in such areas as competency in the subject matter of the website; and 3) context, as in the user’s environment, expectations, situational norms, and so on. PIT posts that users do not interpret or evaluate website elements in the same ways.

A user’s process of noticing and interpreting elements while browsing online is usually an iterative and subconscious process, which will lead the user to make a general assessment about the websites they view. The interpretation may be conscious and, hence, explainable or unconscious/tact and, hence, difficult to articulate (George, Giordano, & Tilley, 2016). A website’s elements that users notice and assign a value affect the four types of credibility assessments that Fogg (2003) suggests and that we mention earlier. For example, users may interpret their noticing a non-functioning link on a website as the website’s having poor management and lead to users’ negatively assessing its credibility.

Despite PIT’s promise for researching website credibility, we could not find any previous research that has empirically tested the complete theory. Some have tried to apply the PIT model tangentially or partially. For example, George et al. (2014) explored the antecedents of prominence in a deception detection study. They tested four of the five factors related to prominence and found a strong relation with perceived credibility. In a later study, they offered an expanded model of PIT to encompass the credibility of computer-mediated communication, deception, and its detection in a computer-mediated context (George et al., 2016). The latter study did not test the expanded model but derived seven propositions from it. Fogg et al. (2003) investigated only the prominence part of the theory and have not empirically validated the interpretation part. By testing the central part of the model, our research investigates if the PIT is a viable theory to explain variances in website credibility assessments.

3 Research Model

In this paper, we test the relationship between prominence, interpretation, and credibility assessments. The original PIT model (see Figure 1) has an interaction effect between prominence and interpretation, which an “x” between them represents. Converting the original process model to a causal model suggests the working model in Figure 2, where interpretation moderates the relationship between prominence and credibility impact.

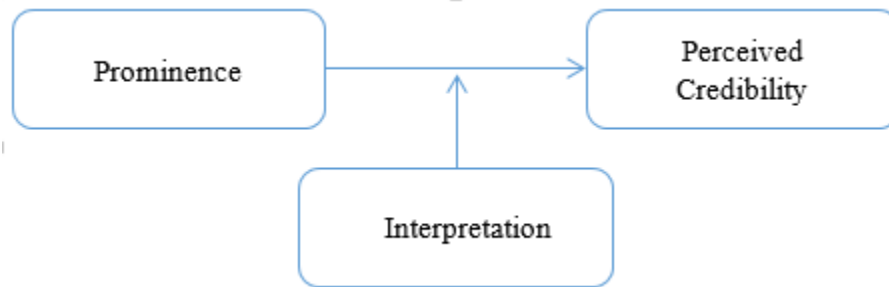


Figure 2. Working Research Model

We derived hypotheses from PIT. Fogg (2003) does not propose specific hypotheses, but he discusses the relationships between the constructs in his model. He suggests that, for the user to evaluate a website's credibility, two things must happen: 1) the user must notice something and 2) the user must make a judgment about it. The qualitative dimension or "what" users notice is an important factor related to prominence. The examples of elements can be a company logo, privacy policy, third party's logo, broken link, specific text, a picture element, font, color of the website, and so on. Thus, we propose:

Hypothesis 1: The specific elements of a website that users notice affect how they assess the credibility of the website.

While prominence alone helps explain credibility assessments, understanding the role of interpretation should provide a richer understanding. One can value the elements seen on a website as positive or negative elements. For example, one may positively interpret a noticed endorsement by a trusted third party and, thus, positively assess the website's credibility (Pavlou & Gefen, 2004; Sia et al., 2009). On the other hand, one might negatively interpret a website's poor design elements and, thus, negatively assess the website's credibility. Therefore, we hypothesize:

Hypothesis 2: Interpretation moderates the relationship between prominence and credibility impact.

4 Research Method

We used users' self-report data to test our hypotheses. We measured three variables: recalled prominence, interpretation, and perceived credibility. Participants performed a scavenger hunt in which they had to find answers to specific questions by browsing a website. After the study task, we asked the participants if they thought the website was credible. Based on their answer, we asked them to recall the website elements that supported their assessment. Recalled prominence refers to the items that participants recalled they saw when completing the main task. User interpretations refers to reasons participants provided for pointing out specific website details, which they stated had affected how they rated the website's credibility.

4.1 The Study

4.1.1 Pilot Test

We collected data in a lab located in a business college in a large Midwestern university. Prior to running the actual study, we ran a pilot test with five graduate students. We asked them to sit at a computer and perform two scavenger hunt tasks on two separate websites. We designed the first task to make them comfortable with the study experiment's requirements. The second task was the main task and was similar to the practice task; however, it employed a different website. After completing the scavenger hunt on the main task, we interviewed subjects to find out what elements they remembered seeing on the website and how those elements contributed to how they assessed the website's credibility. We adjusted any procedures that seemed unclear to make the process clearer. The pilot study demonstrated that the subjects had sufficient understanding of the task, that the experimental setup worked properly, and that the experimental procedure worked as designed.

4.1.2 Research Participants

We recruited participants from students enrolled in the above-mentioned university's business college. During the recruitment, we announced the study's purpose, overviewed the study, and provided details

about compensation for participation. Thirty undergraduates took part in this study (women = 12, men = 18). Each study session included only one participant at a time.

4.1.3 Study Procedure

On participants' arrival, the researcher (only one researcher interacted with the participants) asked them to complete a consent form. Next, the researcher informed them about the overall procedure. The researcher seated participants at a computer and explained the task to them. Next, they completed a practice task. We designed the practice task to make sure subjects were comfortable with instructions and understood the task. After confirming that participants did not have any questions or concerns completing the task, they could start the main task. A lab assistant helped to run the study by taking notes during interviews, which took place after the main task.

The practice task and the experimental task involved a scavenger hunt that was the same for all participants. Participants saw the same specific small business commercial website (we used a different website for the practice task). The researcher asked participants to browse the website and to find the answers to the questions that appeared on their screens. The practice task involved three questions; the experimental task had nine questions. Once the participants found the answer to a question, they recorded it by selecting from multiple-choice options. They did not have any time constraints to finish their task.

Once the participants finished the experimental task, the researcher conducted a follow-up interview with each participant. The researcher first asked the participants if they thought the website they had browsed for the main task was credible. Based on their answers, the researcher asked them to recall what they noticed on the website that made them conclude whether the website was credible or not. The interviewer recorded each item recalled. The researcher then asked the participants about how they interpreted each of the things they recalled and how those things were associated with credibility. Two people (the researcher conducting the interview and the lab assistant) recorded the answers that participants provided.

Next, the researcher asked subjects to complete a questionnaire about demographics (see Table 2) and prior experience with using websites. At the end of the experimental session, the researcher thanked the participants and gave them monetary compensation. The researcher then debriefed the participants and asked them not to discuss the details of the study with anyone until the study finished.

4.1.4 Measures

We measured perceived credibility, the dependent variable, by asking the subjects whether they would consider purchasing from the website. The response to the question included "yes", "no", and "maybe". We reasoned that, the more likely a subject considered purchasing from the website, the more credible the subject must have assessed the website (Everard & Galletta, 2005).

We measured recalled prominence from participants' self-reports. Right after the experimental session, the researcher asked the subjects to recall items they saw on the website that affected their assessment of the website's credibility. The researcher recorded all items they recalled and subsequently coded them. During coding, eight categories (see Table 3) emerged that captured the full range of items the participants recalled. Two coders independently coded six random participants' responses. The Cohen's kappa for agreement was 0.68, and, after discussing the differences and uncertainties and reaching agreement on all of the items, one coder continued to code the rest of the samples.

The interpretation construct reflected the reasons that participants provided. After naming the items the participants recalled, the researcher asked them to provide reasons why those items contributed to their credibility assessment. The researcher and lab assistant recorded each reason, which corresponded to each item mentioned earlier. We analyzed participants' comments and coded them into eighteen categories (see Table 4).

Table 2. Participant Demographics

Gender	n	%
Male	18	60%
Female	12	40%
Age		
18-24	29	97%
25-34	1	3%
Education		
Some college no degree	26	87%
Bachelor's degree	4	13%
Nationality		
U.S. citizen	24	80%
Non-U.S. citizen	6	20%
Website experience (1 = not at all, 7 = very much)		
5	5	17%
6	5	17%
7	20	67%

Table 3. Coding Categories of Items Recalled

Categories	Frequency	Examples
Physical store location and hours of operation	37	"Location information," "contact us", "hours of operation".
Design	32	"Layout was modern", "their logo", "search option", "Pinterest, Twitter, and FB logos" "design and layout".
Information about company	30	"Mission statement", "their philosophy", "about us", "they had owners' names on the website", "facts, such as the year they opened their business".
Services provided	27	"Training program", "special events", "catering".
Products offered	21	"Different products for sale", "all prices are listed", "description of products".
Payment methods	9	"Links to PayPal and credit cards", "they accept major credit cards", "Payment method".
Pictures	9	"Pictures, lots of pictures, including pictures of people"; "pictures of products".
Uncategorized	5	"No customer reviews", "writing style, which was professional", "dot.com name in the domain address".

Table 4. Coding Categories of Interpretations

Categories	Frequency	Examples
Design	22	"It wasn't like the layout of 90's table layout. It had CSS and HTML used." "They had someone professional design the website, not some amateur kid."
Legitimacy	22	"If it weren't credible, you would not have been able to purchase. The government would have closed it." "Because the website didn't look suspicious."
Important business attribute	18	"It is important to have one for a business." "That part you need to have to have a legit website."
Perceived experience	18	"They seemed to know what they were talking about." "It must be a big business since it has multiple locations. And if it is a big business, it must be successful."
Verify	16	"I can look up this information for myself." "I can check that location for myself. They won't cheat with real place."
Partnership with known brands	10	"Those are big names. Seems credible since big name credit card companies like MasterCard shown." "They can't link to those sites if they website were a fraud."
Customer support	7	"I can contact if have questions about the product. Can talk to sales." "If I had questions I can call and ask them."
Don't know	7	"I don't know why, but it felt so." "I don't know, it just makes me feel it's credible."
Felt personal	6	"They spoke where they idea came from and it sounded very personal." "This told about background and story. When they opened, why they opened."
Met customer expectations	6	"I'm picky and I want specific info about the product and where it is brought from." "It's important to have prices available. For me as a customer it's a major element."
Track record	6	"It let me think it's been operating since 1980s." "Because they had a backstory and they had opened in 1990."
Not afraid to be exposed	5	"It tells me that they have a face and that they are not afraid of showing it to customers." "I think they're promoting their brand and are not trying to hide. They're sort of saying "this is what we are."
Missing important business attribute	5	"Other consumers' comments are absent and it's important for me to have some feedback from prior customers." "They didn't have a support page (help page)."
Well organized	5	"This shows that they're well organized, I knew exactly where I was going." "Well organized."
Knows business personally	5	"Because they have a location and because they come to campus. I know their business."
Convenient	4	"This gives customers more flexibility and ability to find more quickly products they want to buy."
Self-research	4	"Because it will tell me where the product is from." "Makes me know what goes into each coffee."
Company logo	3	"When there is a logo, it's unique, it makes the site look more credible."

5 Analysis

To test the hypotheses, we used discriminant analysis, a statistical technique used to classify cases into groups using a discriminant prediction equation. We used “willingness to buy” as the dependent variable. Where the dependent variable has more than two categories (as is the case here), one should use multiple discriminant analysis. Willingness to buy has three categories: not buy, maybe buy, and buy.

To test H1, we ran a discriminant analysis test on the prominence items and their relationship to willingness to buy. The dependent variable had three categories, which resulted in two discriminant functions (Table 5). However, neither of the functions were statistically significant (Table 6). As such, H1 was not supported. Figure 3 plots the canonical discriminant functions and shows that the prominence factors did not discriminate that well across the three categories of willingness to buy. Only 83.3 percent of the original grouped cases were correctly identified (Table 7).

Table 5. Eigenvalues for Discriminant Functions for Prominence Factors

Function	Eigenvalue	% of variance	Cumulative %	Canonical correlation
1	.933	82.7	82.4	.695
2	.199	17.6	100.0	.407

Table 6. Wilks' Lambda for Discriminant Functions for Prominence Factors

Test of functions(s)	Wilks' Lambda	Chi-Square	df	Significance
1 through 2	.431	20.172	15	.125
2	.834	4.354	6	.629

Table 7. Classification Results for Prominence Factors (83.3% of Original Grouped Cases Correctly Identified)

		Buy	Predicted group membership			Total
			Not buy	Maybe buy	Buy	
Original	Count	Not buy	5	1	1	7
		Maybe buy	0	3	1	4
		Buy	1	1	17	19
	%	Not buy	71.4	14.3	14.3	100.0
		Maybe buy	.0	75.0	25.0	100.0
		Buy	5.3	5.3	89.5	100.0

To test H2 (which tested the complete PIT model), we looked at the prominence/interpretation pairs. There were 60 unique pairings (out of a total possible of 144) of the eight categories for prominence and the 18 for interpretation. Fourteen of these pairings appeared four times or more, so those were the factors we used to test H2. The first canonical discriminant function was statistically significant at $p = .008$ (Tables 8 and 9), which supports H2. Combining prominence and interpretation factors yielded a statistically significant canonical discriminant function and perfect classification (Table 10 and Figure 4).

Table 8. Eigenvalues for Discriminant Functions for Prominence/Interpretation Pairs

Function	Eigenvalue	% of variance	Cumulative %	Canonical correlation
1	4.107	77.7	77.7	.897
2	1.180	22.3	100.0	.736

Table 9. Wilks' Lambda for Discriminant Functions for Prominence/Interpretation Pairs

Test of functions(s)	Wilks' Lambda	Chi-square	df	Significance
1 through 2	.090	49.409	28	.008
2	.459	15.980	13	.250

Table 10. Wilks' Lambda for Discriminant Functions for Prominence Factors

		Buy	Predicted group membership			Total
			Not Buy	Maybe buy	Buy	
Original	Count	Not buy	7	0	0	7
		Maybe buy	0	4	0	4
		Buy	0	0	19	19
	%	Not buy	100.0	.0	.0	100.0
		Maybe buy	.0	100.0	.0	100.0
		Buy	.0	.0	100.0	100.0

As far as the role of specific prominence/interpretation pairs, we can look to the Fisher's linear discriminant functions (Table 11) (UCLA Institute for Digital Research and Education, 2016). Fisher's linear discriminant functions show how the independent variables contributed to group membership. Looking only at values over 8 (an arbitrary cutoff; see bold text in Table 11), it seems that physical store location/verify (11.027) and pictures/design (8.505) were both important to not buying, while Information about company/track record (-10.585) and physical store location/legitimacy (-10.123) were both antithetical to not buying (both are negative). For maybe buying, information about company/track record (10.487), physical store location/legitimacy (14.186), and design/well organized (8.297) were all important, while services provided/legitimacy was antithetical to this category (-8.220). For buying, only services provided/perceived experience (8.521) was important.

Table 11. Standardized Canonical Discriminant Function Coefficients

Prominence/interpretation	Buy		
	Not buy	Maybe buy	Buy
Design/design	-5.383	4.280	6.538
Physical store location/verify	11.027	1.461	1.529
Services provided/perceived experience	-2.982	5.258	8.521
Info about company/important business attribute	5.626	4.760	2.731
Services provided/legitimacy	7.174	-8.220	-1.552
Information about company/track record	-10.585	10.487	6.394
Products offered/met expectations	-4.365	2.559	-.342
Physical store location/customer support	6.942	2.994	.480
design/well organized	1.790	8.297	1.364
Payment methods/partnership w/ known brands	6.950	3.681	7.169
Pictures/design	8.505	-3.667	-4.107
Information about company/felt personal	-1.447	-.079	2.864
Physical store location/legitimacy	-10.123	14.186	6.198
Physical store location/partnership w/ known brands	4.458	-6.544	-5.831
(Constant)	-6.632	-11.555	-7.867

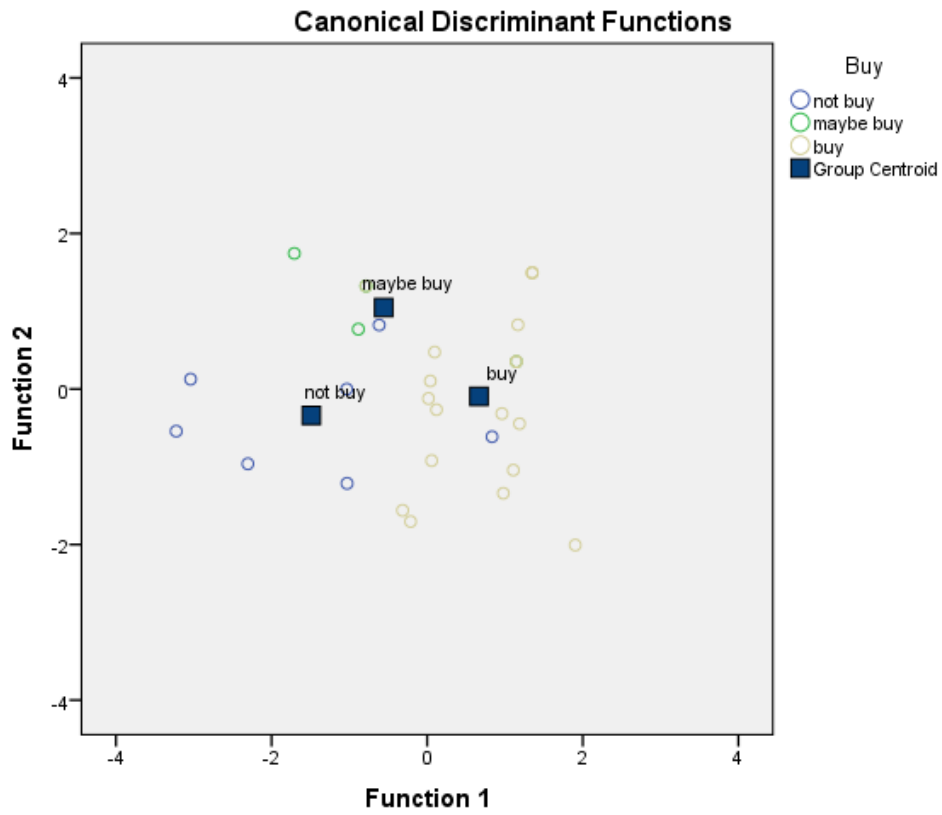


Figure 3. Plot of Canonical Discrimination Functions for Prominence Factors

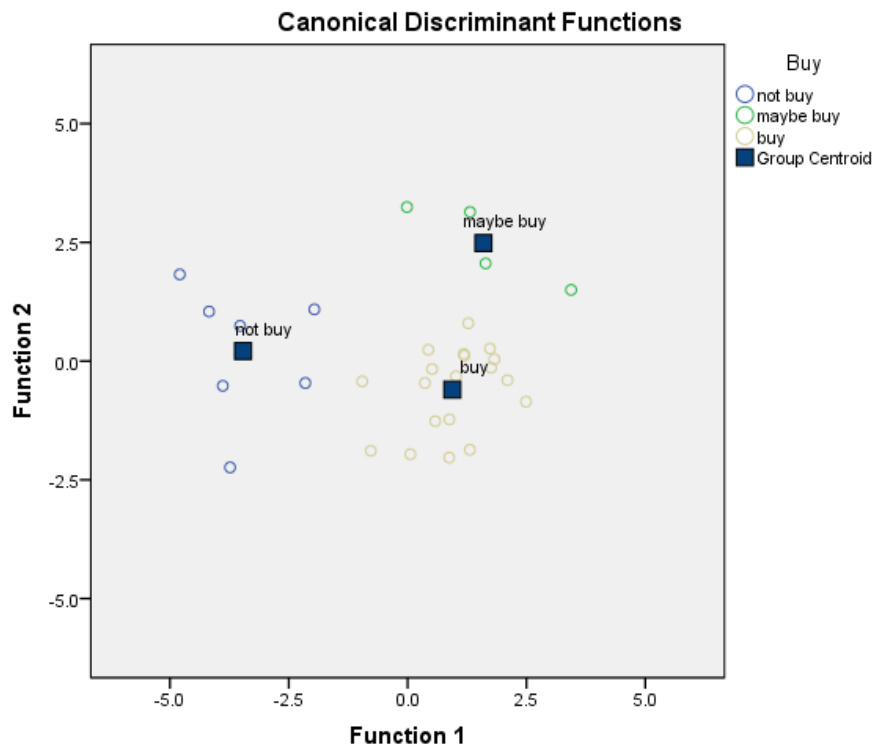


Figure 4. Plot of Canonical Discrimination Functions for Combined Prominence and Interpretation Factors

6 Discussion

In this research, we test Fogg's (2003) prominence-interpretation theory (PIT) by examining whether and how one can use the theory to understand factors that influence a user's evaluation of website credibility. We extended prior research examining PIT by incorporating interpretation, which research that has examined this theory has not incorporated. Our discriminant analysis of the data demonstrated that prominence alone was insufficient to predict a user's evaluation of credibility; rather, a user's interpretation of the prominent items moderated the relationship between the website's features and the user's evaluation of credibility.

A variety of studies have demonstrated that the appearance and features presented on a website can influence attitudes and subsequent use. For example, in instances when a user first visits a website for a firm about which the user has no pre-existing knowledge, the user will, by necessity, use the visual and operational characteristics presented on the website to evaluate the website and the vender. Extant research shows that what people see can strongly influence how they interpret websites (Lowry et al., 2014) and that the antecedents that influence the prominence of website features can influence credibility (George et al., 2014). Our results add to this research by showing that the factors that influence how a user interprets the characteristics of the website are also critical in predicting the way that a user evaluates whether or not the user will buy something from the website. Given that an intent to buy from a website is a reflection on the site's credibility (Everard & Galletta (2005), the results from this study extend prior research by offering support for the PIT model in its entirety.

When interpreting these results in light of the question of the website features that influence what subjects look at and how they interpret what they see, one should note that the task plays an important role in affecting the way a subject processes the elements on the screen. In this case, we asked subjects to consider whether they would purchase a product from the company represented on the website. Because the website was for a company with a brand unknown to the subjects, they had to identify criteria for making their evaluations. While many studies in the IS field have examined trust-enhancing signals such as Web assurance seals (e.g., (Hu, Wu, Wu, & Zhang, 2010; Kim, Steinfield, & Lai, 2008; McKnight, Kacmar, & Choudhury, 2004), our website had no specific seals or other assurances. Nevertheless, as McKnight et al. (2004) found, even in the presence of such emblems, perceptions of website quality often represent one of the primary website characteristic that influences attitudes related to trust. Examining the interpretations that our subjects offered (see Table 4) suggests that design elements did, in fact, play a prominent part in their interpreting the website, which also presumably played a part in what they noticed (i.e., the prominence of website features). The importance of design elements in prominence and interpretation is exactly what PIT predicts; therefore, we contribute to the literature by demonstrating that PIT is an effective model for understanding the factors that influence the evaluation of website credibility.

6.1 Implications for Research and Practice

These results have important implications because they are not only consistent with and, therefore, support Fogg's (2003) PIT model but also point to opportunities to apply this theory in ongoing theory development and empirical research examining website credibility. Ours is the first study to examine PIT in its entirety, and, given our results, we suggest that we have much work to do to apply and extend this theory. For example, while we examined PIT's core predictions, George, Tilley, and Giordano (2014) explored several antecedents to prominence in a deception study and found that these factors helped to predict credibility. A potentially fruitful line of research would be not only to explore prominence and interpretation together (as we have done) but also to examine the antecedents proposed in Fogg's original theory. Doing so would further contribute to our knowledge of how individuals evaluate credibility showing how these antecedents influence the interaction between prominence and interpretation.

Given that both we and George et al. (2014) found support for the PIT model, we expect that examining the entire model would help to extend PIT's usefulness and application. For example, George et al. (2014) show that the model is useful in Web-based deception research, which suggests it would be useful in other contexts. In other words, we suggest that it would be useful to explore the theory's boundaries by examining whether the theory applies to examining credibility in, for example, other media environments or examining it with different website characteristics. While our discriminant analysis demonstrated 100 percent prediction accuracy in buy/not buy intentions, we need to extend the theory to identify whether and where the relationship between prominence and interpretation is less helpful in predicting credibility.

Furthermore, it might be possible to examine the credibility construct further and examine different dimensions of credibility. For example, we examined willingness to buy, which other researchers have demonstrated to be an important factor that influences users' attitudes and uses of websites (e.g., Everard & Galletta, 2005; Gefen et al., 2003), but credibility is a rich and multidimensional construct (Rieh & Danielson, 2007). For example, McCroskey and Young (1981) show that credibility (i.e., ethos) can be thought of as comprising two sub-dimensions: competence and character. It would be useful to examine whether and how one can use PIT to predict attitudes about these and other factors that relate to whether we "believe" in the source of information that we are exposed to.

Our research also has several practical implications. Clearly, the fact that we could predict with 100 percent accuracy our participants' intention to buy or not buy a product based on what they noticed and how they interpreted it would seem to have important implications for designing and implementing websites, mobile interfaces, and other media used for e-retailing. At its core, PIT is a relatively simple model, but, in practice, it has not been a trivial matter to measure the two factors that influence credibility. Nevertheless, while one could use technology routinely employed on websites to track mouse movements, click-streams, and other behavioral indicators to seamlessly measure prominence, one could use other tools that will likely become more prominent in the future, such as emotion-based facial recognition or pupil dilation, as proxies for interpretation. Thus, it might be possible to integrate these factors into systems to do real-time evaluations of website visitors. Nevertheless, even without these sophisticated technologies, the fact that the type of interpretations that our subjects noted were consistent with the four design factors that Wang and Emurian (2005) note suggests that there are also more straightforward design principles that one can employ to influence what people notice and how they interpret what they are looking at as they make evaluations of credibility. Our results are consistent with these and similar findings that show that building a website that, for lack of a better way of saying it, looks credible can influence credibility.

In fact, we suspect that one reason no one has previously tested that the entirety of PIT is the difficulty of measuring interpretation. The most obvious way to measure interpretation is to ask participants about how they interpreted each item they reported noticing on a website. While effective, this approach has two problems: 1) it relies on coding each open-ended response, and 2) it is burdensome and time-consuming. However, in our study, we elicited interpretations that we could classify into 18 categories, and some of these categories were repeated many times across the sample of participants and applied to many different prominent elements, which suggests that there may be a limited set of interpretations that people use to make sense of what they notice on websites. If so, then one could provide a standardized set of interpretations to study participants to choose from after each prominence event, which would both reduce the reliance on coding and the cost of measuring interpretation. Clearly, we need additional studies to understand how users interpret the contents of website and how we can use that knowledge to evaluate credibility interpretations.

6.2 Limitations and Future Research

As with most empirical research, ours has limitations that one needs to consider when interpreting our findings. First, we used students as subjects. While the task was certainly relevant to this sample, it is possible that other factors might influence people in other age demographics to evaluate website content differently. Furthermore, our task focused on website credibility. As we note above, one could use other media using this theory, so, while our results are promising, they might not be generalizable to other media or task contexts. Finally, we measured credibility using intent to buy/not buy—while a practical measure of credibility, this construct has other dimensions that one can measure using psychometric or actual behavioral data. Further, we measured measures such as interpretation with recall and post-hoc interpretations. We suggest that future research could examine this theory using other, more precise measures, such as protocol analysis, eye tracking, or neuro-IT methodologies.

While these limitations might limit the generalizability of our findings, note that, for our study, we sought only to examine the core of the PIT model in its entirety; our findings are entirely consistent with the model, which means we fulfilled this objective by demonstrating the potential of the theory for accurately predicting user intentions. We leave an examination of the theory in other contexts for future research.

7 Conclusion

Credibility is an important construct in many academic fields, but it is particularly important in studies of e-commerce and deceptive communication. Fogg (2003) created PIT to help explain how and why people view particular websites as credible, but it has implications beyond the evaluation of websites. A more complete test of PIT could examine its use in a variety of contexts, media, and task domains. We focused on examining the theory's core, and we suggest that, given the promising results we observed, researchers incorporate PIT into future research examining not only credibility but also deception, purchasing behavior, evaluation of monitoring or surveillance systems, and other contexts where one needs to consider the "believability" of the source. Our results are quite promising because they show that combining what someone observes (i.e., prominence) and how they interpret it have an important interactive effect on the evaluations one makes about credibility.

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