Electronic window dressing: impression management with Websites

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Abstract
Businesses have embraced the Internet to reap economic advantages through the use of Websites. Most Website design guidelines fail to address issues of branding and identity formation, focusing instead on concerns adapted from previous technologies. However, many firms are not getting their desired results from the Website investments they have made following design guidelines reflecting graphic layout and system usability issues. We suggest that Websites should be considered 'electronic storefronts' or public work areas providing frames of symbolic representations that create impressions of their sponsoring firms. Our exploratory study shows that Websites influence potential customers' impressions of firms' legitimacy, innovation and caring, and that these impressions vary significantly across firms and industries. Website visitors encounter symbols that are compared to mental models stored in memory and used to form impressions of the site and to draw inferences about the firm. These inferences have previously been found to influence purchasing behavior. Designers should be cognizant of these aspects of e-Business and executives should recognize the power of Web-based impression management. Identity management must take center stage in creating a Web presence.
European Journal of Information Systems (2003) **12,** 309–322. doi:10.1057/palgrave. ejis.3000470

Introduction

Businesses have embraced the Internet in an attempt to reap economic advantages in the marketplace. Considerable attention has focused on the Internet as an additional channel for on-line business-to-business and business-to-consumer buying and selling, instant market research, sales-lead generation, sales support, recruitment, and information dispersal (Maglitta, 1995; Gunther, 1996; Ghosh, 1998; Lohse & Spiller, 1999). However, it is unclear what advantages organizations can derive when explicitly considering the influence their Websites have on their customers' and stakeholders' perceptions of their companies. Indeed, researchers seldom address this issue, although there is some limited work on the marketing effects of Websites (Hoffman *et al.*, 1997; Palmer & Griffith, 1998; Singh & Dalal, 1999). Anecdotal evidence indicates that individuals form impressions of organizations based on interaction with their sites (Cook & Sellers, 1995; Miller, 1999; Zhang *et al.*, 2000) and that Website redesign can dramatically increase sales (Lohse & Spiller, 1999; Tedeschi, 1999). However, image creation has not been explicitly investigated.

The strength of Websites for impression management is that they are not tied to physical characteristics of firms (such as furnishings), so any

organization can look as good or bad as any other (Hoffman *et al.*, 1997). This flexibility offers executives the power of Web-based impression management to affect their companies' images among their customers and other stakeholders, and to develop a strong identity in an increasingly cluttered marketplace. However, advances in globalization and the role of societal norms and cultural backgrounds in the interpretation of design elements suggest that firms must use care in choosing the symbols they display on the Web. This potential for competitive advantage or disadvantage motivates our interest in better understanding the role of Websites in impression formation. Specifically, our exploratory research is framed by three broad questions: (1) do people form impressions of companies based on their Websites, (2) what impressions do people form from Website visits, and (3) what dimensions of Websites contribute to the impressions formed? Answering these questions highlights the importance of corporate image in Website design and suggests relevant theoretical frameworks that can guide Website designers (Baecker *et al.*, 1995; Zhang & von Dran, 2000). It also extends the corporate impression management literature to include firms' Web presences.

The next section of our paper reviews the theoretical basis of impression formation highlighting the dramaturgical perspective and the role of schemas. Next, we describe the electronic work place as an on-stage public setting for impression management. We then develop three hypotheses. In the pilot study, we determine whether perceptions of firms are formed based on Website experiences, and develop measures of organizational impressions, Website impressions, and the dimensions of Websites that influence these impressions. Our main study uses the measures developed in the pilot study to test our hypotheses. The results of both the studies are presented, and managerial implications and future research are discussed.

Impression management and workplaces

Impression management includes attempts to control the perceptions that others form of an individual or firm by influencing the likelihood that a perceiver will make certain attributions. Observers actively make sense of their worlds by interpreting symbols with socially constructed meanings (Grove & Fisk, 1989; Grayson & Shulman, 2000). Cognitive psychologists (Johnson & Dark, 1986; Lord & Foti, 1986; Fiske & Taylor, 1991) suggest that schematic processing plays a central role in forming impressions. When faced with incomplete information, observers activate relevant mental models called schemas from which missing information is filled in (Gioia, 1986).

The oldest and most commonly used impression management framework is the dramaturgical perspective articulated by Goffman (1959). It highlights the similarities between theatrical performances and everyday behavior and specifies the underlying mechanisms by which actors engage in performances before real or imagined audiences. Public settings are divided into on-stage areas where the performances take place (with props and scenery) and back-stage areas for preparation. Actors assemble scenery and display the props and behaviors they think are appropriate to their preferred roles. Consistent with schema theory, audience members use inconsistencies between the role enactments and schema-based expectations to form perceptions of actors, their character and motivation. Both actors and audience members use the social context and norms as the basis for guiding the choice of scenery, props, and behaviors that an actor exhibits.

Historically, the bulk of published research in impression management focused on self-presentation (Leary & Kowalski, 1990). However, there is growing interest in organizational impressions and the symbols (Elsbach *et al.*, 1998; Gaglio *et al.*, 1998; Gardner & Avolio, 1998; Grayson & Shulman, 2000) that convey information about a firm and provide insights into organizational behavior (Dandridge *et al.*, 1980; Gioia, 1986; Grove & Fisk, 1989; Gioia *et al.*, 1994; Sundstrom, 1996). Impression management has been investigated in a variety of work settings considered on-stage areas (Grove & Fisk, 1989; Gardner, 1992; Auyero, 1998; Futrell, 1998; Grayson & Shulman, 2000) and any public area such as a storefront, reception area, or even an individual office is a potential arena for influencing perceptions of the organization.

Executives create a corporate identity by choosing where to display their companies' artifacts, where to locate the firm's office space, how to decorate that space, how to design business cards, and how to regulate the appearance of employees (Schmitt & Simonson, 1997). Such items are symbols because they convey meanings, images, and values (Dandridge *et al.*, 1980; Morgan *et al.*, 1983). They are the scenery and props that managers can use to create perceptions during their companies' performances (Ornstein, 1989). In addition to the traditional symbols, today's firms pursuing a strong corporate identity must also make choices about their electronic artifacts including their appearance on the Web, a highly visible and malleable prop.

This research focuses on the perceptions created by Websites when they are visited by potential customers and stakeholders. A company can use a conventional storefront to influence visitors' impressions and differentiate itself in the marketplace. An electronic storefront serves a similar function. Guests search for information, engage in an auction, use a search engine, or attempt to make a purchase just as in a typical retail store (Bar & Murase, 1999; Lohse & Spiller, 1999). Unlike bricks and mortar storefronts with a concrete location, Websites have only the cues within the site to inform visitors about the firm and its products. Internet users are metaphorically walking down an ever-changing electronic Main Street (the Web) and looking into the windows of various firms (Websites) along the way. To understand the role

of a storefront in impression management, we first review the characteristics and impression management uses of physical workplaces or storefronts and then contrast these with those of electronic workplaces or storefronts.

The creation and use of storefronts

Physical storefront

One purpose of a public workplace or storefront is to convey an impression of the firm by displaying cues about what goes on in the organization. The buildings, architectural framing, storefront windows, and artifacts in the windows are all symbolic representations that carry important information. They inform potential customers about the organization, contribute to forming impressions, and invite viewers in to take a closer look or to buy (Lohse & Spiller, 1999). For example, the large windows used by service providers offer views of hard-working and efficient personnel, the windows of retail stores contain displays of merchandise, and corporate offices use their lobbies to create a particular image of the firm.

Specific artifacts and their arrangement signal the quality of product or service offered, as well as other firm characteristics. The reception areas of a small cheap motel and an expensive luxury hotel convey different impressions, although they both provide temporary lodging. Visitors to a public work area actively engage in understanding the firms they encounter. They compare the artifacts or behaviors displayed to stored mental models they have developed through previous experience. When a firm's symbols match those of a recognized category, the visitor classifies the firm as a member of that category and missing information about the firm is filled in from the relevant mental model. Inconsistent information results in negative attributions and membership in undesirable categories. It is clearly important to choose and display artifacts that create preferred perceptions.

Traditionally, successful firms construct a unified corporate image to increase the likelihood of membership in a preferred category. Based on the advice of design experts, they choose a consistent set of physical trappings conveying the desired image to their target audiences. The first choice is location. As being close to similar establishments can signify the firm's legitimacy, upscale restaurants want an address in an area of high-class restaurants, while banks want to be headquartered in financial districts. The structure that frames the storefront, design motifs and details that evoke viewers' associations (e.g., columns evoke strength and longevity), colors, and furnishings all make important contributions to impressions and affect categorization. In short, an executive uses the scenery and props of physical corporate design to provide consistent cues regarding the nature of the firm. These cues create perceptions of companies and affect their abilities to attract resources from their environments.

Electronic storefront

Websites are on-stage work areas where a performance is given to an actual or implied audience of potential customers, employees, suppliers, partners, and regulators (Lohse & Spiller, 1998; Evans & Wurster, 1999). They provide frames of symbolic representations that inform and lure these potential stakeholders in to take a closer look, and perhaps interact with the firm in some capacity. The selected text, images and colors, as well as the structure of the arrangements (e.g., the layout of information, or the configuration of hyperlink paths) creates impressions not only about the product or service offered, but also about the characteristics of the organizations that provide them (Hoffman *et al.*, 1997; Palmer & Griffith, 1998; Evans & Wurster, 1999; Miller, 1999; Singh & Dalal, 1999). Indeed, these elements may be more significant in Websites than they are in physical storefronts because of the paucity of additional cues such as the characteristics of the neighborhood and design of the building.

The importance of Websites in forming perceptions of firms may have been overlooked previously for two reasons. First, early Website design was performed by human factors and interface design experts, rather than by professionals trained in developing a corporate identity (Vora, 1998). Consequently, Website design guidelines focused on stylistic and mechanical recommendations related to loading speed, consistency across pages, use of white space and so on (Cronin, 1995; Ask Dr. Web, 1999; Lynch & Horton, 1999; Nielsen, 2002; Usable Web, 2002). In short, the guidelines reflected technological constraints (e.g., bandwidth, browser diversity) and the mechanics of page layout. Technological advances in the off-stage area (like applets, shopping carts, and databases) improved on-stage performances by adding movement and on-line ordering.

Second, much Website design research focused on two narrow sets of outcome measures that do not include corporate identity issues. The first were adapted from previous work on information systems design and focused on usability and user satisfaction (Smith, 1997; Wilkinson *et al.*, 1997; Zhang *et al.*, 2000; Zhang & von Dran, 2000, 2001–2002; Aladwani & Palvia, 2002). The second were adapted from research on retail sales and focused on store traffic and sales. Researchers identified the Internet analogues to characteristics of traditional retail stores that affected store traffic and sales, including aids to navigation, the number and nature of the products represented, product promotions, customer service, and ease of checkout (Jarvenpaa & Todd, 1996–1997; Lohse & Spiller, 1998, 1999; Evans & Wurster, 1999; Haubl & Trifts, 2000; Liang & Lai, 2002). In general, these factors also influenced store traffic and sales on-line.

However, many firms that applied existing narrow guidelines are now concerned about the poor return from their Website investments (Brown, 1999; Economist, 1999; Tedeschi, 1999) and some are taking steps to improve it (Millward Brown Interactive, 1999). At least

one web development firm recognized the possibility that corporate identity and Website design may be linked and has integrated Website developers with design specialists to create Web strategists (Brown, 1999). This step combined an awareness of image and identity issues with expertise in the technical abilities required to implement electronic commerce, but to date no formal research into the possibility that Websites actually affect corporate impressions has been conducted. This paper reports an exploratory investigation of such a link. Our approach looks at the underlying principles of good design (Lawson, 1997; Sullivan, 1998), image development, and creating a corporate identity (Primo Angeli, 1996; Schmitt & Simonson, 1997) as applied to Website design.

The first steps in understanding issues of corporate image on the Web are to unambiguously establish whether or not Websites influence prospective customers' perceptions and explore these perceptions. If Websites are instrumental in forming impressions of their sponsoring organizations, then executives creating a corporate image must pay the same attention to their design as to the design of physical artifacts. Following a checklist of Website layout guidelines may fail to deliver the impact of a truly well-designed Website that is consistent with the firm's other symbolic artifacts. This inconsistency could actually impede efforts to create a strong identity. As suggested by the corporate design literature, a walk down a physical Main Street confirms the relationship between the number and type of passersby who take a closer look inside and the perceptions created by public work spaces. Managers who ignore this relationship on the Web where the average visitor spends only 6.8 s at a company's Website (Conger & Mason, 1998) and where there are many fewer cues available may be missing the true power of a Web presence. Schema theory, impression management, and the dramaturgical perspective predict that Websites create images of their organizations. The preliminary research reported here extends our knowledge of electronic commerce and of impression management to address the symbolic nature of Websites.

Hypotheses

Although some practitioners argue for careful Website design by asserting that individuals form impressions of organizations based on interaction with their sites (Cook & Sellers, 1995; Miller, 1999; Zhang *et al.*, 2000), this assertion has not been systematically and rigorously tested. Indeed, this hypothesized link has not received broad acceptance as evidenced by the fact that it is not generally taught in Web design courses, reflected in the practices of Web design firms, or systematically studied by e-Commerce researchers. Firms may be able to create organizational images by displaying particular symbols in their Websites. For example, firms using subdued colors (Schmitt & Simonson, 1997) and photographs of top managers in business attire may appear conservative. However, it is also possible that the clutter of information

on the Web and across different media could negate the effect of any specific design elements. Visitors' impressions of a firm may be confounded or overwhelmed by existing impressions formed by exposure to the firm's products or services, advertising or news reports. Thus, the first hypothesis seeks empirical evidence that individuals do form perceptions based solely on information obtained from the Web.

H1: Individuals form impressions about sponsoring organizations when viewing their Websites.

In forming impressions, the mere presence of a Website or the content of the information provided, rather than the site's design may be influential. Not all firms have a Web presence, so the existence of a site may overwhelm the effects of specific design elements. Websites also include information about the firm's parent industry, and the viewer's image of that industry may be more influential than is the Website itself. For example, the funeral industry is seen as caring and conservative, so respondents viewing a funeral home's Website might consider the firm to be caring and conservative, regardless of the characteristics of the site itself. Zhang *et al.* (2000) found that users' perceptions of Fortune 500 firms' homepages differ between firms within an industry and between industries, but did not specifically measure organizational impressions.

The second research question addresses differences in impressions across firms and is assessed with a set of three inter-related hypotheses forming a logical progression eliminating the possible confounding effect of a pre-existing image of firms with a Web presence and of their industries. This allows us to conclude that diverse impressions are due solely to the Website. Thus, we test for differences between industries and then differences between firms in the same industry.

H2: Perceptions of organizations based upon their Websites vary across firms.
    H2a: Impressions differ among organizations.
    H2b: Impressions differ between organizations in different industries.
    H2c: Impressions differ between organizations in the same industry.

The third hypothesis addresses whether certain site features are related to Website-based perceptions of the organization. To determine which site features may affect users' reactions, researchers have either adapted existing models to a Web format or relied on grounded, inductive techniques to analyze users' responses and allow the relevant features to emerge from the data. Three main models have been adapted from existing domains: (1) features of printed pages, such as copy, color, and layout (Smith, 1997; Wilkinson *et al.*, 1997); (2) interface usability and facets unique to the electronic medium like the search engine and loading speed (Cronin, 1995; Levi & Conrad, 1996; Schneiderman, 1998; Sun Microsystems,

1998; Ask Dr. Web, 1999; Lynch & Horton, 1999); and (3) features of physical retail stores like customer service, product offerings, and a shopping cart (Lohse & Spiller, 1998).

Some researchers combined features from multiple models, but there is no clear empirical support for a single set of influential features (Zhang *et al*., 2000; Zhang & von Dran, 2000; Aladwani & Palvia, 2002; Liang & Lai, 2002). Existing checklists of Website characteristics may not identify all of the influential aspects for two reasons. First, there may be dimensions that are unique to Websites and so do not appear in any of the original models. Second, the importance of each dimension is highly contextualized; a dimension that is important in one situation may be irrelevant in another. Situational characteristics that affect the importance of various dimensions include the task being performed (e.g. shopping, entertainment), the outcome of interest (e.g. satisfaction with the site, sales, site traffic), and the time period, since users' expectations change with experience and technical advances (Jarvenpaa & Todd, 1996–1997; Lohse & Spiller, 1998, 1999; Hauble & Trifts, 2000; Zhang & von Dran, 2000, 2002; Aladwani & Palvia, 2002; Liang & Lai, 2002).

Our study focuses on organizational impressions, an outcome not previously investigated, and so using existing checklists would not have been appropriate. Instead, we surfaced influential and relevant Website dimensions by applying grounded, inductive techniques to analyze users' responses in a pilot study. We then developed a quantitative, closed-ended measure of these dimensions and used it in our main study to test the third hypothesis.

H3: Site dimensions identified during the pilot study are related to perceptions of the sponsoring organizations.

Research studies
First, a pilot study gauged whether the effect of Websites on organizational impressions was strong enough to be of practical interest and to develop scale items for the main study. The main study tested the hypotheses above. The two studies are summarized in Table 1.

Pilot study – scale development
The purposes of the pilot study included identifying a group of Websites fitting the specific criteria required for inclusion as targets in the main study and developing reliable and valid quantitative measures of the impressions prospective customers formed of firms based on their Websites and of the site characteristics relevant to creating these impressions in this context.

Sample
Organizational impression management and attribution theory depend upon the ability to leverage common norms. To ensure that they were sufficiently verbally fluent to discuss their perceptions and had similar business and Web use experience, participants were university students enrolled in business courses. To ensure that they were diverse enough to represent broad social norms, participants with considerable business and consumer experience in both undergraduate and MBA programs in two North American countries were included in the study. The 49 participants in their late 20s or early 30s worked as managers or professionals and also pursued MBA degrees part-time at a large southwestern Canadian University. The remaining 36 participants were senior undergraduates in a large southern U.S. University in their late 20s who had considerable work experience. About half of the 85 participants were women. No systematic differences were found between the responses of these different groups.

Procedures
To generate a list of candidate sites for the main study, provide the opportunity to engage in sufficient cognitive processing to form an impression of the sponsoring firms, and identify the site characteristics related to these impressions, participants visited and evaluated multiple sites of their choosing. They were instructed to browse the Web and select sites that created strong impressions along two dimensions that were prominent in the organizational impression literature and that we thought would be relatively easy to identify and salient to students.

We asked participants to identify Websites for each of two companies that appeared to be very conservative (defined as one that seeks to avoid risks, is cautious, and tends to maintain existing views, procedures, or conditions) and two companies that appeared very competent (defined as highly qualified or capable of making its product or providing its services) based solely upon their Websites. To control for the economic sector and pre-existing impressions, participants were instructed to choose for-profit companies with which they were unfamiliar. They were then asked to complete the measures described below for each of the four firms.

Measures
Organizational impressions: The purpose of the pilot study was to determine if prospective customers formed perceptions based on Websites, not to map the entire universe of possible organizational impressions. Thus, a sub-set of possible impressions was drawn from the marketing, design, and public relations literatures (e.g. Javalgi *et al*., 1994; Pitt *et al*., 1995; Van Heerden & Puth, 1995; Maccherone, 1996; Brown & Dacin, 1997; Cauldron, 1997; Schmitt & Simonson, 1997). Organizational impressions were measured in two ways. First, with 11 items created for this study using a five-point semantic differential format and shown in Appendix A. Each included the option 'I can't tell'. Second, students were

Table 1   Summary of pilot study (scale development) and main study (hypothesis testing)

	Pilot study–scale development	Main study—hypothesis testing

Purpose	(1) To determine whether impressions are created by Websites
	(2) To uncover dimensions of Websites that create impressions and develop scales to measure them
	(3) To identify appropriate target sites for the main study
		To test hypotheses:
		(1) Individuals form impressions
		(2) Website-based impressions differ
		  (a) among organizations
		  (b) Between organizations in different industries
		  (c) Between organizations in the same industry
		(3) Site dimensions will be related to impressions of sponsoring organizations

Sample	85 business students	154 business students

Organizational Impression Scales	(1) Based on Websites they selected, students identified two conservative companies and two competent companies
	(2) Rated organizational impression on 11 items using five-point semantic differential response format
		(1) Three organizational impression items (competence, conservativeness, concern for customer) added to pilot study items
		(2) Three scales formed measuring
		  (a) Legitimacy ($\alpha=0.77$)
		  (b) Caring ($\alpha=0.60$)
		  (c) Innovation ($\alpha=0.79$)

Website Impressions Scales	None measured	Eleven items added forming two scales: (1) Provided Right Info. ($\alpha=0.85$) (2) Informative Site ($\alpha=0.77$)
Site Dimensions Scale	Open-ended question uncovered nine dimensions of Websites	Thirty-nine items based on pilot study comments combined into eight scales: (1) Text ($\alpha=0.45$) (2) Graphics ($\alpha=0.75$) (3) Layout ($\alpha=0.80$) (4) External Links ($\alpha=0.71$) (5) Fonts (single item) (6) Technology ($\alpha=0.74$) (7) Marketing ($\alpha=0.45$) (8) Color ($\alpha=0.48$)
Results Organizational impression and site feature scales developed	Effect large enough for practical importance	Organizational impression items Hypothesis 1 supported for eight of 14 using five scales Hypotheses 2a and 2b supported Hypothesis 2c partially supported Hypothesis 3 supported

asked to select sites that were particularly conservative or competent.

Site features   An open-ended question asked participants to describe the aspects of the website that affected their perceptions that the company was either conservative or competent. A second question asked why the site created the impressions that it did, to provide additional information to guide the main study in testing Hypothesis 3.

Results

Participants widely reported finding no difficulty in forming perceptions of organizations based on their Websites. The results of this study clearly support Hypothesis 1 and suggest the effect is strong enough to have practical significance and to warrant further research.

An inductive, grounded methodology (Glaser & Strauss, 1967; Strauss & Corbin, 1998) was used to discover the characteristics of the sites that created the reported impressions. We transcribed the answers to the open-ended questions about the characteristics of the sites that created impressions and why. Participants listed a variety of site characteristics, but they did not articulate a well-developed causal model linking site characteristics and firm impressions. Typical comments included: 'yellow buttons with blue text', 'there is lots of text', and 'easy to navigate', but did not indicate why these Website characteristics were related to firm impressions.

These results are consistent with the schematic processing of symbols whose meanings have been developed through social interaction over time, rather than through some rational link. For example, a Westerner would likely

associate the color black with death and white with marriage, but would not articulate any causal link between them because the association is symbolic and based on social convention. Indeed, for some far Eastern cultures, white is associated with death. Similarly, a site characteristic may be meaningful because it is associated with a stored mental model, not because of any causal mechanism linking the site and firm characteristics.

Although no causal model was elaborated, there was some agreement about the site characteristics that influenced participants' impressions. Participants agreed that Websites with few graphics or poor layout created a perception of a conservative company. In contrast, sites with good graphics and lots of information about a firm created a perception of a competent company. Two members of the research team independently performed open coding on the comments to identify common themes and grouped similar characteristics together. We sought to map the range of responses, and so created an inclusive framework for later refinement. Once a preliminary framework emerged, subsequent comments were coded based on apparent category membership. Comparing the data to our emerging typology resulted in some disagreements, which were discussed and resolved, often by refining the categories. Our analysis proceeded over 3 months.

Eight categories emerged from the analysis: (1) text content; (2) graphics; (3) site layout; (4) links to other sites; (5) fonts; (6) technology used; (7) how hard the firm tries to sell its product; and (8) color combinations. We compared these categories to the existing literature (Glaser & Strauss, 1967; Strauss & Corbin, 1998). Categories 1–3, 5, and 8 reflect dimensions of traditional graphic design that are related to societal and cultural norms (Hurlburt, 1989; Arntson, 1993). Zhang *et al.*, (2000) specifically associated graphics (2), links (4), and colors (8) to what they called 'window dressing features'. Categories 4 and 6 are represented in the user interface and virtual commerce literature (Lohse & Spiller, 1998). Category 7 was not found in the existing literature. It may represent a judgment that is involved in the formation of impressions, but is not related to previously studied outcome measures (usability, user satisfaction, and store traffic).

Main study – hypothesis testing
The main study investigated how Website characteristics relate to perceptions of the firm and whether respondents distinguished among firms based on their Web presences.

Selection of target sites
To manage the length of time required to complete the task for the main study, ensure sufficient diversity of responses, and control for impressions of the firm's parent industries (as tested in Hypothesis 2), we sought four very different target sites that loaded reasonably quickly, two in each of two different industries. To increase the likelihood that participants would form

impressions based on the observed Websites, we considered only those companies that were not well known.

Based on results from the pilot study, we identified several Websites as suitable targets for the main study, but did not rely solely on our judgments. In all, 12 business faculty members at a large southern U.S. university rated them using the 11 items described in the pilot study and provided verbal feedback. The faculty members believed it was important that the sites be of interest to the participants, so that they would be drawing on common social norms and shared experience, and rejected several sites on these grounds (e.g., a site that sold wedding supplies). Two suitable sites that created strong impressions (had high means on the 11 items) were chosen as target Websites: a sports journalism firm that was judged highly competent and a Website designer that was judged very caring. To test Hypothesis 2, the authors chose two additional Websites from the same industries, a seemingly innovative sports journalism company and a seemingly competent Web-consulting company, to form contrasts with those from the pilot study.

Sample
The main and pilot study shared similar sampling concerns and so the same criteria were used in drawing this second sample. To ensure that the participants were diverse enough to represent broad social norms and had similar business, consumer and Web use experience, participants were university students enrolled in business courses in both undergraduate and MBA programs in two North American countries. Participants were 19 part-time students who were managers or professionals in their late 20s or early 30s pursuing MBA degrees at a large southwestern Canadian University and 135 advanced undergraduate business students with work experience attending a large southern U.S. University who received class credit. About half of the 154 participants were women. No systematic differences were detected between the two groups.

Procedures
Participants were provided with the URLs of the homepages of four Websites and asked to visit and rate each site using the survey provided.

Measures
Organizational impressions: Organizational impressions were measured with the 12 semantic differential items shown in Appendix A.

Website Impressions: Impressions of the Website were measured with the 11 five-point Likert-type items shown in Appendix A.

Website features: Based on the content of the categories generated in the pilot study, 39 semantic differential items (shown in Appendix B) measured characteristics of the Websites' text, graphics, layout, links, font, use of technology, marketing effort, and colors.

Scale formation

To reduce the number of measures and preserve sufficient degrees of freedom to test Hypothesis 3, individual measures were combined into scales through a series of exploratory principal components factor analyses using an oblique rotation. Repeated measures are inappropriate for factor analysis (because of correlated error), so random deletions were used to create a data set in which each participant appeared only once (Cohen & Cohen, 1993).

As shown in Appendix A, the outcome measures shared sufficient variance to be combined into five multi-item scales, which were named based on the researchers' impressions of their component items. Three factors represented impressions of the sponsoring organization: legitimacy ($\alpha = 0.77$), innovation ($\alpha = 0.79$), and caring ($\alpha = 0.60$). These Cronbach's alphas meet the minimum recommended by Nunally for exploratory research (1978). Two factors represented impressions of the Website: whether the site provided the right information ($\alpha = 0.85$) and how informative the site was ($\alpha = 0.77$). Four items did not load on any factors and were dropped from the analysis (conservative, large, site was confusing, and site improved company image).

Owing to the large number of items relative to the sample size, factor analysis could not be used to create scales measuring the characteristics of the Websites (required to test Hypothesis 3). Nunnally and Bernstein (1994) suggest instead that scales be formed by retaining those items that overlap with a general measure of each dimension. The resulting scales, their component items, and reliabilities are shown in Appendix B. These reliabilities are similar to those reported in other empirical literature using scales of this length to link Website characteristics to usability and sales-related outcomes (LaRose *et al.*, 2001; Aladwani & Palvia, 2002; Wammi, 2002). Some Cronbach's alphas are below the suggested value of 0.70 for prediction in established areas of research, but are within the 0.5 threshold considered acceptable for basic research on Website quality (Katerattanakul & Siau, 1999; WAMMI, 2002). These Cronbach's alpha scores indicate that some scales are not clearly unidimensional and items contribute both unique and shared variance, but all overlap significantly with a general measure of the construct.

Lower reliabilities reduce the observed correlations, β and R^2 values making statistical significance harder to achieve. If, as Nunnally (1978) suggests, the true test of a scale's value is its ability to explain other observations, then low reliability is not an issue when significant results are found. However, it will not be clear if any non-significant results for Hypothesis 3 are due to unreliability or because there is no actual relationship between the constructs. Given the exploratory nature of the study, this conservative approach was considered acceptable.

Results

Participants' ability to form Website-based organizational impressions (Hypothesis 1) was assessed by tabulating the percentage who indicated that they 'could not tell' for a given item about any of the four target companies. Table 2 shows evidence of the corollary by indicating the percentage of respondents who did form an organizational impression. Over 95% formed perceptions about the companies' creativity and innovativeness; over 90% formed impressions about experience, customer-orientation, competence, conservatism, leading edge orientation, and concern about customers. However, there were dimensions on which respondents did not form organizational impressions as easily. Between 20 and 25% did not form a perception about one or more company's reliability, efficiency, or caring and, over 33% of respondents did not form a perception about profitability, financial stability, or size. Thus, based on a high percentage of valid responses, Hypothesis 1 was supported for eight of the 14 items measuring organizational impressions.

Since the factors were correlated (see Table 3), a repeated-measures MANOVA was performed to compare the overall differences among organizations (Hypothesis 2a), differences among organizations in different industries (Hypothesis 2b), and differences among organizations in the same industries (Hypothesis 2c). Table 4 shows means and standard deviations for impressions of the four companies' legitimacy, caring, innovativeness, whether the sites provided the right information, and their informativeness. A repeated measures MANOVA shrank the sample size due to missing data and Table 5 shows that the sites differed overall on the impression factors when taken as a whole ($F_{(15,72)} = 5.82$, $p < 0.0001$). Thus, Hypothesis 2a is supported, participants distinguished among the companies.

Table 5 also shows MANOVA results for each of the three planned comparisons (testing Hypotheses 2b and 2c). Perceptions of the companies differed by industry on the dimensions of legitimacy ($F_{(1,86)} = 34.27$, $p < 0.001$),

Table 2 Percent (in parentheses) of 154 respondents reporting 'can't tell' for organization impression items combined across four target websites

Less than 5%	5–10%	20–25%	33–43%
Creative (2.4)	Inexperienced (6.1)	Reliable (21.0)	Profitable (34.3)
Innovative (4.1)	Customer oriented (6.1)	Inefficient (21.6)	Financially stable (40.0)
	Competent (7.8)	Caring (21.6)	Small (40.2)
	Conservative (7.8)		
	Leading edge (8.4)		
	Customer concern (10.0)		

Table 3 Correlations between organizational and Website impression factors (*n*=154)

Scale	Legitimacy	Caring	Innovation	Right information
Caring	0.502***			
Innovation	0.490***	0.464***		
Right info.	0.387***	0.308***	0.612***	
Informative Site	0.473***	0.275**	0.388***	0.577***

p<0.05; **p*<0.01; ***p*<0.001.

Table 4 Means and standard deviations for factors from Organizational and Website Impression Scales (*n*=154)

Scale	Sports 1	Sports 2	Consulting 1	Consulting 2
Organizational impressions				
Legitimacy	3.88	3.98	3.51	3.49
	(0.68)	(0.60)	(0.81)	(0.77)
Caring	3.75	3.67	3.64	3.44
	(0.73)	(0.76)	(0.75)	(0.82)
Innovativeness	3.23	3.39	3.11	3.08
	(0.52)	(0.47)	(0.55)	(0.57)
Website impressions				
Site provides right info.	3.27	3.63	2.82	2.95
	(0.91)	(0.85)	(0.82)	(0.82)
Informative site	3.91	4.06	3.40	3.31
	(0.83)	(0.72)	(0.82)	(0.79)

High numbers indicate more of each dimension

Table 5 Differences among target companies on organizational and Website Impression Scales

Scale	Overall effect $F_{(15,72)}$	Industry contrast $F_{(1,86)}$	Sports Co. contrast $F_{(1,86)}$	Consulting Co. contrast $F_{(1,86)}$
	5.82***			
Organizational impressions				
Legitimacy		34.27***	1.44 ns	0.03 ns
Caring		5.39*	0.76 ns	3.54 ns
Innovativeness		16.14***	5.17*	0.15 ns
Website impressions				
Right Information		38.30***	8.69**	1.74 ns
Site Informativeness		70.97***	2.18 ns	1.18 ns

p<0.05; **p*<0.01; ***p*<0.001.

caring ($F_{(1,86)} = 5.39$, $p < 0.05$), innovativeness ($F_{(1,86)} = 16.14$, $p < 0.001$), the extent to which the site provided the right information ($F_{(1,86)} = 38.30$, $p < 0.001$), and how informative the site was ($F_{(1,86)} = 70.97$, $p < 0.001$). Thus, Hypothesis 2b received strong support. Perceptions of the two sports-related companies differed only on the dimensions of innovativeness ($F_{(1,86)} = 5.17$, $p < 0.05$), and the extent to which the site provided the right information ($F_{(1,86)} = 8.69$, $p < 0.01$; impressions did not differ on the dimensions of legitimacy ($F_{(1,86)} = 1.44$, ns),

caring ($F_{(1,86)} = 0.76$, ns) or the site informativeness ($F_{(1,86)} = 2.18$, ns). Perceptions of the two consulting companies did not differ from each other on any of the measured dimensions (legitimacy $F_{(1,86)} = 0.03$, ns; caring $F_{(1,86)} = 3.54$, ns; innovativeness $F_{(1,86)} = 0.15$, ns; the extent to which the site provided the right information $F_{(1,86)} = 1.74$, ns; site informativeness $F_{(1,86)} = 1.18$, ns). Thus, Hypothesis 2c received partial support.

An examination of the table of correlations among the predictors showed that they were strongly inter-related (complete table available from first author). Similar inter-correlations among predictors have been found in previous empirical research on Website characteristics and usability (Aladwani & Palvia, 2002), information quality (Katerattanakul & Siau, 1999), and site traffic (Lohse & Spiller, 1999; LaRose *et al.*, 2001). These significant correlations may reflect the use of schematic processing. Because participants have very little information about the firms they are rating, schema theory and the dramaturgical perspective agree that missing details are filled in from mental models (Goffman, 1959; Fiske & Taylor, 1991). Thus, perceptions of factors that are not directly observed influence those that are observed. In short, predictors may be correlated because participants' judgments of these dimensions simply are not independent. Rather, as Zhang *et al.* (2000) found, inter-related perceptions may be created from clusters of features.

The correlation between the predictors is not the focus of our hypotheses, but indicates that the relationship between Website characteristics and organizational impressions (Hypothesis 3) should be tested with simple and multiple correlations rather than with β weights. The table of simple correlations between the predictors and outcomes (see Table 6) shows significant overlap between each of the predictors and each of the outcomes, providing support for Hypothesis 3. Thus, taken individually, each predictor is important in determining the perceptions that are formed of a Website's sponsoring company. These relationships hold even for those scales with low Cronbach's alpha and for the scale measuring the amount of marketing effort, a factor not included in previous research on user satisfaction or store traffic. Given the correlation among predictors, β weights from multiple regressions do not indicate the importance of each predictor (Cohen & Cohen, 1993) and few β weights are significant, indicating that predictors are not making a unique contribution to the outcomes. This matches the expected pattern of results when predictors are correlated; under these conditions, the β weights understate their effects. A more accurate measure of their impact is the adjusted R^2 (Cohen & Cohen, 1993).

Table 6 shows that, as a group, the predictors accounted for a significant portion of the variance in each of the outcome measures (legitimacy Adj. $R^2 = 0.263$, $F_{(8, 145)} = 7.84$, $p < 0.001$; caring Adj. $R^2 = 0.164$, $F_{(8, 145)} = 4.74$, $p < 0.001$; innovativeness Adj. $R^2 = 0.480$; $F_{(8, 145)} = 18.627$, $p < 0.001$; the extent to which the site provided the right information Adj. $R^2 = 0.331$ $F_{(8,145)} = 10.44$,

Table 6   Relationships between Website Dimensions (predictor) Scales and Impression (outcome) Scales ($n=154$)

Scale	Organizational impressions						Website impressions			
	Legitimacy		Caring		Innovation		Right information		Informative	
	Corr.	β	Corr.	β	Corr.	β	Corr.	β	Corr.	β
Text	0.15***	0.03	0.16*	0.07	0.25***	0.03	0.27***	0.10	0.15*	0.04
Graphics	−0.28***	−0.06	0.23**	0.02	0.53***	0.18*	0.47***	0.21*	0.29***	−0.01
Layout	−0.51***	0.35***	0.38***	0.23*	0.56***	0.23**	0.46***	0.15	0.49***	0.36***
Links	0.23**	0.07	0.28***	−0.20*	0.27**	0.10	0.34***	0.21**	0.30***	0.16*
Fonts	0.22***	0.06	0.21**	0.10	0.20**	−0.01	0.24***	0.08	0.13*	−0.02
Technology	0.26***	0.10	0.14*	−0.07	0.46***	0.15*	0.33***	0.05	0.28***	0.12
Marketing	0.28***	0.07	0.25**	0.13	0.52***	0.27***	0.31***	0.09	0.25***	0.04
Colors	0.35***	0.16	−0.21**	0.04	0.35***	0.11	0.33***	0.11	0.28***	0.06
Adj. R^2	0.263***		0.164***		0.480***		0.331***		0.245***	

*$P<0.05$;**$P<0.01$;***$P<0.001$.

$p<0.001$; and site informativeness Adj. $R^2=0.245$, $F_{(8,145)}=7.214$, $p<0.001$). The final β weights indicate that layout consistently contributed unique variance to impressions of organizations (legitimacy $\beta=0.35$, $p<0.001$; caring $\beta=0.23$, $p<0.05$; innovation $\beta=-0.23$, $p<0.01$) and to site informativeness ($\beta=0.36$, $p<0.001$). The quality of the links uniquely contributed to impressions of caring ($\beta=0.20$, $p<0.05$), the extent to which the site provided the right information ($\beta=21$, $p<0.01$), and site informativeness ($\beta=0.16$, $p<0.05$). The use of graphics contributed unique variance in predicting impressions of innovativeness ($\beta=-0.18$, $p<0.05$) and the extent to which the site provided the right information ($\beta=-0.21$, $p<0.05$). The marketing effort made and the use of advanced technology were unique contributors to impressions of innovation (marketing $\beta=0.15$, $p<0.05$; technology $\beta=0.15$, $p<0.05$). However, the extensive multi-collinearity in the data makes it impossible to conclude that these are the only important predictors. Thus, Hypothesis 3 was supported.

Discussion

The remarkably strong results from this exploratory study indicate that Websites do influence perceptions of organizations, an outcome not previously investigated. Participants readily formed impressions based on Websites, especially for the dimensions of experience, innovation, conservativeness, customer-orientation, competence, and concern for customers; more difficulty was experienced in forming perceptions of reliability, efficiency, caring, economic health, and size. Participants also formed impressions of organizations that differed overall and by industry on all five measured dimensions. In contrast, they made distinctions between organizations within the same industry on only two of these dimensions, and only for one of the industries.

Respondents were unable to articulate the characteristics of the Website that led to their perceptions. However, the content of the text, graphics, layout, links to other pages, fonts, use of advanced technology, strong marketing tactics and the use of color all appear to be important factors. The impact of strong marketing tactics has not been included in previous studies whose measures were drawn from the literatures on usability and store traffic. Together our predictors were able to account for a considerable percentage of the variance in impressions. They were associated with almost half of the variance in perceptions of creativity or innovation (48.0%), and about one-third of the variance in impressions of the extent to which the site provided the right information (33.1%). These characteristics also accounted for sizeable variance in impressions of legitimacy (26.3%), informativeness of the site (24.5%), and caring (16.4%).

Consistent with previous studies of Website characteristics and other outcomes, there was multi-collinearity among the predictors. However, there were surprisingly strong relationships between the predictors and outcomes, especially given the low internal consistency of some measures (which shrinks these relationships). There are two possible explanations for this plethora of significant results (Cooper, 1981). One is that these categories really are related. Firms with good graphics may also have good copy, use color well, be caring and legitimate, etc.

However, it is also possible that participants made judgments based on incomplete information and so activated a schema of how these categories should covary. Cognitive psychologists (Johnson & Dark, 1986; Lord & Foti, 1986; Fiske & Taylor, 1991) would argue that when viewing a Website, participants activate their schema regarding Websites and other associated topics, including characteristics of organizations. Potential customers peruse the Website and compare its symbols to mental models, which have been developed over time and based on experience, cultural background, and societal norms. The symbols in the Website activate associated assumptions and are then used to classify the firm. Missing information is filled in based on these activated mental models.

In other words, firm features are perceived as consistent with the respondent's expectations of what such a firm in

the assigned classification should be like, not what the firm is actually like. Information not included in the Website, such as profitability or efficiency, will be drawn from assumptions stored in a single, unified schema and so would be strongly inter-related. If so, the use of symbols to drive this initial classification becomes crucial. Firm classification largely determines Website-based perceptions of firms, and what actions are taken (including making a purchase).

Implications for practice

Organizations creating a Web presence should consider the opportunities for impression management, not just focus on the Internet as a new channel (Hoffman *et al.*, 1996; Singh & Dalal, 1999). This is especially true for new or small firms that have not yet established name recognition or a strong corporate identity. Websites are on-stage areas that influence potential customers' perceptions and may provide competitive advantage. Firms can use Websites to look as innovative or as caring as they desire, at relatively little expense, by matching the relevant symbols of their audience (Goffman, 1959). However, a mismatch between the symbols and those that their audience expects could make them look incompetent or uncaring and matching features that are technically advanced or patented may be more expensive. The problem of matching audience expectations is particularly daunting given the global nature of the Web and the particularism of symbols. The meaning behind symbols varies between cultures (Goia, 1986). A firm can reasonably predict the audience for its physical workplaces and advertising, target its symbols to the audience's expectations, and create a unified corporate image. However, it cannot easily predict or control the background of its Website visitors, who may come from any corner of the world and bring a multiplicity of expectations. Cues that are appropriate for one audience may have a very different meaning for another.

Web users walking down an electronic Main Street (the Web) are looking into the windows of various firms (Websites), and using the window dressing they see to form impressions of the firms. In light of the strong inter-relationships among seemingly independent categories of impressions, executives and Website designers need to understand the meaning behind symbols so that they can create a consistent and coherent Web identity (Goffman, 1959). Even a single discordant note can cause the firm to be classified negatively and, consequently, observers' perceptions on all of the other schema elements may be affected.

There also may be established norms about the nature of appropriate Websites in various industry segments. Impressions of two sports journalism firms differed considerably from those of two consulting firms. Organizations should be aware of the norms within their industry for text and images, as well as the structure of their arrangement before making choices that will create impressions about their organizations. Indeed, Website design should be undertaken with even more care than the design of any storefront or business location.

Limitations

This study suffers from a number of limitations. The exploratory studies reported here are based on a relatively small and homogeneous sample of North American respondents and on a limited number of target Websites. These respondents, while knowledgeable Web users and consumers, were not randomly selected and were students. In addition, the sites used in the main study were not drawn at random from their industries, so we cannot infer back to the population of Websites or companies. Further, since the research was one of the first to study impressions, instruments needed to be developed. Some of the scales, especially those measuring text, marketing, and colors, had low reliabilities that limited the observed effect sizes. Finally, we attempted to compare site-based impressions with their intended images, but all of the Website designers reported that they had not intended to create any specific image.

Implications for research

The electronic Main Street metaphor appears to provide a fruitful perspective on the use of the Internet by businesses. Future research will be required to determine the generalizability of these results to other populations of customers and of firms and to map the meaning of Website symbols to different demographics, societies, and cultures. More work is needed to refine the measures of Website characteristics that contribute to different impressions, and to determine the attributes that can be consistently conveyed, the qualities that differentiate among industries, and the influence exerted by industry norms.

Conclusion

Websites easily influence perceptions of experience, innovation, conservativeness, customer-orientation, competence, and concern for customers; more difficulty was experienced in forming perceptions of reliability, efficiency, caring, economic health, and size. The content of the text, graphics, layout, links to other pages, fonts, use of advanced technology, strong marketing tactics, and the use of color are all important factors and, together, accounted for a considerable percentage of the variance in impressions. Organizations creating a Web presence should consider the opportunities for impression management provided by the Internet. Those that appreciate the power of their sites should attend to these important impression management and corporate identity issues.

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Appendix :A

Organizational and Website Impression Scales and Component Items – Main Study

Organizational Impression Scales

Legitimacy (α = 0.77)

Incompetent (not capable) *vs* Competent (capable, qualified)**

Unprofitable (losing money) *vs* Profitable (lucrative, moneymaking)

Inefficient (wasteful unproductive) *vs* Efficient (productive)

Inexperienced (amateur, unskilled, novice) *vs* Experienced (expert, skilled, competent)

Financially unstable (likely *not* to be in business 5 years from now, shaky) *vs* Financially stable (likely to be in business 5 years from now, solid)

Caring (α = 0.60)

Uncaring (impersonal) *vs* Caring (compassionate, humane)

Unconcerned about customer (more concerned with other goals) *vs* Concerned about customer (benevolent) **

Unreliable (untrustworthy, undependable) *vs* Reliable (trustworthy, dependable, responsible)

Innovation (α = 0.79)

Not innovative (traditional) *vs* Innovative (novel, original)

Uncreative (unimaginative) *vs* Creative (imaginative, inventive)

Follower (uses tried and true methods) *vs* Leading edge (tries new technology and approaches)

Not customer-oriented vs Customer-oriented

Website is very innovative*

Website is different from other Websites*

Website Impression Scales

Provided the right information (α = 0.85)

Website told you something helpful*

Website told you something important*

Website is relevant to you*

Website is something you would like to visit again*

Website is not irritating*

Website is enjoyable*

Informative site (α = 0.77)

Website told you something new*

Website is informative*

Website is consistent*

*Likert scale with 1 = strongly disagreed, 5 = strongly agreed.

** Not included in the pilot study.

Appendix :B

Website Dimensions Influencing Organizational Impressions and Their Component Items: – Main Study

Text (α = 0.45)

No mention of quality *vs* High emphasis on quality

Virtually no info. about company *vs* Lots of information about company

No mention of branches, locations *vs* Many branches, locations, plants, etc.

Conservative topic *vs* Fun topic

Virtually all text and no graphics *vs* Little text relative to graphics

Graphics (α = 0.75)

None *vs* Very many

Very poor quality *vs* Excellent quality

Unattractive *vs* Attractive

Not flashy at all *vs* Very flashy

Layout (α = 0.80)

Confusing *vs* Well-organized

Hard-to-navigate *vs* Easy-to-navigate

Inconsistent *vs* Consistent

Unprofessional *vs* Professional

Poorly designed *vs* Well-designed

Dull *vs* Exciting

Creative *vs* Uncreative
Simple *vs* Elaborate
Only one page *vs* Many pages
External Links (α = 0.71):
No links *vs* Many links
No related links *vs* Many related links
Fluff (glitz but little content) *vs* Informational (substantive)
Don't work *vs* Work (are operational)
Fonts
Small (hard to read) *vs* Large (easy to read)
Technology (α = 0.74):
Not interactive at all (only provides information) *vs* Highly interactive (allows for input)

Basic technology *vs* Advanced (java applets, frames, animation)
Text only *vs* Multimedia (audio and video)
Marketing (α = 0.45)
Unaggressive *vs* Aggressive
No provisions for ordering product or service *vs* Online ordering
Colors (α = 0.48)
Subdued *vs* Bright
Stark contrasts (black, red, white) *vs* Very harmonious (pastels/harmonious combos)
Strident or clashing *vs* Pleasing
Diff. combinations on each page *vs* Consistent combinations on the pages