"Seeing Is Not Believing But Interpreting", Inducing Trust Through Institutional Symbolism: A Conceptual Framework for Online Trust Building in a Web Mediated Information Environment

Emma Nuraihan Mior Ibrahim, Nor Laila Md Noor, and Shafie Mehad

Faculty of Information Technology and Quantitative Science,
University Technology MARA, 40450 Shah Alam, Selangor, Malaysia.
{emma, norlaila, shafie}@tmsk.uitm.edu.my

Abstract. Trust has become an essential prerequisite for customer relationship building. Implementing institutional mechanisms seems to be an obvious outcome in inducing trust, rather than the result of independently motivated decisions of the user's interpretation on the institutional design features to be trustworthy. Proponents of this idea argued by understanding the concept of a sign and its related properties, it is possible to improve the analysis and design of interface design elements within web environment to induce trust. Drawn from established theoretical work on institutional based trust and semiotic, the concept of Institutional Symbolism and its four underlying dimensions are proposed to facilitate thinking and perception as to how trust can be built through signs comprehension. Conceptualized in the context of web mediated information environment, the implications of these dimensions on web site design and future work is further discussed.

Keywords: Web Mediated Information Environment, Institutional based Trust, Institutional Symbolism, Semiotic.

1 Introduction

Research on trust has begun with reference to Aristotle concept of *ethos* in *On Rhetoric,* dated back 2000 years ago which discussed theoretical consideration on trust in interpersonal communication [1]. As the Internet becomes pervasive in our lives, the issues of trust have raised much interest among the scholars and practitioners from interpersonal communication to a buyer-seller interaction [7]. With the emergence of e-commerce mainly in B2B and B2C environment, trust becomes the key facilitator in establishing, building and maintaining consumer relationships and interaction. The development of virtual relations has given the trust issues a new edge. Consumers not only perform interpersonal or inter-organizational transaction within the electronic exchange model but unaware to many, consumers also involved in the knowledge transactions and exchanges within the information exchange mode [11]. This is due to the growing number of web sites that offer advices or disseminating information to

consumer in sensitive fields such as religion, health, legal, politics, financial and so on. Hence we use the term *web mediated information environment* to collectively refer to the activities involving information exchange and dissemination among web sites to the users over the Internet, for example, users seeking legal advices (e.g: WorldLawDirect.com, legalserviceconnection.com) or obtain personal advice from free online advice services (e.g: FreeAdvice.com). One of the methods to engender trust within electronic environment is through trust building based on institutional structures or known as institutional based trust [26]. The operationalization on institutional trust focus on the underlying technology infrastructure, well known practices and control mechanisms that acts as a tool to ensure safety and the reliability of an e-commerce environment has been proven effective to monitor trustworthy action under transaction environment [25, 26].

However, research on institutional based trust has been limited to the traditional e-tailing environment, varies considerably in its dimensions and problems [16]. To the best of our knowledge very little attention has been paid to this aspect of the institutional based trust interfaces within the web mediated information environment as these sites introduce an additional element of trust beyond standards concerning information privacy and security. Furthermore, a lack of user understanding of effective mechanisms for self-protection on the Internet may be causing many people to ignore their use. Feelings of trust are not always rational. A decision to trust a piece of information does not necessarily imply what respondents described as trust; it may include strong intuitive, emotional component especially dealing with sensitive issues.

Following Social Learning Theory [2] suggests that people learn through association or modeling. Trusting behavior therefore comes to be associated with symbols that act as cues in environment. Meaning making in a scene is a product of both internal associations and the matching of internal and external cues [15]. To trust is therefore a problem of signs interpretation, considering what we know, what we see and what we interpret in something or someone, we can decide if we should trust or not. Of our interest, we further introduce the notion *institutional symbolism* and its underlying dimensions as the external cues of the institutional environment, a mechanism that signal trustworthy message in a form of signs on the web interface which will further discuss in details. Specifically the contributions of this paper are:

- Definition of concept on web mediated information environment institutional based trust and institutional symbolism.
- Identification of the four dimensions of institutional symbolism and its underlying values.
- To introduce a conceptual framework on institutional trust building based upon semiotics that allows a better understanding of the institutional phenomenon as on how users interpret the institutional signs of the interface.

2 Institutional Based Trust: A Theoretical Background

Drawing on the concepts and findings of the sociologists and economists, this approach to trust considers the development of trust between individuals and institutions

in which they interact in their every day's life such as banking, law, government system and economy [5]. In the literature, this type of trust is also known as *system trust* [19, 23], *reputed credibility* [10], and is similar to the *transference process* described in [38] and *control trust* [38]. Lewicki et. al [28] describe institutional based trust as the trust that develops when individuals generalize their personal trust to a large organizations made up of individuals with whom they have low familiarity, low interdependence and low continuity of interaction. For example, we trust the government system to ensure the stability of a state or we place our trust in a juridical system to uphold the law enforcement and sanctions. The trust is not based on the sole property

Table 1. Summarizes institutional based trust dimensions

Dimension	Explanations	Sources
Situational normality	The beliefs that everything is "normal". This gives the trustor a sense of security, which positively supports his trusting decisions. An example in the e-business environment is that communication infrastructure is secure in the sense that authorization, integrity, non-repudiation and confidentiality are guaranteed	McKnight et. al. [19], McKnight and Chervany. [20]
Structural assurances	The belief of success is likely because of regulations, contracts, promises or guarantees are in place. It seeks to reassure the trustor that measures have been taken specifically to safeguard and reduce the risk of something going wrong.	McKnight et. al. [19], McKnight and Chervany. [20]
Facilitating Conditions	Shared standards, relationship values and common beliefs about behavior and goals. Examples: common processes for uniform product descriptions, the use of interoperable IT platforms and business management standards like EDI.	Pavlou, P.A. and D. Gefen [26]
Third party certification and Escrow services	Guaranty expected outcomes. The main tasks of these third party and guarantors are to create the appropriate conditions when there is a low level of familiarity in the environment.	Zucker [41]
Technology Trust	Ability of technological systems used to carry out interactions to support privacy, accuracy, authenticity or authorized parties and accountability of e-commerce transaction. Dimensions suggested are security services such as confidentiality mechanisms, authentication mechanisms and access control mechanisms.	Ratnasingam [31]
Internet Trust	Identified several dimensions of competence trust in the context of Internet, correctness, availability, reliability, security and survivability.	Schneider [35]

or state of the trustee but rather on the property of the system or institution within which the trust relation exists. Hence, the trust on the system property or institution is a reflection of the security one feels about a situation because of guarantees, safety nets, other structures [41] or institutionalized procedures [39]. Institutional based trust has been conceptualized and examines within e-commerce environment and regarded as a critical part of Internet transactions [20]. This is because the e-commerce brings together organizations with no familiarity or similarity [26] and thus this type of trust builds on shared structures, processes and routines to create stable transaction contexts. As most of the online users are not well knowledgeable or technically sound with the inner working systems, the users will place their trust as a belief in these institutional mechanisms that helps to engender trust in the electronic environment [20, 25]. Institutional based trust dimensions are mostly embedded in the socio-technical systems technology. It is seen as backdrop that envelopes and safeguards interaction in the online electronic environment [33].

As institutional based trust dimensions are largely based on socio-technical system and technology trust mechanisms, trust could also entails in non-technical mechanism that safeguard interaction on the web [33]. Our interest to the latter is to try to make it easy for human to reason about trust online by involving analysis of how people interpret or perceived the trustworthiness and credibility of information through the institutional signs and symbols they see online.

3 Trust and Website Design

When a potential customer visits a site for the first time, his or her initial perceptions of that web sites are based on features that are visible on the web site's main pages. This is the same in the case of offline world, consumer's exhibit attitudes and behaviors that are affected by intrinsic cues gathered from the physical environment in which they make a trust based decisions [32]. Self-perception theory posits that one's attitude towards another party is formed through interaction with that party and through circumstantial information [17] where trust usually involves an assessment of external information. These initial impressions drive the development of customer's relationship, with the web site's ability to persuade visitors to take the action that it wants them to take (e.g.: make purchase, information exchange), the first step to building trust. Several researchers have indeed considered the components and structure of an e-commerce website design that might induce or trigger trust in e-commerce [4, 6, 40, 42], factors such as branding, navigation, website designs, technology and security measures, third party seals and so on. Designing for trust in e-commerce is an increasing concern for the field of HCI [33]. Because of the considerable importance of trust in the web mediated information environment, the designers must create new social norms for professional institutional electronic environment by designing web interface that able to induce trustworthy feelings. However, the ability of the designers to promote trustworthy perceptions of institutional trust through the interface design of its own is unknown. Hence,

institutional based trust features need to be understood from the structures of meaning producing events at both verbal and non-verbal levels [36]. As a new medium, it does not yet have the established standards or conventions needed to be accepted as trust communication tool, it lacks of semiotics.

3.1   Semiotics of Trust

Semiotic is the study of signs and meaning making that convey semantic (the meaning of signs), syntactic (the relationship between signs), pragmatics (the ways in which signs are used and interpreted) and their use as a communicative tool [14]. The web sites are complex interactive communication systems speaking two languages: the one of the "content" and the one of the "interface" [37]. Our interest is to the latter, which is referred to as a self-referential symbolic system consists of a set of "signs" (examples icons, symbols, words etc.) used to provide interaction to users [9]. In user interface design, semiotics can be used to convey particular aspects of a design to a user without requiring explicit labels or instructions [34] similarly to the concept of affordances described by Norman [22] as the perceived properties of a thing that determine how it can be used. Signs convey two meanings: a "content meaning" and also a "functional meaning". These signs should be understood by users in both ways: the user should be able to understand the message it's trying to convey, a structural characteristics facilitating both users' cognitive and affective apprehensions. And the expectations that lead to the behavior (trust, values, and beliefs) impose by the organization or institution [29, 30].

Semiotics in design serves as an experience link between user's feeling, interpretation and action in a situation. The nature of the entire user's interaction with the web site is mediated through the initial impression from the web pages they see. Symbols and signs act as cues in the environment, when they are associate with user's internal states or feelings, their physical presence can evoke the associated states and feelings to guide users towards a behavior for example the presence of trust cues may lead to increased perceptions of trust and reliability on the web. Several researchers have incorporated semiotics to the design of e-commerce websites, example a semiotic based methodology for web assessment [9], a semiotic model of software in which a metaphor affects the interpretation of semiotic features, measuring the effect of semiotic web design features on expectations of the performance criteria in an online web store explained in [32] and propose semiotic aspects of a web site to increase trust [14].

3.2   Trust as Cognitive and Affective Perceptions

Trust is deeply interwoven with risk, and both are based upon perception. Perception is the process by which individual select, filter, organize and interpret information to create a meaningful picture of the world [36].Cognitive psychology believes that perception is impacted by emotions, motivations, expectations, interplay of cognitive and affective dimensions. Conceptualizing individuals evaluative judgment as having

cognitive (belief) and affective (emotion) based is a commonly used approach [7, 18]. Trust in the signs and symbols (social trust in strict sense) seem to consist of beliefs evaluation as the basis of reliance on the symbols properties and capabilities. Those beliefs can be well justified, warranted and based on reasons, as perceived the other's dependability, credibility and competence [6, 20]. This represents the "rational" part of trusting in symbols, a cognitive dimension when trust is based on well motivated, evidences and on good inferences when it constitute beliefs are well grounded. But those beliefs can also be not really warranted not based on evidence, more rather depending on the emotional security and bond users develop with the trustee, and those beliefs rely on faith, honesty, benevolence [6, 7, 18] that makes up the affective dimension.

As sign reading is a fundamental part of deciding whether to trust, it is then important to study the feeling of trust focusing on what happens into an individual mind when he/she trusted someone or something. Perception towards the signs envelope a broad area of human processes ranging from sensation to concept formation [36]. People encountering symbols, read these symbols through their own individual eyes and the symbols acquire meaning in the organization through recurring experiences. Importantly, only a connection between symbols and underlying values provides full understanding of both symbols and its trust warranting properties [27, 34].

4 Institutional Symbolism and Its Dimensions

We conceptualized institutional based trust as a form of symbolism, the system of representations and symbols through institutional trust inducing features on the web which we define as *institutional symbolism*. The term institutional symbolism refers to a visible, physical manifestation of the institutional characteristics, behavior and values. Institutional symbolism is the *trust marks*, signs that depicting and presenting connoted message of some *assurance*. Based on the work of Barber [3] says that trust implies expectations of the future, which can be broken down into three forms of expectations, technical competence, fulfill moral orders and fiduciary responsibility. On the basis of these expectations, we content that the trust marks represent the beliefs (values) and expectancies held by individual about the overall impersonal structures and situations construed as to network both cognitive and affective trust warranting properties. These beliefs implying that the institutional symbolisms carry its own disposition and attribution meaning, an institutional manifestation through textually or graphically presentation on the web site. We propose four dimensions of trust marks and its underlying values as an instantiation of institutional symbolism that serve as a starting point for measuring the effect of institutional trust inducing features on the web site. We contended, trust on this institutional symbolism act as a form of social trust where trust initiated from the social mechanism, behavior and values through the means of institutional symbolism representation.

Table 2. Framework of Institutional Symbolism Trust Inducing Features

Dimensions	Values	Measurements	Sources
Trust marks that reflect third party assurance or seals of approval.	A belief that it will perform a particular action, to monitor or to control that certain acts and behavior is warranted.	Trust marks that symbolized: 1. Protecting privacy 2. Providing security 3. Demonstrating consumer satisfaction 4. Providing reliability 5. Providing assurance or guarantee.	Hu et. al [12] Cheskin [4] Wang, Y.D and Emurian, H.H. [40]
Trust marks that reflect credibility of the web content	A belief that it has the ability and competency to carry out the obligations.	Trust marks that symbolized: 1. Competence *(knowledge, expertise and skill).* 2. Reliability *(accuracy, currency, coverage and believability).* 3. Predictability *(stability of information).*	Chopra, K., and Wallace, A.W. [5], Fogg, B., and Tseng, H [10] Corritore, et. al. [6]
Trust marks that evoke emotional assurance or security.	A belief that it will provide a sense of comfort that is reflective, thoughtful and careful.	Trust marks that symbolized: 1. Benevolence *(goodwill and objectivity)* 2. Honesty *(validity and, openness).* 3. Integrity *(fiduciary obligations).*	Chopra, K., and Wallace, A.W. [5] D. McAllister [7], Riegelsberger., J., et. al [33].
Trust marks that reflect trustworthy expectations derived from the message.	A belief that it signifies positive or prominent identities and values.	Trust marks that symbolized: 1. Reputation - *Offline reputation* (evaluation of all image aspects about an institution). - Perception of a *company's ability* to meet the expectation as intended (authority, certification reviews, references, ratings and awards). 2. Brand - *Brand Image* (perceived overall reputation) - *Brand Personality* (beliefs in the overall *competence, benevolence, integrity and predictability*).	Einwiller, S., and Will, M [8], Chopra, K., and Wallace, A.W. [5]

5   Conclusions and Future Work

We sought to heighten the awareness of the importance in designing information to meet what user's needs and in turn on how to better design sites to convey intended and desired meaning. Sophisticated web sites design does not always engender consumer trust in their privacy and security. Hence, more empirical supported guidelines together with new method in approaching the design issues are needed. Through semiotic analysis the study of signs and meaning making can help us to understand the properties of the institutional symbols on the web by addressing the intrinsic meaning

present within the symbolic system and the perceived meaning decoded by a particular set of users (common shared meaning) [9].

The semiotic analysis will involved 5 levels, the first is to *analyze the nature* of web mediated information environment to look into the shared patterns of interaction, norms, values, expectancies and obligations among the users on trust issues, second the *pragmatics,* analyzing the user behavioural aspects on communication processes and shared assumptions in evaluating the sign, constituting the beliefs, intention and expectations within a specific culture, third the *semantics*, evaluating the meaning of trustworthy inducing trust features on the web, fourth the *syntatics,* the relationship among signs and the operations it may be subjected, an underlying rules associated with the sign properties and fifth, *empirics*, the establishement of guidelines with respect to designing trust inducing features on the web. In addition, we adopt Social Semiotic principles developed by Hodge and Kress [13] for further analyzing the effects of these signs and symbols on user's interpretation of trust.

Hence, communication and meaning making can be said, are linked through a belief or value in a shared understanding of signs that if a population of users interprets the design feature similarly, it can be used effectively in a system [32]. As such it is important to be sensitive as to how signs and symbols are used in the text and graphic to convey intended meaning and to induce trustworthy behavior to the users especially if it's addressing a specific culture. Our introduction to the concept of institutional symbolism introduce avenue for future research within institutional trust phenomenon. The framework presented will serve as the basis for future empirical studies that will be apply to the web mediated information environment. The operationalization of institutional symbolism trust inducing features will take place within the Islamic web based content environment, which introduce a critical process of meaning making and trust constructions on the level of users as it involves areas of sensitivity. A promising area to study trust that focus on a particular set of communicators, having its own cultural identities. The outcome will be benefits for designers design guidance for trust elements placement on the web, cultural embedded design features and effective security and privacy protecting behaviors for those who would want to involve in acquiring, communicating Islamic knowledge or information on the web.

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