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# A Framework for the Identification of Electronic Commerce Visual Design Elements that Enable Trust within the Small Hotel Industry

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A Framework for the Identification of Electronic Commerce Visual Design  
Elements that Enable Trust within the Small Hotel Industry

By

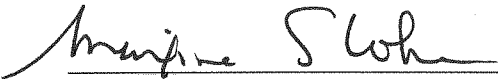
R. Todd Stephens

A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy


Graduate School of Computer and Information Sciences  
Nova Southeastern University

2004

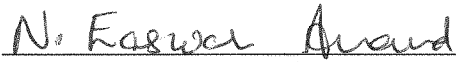
We hereby certify that this dissertation, submitted by R. Todd Stephens, conforms to acceptable standards and is fully adequate in scope and quality to fulfill the dissertation requirements for the degree of Doctor of Philosophy.

  
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Graduate School of Computer and Information Sciences  
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An abstract of a Dissertation Submitted to Nova Southeastern University  
in partial fulfillment of the Requirements for the degree of Doctor of Philosophy

## A Framework for the Identification of Electronic Commerce Visual Design Elements that Enable Trust within the Small Hotel Industry

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Trust plays an important role in any customer relationship or transaction. This is especially true in the world of commerce. Buyers and sellers must make the conscious decision whether or not to trust the other party. Trust is an integral part of commerce and has been in existence since the beginning of human social interactions. With the emerging use of the Internet as a business medium of exchange, trust maintains an important role in electronic commerce. This research reviews the role of trust within the small hotel industry and the design elements having the highest impact toward developing trust between the buyer and seller.

Trust is a concept that most people understand but have trouble defining. Brick and mortar companies can establish trust by providing personal service, one-on-one contact, and creating an environment that communicates trust to the customer. In the electronic commerce environment, many of the face-to-face experiences a shopper receives from the physical store are missing. The online shopper must develop a level of trust based on the web representation of the company or organization. Only through good experiences are the bonds of trust solidified, making the user more comfortable with sharing information and engaging in extensive forms of commerce. Trust must be established from the first exposure to the property or online representation of the hotel. How can the small hotel compete with large chains, such as Marriott, Sheraton, Hilton, or Embassy Suites? The Internet is becoming the main communication channel for the Business to Consumer (B2C) market, leaving the ability to differentiate between the luxury hotel and the small hotel to the skill of the web developer. Therefore, smaller hotels must exploit the Internet in order to develop trust and increase their market share.

The goal of this research was to create a usable framework for building trust in an online environment, focusing specifically on the small hotel sector within the lodging industry. This framework was constructed based on the literature review and enabled the development of a solid information architecture and Internet strategy. This study established that page layout, navigation, professional style, graphics, and information content are significantly related to the establishment of online trust. The utilization of these visual design elements will enable small hotel organizations to utilize the electronic commerce environment as a competitive advantage.

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# Table of Contents

List of Tables viii

List of Figures x

## Chapters

### 1. Introduction 1

Statement of the Problem to Be Investigated and Goal to be Achieved 2  
Relevance, Significance or need for the Study 3  
Barriers and Issues 4  
Elements, Hypothesis, Theories, or Research Questions to be Investigated 5  
Limitations and Delimitations of the Study 7  
Definition of Terms 8  
Summary 11

### 2. Review of the Literature 12

Overview 12  
Trust 12  
Lodging 21  
Design Elements 30  
Electronic Commerce 47  
Trust and Electronic Commerce 48  
Other Key Studies of Trust, Lodging, and the Internet 50  
The Contribution this Study Makes to the Field 52  
Summary 52

### 3. Methodology 53

Overview 53  
Phase 1: Design Phase 53  
Phase 2: Development Phase 56  
Phase 3: Pilot Study 57  
Phase 4: Main Study 58  
Phase 5: Data Analysis 60  
Formats for Presenting Results 60  
Resource Requirements 61  
Tools 61  
Domain Experts 62  
Reliability and Validity 63  
Summary 63

### 4. Results 65

Overview 65  
Current Online Environment 65  
Functional Models 68  
Trust Model 69

Electronic Commerce Model Trust Model	72
Design Element Model	75
Trusted Framework for Enabling the Business (TEB)	79
Research Compare Site Selection	85
Survey Construction	86
Pretest of the Research Instrument	87
Response Rate	92
Demographics of Respondents	92
Non-Response Bias Testing	95
Descriptive Statistics	96
Control Variables	98
Propensity to Trust of Respondents	98
Online Behavior of Respondents	100
Hotel Selection	101
Dependent Variable	103
Independent Variables	105
Internal Reliability	109
Hypothesis Testing	110
Multivariate Regression Model	115
Summary of Results	118

## **5. Conclusion, Implications, Recommendations, and Summary 121**

Overview	121
Conclusions	121
Implications	124
Recommendations	125
Summary	127

## **Appendixes**

<b>A. Letter to Research Participants</b>	<b>131</b>
<b>B. Letter to Lodging Subject Matter Experts</b>	<b>132</b>
<b>C. Letter to Research Subject Matter Experts</b>	<b>133</b>
<b>D. Research Survey Model</b>	<b>134</b>
<b>E. Research Survey</b>	<b>135</b>
<b>F. Design Element Classification Criteria</b>	<b>147</b>
<b>G. Web Page Score Sheet</b>	<b>150</b>
<b>H. Web Development Lifecycle with Integrated TEB Model</b>	<b>151</b>
<b>I. Tools Required for Dissertation</b>	<b>152</b>
<b>J. Trust Research Process for SME Review</b>	<b>153</b>
<b>K. TEB Model Overview for SME Review</b>	<b>157</b>
<b>L. Trust Model Overview for SME Review</b>	<b>167</b>
<b>M. Design Element Model Overview for SME Review</b>	<b>170</b>
<b>N. Electronic Commerce Model Overview for SME Review</b>	<b>180</b>
<b>O. Destin Beach Resort Sitemap</b>	<b>185</b>
<b>P. Destin Beach Resort Style Guide</b>	<b>191</b>
<b>Q. Variable Calculation Overview</b>	<b>197</b>

<b>R. Hotel Review Site List</b>	<b>201</b>
<b>S. Hotel Site Research Statistics</b>	<b>207</b>
<b>T. Top and Bottom Five Sites</b>	<b>210</b>
<b>U. Cascading Style Sheet</b>	<b>211</b>
<b>V. Research Compare Sites</b>	<b>220</b>
<b>W. Participants User Guide</b>	<b>222</b>
<b>X. Sample Pages from Destin Beach Resort</b>	<b>226</b>
<b>Reference List</b>	<b>230</b>



## List of Tables

### Tables

1. Use of Promotional Tools 27
2. Web Page Breakdown 33
3. Trust Model Feedback Questions 72
4. Electronic Commerce Model Feedback Questions 75
5. Visual Design Element Model Feedback Questions 78
6. Research Compare Site Selection 86
7. Demographic Information (Pretest) 88
8. Propensity to Trust (Pretest) 89
9. Online Behavior (Pretest) 89
10. Hotel Selection (Pretest) 91
11. Demographic Information 93
12. Demographic Impact on Trust 94
13. Correlation Matrix (Demographic Information) 95
14. Early and Late Respondents 96
15. Skewness Statistics 96
16. Correlation Matrix 97
17. Control Variables and Trust 98
18. Propensity to Trust 99
19. Online Behavior 100
20. Hotel Selection 102
21. Trust Questions 103

22. Trust Variable Based on Site Selection	104
23. Visual Design Questions	105
24. Visual Design Element Review	107
25. Cronbach's Alpha Results	109
26. ANOVA Test for Hypothesis One (Page Layout)	110
27. ANOVA Test for Hypothesis Two (Navigation)	111
28. ANOVA Test for Hypothesis Three (Web Seals)	112
29. ANOVA Test for Hypothesis Four (Professional Style)	113
30. ANOVA Test for Hypothesis Five (Graphics)	114
31. ANOVA Test for Hypothesis Six (Information Content)	114
32. Regression Model Summary	115
33. ANOVA Results of the Regression Model	116
34. Regression Model Coefficients	117
35. Hypotheses Predictions and Results	120

## List of Figures

### Figures

1. Research Model 6
2. Trust Conceptual Framework 16
3. Integrated Model of Trust Development 18
4. Hotel Operations 24
5. Major Types of Information Structures 35
6. Participant Process Model 59
7. Average Element Score of the Online Environment 66
8. Content Elements 67
9. Trust Model 69
10. Electronic Commerce Model 73
11. Design Element Model 76
12. Trusted Framework for Enabling the Business Model 79
13. Web Development Folder Structure and Page Content 85
14. Final TEB Model 119

# Chapter 1

## Introduction

### Introduction

Technology and the Internet are revolutionizing every industry, from the retail bookstore to online banking, from electronic data interchange to information management. New technologies and global competition combined with increased consumer demands are requiring organizations to redefine their strategies and business models. Electronic commerce can be defined as the buying and selling of information, products and services via computer networks (Kalakta & Whinston, 1996).

The business value of electronic commerce is derived from three methodologies. First, the business value is derived from improving existing processes within the organization. This can be accomplished through improving product promotion and the development of a new sales channel. Improvements can be made by reducing costs of processing information or reducing the time to market for a particular product or order. An organization may also see improvements in the customer service offerings by providing 24x7 hours of operation. Second, electronic commerce can transform an organization by changing the way the company communicates with the customer base. Organizations can utilize the Internet to gain knowledge of the user's buying habits, specify target offers, and deploying new processes. Finally, organizations can redefine their products and business models to leverage new distribution channels, new products, and fundamentally change the way industry operates (Bloch & Segev, 1996).

The small hotel industry distinguishes itself from other retail organizations in that the product must be received at the hotel itself. Additionally, the product is a time-based product as a room cannot be stored for some future date. Traditionally, a person needing a hotel room for business or personal travel would simply pick up the phone and contact one of the chains. The Internet is opening up new distribution channels and opportunities for the small hotel to compete with larger chains. However, barriers still exist in the trustworthiness of the information provided online. This research reviewed the problems of trust with the Internet and focus on the small hotel industry.

### **Statement of the Problem to be Investigated and Goal to be Achieved**

Trust is a concept that most people understand but have trouble defining. Brick and mortar companies establish trust by providing personal service, one-on-one contact, and creating an environment that communicates trust to the customer. In the electronic commerce environment, many of the face-to-face experiences a shopper receives from the physical store are missing. The online shopper must develop a level of trust based on the web representation of the company or organization. Only through good experiences are the bonds of trust solidified, making the user more comfortable sharing information and engaging in extensive forms of commerce. With online commercial transactions, the user is vulnerable to two specific trust violations: the loss of money in the transaction and the loss of privacy with the information provided (Friedman, Howe, & Kahn, 2000). Both of these threats are present in the hotel electronic commerce model. Information exchange and transactions occur at the time of the reservation as well as the time of check-in. Trust must be established from the very first exposure to the property or online representation of the hotel. How can the small size hotel compete with large chains, such

as Marriott, Sheraton, Hilton, or Embassy Suites? The Internet is becoming the main communication channel for the Business to Consumer (B2C) market, leaving the ability to differentiate between the luxury hotel and the small hotel to the skill of the web developer. Therefore, smaller hotels must exploit the Internet in order to develop trust and increase their market share. Choobineh and Kini (1998) suggest several factors which contribute to the lack of trust in electronic commerce: security, dependability, and competence of the organization in relation to the perceived risk.

The goal of this dissertation was to create, implement, and test a usable framework for building trust in an online environment, focusing specifically on the small hotel sector within the lodging industry. This framework was constructed based on the literature review and enabled the development of a solid information architecture and Internet strategy.

### **Relevance, Significance or need for the Study**

Trust plays an important role in any customer relationship or transaction. This is especially true in the world of commerce. Buyers and sellers must make a conscious decision whether or not to trust the other party. Trust is an integral part of commerce and has been in existence since the beginning of human social interactions. Most aspects surrounding trust are embedded in the social contact between the two parties or institutions. A buyer trusts the seller will deliver goods or services based on experience or “word of mouth”. The seller in return trusts the buyer will pay for services rendered. Commerce trust can be defined in terms of uncertainty, risk, and vulnerability of the transactional relationship (Cannon & Doney, 1997).

The majority of academic research around the aspects of trust and electronic commerce revolves around the use of trusted seals. Nieschwietz (2001), Wakefield (2001), and Portz (2000) present detailed analysis of the impact of web assurance seals like TRUSTe, BBBOnline Reliability, BBBOnline Privacy, and WebTrust. This research plays an important role in the electronic commerce model for the small hotel business by adding to the credibility of the site. An individual designer can overcome many of the obstacles defined in the research through effective website development based on Human-Computer Interaction (HCI) principles. This research paper focused on three key areas: the environment and current electronic commerce capabilities of the hotel industry, a framework of trust, and the web based design elements that can impact trust.

### **Barriers and Issues**

The elusive part of this research is the impact of the combination of trust, design elements, and the aspects of the electronic commerce model on the lodging industry. While there are many studies that contribute to the knowledge of trust in design, none has attempted to start from an in-depth theoretical account of trust to derive specific design principles (Egger, 2000). The researcher argued that because of the unique characteristics of the Internet and trust development, the lodging industry requires rigorous development of a conceptual framework that can drive an organization to a solid Internet strategy based on trust. To date, very little scholarly effort has been undertaken in order to understand the Internet as a medium of communications and the trust required to develop a solid commerce strategy (Hoffman & Novak, 2000).

The online world differs from the face-to-face world in several ways that are relevant to trust. Specifically, the online world lacks the dimensions of character and

personality, nature of relationships, and institutional character on which we normally rely to form an attitude or base decisions about trust. Therefore, a framework of developing trust in an online environment is required in order to form the trust needed in electronic commerce.

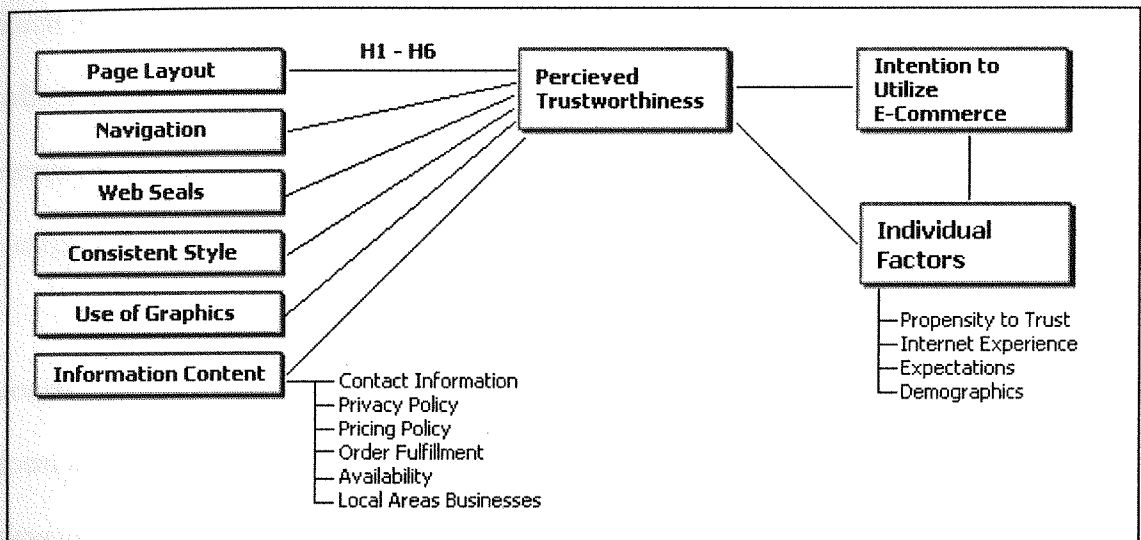
Christensen and Tedlow (2000) define the Internet as a collection of disruptive changes in the way retailers conduct business. The business model of the average discount department store has a margin of 23% with an inventory turnover of 5 times per year. The business model for an online vendor produces a margin as low as 5% and a turnover rate of 25 times per year. Unfortunately, small hotels are unable to increase or add to the inventory of rooms. Clearly, the hotel industry must look at the Internet in a different perspective than other retail oriented businesses.

### **Elements, Hypothesis, Theories, or Research Questions to be Investigated**

There are three main elements of this research. The first element is the understanding of trust, how this emotion develops over time, and the initial formation based on the elements of the Internet. Second are the design elements that make up the current Internet environment. These design elements may include navigation, page layouts, or color schemes. The final element of this research is the electronic commerce model of the small hotel. Figure 1 provides the research model utilized in the research. Variables for this study were drawn from the literature and included to make an original contribution to the body of knowledge. The dependent variable is the perceived trustworthiness of the hotel organization. Other studies have proven that organizations that are perceived as trustworthy will create a higher intention to utilize electronic commerce. In addition, studies have indicated that user's individual factors, such as



propensity to trust, Internet experience, expectations, and demographic information have influenced the propensity to trust. This research introduced the hypothesis that design elements in conjunction with other variables influenced the perceived trustworthiness of the organization. Therefore, the independent variables are page layout, navigation system, web seals, consistent style, use of graphics, and information content.



**Figure 1.** Research Model

Research Hypothesis: There is a significant impact on the trustworthiness of an organization based on the business and technical design elements within a small hotel website. This overall hypothesis can be broken down into six sub-hypotheses.

H1: The page layout of a hotel website will have a significant impact on the perceived trustworthiness.

H2: The navigation system of a hotel website will have a significant impact on the perceived trustworthiness.

H3: The existence of web seals will have a significant impact on the perceived trustworthiness.

H4: A professional web style will have a significant impact on the perceived trustworthiness.

H5: The use of graphics will have a significant impact on the perceived trustworthiness.

H6: The information content of a hotel website will have a significant impact on the perceived trustworthiness.

Each of these hypotheses was measured against the existence of trust and the degree to which the design element was recognized. By utilizing web sites with varying degrees of design elements, this study could establish a significant relationship between visual design and the emotion of trust.

The information content segment falls into six components, which include the contact information, privacy policy, pricing policy, order fulfillment, availability, and local area businesses. This research tested the hypothesis, which included the development of trust-oriented framework for developing lodging electronic commerce sites. This research project utilized a phased approach in the development of the “best practices” framework and model web application.

### **Limitations and Delimitations of the Study**

The major outcome of this research is the development of the “best practices” framework for the small hotel, which indicates a narrow industry focus instead of the full electronic commerce environment. Access was not a limitation since the Internet was used during the data collection phase. The research excluded major hotel chains in the detail comparison and inventory review.

The study has some limitations based on the experience of the user community. Users were pulled from segment groups that are more prone to active web usage. This domain of users influenced the study toward a higher impact of trust than would a true random population sample which might include participants with little or no online experience.

The main delimitation of this research is the actual implementation of the constructed application. Although a solid research methodology was used, the application should be time tested over a period of years in order to measure the true implication. This research focused on the initial formation of trust, additional studies should be designed to measure the evolution of trust. A solid electronic commerce strategy should include more than just an Internet application, the small hotel should invest in other distribution channels as well. These distribution channels include search engines, travel oriented distributors, and electronic mail marketing programs (Starkov, 2002).

## **Definition of Terms**

### *Application Server Provider*

Application Server Provider (ASP) is an organization that provides web-hosting services as well as add-on services such as image galleries, shopping carts, and customer service management applications.

### *Active Server Page*

Active Server Page (ASP) is technology developed by Microsoft that is used to create powerful and dynamic web applications. ASP can be embedded into Hypertext

Markup Language (HTML) to retrieve information from a database or simply present different views to the user.

### *Brick and Mortar*

Brick and Mortar is a term that describes organizations having a physical presence in the retail or wholesale environment. Retailers like Wal-Mart, Sears, and Home Depot are considered brick and mortar companies as opposed to Amazon.com, which has no physical retail space.

### *Customer Acquisition*

Customer Acquisition is a term that describes the marketing process of attracting a customer to actually purchase a product rather than simply trying to generate website visits or newsletter subscribers. An acquired customer will provide information that can be used to offer other products as well as direct promotion.

### *Electronic Commerce*

Electronic Commerce is the term used to describe the function of processing transactions over the Internet medium. These transactions can be oriented toward marketing, purchasing, procurement, delivery, or customer service.

### *Reselling*

Reselling describes the process of selling goods and services produced by another organization. In the lodging industry, organizations like Travelocity, Expedia, and local travel agents are considered resellers of lodging products and services.

### *Service Delivery*

Service Delivery within the electronic commerce model is the process of delivering information to the customer without the bounds of time and paper. In other words, customers can receive brochures, order confirmations, and experience property tours from the Internet 24 hours a day.

### *Trustee*

The trustee is the individual, party, or organization that is being trusted.

### *Trustor*

The trustor is the trusting party where the emotion of trust will be formulated.

### *Uniform Resource Locator*

Uniform Resource Locator (URL) is the unique address for a computer to access information over the Internet.

### *Up-selling*

Up-selling describes the process of selling additional products or services to a customer. In the lodging industry, this could mean a larger room, concierge services, or offering extended stay packages.

## Summary

Online trust is growing in importance to the B2C commerce model.

Organizations can no longer afford to exploit market inefficiency and uninformed customers. Understanding how trust is created, developed, and maintained lead to improved websites, increased sales revenue, and profitability of the organization. This research study provided a basis for developing a solid electronic commerce strategy based on a particular set of design elements. This research addressed the possibility that these visual design elements can impact trust of the user.

## Chapter 2

### Review of the Literature

#### Overview

The purpose of this section is to provide a review of the literature that pertains to the development of trust, the small hotel industry, and electronic commerce design elements. In addition, this section will review the electronic commerce environment for the hotel industry as well as the development of online trust.

#### Trust

##### *Definition of Trust*

The word trust has been active in human language throughout written history. Although the concept of trust is vital to our daily lives, most people have trouble defining trust in specific terms. Arceneaux (1994) defines trust as the dependence of sources such as reliability, genuineness, truthfulness, intent, competence, and other similar factors. These factors can be applied to situations that either enable trust or destroy it. Bhattacharya, Devinney, and Pillutla (1998) define trust as an expectancy of positive outcomes that can be received from another party. Trust can be based on the expected actions within an interaction characterized by uncertainty. Trust can be viewed as the perceived credibility and benevolence of the other party. The credibility of the party is related to the documentation or statements made during the course of a business relationship. Benevolence is the conceptualization that one party is genuinely concerned for the other's welfare and is motivated by seeking a joint gain in the relationship (Cannon & Doney, 1997). Couturier, Hacker, and Israel (2000) developed a conceptual

model of trust that characterizes trust into the basic dimensions of capability, commitment, and consistency. Within a customer and supplier relationship, trust is the customer's belief in the supplier's benevolence, honesty, and competence to act in the best interest of the relationship (Helfert, Mueller, & Walter, 2000). Each of these definitions expands on the basic concepts of trust and enables a more thorough understanding of the emotion. People have a disposition to trust based on past experiences. This disposition is formed by the view that people are generally trustworthy and should be given the benefit of doubt (Chervany, Cummings, & McKnight, 1998).

### *Types of Trust*

The literature review revealed four types of trust: calculus-based trust, knowledge-based trust, relational trust, and institutional-based trust. Calculus-trust is based on the idea of rational choice between the two trusting parties (Edvardsson, Gustafsson, & Skalen, 1999). This type of trust focuses on the individual doing what they say they are going to do for which they are rewarded or punished. Failure to deliver on the promises or expectations of the other party will produce a form of punishment or a curtailment of future contracts. This type of trust is more sensitive to the market-based exchanges than the emotional responses that cannot be calculated (Searle & Wilson, 2002). The calculus-based trust will question management incentives, deterrents, policies, formalities or an organizational structure that could suggest increasing or decreasing predictability for the actions of the other party (Herting, 2002).

An example of calculus-based trust can be found in the client-vendor relationship. The client executives trust and cooperate with vendor communities based on the expectation of structural controls, penalty clauses, business reputation, and the fear of



losing the business to control the relationship. The vendor also has expectations of trust based on calculated factors like late payments, contracts, and future engagements. Some researchers indicate that this type of trust is based on fear rather than a desire to build a trusting relationship (Sitkin & Weingart, 1995). However, trust can be built and subsequently maintained because of the cost to repair the relationship or the damage the organizational or personal reputation. This fact will push a party to act in the best interest of the relationship.

Knowledge-based trust is based on the predictability created through information collected between parties (Sabherwal, 1999). This trust is the most common form of trust in business as well as personal relationships. Over time, numerous interactions with the other party and our knowledge of them lead us to associate a certain level of trustworthiness (Couturier, Hacker, & Israel, 2000). Factors that can influence the knowledge-based trust include information gathering, product evaluation, strategic planning, perceptions of stability, communications, frequency of interactions, and other climate factors (Herting, 2002).

The third type of trust is commonly referred to as relational trust. Trust is a dynamic fluctuation from a calculus-based emotion to a relational emotion that is impacted by institutional support and control mechanisms (Feldheim & Liou, 1999). Information availability forms the basis of relational trust. Reliability and dependability of the information as well as the interactions with the trustor has an impact on the relational trust (Burt, Camerer, Rousseau, & Sitkin, 1998). In relational trust, the formation process takes time based on the required interactions between the two parties.

This is different than the calculus-based trust, which can be defined over a short period of time based on visual information (Edvardsson, Gustafsson, & Skalen, 1999).

Institutional-based trust is based on one's belief in other members of the organization. This type of trust is also referred to as deterrence-based trust which eases the formation and maturity of the other three types. Based on the research, one's confidence in knowing that the reputation of the other party matters will then permit the relationship to form and mature (Burt, Camerer, Rousseau, & Sitkin, 1998).

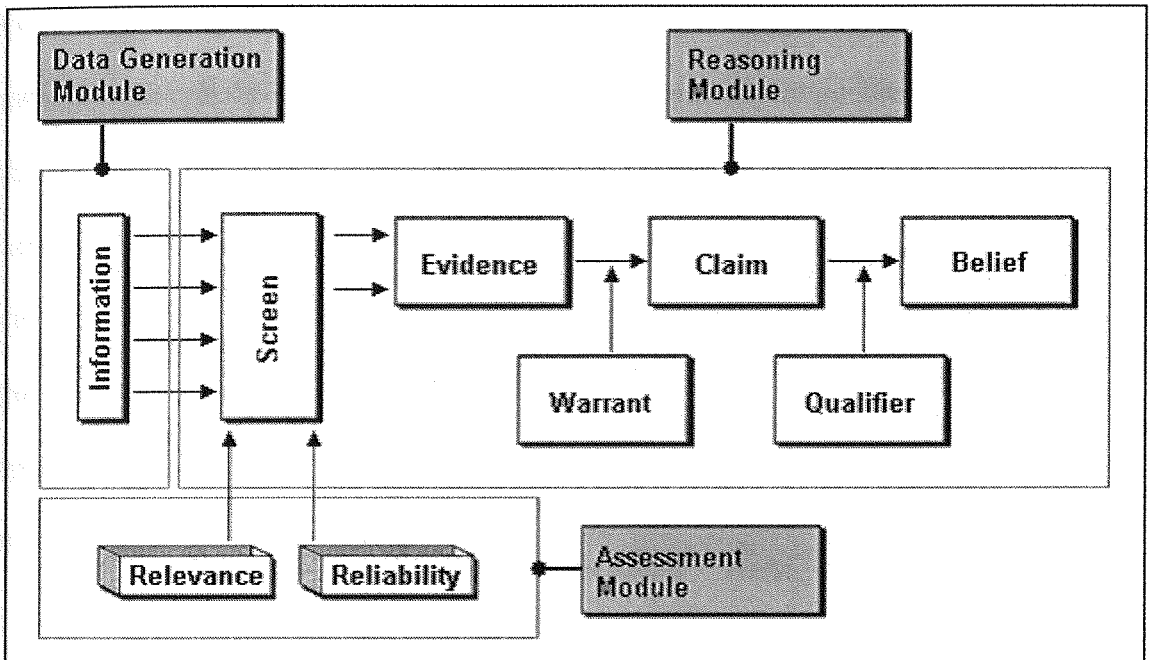
### *Process of Trust Development*

There are a number of elements vital to the development of trust. First, there must exist a trustor that acts as an agent of trust. This person needs a trustee, which can be another person, organization, or product. The trusting relationship formed between the two parties includes an evaluation of the actions of each party. This evaluation reviews the actions in order to determine if the trustee will act in the best interest of the trustor. The trustee must then have the ability to act on that evaluation (Huff & Kelly, 1999). From this observation of a trusted relationship, determinations can be established around the risk, dependency, and level of vulnerability for each party.

### *Trust Models*

This section of the literature review will cover two specific trust models. These models are two of the most comprehensive models that describe the process and formation of trust development.

The first model is a simplification model originally developed by Benson, Curley, and Smith (1991), which was published in the *Organizational Behavior Human Decision Process*. Bently, Garner, Gilbert, West, and Wilken (2002) simplified the model and applied it to a brick and mortar pharmacy. Figure 2 provides an adaptation of the original model.



**Figure 2.** Trust Conceptual Framework

The process begins in the data generation module. This module describes the information that is retrieved by the five basic senses. A grocery store might provide samples of produce that can be smelled as well as eaten by the consumer. A home improvement store might provide product demonstrations that can be heard and seen by the potential customer. A customer screens the inputs by the reliability and the relevancy of the information in order to develop evidence to move forward in the model.

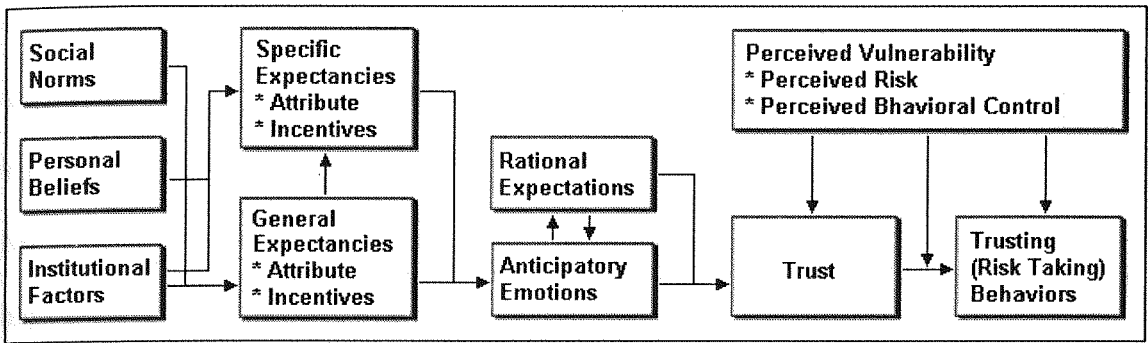
Individuals must be able to evaluate information based on reliability, relevancy, and

authenticity in order to assess the credibility and usefulness of the information itself (Karvonen & Nikander, 2000).

This process of screening filters the data generated and the data actually used to construct the argument or case for trustworthiness. The screening process begins the reasoning module, where the ultimate goal is to support or disprove a trusting belief. The evidence process is the assimilation of observed and perceived information that is gathered through the screening process. These thoughts can range from an observation that the office is clean to the clothing worn by the individual. The warrant process can be described as the process of taking an observation and making a judgment or leap to a claim. For example, banks are constructed and decorated in a fashion to create a perception of security. Pharmacists display their credentials on the wall of the pharmacy, wear white coats, and provide one-on-one counseling in order to establish a relationship of trust.

The final step in the process is to take the claims and attempt to pull these emotions, visual cues, and observations into a belief. For this research the belief is that the person, organization or object is trustworthy. To say that someone is trustworthy is to say they are “worthy of trust” (Flores & Solomon, 1998). This model of trust is an excellent example of the process a customer experiences in a retail setting. The next example reviews trust as a defense mechanism and an economizing tool.

Huff and Kelly (1999) define trust both as the confident expectation that in a given situation, relevant to the trustor, another party will act in the best interest of the trustor as well as the willingness to rely, and be vulnerable to the trustee.



**Figure 3.** Integrated Model of Trust Formation

Figure 3 provides an overview of the integrated model of trust formation. Social norms and opinions of certain reference groups have a powerful influence on the formation of individual's specific and general expectations of trust. For example, Asians point to their superior aspects of the oriental culture, such as deference to authority, emphasis on education, and family values, as a source of foundational trust (Fukuyama, 1995). Trust exists in an environment of mutuality, where any given situation is person specific and built on the experiences and beliefs of the individual (Bhattacharya, Devinney, & Pillutla, 1998). The institutional factors are defined as the social networks and oversight processes put into place by the government, communities of trust, and the legal profession. Barney and Hansen (1994) define several types of trust that measure the level of involvement required by the government or contractual processes. A weak form trust provides a limited set of opportunities for opportunism and does not depend on the creation of contractual or other forms of exchange governance. However, semi-strong form trust requires the development of trust to be protected through various forms of governance devices. Examples of these devices include complete contingent claims contracts, sequential contracting, strategic alliances, and penalties imposed through the fair trade policies.

The specific expectancies are attributed to the trustee based on the personal belief and institutional factors. The two drivers of the specific expectancies are the attributes of trust and incentives of both parties to participate in a trustworthy relationship.

Researchers have identified five key attributes of trust, which include: belief, benevolence, integrity, openness, and predictability. The trustee must believe the other party has the ability to perform the task with or without confirmation of such ability.

Seligman (1997) indicates that the ability to perform an action without confirmation of ability, character, or intentions is central to the definition of trust. Benevolence raises a judgment on the character of the other party. People that are thought of as benevolent are considered genuine and truthful. Individuals cannot be thought of as trustworthy if they are perceived as operating behind a façade or have a history of dishonesty (Arceneaux, 1994). Cannon and Doney (1997) describe benevolence as the extent to which a partner is genuinely interested in the other party's welfare and should be motivated to seek joint gain. The integrity is similar to the benevolence of the individual with the addition of respected values and keeping promises. This idea that people will act in a predictable fashion follows the core definition of trust by Gefen and Straub (2000). Expanding this view of predictability is the idea that trust creates a social environment in which business function with or without contractual governance. Finally the idea of openness, which reflects good communications and the willingness to share information that will enable trust within the relationship, should be considered in the formation of expectations. An example of the type of information that would be valid in the formation of trust within a business relationship would include consumer feedback, financial information, pricing policies, and information from neutral resources (Lundgren, Seelen, & Walczuch, 2001).

General expectancies are developed from the social norms and the institutional factors of the person or organization. In business, these expectancies are related to the concepts we expect from a particular line of business. Before the Internet, most people perceived banks as secure and large organizations that provided services governed by rules and regulations. The combination of specific and general expectancies results in a set of rational expectations that are different for each individual.

The idea of emotion and the impact on the trusting process is not fully understood. However, scholars have recognized the important role of emotional security for trust to develop. The term emotion is used primarily to describe the feelings, based on cognitive evaluation of the other party and the relationship (Chervany, Cummings, & McKnight, 1998). Each individual will have varied emotions of fear, skepticism, cynicism, and wariness of the situation (Huff & Kelly, 1999). Nissenbaum (2001) adds to the definition of emotions by indicating that the perceptions of virtue, loyalty, prudence, and desire to be well thought of can drive positive emotions of the relationship.

Risk and vulnerability are two essential features of trust. Trust involves a vulnerability occasioned by some form of ignorance or basic uncertainty as to the other's motives (Seligman, 1997). In other words, vulnerability refers to the susceptibility of being taken advantage of by another party. In the absence of vulnerability, trust is not required since the outcome of the relationship cannot do harm. Trust must stipulate that at least one party has something meaningful at stake and is cognizant of the potential harm. There must exist the possibility of exit, betrayal, and defection (Bigley & Pearce, 1998). Risk is a function of the level of uncertainty perceived and the stakes involved. Risk is one of the core conditions considered essential in the psychological, sociological,

and economic definitions of trust. Once again, trust would not be needed if the actions of the two parties could be undertaken with complete certainty and without risk (Burt, Camerer, Rousseau, & Sitkin, 1998). In summary, trust is the willingness to be vulnerable under conditions of risk and interdependence.

## **Lodging**

### *Overview*

The number of travelers who use the Internet to plan and book trips continues to grow at a rapid rate, according to reports by the Travel Industry Association of America (TIA). In 2000, more than 59 million online travelers used the Internet for information on destinations or to check prices or schedules, growing 395% over the three previous years. Of that group, 25 million actually purchased travel products or services online during 2000, representing a 384% growth from 1997 (Travel Industry Association of America, 2001). National chains like Marriott, Sheraton, Hilton, and Embassy Suites dominate the lodging industry. However, Cobanoglu (2001) indicates that 80% of the hospitality establishments are independently owned with 92% having fewer than 150 rooms. These statistics indicate the importance and impact of a solid Internet strategy for the small hotel industry. Failure to develop electronic commerce capabilities will lead to a competitive disadvantage (Dargan & Prosser, 2001).

Despite the enormous growth predicted by the travel industry, little research has been conducted in the determination of factors that build trust and how trust enables online commerce. The tourism industry is evolving rapidly and a growing dependence on an electronic commerce model seems apparent. In a study performed in 2000, the United States consumer purchased \$12.2 billion of leisure travel over the Internet (DeMoulin,



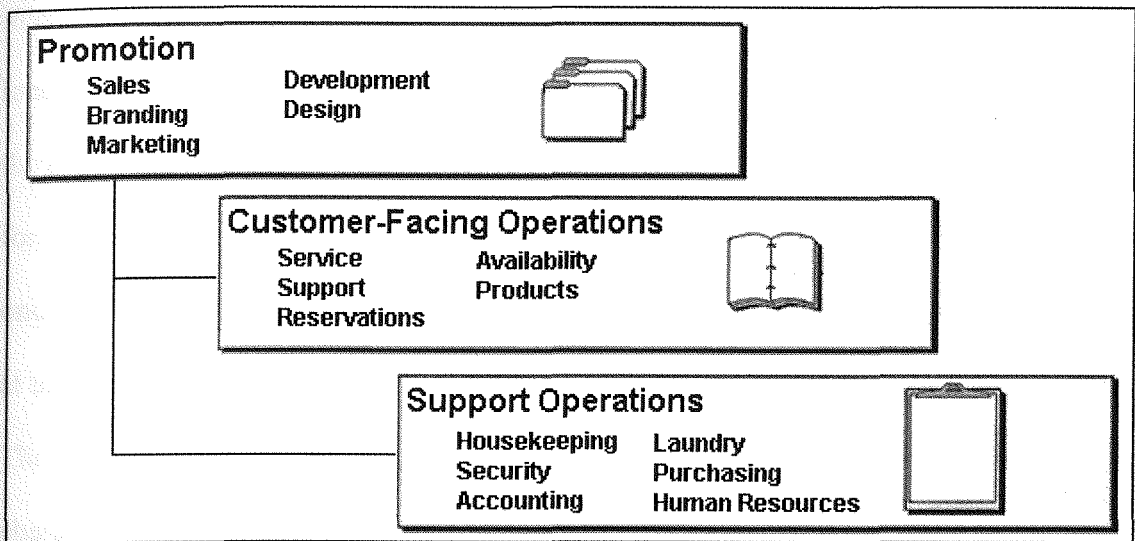
Harteveldt, McQuivey, & Shrier, 2000). Unfortunately, this increase in purchases does not spread across the travel industry equally. The majority of the purchases come from buying airline tickets. Only 27% of the people buying airline tickets online make their lodging reservations online. There are a variety of factors that contribute to this difference in purchasing behaviors. First, hotels provide the traveler with an enormous number of choices concerning location, rates, and amenities. Second, brand confusion within the hotel industry is pervasive. The American Hotel & Lodging Association indicates that there are 13,000 property members' worldwide, representing more than 1.7 million guest rooms (American Hotel & Lodging Association, 2002). This membership does not include the thousands of independent properties, bed and breakfast inns, and local inns. The U.S. lodging census database maintained by Smith Travel Research consists of 35,000 U.S. hotels containing 3.6 million guest rooms (Rutherford, 2002). Finally, there are no industry-set standards for ranking rooms, pricing plans, or principles of cleanliness (DeMoulin, Harteveldt, McQuivey, & Wakeman, 2000). Without standards, Internet users must make judgment calls on trust and quality of the hotel from the online representation.

In the lodging industry, there exist two main trends that are enabled by the Internet: revenue management and customer relationship management. Revenue management is the management of income streams. A hotel with 100 rooms can only sell 36,500 rooms per year. Therefore, the importance of refining guest segmentation and distribution channels cannot be understated. Customer relationship management is another trend that can be enabled by the use of electronic commerce (Gilbert, Powell-Perry, & Widijoso, 1999). The Internet can be used for customer acquisition, reselling,

up-selling, and service delivery (Burrit, 2000). Today the balance of power is moving away from the seller and toward the buyer, which creates the need for delivering high-quality service, convenience, and value for the money. Internet business models affect the product and service offerings, pricing, distribution, and customer service, as well as the long-term customer relationship (Cline, 2000). These trends are creating an environment where trust can be the differentiator between a successful electronic commerce strategy and failure to capitalize on one of the most important technological trends in history (Gregoire, Joeng, & Oh, 2001).

In much of the literature, the term hotel is used to describe various configurations of a lodging establishment. A resort is classified as a hotel located in and among various types of amenities like golf, tennis, beaches, or some other type of entertainment. A motel is described as a single floor unit that is generally located along roadways and provides a very limited amount of services (Grey & Liguori, 1994). The term hotel is generally used to describe any combination of amenities, services, and location. The terms hotel, motel, resort, and inn are frequently used interchangeably, which can be a source of confusion. The small hotel can be defined as a hotel ranging in size from 20 to 100 rooms; these properties are typically owned and operated independent of any major chain. Properties with 75 or fewer rooms constitute two-thirds of the lodging operations in the United States (Caples, Cook, & Lanier, 2000). Small hotel organizations must begin to look beyond the operations of the hotel for their market distinction.

The operations of a small hotel can be broken down into three main categories of function. Figure 4 provides a high level view of these categories along with a collection of services that can be segmented into each box.



**Figure 4.** Hotel Operations

The next section of the research paper will review these three areas of the hotel industry. A few areas that are not included in this research are site selection, building design, and many other areas that preempt the actual operations of the hotel. The researcher will focus on the utility of services once the hotel is actually built and in operation. The primary reason is the research study focuses on the electronic commerce side, which would not impact the actual design or development of the hotel. This research will focus on the general process of product consumption including marketing, reservations, registration, guest stay, and checkout (Rutherford, 2002).

### *The Promotion Function*

The promotion function is the process of sales, marketing, branding and promotion of the hotel. One of the unique properties of the hotel product is that customers generally do not purchase a room for the room itself. The hotel room is simply a means to an end and is generally described as “Derived” demand (Ingram & Medlik, 2000). The same principle applies to the hotel services as well. The business customer is more

interested in attending a convention and a holiday traveler is more concerned with the local beach or ski-slope (Ingram & Medlik, 2000). Another aspect of the product is that the hotel room is a time-based product. If the product is not used then the sales are lost for that day. A hotel room has a 24-hour shelf life and cannot generate additional sales once the room inventory is depleted. In addition, the customer must be physically present at the time of fulfillment and the product cannot be stored for future use (Lashley, 2000). The concepts of packaging, promotion, and branding are driven by the product characteristics of the hotel industry.

The basic function of a promotion is to create awareness and stimulate demand. The typical role of marketing can be performed by the use of advertising, brochures, and many other types of promotions. Marketing is not just a sales job; just about everything the customer sees must reflect the brand or image the hotel is trying to establish (Rutherford 2002). These visual cues may include signage, public relationships, amenities, color, and overall design. For example, a hotel located on the beach may select a color scheme that is bright with a fun décor. A beach hotel built in a rustic fashion simply would not fit the beach-oriented culture. Promotions are designed to increase demand and drive the consumer toward a purchase or reservation. However, hotels only have a limited quantity of products and promotions should be designed to entice the customer to purchase early or during periods of time where demand is soft (Dittmer, 2002). Segmentation is part of creating demand and can be described as the process of dividing a market into meaningful groups that have similar needs and wants. Targeted marketing is simply choosing the segments to go after as a customer base. This may also be described as positioning the product (Morris & Shaw, 2000).

The concept of branding describes the process of combining the product with a collection of services in order to create a perception for the customer. The brand may be described as the name, logo, symbol, identity or trademark. However, a better definition of the brand is one that embodies all for which the business stands. The brand is the hallmark for quality, a promise or assurance of quality that a customer will receive (Dev & Prasad, 2000).

Hotels are often thought of as levels of service such as budget, economy, luxury, and business class hotels. This combination of products and services is applied to the marketing messages in order to differentiate between the competition (Ingram & Medlik, 2000). The researcher defines a small hotel as independently owned and not part of a major chain of hotels. The level of services can be classified as budget or economy. The concept of branding takes on a slightly different role than that of Holiday Inn or Ritz Carlton. The small hotel must develop relationships with different distribution channels or the local attractions that are driving the customer to the location. The travel agent's business is making travel arrangements and bundling different packages together for the customer. A travel package is a term used to describe the two or more services bundled together. For example, a travel agent might arrange air, hotel, and attraction accommodations for the traveler. This creates a new distribution channel for the hotel to utilize in order to increase sales (Dittmer, 2002). Other associations that will increase the demand of the small hotel might include local business discounts, welcome centers, and other travel intermediaries. Ingram and Medlik (2000) published the following table, which provides a review of some of the promotional tools available to the small hotel owner and the percentage of use.

**Table 1: Use of Promotional Tools (Ingram & Medlik, 2000)**

Tool	Usage Percent
Direct Mail	75%
Loyalty Cards	48%
Merchandising	40%
Outdoor Advertising	41%
Print Advertising	92%
Promotions	83%
Radio and Television	44%
Telemarketing	34%
Website	57%

### *Customer Facing Operations*

The customer facing operations include customer service representatives like reservationists, housekeeping, and customer support personnel. The function of the group is to develop and deliver the guest experience. The guest experience can be defined as the summation of the service product, service setting, and the service delivery system (Ford & Heaton, 2000). In large part, these entities help define the overall experience of the customer and provide an ability of the hotelier to differentiate themselves from the other hotels within the area.

The availability and reservation process is one of the first opportunities a hotel has to interface with the customer. The impression of this process can set the stage for the perception a guest may feel throughout the process. Reservations refer to the process of holding accommodations for future guests (Dittmer, 2002). Quan (2001) indicates that reservations are used through out the hospitality industry to eliminate customer uncertainty about the price and availability of the desired service. A reservation can fall into three categories. A guaranteed reservation is reserved with a credit card or some other payment before the check-in process. A walk-in customer does not actually make a

reservation but rather takes an immediate purchase of the product. A regular reservation is not paid in advance and the room is only held for a specific time period (Weissinger, 2000). The reservation system allows the hotel operator to access the inventory of room availability for a specific unit and time period. Once a reservation is made the system immediately updates the inventory and ensures the room is not promised to another customer. In addition to providing information and reservations, the front office provides check-in and check-out services. This process may be the first time the customer comes face-to-face with the service provider. The check-in process involves securing payment, assigning rooms, collecting customer information, providing keys, and other informational exchanges. The check-out process is simply securing additional payments, room inspections, and collecting feedback from the customer (Dittmer, 2002).

Yield management is a term used to describe the process of getting the most revenue out of the available rooms. The hotel industry is an ideal industry for implementing yield management due to low variable costs, high fixed costs, on-hand perishable inventory, variable demand patterns, and ability to forecast future demands (Cross, Hanks, & Noland, 2002). It is based on the economics of supply and demand, which means that prices drop when demand is weak and rise when demand is strong. The purpose of the yield management is to increase the profitability of the hotel. Hotel management would like to sell every room at the highest rack rate. However, most rooms are sold with some sort of a discount on the rack rate (Walker, 2001). Another aspect of the pricing strategy is the physical location, property shape, and immediate competition. These factors shape the pricing strategy, which impacts the yield of the rooms (Weissinger, 2000).

### *Support Operations*

The final area of review is the support operations that may or may not come into contact with the customer. These activities may include housekeeping, security, laundry, and accounting. One of the most important aspects of the guest experience is delivering a consistent product to the customer. Of the three main activities that impact the customer, none are more important than the housekeeping function. The main function of the housekeeping department is the cleaning and maintenance of the rooms and other areas of the hotel.

For large hotels the ownership, operations, and management functions are separated both conceptually and in practice. In a small hotel these functions are generally combined and performed by a single individual. This scale of operation has two main implications. First, there is limited ability for departmentalization or specialization for the customer. This creates a form of centralized control, which is generally located in the office. The second impact of this scale is the limited amount of services that can be provided. A small hotel that carries a smaller staff number will not have the ability or time required to offer additional services like room service. The majority of employees may be interchangeable and work multiple roles like housekeeping and the front office (Ingram & Medlik, 2000). The result of this scale is that the owner does not have the ability to delegate an enormous amount of the responsibility and continually engage in the business. The smaller hotel does have some advantages over the larger hotels. The owner can add a personal touch on the décor and provide very personalized service to the customer base. In addition, they may be able to create a sense of loyalty from the employees, which in return will reduce turnover and lower costs. One trend of the



lodging industry is the idea that hotel operations are becoming commoditized. This is especially true in the small hotel segment since they do not have the ability to expand their service offerings beyond the lodging aspects of the business. The problem with this trend is that consumers will begin to purchase primarily on price (Gilmore & Pine, 2002). Clearly, electronic commerce provides the possibility for small hotel to set themselves apart from other organizations by the effective use of the Internet.

## **Design Elements**

### *Overview*

There are various schools of thought on which design elements make a successful web site. Scanlon, Schroeder, Snyder, and Spool (1998) collected qualitative and quantitative data on key design factors, which included: searching, content, text links, images, links navigation, page layout, readability, graphics, and user's knowledge. Each of these design elements makes an important contribution to a successful website.

Websites are built to provide information or sell a product or service. Experts indicate that usability is about making sure that the average person can use the site as intended. Well chosen names, layout of the page, text, graphics, and navigation structure should all come together to create instantaneous recognition (Krug, 2000).

Becker and Mottay (2001) developed a usability assessment model used to measure a user's experience within a web environment. The authors defined eight usability factors, which included page layout, navigation, design consistency, information content, performance, customer service, reliability, and security. Usability and design can play an important role within the electronic commerce market. Design consistency has been defined as the key to usability (Nielsen, 1998). Karvonen (2000) reported that

experienced users admitted to making intuitive and emotional decisions when shopping online. Some users simply stated, "If it looks pleasant then I trust it". Even if developing trust is not that simple, the research clearly shows how important design is in the area of trust.

There are a variety of web design elements that can have a positive impact on a website's image, effectiveness, and trustworthiness. Design elements like well-chosen images, clean and clear layout, careful typography, and a solid use of color can create an effective site. In addition, a solid navigation structure and continuity in design can provide the user with the control and access required within an electronic commerce interface (Andres, 1999). Although, design elements may take on the form of a visual cue, the true value comes from a combination presentation, structure, and interactivity. A solid website is a collaboration of design, content, usability, and a back end system that is integrated into the processes of the business (Veen, 2001). Krug (2000) defines a set of tools as location indicators, which are design elements of the site that tells the user where they are. This can be in the form of a page name, header, sitemap or page utility. The page utility should be used within a list type program, which allows the user to know where they are within the list of elements. Indicators like "Page 1 of 12" can be extremely helpful informing the user of their location. Nielsen (2000) describes the need for the user to know where they are, where they have been and where they can go.

In this section of the research paper, the researcher will review six basic design elements that encompass a web design. These elements will form the basis of the research model.

### *Page Layout*

The page layout is the visual presentation of the web page by means of background color, white space, horizontal and vertical scrolling, font size, color combinations, and other design elements (Becker & Mottay, 2001). Graphical layout is a prime consideration in the design of a functional website. Designers must consider the font size and placement, scrolling versus hypertext linkage, sentence and paragraph lengths, and several other factors that are logically integrated into a structure (Palmer, 2002). Page layout is one of the strongest contexts used by designers today. These layout-based contexts have grown or evolved based on the experience of web designers and the current user base (Veen, 2001).

The majority of web pages can be broken down into the parts that make up the screen real estate. Nielsen (2000) indicates that the content of a web page should take up to around 80% of the screen real estate while the navigation structure should be around 20%. Nielsen's description is at a very high level, by breaking down the contents of a page design we can see that the designer has many other elements to contend with. Table 2 provides a list of the most common elements used by today's designers.

**Table 2: Web Page Breakdown**

<b>Category</b>	<b>Description</b>
Actual Content	Information contained in the page.
Brand Related	Logo, tag line, and other items used to promote the brand or company.
Navigation	Links, search, and other tools used to jump from page to page.
Tool and Utility	Date, time, sign in, are examples of tools used within the site to aid the user.
Advertising	Advertising are elements to promote other products
White Space	Space that is not used within the page.

Table 2 does not cover every possible element, but the vast majority of elements will fall into one or more of these categories. The web designer's ultimate role is to place these elements into a page layout that works for the first time user, intermittent, and frequent users of the website. Shneiderman (1997) provides a clear understanding of the importance of design on these three categories of users.

“First-time users need an overview to understand the range of services and to know what is not available, plus buttons to select actions. Intermittent users need an orderly structure, familiar landmarks, reversibility, and safety during exploration. Frequent users demand shortcuts or macros to speed repeated tasks, compact in-depth information, and extensive services to satisfy their varied needs.” (p. 10)

By structuring a web page into a familiar convention, the user will be able to scan the more easily and faster. Every publishing medium develops conventions and continues to refine them and even develop new ones over time. The web already has several conventions derived from newspaper and magazine standards (Krug, 2000). Generally speaking, the top section of a web page is used for branding and site navigation. The left-hand side navigation section is also used to provide the user a more detailed navigation structure than can be provided within the top sections. The use of a blue font color and

underlining for external links is a convention that most web pages use. These are a few of the page layout conventions used today and with the newer technologies and additional designers these will no doubt change over time. Another convention is the differences in the home page and the other informational pages within the site. The home page is the most important page on any website, getting more views than any other page (Nielsen & Tahir, 2002). Designers should understand the differences and needs of the users for both of these page layouts.

### *Navigation*

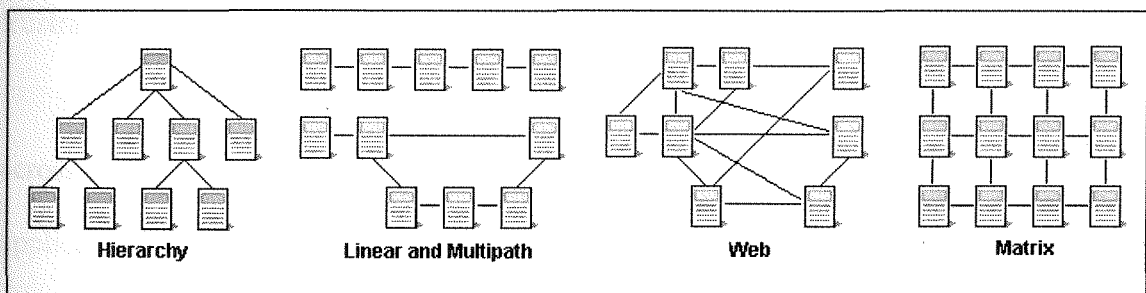
The concept of navigation covers a broad spectrum of concepts described in the current literature. Eismann, McClelland, and Stone (2000) describe the navigation structure as a framework for providing viewers the information required to know where they are and a method of getting where they want to go. In addition, navigation quickly becomes intuitive when you use consistent treatment, placement, weight, and behavior of navigation web elements. Navigation is a goal-centered and action-oriented activity that revolves around the user experience. A navigation system should be easily learned, consistent, provides visual feedback, appear in context, offer alternatives, and provide an economy of action and time (Fleming, 1998). Nielsen (2000) defines navigation as the basic user interface by which users click on navigation links or icons in order to move around the site. Navigation in this context should be able to answer the questions:

- Where am I?
- Where have I been?
- Where can I go?

A solid navigation structure is important since it is easy for users to get lost in web applications because there is less structure than in other applications. Page design can help a user keep track of where they are. As a best practice, Meehan and Shubin (1997) indicates that the use of clear and consistent navigational aids like page names, logos, banners, icons, background color act as visual clues for the user. Morville and Rosenfeld (1998) published:

“The foundation of almost all good information architectures is a well-designed hierarchy. In this hypertext world of nets such a statement may seem blasphemous, but it’s true. Hierarchy is ubiquitous in our lives and informs our understanding of the world in a profound and meaning way.” (p. 65)

A web application is a series of nodes that are linked together. These web applications can also be linked together and the combination of all of the web network nodes make up the World Wide Web (WWW). Within the web environment, four key information structures exist. Figure 5 provides an example of each of these structures.



**Figure 5.** Major Types of Information Structures

The hierarchy structure is by far the prevalent structure on the web. The reason for this is because human beings naturally order their world by establishing categories and subcategories (Farkas & Farkas, 2000). The navigation system should be constructed in order to replicate this structure and provide a cognitive approach to the information architecture defined within the web. A navigation scheme that works should be

consistent. Users who rely on the navigation framework will begin to predict the location of the navigational elements and performance will improve over time (Fleming, 1998)

### *Consistency*

As Fleming (1998) indicated, navigation should be consistent as well as the design of the entire web application. Shneiderman (1998) defined eight golden rules of interface design. The first rule is the designer should strive for consistency. The actions of the user should be very consistent as related to specific activities. Identical terminology should be used in the navigation, menus, help screens, and prompts. In addition, the designer should be consistent in the selection of color, font, layout, and the use of headers. Every major button, icon or navigational instruction, should have only one meaning. This meaning or function should not change within the web application. When designers fail to develop consistency in the application, user confusion, and frustration will follow (McClain & Sachs, 2002).

Design consistency is the consistent placement of page components within and across the Hypertext Markup Language (HTML) pages. Various components of a web application require a level of consistency. These components can range from the textual descriptions and labels to the error messages that are presented to the user. A level of consistency with the links, background, and text give the impression of a professional designed web application (Becker & Mottay, 2001). Consistency influences learnability positively when a design is consistent within the web application. A consistent application will impact the performance of the end user. The main source for improving the consistency of an application is the design knowledge of the developer (Eliens, Veer, & Welie, 1999).

Consistency is nothing new in the world of design. A newspaper is an excellent example of design consistency. The name of the newspaper is located at the top of the page with the lead stories taking the front page. The front page will also contain a table of contents, which can lead the user to additional sections of the newspaper. Like a newspaper, the consistency built in the web application can help the reader understand the content as well as the information architecture.

### *Trusted Seals*

The idea of the development of trusted seals is to provide consumers with a trusted third party view of an institution. The third party view provides consumers with a methodology of developing institution-based trust (Chervany, Cummings, & McKnight, 1998). Several Internet services have emerged on the Internet that can enable trust. These services include BBBOnline Privacy, BBBOnline Reliability, TRUSTe, and WebTrust (Wakefield, 2001). The Council of Better Business Bureaus Inc. established the two “BBB” seals to enhance consumer confidence while engaging in online transactions. These programs require that organizations adhere to the following policies found on the BBBOnline website (2002):

- Become a member of the Better Business Bureau where the company is head quartered;
- Provide BBB with information regarding company ownership and management and street address and telephone number at which they do business, which may be verified by the BBB in a visit to the company's physical premises;
- Be in business a minimum of one year;
- Have a positive complaint handling record with the BBB;



- Agree to participate in the BBB's advertising self-regulation program and correct or withdraw online advertising when challenged by the BBB and found not to be substantiated or not in compliance with BBB's children's advertising guidelines;
- Respond promptly to all consumer complaints; and
- Agree to dispute resolution, at the consumer's request.

Each organization that uses the seal must follow a code of ethics that covers advertising, disclosure, information practices, security, customer satisfaction, and special provisions to protect children.

WebTrust was developed by the American Institute of Certified Public Accountants. The purpose of this service is to provide assurance by an independent and objective Certified Public Accountant (CPA) and inform consumers that a website is safe and reliable (Portz, 2000). In order to present the WebTrust seal organizations must provide business practice disclosure, proof of transaction integrity, and information protection for the consumer. Examples of business practices that should be disclosed include order fulfillment, delivery, refund policies, and contact information. Transaction integrity is designed to ensure that orders that are taken over the web are delivered and billed correctly. The primary purpose of this function is the accuracy and completeness of the order process. The information protection ensures that the consumer's information is kept confidential and only used for legitimate purposes. TRUSTe is a privacy seal that contains standards designed to protect consumers from problems related to products and services. The Consumer and Business Affairs of Victoria (2002) indicate the core elements of TRUSTe include the following:

- Notice - Websites displaying the TRUSTe seal must display a notice indicating what personal information is being gathered and with whom it is shared. This notice must be easy to read and be accessible by one mouse click from the home page.
- Choice - Users must have the ability to choose whether to allow the secondary use of that personal information.
- Access - Users must have reasonable access to information that may be held about them to correct inaccuracies.
- Security - The site must provide reasonable security to protect data that is collected.

Although several other seals exist, these are the primary ones present on the Internet today. The question remains if seals are an effective assurance to trust and if online users actually notice the seals and understands their meaning. Portz (2000) indicates that 94% of the participants noticed the WebTrust seal in her research. In addition, 83% of the participants actually drilled down on the WebTrust logo to learn more. Nieschwietz (2001) indicates that web assurance seals provide a limited influence on the subject's perceptions of the provider's attributes. Wakefield (2001) states that web assurance seals are significantly related to the trust developed for an organization. However in a survey done at Princeton University (2002), only 19% of respondents said that seals were very important in the formation of trust.

### *Web Style*

A web style guide is a collection of principles, guidelines, and conventions brought together into a single medium and present a consistent look and feel (Ohnemus,

1997). Although style guides have a history in the documentation field, in this context the researcher focused on issues of the formatting, structure, graphics, color, and fonts. These are some of the broad categories defined by Forsythe, Grose, and Ratener (1996). The objectives of a style guide are to promote visual and functional consistency, promote good design practice, and reinforce the organizational brand (Gale, 1996). The Cascading Style Sheet (CSS) is one of the technologies on the web that helps to enforce a certain style consistencies. Although HTML encompasses font and layout, keeping the level of consistency needed in good design is difficult. The CSS is a powerful tool for specifying how the content should look. For example, the CSS can specify the size, margin, font, and type for header text (Veen, 2001). This look and feel for the header text will be consistent throughout the site unless overridden by a browser or the HTML code. Style sheets have two main advantages over HTML only based applications. First, CSS separates the content from the design. The content markup reflects the logical structure of the information and the style sheet provides the presentation instructions. Second, the style sheet provides efficient control over large document sets (Horton & Lynch, 1999).

### *Graphics*

Faulring, Morrison, Pirolli, Rosenholtz, and Woodruff (2001) provided research comparing search engines where the results were presented in text and enhanced images. The enhanced image view provided the best and most consistent performance. Nielsen (2000) indicates that the use of graphics should be minimized due to the download requirements. However, users want to see images of the products to get a sense of the context in which they are being offered. In order to determine which graphics are

important and needed within the website, McClain and Sachs (2002) provide the following principles:

- Does the graphic highlight a feature on the page and does the graphic draw the attention of the user?
- Does it make a feature more usable, for example, illustrating how to use a specific function or color combination?
- If associated with content, does the graphic enhance the user's understanding, similar to the way photos are used in articles?
- Does it reinforce the brand?

If the image does not fit in these criteria then the graphic should be removed in order to increase the download speed. Good design and usability indicates that images should be reused where appropriate, sized based on function, and alternative text-only methods of access provided (Siegel, 1997).

### *Content*

The main reason customers will come to the hotel site is for information or content. The content of a website is not limited to the subject, product or services provided. Rather, content includes the solutions and strategies employed to make it easy for the user to accomplish important tasks, such as information retrieval, search, and navigation required in making a purchase, and obtaining feedback (Calongne, 2001). Becker and Mottay (2001) define information content to include timely and correct error messages, prompts, button labels, textual description, help, and customer service information. For a global perspective, web designers should be careful not to lose specific meaning in the translation or the use of specific symbols such as the shopping

cart. The website gives an organization the ability to present almost limitless information on their product or service. This information or content should include the product and service quantity, quality, and relevance to the customer (Palmer, 2002).

Writing for the web is an important aspect of web-based content. Nielsen (2000) defined three core guidelines for writing for the web. First, information content should be succinct. Information provided on the web should be about 50% less than the information printed in a document. If additional information is required the user should link to a document or another web page. Second, the designer should write for scannability and not require the user to read long continuous blocks of text. Morkes and Nielsen (1997) reported that 79% of users simply scanned web pages versus actually reading line by line. Based on this research, articles should be structured with two to three levels of headlines. Finally, web designers should use hypertext to break up information into multiple pages. Keevil (1998) indicated that users prefer writing that is concise, easy to scan, and objective in style. In addition, the following guidelines can enhance a users experience within a usable website:

- Adding tables of content and section summaries;
- Adding bullets, numbered lists, and headings;
- Using boldface and colored text to highlight keywords;
- Writing shorter paragraphs, and
- Removing buzzwords and marketing objectives.

Effective content writing is one of the most critical aspects of all web page design. Most users will simply scan online content, rather than carefully reading each line (Nielsen & Tahir, 2002). Based on the literature review, six specific information content areas are

defined as needed in a small hotel site. These content areas include contact information, privacy policy, pricing policy, order fulfillment, product availability, and locality.

### *Contact Information*

In a recent study done by the Princeton Survey Research Associates (2002), 81% of the respondents indicated that it is very important for organizations to provide email address, street address, and phone number in the development of trust. Users need to believe that if they have problems, they will have the opportunity to speak to someone to resolve the problem quickly. A retailer's willingness to rectify any problem arising from customer satisfaction and honor its commitments can be presented to the user as visual cues. Traditional but familiar communication systems like faxes, phone numbers, and physical address indicate that the product line is backed up by a viable fulfillment facility (Ang, Dubelaar, & Lee, 2001). Egger and Shelat (2002) identify information content as the most important contributor to trust in an online environment. Over a third of the respondents indicated that information like company address, phone, staff, and policies are critical in the development of trust. The web should serve as a strategic information center for the organization. Key information, such as physical locations, key agents, new products, and services should be posted on the site as well. The content will build the customer's knowledge of the company and provide a level of relationship management for the organization (Gilbert, Powell-Perry, & Widijoso, 1999).

### *Privacy Policy*

One of the biggest fears consumers have with the electronic commerce is the fear of divulging their personal data. Control over the secondary use of personal information continues to be one of the main barriers of Internet commerce (Hoffman, Noval, &

Peralta, 1999). This concern of privacy is a major trust issue for consumers. Information provided on the basis of a purchase must be protected and stay as a matter of privacy (Ahuja, 2000). Shneiderman (2000) provides the following guideline around the principle of ensuring trust.

“Make it easy to locate, read, and enforce policies involving privacy and security. Although privacy policies are widespread, some are so difficult to find and incomprehensible to read that they only undermine trust. Good policies are enforceable and verifiable, so consumers can be assured that implementation matches the promise. Expectations are rising rapidly as consumers become informed. Therefore, well-designed policy statement accompanied by reports on effective enforcement will distinguish some websites. When violations occur, prompt action is expected.” (p. 59)

The key to this strategy is to only collect the information required to perform the business function. If a user is requesting an email notification of upcoming sales, then there is no reason asking for the home address.

### *Pricing Policy*

The Princeton Survey Research Associates (2002) identified six key factors in choosing an electronic commerce site. The number one issue was the identification of all fees that you will be charged for ordering a particular product. The costs would include the product, shipping, transaction fees, and handling fees. Any web-based system should provide the perceived utility of the products and services of the company in relation to the total cost of obtaining them. Besides general information, information on price such as room rate, price range, and price comparison should be provided (Gregoire, Jeong, & Oh, 2001).

### *Order Fulfillment*

One of the most important elements of trust development is fulfillment. Since the basics of trust are developed over time, it stands to reason that organizations that can provide an overview of the ordering process will have a higher propensity to trust than those that do not provide this information. Trust is earned by meeting the expectations and as small commitments are met, consumer confidence grows in the belief that the organization will fulfill larger expectations (Qualls, Sultan, & Urban, 2000). Reichheld and Schefter (2000) indicate that trust comes down to simple customer service basics. Providing information on the quality of customer service, product presentation, and simple instructions on how the ordering process works will provide a solid base of the enablement of trust.

One of the most referenced research studies in electronic commerce and trust is the Cheskin Research Study (1999). The authors indicate that order fulfillment is one of the most important components of building online trust. The order fulfillment function clearly indicates how orders will be processed and provides information on how to seek recourse if there are any problems is crucial to the definition of trust.

### *Product Availability and Information*

Shneiderman (2000) discusses the concept of accelerating action by clarifying responsibility. As soon as a user begins the process of investigating the purchase of a product or service, the website should begin to address the emerging resistance by clarifying the responsibilities and obligations. A well-designed website should provide meaningful descriptions of products and a comprehensible process for checking the availability of the product. Any organization on the web must engender belief in the



information. The information should always be accurate and complete as possible. Sites that ask a user to make a purchase should provide all of the information needed to make an informed decision to purchase or not. Information like product specifications, prices, in-stock availability, and delivery times is critical to building on the initial trust developed between the user and the organization (Qualls, Sultan, & Urban, 2000).

### *Locality*

The process of adding business partners to the design of a web application is described as building a virtual community. The challenge is to develop a meaningful community, composed of relationships that create a sense of loyalty to the web application. This community creates a personal involvement for the end-user, which in turn increase the involvement a company may have in the purchase decision (Chaudhury, Mallick & Rao, 2001). In the lodging industry, the term “locality” is used to describe the additional business partners an organization can add to the website in order to provide a complete list of services. For example, the Prescott Hotel in San Francisco, California, provides a link on their website called “Our Neighborhood”. The hotel describes some of the local amenities that are within walking distance to the hotel. The King and Prince Resort located in St. Simons, Georgia, provides a large collection of local businesses that range in services from kayak rental to fishing charters. Adding a flavor of locality can enhance the user experience and in turn increase the usage of the website. Dayal, Landesberg, and Zeisser (1999) created a pyramid of trust, where the final stage of trust development was the collaboration between the consumer and the business. Trust is nurtured when the organization encourages customers to contact and provides the means to contact other related businesses.

Organizations like Travelocity and Expedia understand the concept of locality and they have integrated this concept into their service offering. Travelocity offers air, lodging, car rental, and local attractions via the vacation planner. Value-chain integration means that an organization's business system can no longer be confined to the internal process or business offerings (Papazoglou & Yang, 2000). Several research articles advocate the development of a Destination Management System (DMS). A DMS supports the development of a horizontally, vertically, and diagonally integrated destination by providing information, facilitating the reservation process, and supporting transactions for the entire tourism region (Dargan & Prosser, 2001). Insufficient destination information may make a hotel seem like an island. Very few sites have relevant content to help the leisure traveler truly plan a trip (DeMoulin, Harteveltdt, McCarthy, & Wakeman, 2000).

### **Electronic Commerce**

The World Wide Web (WWW) was conceived at the European Particle Physics Laboratory in Switzerland. Berners-Lee, Cailliau, Luotonen, Nielsen, and Secret (1994) describe the web as "collaborative medium" which would allow information providers in remote sites to share ideas without boundaries. Most businesses are moving toward the web as fast as possible in order to take advantage of the capabilities of the electronic-commerce business model. Moving business functions from a traditional brick and mortar model to an electronic commerce model is not as simple as it might seem. Christopher (2001) indicates that electronic commerce can be broken down into five key business functions:

- Information content is defined as the use of Internet technologies to deliver information to the customer relating to company, product description, and product procurement. This information content will enable the “for-value” business transactions required to occur in an online environment.
- Customer Relationship Management (CRM) is a business strategy using the Internet to collect, store, and derive value from the customer information. This information can be used to anticipate, understand, and respond to the needs of the customer faster than using traditional methods.
- Electronic Procurement (EP) is the process of using technology to acquire goods and services for the organization over the Internet protocol.
- Supply Chain Management (SCM) is a business strategy to optimize the flow of products and services and related information from the organization to the customer.
- Web-enabled Business Administration (WEBA) is the use of web technology to optimize the performance of internal applications.

For the small hotel, this research will focus on information content, CRM, and SCM.

Specifically, this research will focus on the marketing of the hotel, customer facing design elements, and room availability.

### **Trust and Electronic Commerce**

The Internet is opening new distribution channels, income streams, and holistic changes in the way we do business. Fukuyama (1995) explores trust and what will result if we fail to establish trusting relationships within the Internet space:

“Trust does not reside in integrated circuits or fiber optics cables. Although it involves an exchange of information, trust is not reducible to information. A “virtual” firm can have abundant information coming through network wires about its suppliers and contractors. But if they are all crooks and frauds, dealing with them will remain a costly process involving complex contracts and time-consuming enforcement. Without trust, there will be a strong incentive to bring these activities in-house and restore the old hierarchies.” (p.25)

One of the greatest advantages of the Internet is to conduct commerce and gain economies of scale from outside organizations. However, trust must be an integral part of that relationship in order for the business model to deliver value. Scholars agree that credibility perceptions result from evaluating multiple dimensions of the electronic commerce model simultaneously. The majority of researchers identify the key components of credibility as trustworthiness and expertise (Fang, Fogg, Laraki, Marshall, Osipovich, Paul, Rangnekar, Shon, Swani, Treinen, & Varma, 2001). In representing an organization, trust is a requirement to engage in electronic commerce.

Trust is not a characteristic that can be built into an electronic commerce site.

Trust is an emotion or belief that is based on experiences, perceptions or visual cues of a particular merchant’s behavior. These perceptions are the driving force for this research. Over 72% of web users indicate they would provide demographic information if the sites would simply provide a statement of privacy (Hoffman, Novak, & Peralta, 1999). This research seems to indicate that most web users do not perceive the web as a trusted resource. Schoder and Yin (2000) define three types of risk associated with electronic commerce that impact the trusting nature of the buyer and seller relationship. There exists an element of client risk associated within the electronic commerce environment. A client who has done business with an organization over a period of time is less likely to break a business contract than an initial customer. Financial risk reflects the value of the

goods and services that could be lost through the use of the web as a delivery channel. The final risk is the legal risk of the responsibility and the enforcement of the contract. These risks provide a simple overview of the complexity of issues and risks that are involved as organizations move from a traditional brick and mortar business model to an electronic commerce business model. In an online environment, business and technical design elements are the method for developing trust prior to an actual purchase.

### **Other Key Studies of Trust, Lodging, and the Internet**

This section will review several key trust oriented research studies that have been performed around the concept of trust, electronic commerce, or the lodging industry.

#### *An Internet Marketing Strategy Study for the Lodging Industry*

This research is one of only a few research studies based on the electronic commerce model for lodging sites (Gregoire, Jeong, & Oh, 2001). A total of 1,743 potential hotel customers participated in the study, which looked at both business and pleasure travel customers. The results indicated that hotel websites could improve their design and overall effectiveness by improving the attractiveness of the site itself. The research indicated that particular improvements could be made in the economy / budget type hotels. Some of the specific areas that should be addressed include information content, well-designed navigation tools, and professional style components. Potential customers universally expressed low opinions about websites of the small hotel segment. Website features like relevancy, completeness, color, information accuracy, and navigation will impact the perceived quality of the website, which in turn will impact the desire to make an online reservation.

### *eCommerce Trust Study*

This research, performed by Cheskin Research and Studio Archetype/Sapient (1999), is one of the most referenced studies in the relationship between trust and electronic commerce. The research presents some interesting analysis on "the nature of those elements that communicate 'trust' in electronic commerce sites." According to this research:

“The factors that produce a sense of trustworthiness need to be identified, in their entirety. Their interactions need to be understood, and their relative importance determined. Understanding the roles of these different factors would allow online retailers to ease consumers' concerns, and could hasten the maturation of Web retailing.” (p.2)

From this research, six major components are defined in the establishment of trust in the electronic commerce space. The components include seals of approval, branding, navigation, fulfillment, presentation, and technology. This research provides some background into user attitudes, site development, and a methodology of understanding the principles around the development of trust.

### *The Impact of Interface Quality on Trust in Web Retailers*

Aubert, Dewit, and Roy (2001) proposed that the quality of the interface has a significant impact on the perceived trustworthiness of the organization. Specifically, three models were tested that focused on five key usability attributes. These attributes included ease of navigation, consistency, ease of learning, perception, and support. These attributes were tested on their impact toward the three models: perceived ability, perceived benevolence, and perceived integrity of the organization. The results indicated that the perceived ability of the organization was most influenced by the various usability

dimensions. Of the six attributes, navigation, perception, and support were the most influential in the study.

### **The Contribution this Study Makes to the Field**

Although there have been many research studies involving trust, electronic commerce, and the lodging industry, none have specifically looked at the actual design elements that influence trust. This study contributes to the field in several ways. First, it adds to the literature on the influence of the visual design elements toward the propensity to trust. It places actual design elements at the forefront of the research versus simply having them as secondary elements of the research. The framework and model application provides a methodology for any organization attempting to develop trust online. Specifically, small hotels will be able to utilize the framework in order to setup or enhance their online environment.

### **Summary**

This chapter focused on establishing a foundation of components that bring together trust, the small hotel industry, and the electronic commerce environment. Trust was reviewed as a human emotion as well as an initial development in the physical and online environments. This research demonstrates that trust can be impacted by the online environment. The small hotel industry was examined from an operational, functional, and an online perspective. The visual design elements were reviewed from a designer perspective and should reflect the current capabilities of the web developer. The electronic commerce environment opens the door for the small hotel to compete with the larger chains. These research elements form the basis of the research study.

## Chapter 3

### Methodology

#### Overview

With the literature review and hypothesis in place, an appropriate experimental design is required in order to test the hypothesis. The overarching goal in the development of a proper experimental design is to mirror the electronic commerce experience as closely as possible, so that any conclusions or recommendations drawn from the study will remain generalized and apply across the lodging industry. This research project utilized a phased approach in the development of the “best practices” framework and model web application. The research methodology used was a combination of qualitative and quantitative techniques encompassing data collection and methodological triangulation enabling a convergence of results and verification. Two major sources of data were used; a questionnaire sent to Internet users and in-depth interviews with subject matter experts. By using the information within the literature review as well as the subject matter experts, the qualitative research enabled better quantitative research by providing scope around the survey portion. The quantitative data collection revolved around a web-based application that reflects the basic design elements described within this research paper. The following phases were utilized over the duration of the project in order to validate the hypotheses.

#### Phase 1: The Design Phase

The design phase focused on three main deliverables. First, a framework for constructing a small hotel electronic commerce website was developed based on the information gathered during the literature review. Second, the design of the model



website was developed based on this proposed framework. Third, an inventory study of small hotel sites was performed in order to establish a current state view of this industry.

The design phase included the selection of the six business and technical elements that should be present in a lodging website. A “best practices” framework was constructed based on the literature review and validated by subject matter experts. The subject matter experts were selected based on their understanding of the lodging industry, electronic commerce, and research design. The actual framework contained multiple process frameworks such as the process of developing trust, electronic commerce process model for hotels, and design element impact models. One-on-one interviews were conducted with the subject matter experts via phone, email or in person depending on the nature of the relationship. Prior to the interview the researcher produced a report that explains in detail the contents, function, and flow of the framework to ensure each subject matter expert understood the concepts. The subject matter expert had a chance to ask any questions or express any concerns with the framework and research model. The four discussion frameworks can be found in Appendices K through N.

Once the framework was complete, the researcher began the design process for the small hotel website. The design document contained the following items:

- Design Layout – This provides the page layout of the home page, secondary pages, and any other additional pages that will be used within the site. This modular design provided the navigation structure, local identity, text, graphics, and content areas. The design layout can be reviewed within the sitemap and style guide documents.

- Style Guide – This provides a basic description of the contents of a stylesheet, such as font, size, color, and many other declarations. The stylesheet specifically controls the look and feel of the content including tables, links, and headers. The style guide can be found in Appendix P.
- Sitemap – This is a website planning guide used to visually communicate the functional flow of pages within the site. The sitemap not only shows the pages but also the relationships between each of the pages (Kahn & Lenk, 2001). The site map for the website can be found in Appendix O.
- Functional Flow – In addition to the page flow provided by the site map, the business functional flow will be provided as well. These functions may include business processes like reservations, availability, and confirmations. The flow document can be found within the sitemap Appendix O.

Once the design document was completed the information was presented to the subject matter experts in order to ensure the framework was applied correctly.

In order to check the viability of the framework, an inventory of current small hotels was reviewed. The sites were selected based on location, and the researcher selected five sites per state in order to have a broad selection of sites. The researcher developed a profile of the current online environment and identified organizations that fell into the top 5%. The top 5% was defined as those organizations that scored the highest averages from the site inventory. The researcher determined the existence or level of existence for the design elements within each of the selected sites. Appendix F provides the criteria of measurement for each website. Appendix G provides the web page score sheet that was used to record the information gathered during the review. The

current environment and top 5% websites was presented to the subject matter experts as well. This information provided the current use of the design elements within the small hotel industry.

## **Phase 2: Development**

The development phase included the development of a complete and working electronic commerce application for a small hotel. The high level business functions performed by the application include the following:

- Contact Information;
- Privacy Policy;
- Pricing Policy;
- Order Fulfillment;
- Availability and
- Local area businesses.

Only the business functions included in the study were added to the application. Once the application was developed a Quality Assurance (QA) process was implemented with several subject matter experts. Several people volunteered to ensure the functionality and content was as accurate as can be based on a simulated website. The QA process included the review of links, content, layout, flow, etc. Any suggestions by the QA team were implemented before the development phase was completed. The system would perform the required business functions and contain the technical attributes defined by the framework.

Once the system was constructed and validated by the domain experts, four other sites were selected from the Internet. Each of these sites was selected based on the

percentage of design elements included within the site. The sites were selected based on the existence of approximately 80%, 60%, 40%, and 20% of the design elements identified from phase 1. These sites were used in the research experiment for a comparison with the model site, which contained 100% of the design elements. Based on a single element, websites could easily be selected that fit the percent requirement this research needs. However, the selected site did not need to be a consistent 80% for every design element to be selected as the 80% site. As long as the average score for all of the elements was within 78% and 82% the selected site fit within the research requirement. The final development deliverable was a mechanism for the study participants to actually visit and compare the different sites. The researcher incorporated within the “TrustStudy.com” website the utility and instructions used within the study. The researcher developed a simulated search engine in which the participant was presented with two hotels within the results of the search. This allowed the participant to review the two sites assigned and then perform the experiment.

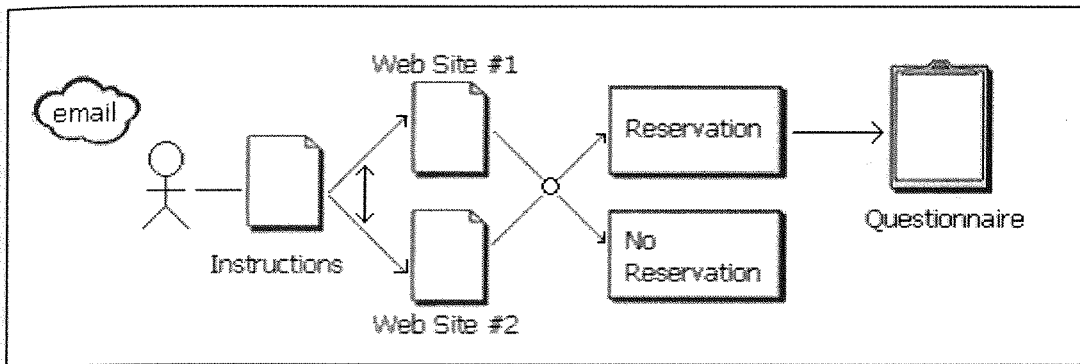
### **Phase 3: Pilot Study**

The pilot was conducted to test the design of the study. The objective of the pilot study was to develop and improve the process, wording, information content, and pretest the validity of the results in order to see if the researcher’s hypothesis needed adjustment. The pilot study was conducted with approximately eight participants. The results of this pilot study were presented to the subject matter experts in order to perform a validity check. The process of the pilot study was identical to the process described in the main study section of this paper.

#### **Phase 4: Main Study**

Participants for the main study were selected from students at Nova Southeastern University, Georgia State University, co-workers at BellSouth, the “Online Trust” user group within Yahoo, family, and friends. The target population for this study was electronic commerce users that have the propensity to purchase lodging over the Internet. This population forced a few requirements on the sample selection of participants. First, each participant must have had exposure and access to the Internet. Second, each participant would need to understand or be exposed to the lodging industry business model. In other words, the participant should understand the reservation process and the product of a hotel room versus other consumable product lines. The survey sample was a non-probability sample of convenience drawn from the voluntary participants with some relationship to the researcher. A total response rate of 100 – 150 participants was requested during the main study.

Each participant followed a three-step protocol. First, the researcher sent the participant an email thank you note, which provided access to the information required to perform the survey. The additional notes were sent to the subject matter experts and research subject matter experts. The goal of this notification was to provide the background and setting the stage for the participant. The notes can be found in Appendix A through Appendix C. Figure 6 illustrates the process that the user utilized in order to perform the study.



**Figure 6.** Participant Process Model

The process described in Figure 6 is used to demonstrate the step-by-step progression the participants followed during the study. The participant was required to visit both sites before proceeding to the questionnaire. At anytime, the participant could opt out of the survey and leave the study. The online questionnaire was designed based on the research framework and made accessible from the same location as the research website. The researcher developed the questionnaire using FrontPage 2002 and Active Server Page (ASP) technology. The survey was divided into four main parts. Appendix E provides an overview of the survey sections and Appendix F provides the actual survey.

- Demographic Information – The first part of the questionnaire collected the general demographic information of the participant.
- Propensity to Trust – The second section determined the participant’s propensity to trust. This variable is important in determining the relationship between the independent variable and the actual research question.
- Electronic Commerce Behavior – The third section of the survey asked the participant questions based on their electronic commerce behavior in the past.
- Trust Survey Specific -This section asked the participant which site they would have purchased and the primary reason for that decision.

- Design Elements Relationship to Trust – The final section asked detailed questions involving the design elements that were present.

The results of the questionnaire were captured into an Access database for further analysis. Participants were eligible for a gift card drawing at the end of the study in order to encourage additional participation. All of the questionnaires and information gathered were stored in conjunction with the information filed during the IRB process.

### **Phase 5: Data Analysis**

The results of the data collected were presented to the subject matter experts before publishing the results in the final dissertation. For each question, the researcher presented the mean and standard deviation in table form. Some of the data collected needed to be re-coded based on the type of data collected during the interview process. For example, the questionnaire asked the question, “Are you a Male or Female?” The user was able to select a radio button, which then translated the code into a 1 or 2 depending upon the selection. Once the data was collected and entered into the statistical package, the researcher reviewed and documented the results. These results were then published in the final report.

### **Formats for Presenting Results**

#### *Expert Reviews*

The expert reviews were documented in a review log. After each session, the comments were logged into a Microsoft Word document and summarized for later review.

### *Online Inventory of Small Sites*

An Excel spreadsheet was constructed in order to present the results of the online inventory. The spreadsheet contained the name of the hotel, the Universal Resource Locator (URL), state, and city location, the individual scores for each of the six design elements and an average score for the particular site. In addition, a summary page showed the overall averages and top 5% sites.

### *Questionnaire Results*

The questionnaire results were stored in a Microsoft Access database and tabular reports generated in order to review the information collected. The statistical information was loaded into the SPSS Grad Pack software. Results are presented in tabular format in Chapter 4.

### **Resource Requirements**

The researcher utilized several resource categories, which included tools, domain experts, and research participants. All of the tools and domain experts were available to the researcher as required.

### **Tools**

The researcher utilized the Internet and FrontPage 2002 in order to develop the online application. Since the application was available from the Internet, the controlled simulation could be conducted from virtually any location. The Alentus Corporation provided the Internet hosting service for the website.



The SPSS Grad Pack was used to collect and analyze the information collected from the questionnaire. Appendix I provides a detailed list of the tools, release levels, and tool functionality utilized within this research paper.

### **Domain Experts**

Domain experts were utilized to validate the process flows, relevancy, frameworks, and design elements within the hotel industry. These domain experts were not used as research participants but rather as validation experts. These domain experts are:

- 1) Owners, The Panama City Beach Club Motel, Panama City Beach, FL. The owners acted as hotel business SME's.
- 2) Owners, Beachside Motel, Panama City Beach, FL. The owners acted as hotel business SME's.
- 3) Owner, Islander Motel, Panama City Beach, FL. The owner acted as a hotel business SME.
- 4) Web Consultant, Matrix Resources, Inc., Atlanta, GA. The web consultant acted as a web design SME.
- 5) Web Consultant, Matrix Resources, Inc., Atlanta, GA. The web consultant acted as a web design and development SME.
- 6) Senior Manager of Portal Development, BellSouth, Atlanta, GA. The senior manager acted as a web design and usability SME.
- 7) Independent Consultant, Infinisri, Phoenix, AZ. The independent consultant acted as a trust SME.

- 8) Professor, Nova Southeastern University, Ft. Lauderdale, FL. The professor acted as a Human Computer Interaction and usability SME.
- 9) Adjunct Professor, Nova Southeastern University, Ft. Lauderdale, FL. The professor acted as a usability, research design, and business process SME.
- 10) Professor, Nova Southeastern University, Ft. Lauderdale, FL. The professor acted as a web design and electronic commerce SME.

### **Reliability and Validity**

Content validity ensures that the measures include an adequate and representative set of items that tap the concept under study. The more scale items used within a research study the greater the content validity (Sekaran, 2000). Several domain experts and SME's reviewed the research model, which helped attest to the content validity. In addition, the survey questionnaire was built based on previous studies on trust.

Criterion-Related validity is established when the measure differentiates individuals on a criterion it is expected to predict (Sekaran, 2000). The reliability of the data was determined by the use of Cronbach alpha. The calculation indicated the internal consistency for each of the results. The closer Cronbach's alpha is to 1, the higher the internal consistency. An alpha of 0.50 or higher indicates a sufficient level of internal reliability.

### **Summary**

The goal of this research was to test that professionally designed websites that contain six key design elements have a significant impact on trust. The methodological triangulation was accomplished through an extensive literature review, subject matter expert review, and the questionnaire. There was a possibility that not all of the design

elements will impact trust. As the literature review indicated, there are mixed results on the impact of web seals on the propensity to trust.

## Chapter 4

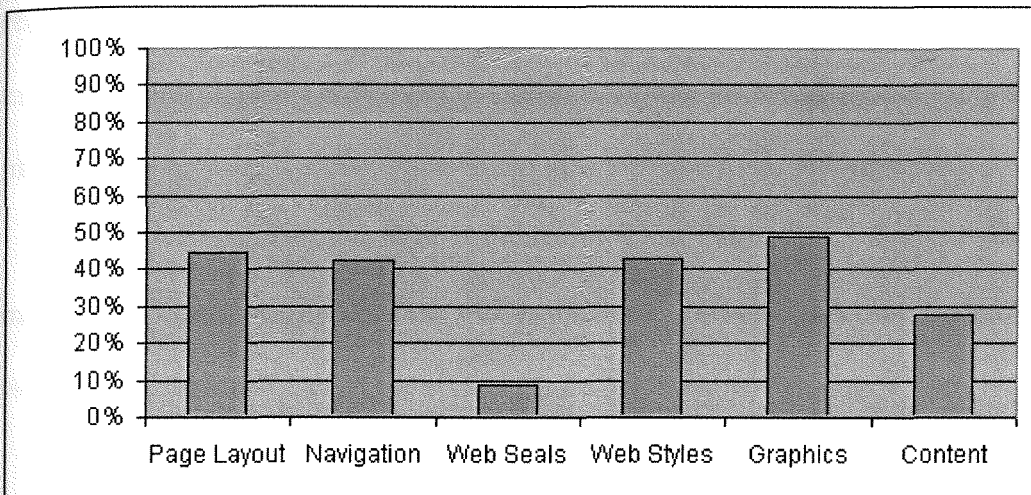
### Results

#### Overview

This chapter reports the results of the methodology described in Chapter 3 and is divided into five sections. Section one reviews the survey of the small hotel online environment performed by the researcher. The second section reviews the initial design of the framework models as well as the Subject Matter Expert (SME) reviews. Section three reviews the construction process of developing a web-based application utilizing the consolidated trust framework and the final survey product. The fourth section reviews the data analysis from the online survey, and the final section discusses the findings.

#### Current Online Environment

The researcher conducted a review of the small hotel online environment during May 2003. In order to provide a well-rounded population, exactly 5 sites from each of the 50 states were selected. The sites were selected by utilizing the Yahoo search engine and Yahoo's hierarchal business structure. This structure allowed the researcher to randomly select cities within each state as a basis for site selection. The goal was to establish a current-status assessment of the small hotel environment based on the design information gathered in the literature review. Appendix R provides the list of small hotels reviewed during the study. The author visited and judged each site according to the criteria described in Appendix F. Each site was reviewed based on these criteria which segmented the results into the six design element components. The average scores of the site population are presented in Figure 7.



**Figure 7.** Average Element Score of the Online Environment

Page layout scored an average of 44.78%, indicating that the text is broken down into paragraphs and sections. Based on this cumulative average, the majority of sites lacked the consistency of a framework necessary to allow the user to focus on the information rather than the location of key business elements. This conclusion is based on comparing the average score to Appendix F.

Navigation scored slightly below page layout, but both scores were consistent with each other as you would expect from two design elements closely related. The 42.78% score for navigation indicates that the links are provided in a consistent and understandable fashion. However, several improvements can be made in the form of search utilities, information architecture concepts, and cookie trails to aid the user in understanding their location within the application. The score consistency of these two elements provided a form of validation based on how closely related page layout and navigation are to the overall impact of the web application.

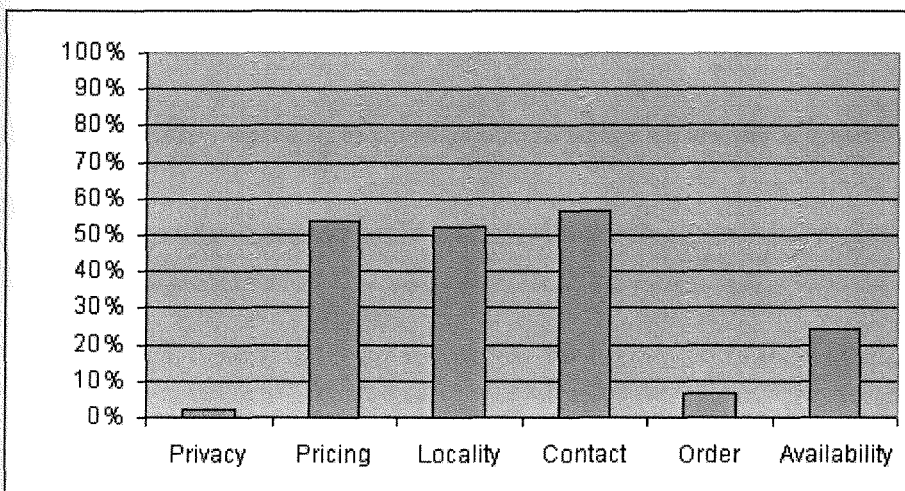
Web seals provided a poor showing based on an average score of 8.88%. The majority of seals found during the survey were industry related rather than trust oriented. Of the seals found, most were prominently presented on the home page and did not

require the user to search for the seal. However, only one site actually explained the importance or use of the seal and most failed to link to the seal provider for additional information.

The web style scored 42.66% indicating a less than average attempt towards maintaining consistency within the web application. Navigation, color, layout, and fonts were inconsistent and lacked the elements of a professional design.

Graphics scored the best of all the elements under review with an average score of 48.72%. Most small hotels understand the importance of providing a visual representation of the hotel and the accommodations. However, improvements can be made in the quality and context of the graphics offered.

The content of the sites scored 22.78%, indicating only one of the functional content pages exists within the site. Figure 8 provides a detailed look at the content elements: privacy, pricing, locality, contact information, order processing, and availability.



**Figure 8.** Content Elements

Almost half of the sites failed to provide pricing policies, local areas of interest, and contact information. Additionally, privacy statements and processing instructions were

below the 10% mark and availability scored only slightly above 20%. Information content is one of the basic requirements for the online environment. The researcher expected a much better result from an industry where these visual design elements are critical to the success of electronic commerce. Clearly, there is enormous opportunity to improve the industry or create a competitive advantage for those establishments that do offer this type of information.

This survey validates the researcher's experience that the small hotel industry has not fully utilized the online environment beyond a simple advertisement medium. Appendix S provides the detailed statistics of the survey and Appendix T provides the top and bottom five sites in each of the reviewed categories. Based on the online review, the trust framework developed for this research should have solid implications for the small hotel industry.

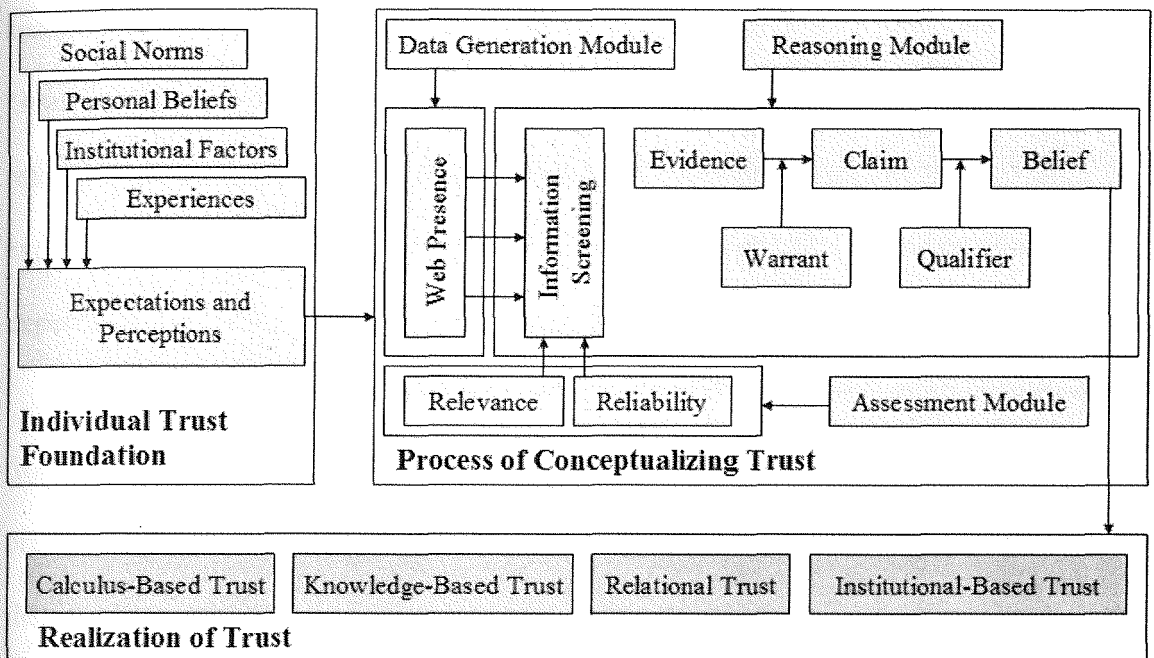
### **Functional Models**

Based on literature review, three functional models were created around online trust, visual design elements, and electronic commerce processes. The researcher utilized the "TrustStudy" web site to provide access to the models and request feedback from the SMEs. All three models had accompanying web pages that provided access to the following information:

- Image, description, and references for the model in PDF format
- Image, description, and references for the model in Word format
- A single image of the model in PDF format
- Three options for feedback
  - An online feedback form
  - A document feedback form in Word format
  - An email address

Based on the SME review, each model was altered in an evolutionary type process of consolidation and simplification. The end result was the development of a single model referred to as the Trusted Framework for Enabling the Business (TEB) Model. Details of the model are covered later in this chapter.

## Trust Model



**Figure 9.** Trust Model

Figure 9 provides the initial trust model developed during the literature review.

Originally, the trust model was constructed from the integrated model of trust formation as defined by Bhattacharya, Devinney, and Pillutla (1998). However, because of its complexity and lack of relevance to the online environment this model was not completely applicable to this research. This model did provide a solid collection of elements that describe an individual's trust foundation. The Trust Conceptual Framework model by Benson, Curley, and Smith (1991) provided the best model which



could be adapted to the online environment as Bently, Garner, Gilbert, West, and Wilken (2002) found in the pharmaceutical industry.

The trust model can be broken down into three areas. The first area is the establishment of an individual's propensity to trust. Each person has different experiences and beliefs to draw upon in the process of establishing this foundation. This section of the model is developed from the Bhattacharya, Devinney, and Pillutla (1998) "Integrated Model of Trust Formation". The social norms and opinions of certain reference groups have a powerful influence on the formation of an individual's expectations of trust. In addition, the reputation of the institution influences these expectations of trust.

The second section of the model (process of conceptualizing trust) is designed from the "Trust Conceptual Framework" by Benson, Curley, and Smith (1991). The process begins in the data generation module, which describes the web-based information that is retrieved by the visual aspects of the online environment. A customer screens the input by the reliability and the relevancy of the information in order to develop evidence to move forward in the model. Individuals must be able to evaluate information based on reliability, relevancy, and authenticity in order to assess the credibility of the information itself (Karvonen & Nikander, 2000).

The third section of the model (realization of trust) describes four basic types of trust that can be developed in the online environment: calculus-based trust, knowledge-based trust, relational trust, and institutional-based trust. Each of these was covered in the literature review.

### *Subject Matter Experts*

During the literature review, the researcher corresponded with several published authors on the concept of trust. In addition, the researcher joined the Yahoo (2003) online user group “online-trust”. The following excerpt describes the function and utility of this online group:

“The objective of this list is to provide a discussion platform for user trust in online services. Given the multidimensional nature of trust, we encourage participation from a wide range of disciplines: e.g. psychology, sociology, economics, human-computer interaction (HCI), information technology, marketing or graphic design. The focus will be on understanding online trust, evaluating trust and designing for trust. The last issue is particularly important to maximize the perceived trustworthiness of electronic commerce systems.”

Each of the trust experts volunteered to help this research by reviewing and evaluating the trust model. All of the information described in the functional model section was made available online at the researcher’s web site.

### *SME Review of the Trust Model*

The researcher made a request to 15 individuals for review of the trust model. Of these, four of the SME’s completed the online survey. SME’s were chosen from authors of previous research papers on trust and members of the online trust community.

Appendix L provides the review documentation. While most of the reviewers approved of the model, the overall opinion was that the model was too complex and contained too many parts, making it difficult to understand. However, none had issues with any of the specific components of the model. Efforts needed to be made to simplify the model within the TEB framework during the consolidation process. Table 3 provides the questions and statistics gathered from the online survey.

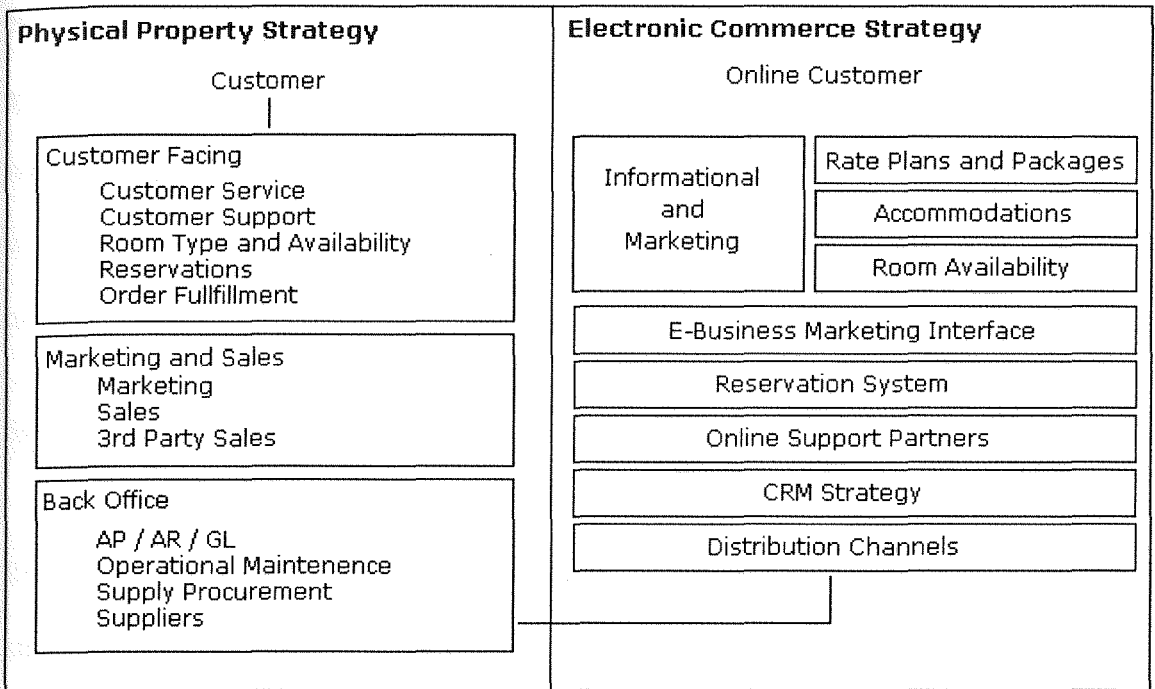
**Table 3: Trust Model Feedback Questions**

Question	Responded "Yes"
Does the model make sense?	100%
Do you agree with the model?	50%
Does the concept of online trust make sense?	100%
Would research on the development of trust be of interest to you?	100%
Would you consider redesigning your web site?	75%

The researcher was comfortable with the responses with the exception of the 50% "Yes" vote for model agreement. The subject experts failed to provide a consistent direction other than simplification. As discussed previously, the model would be simplified during the TEB model construction.

### **Electronic Commerce Model Trust Model**

The electronic commerce model (Figure 10) for the small hotel is divided into two sections. The section on the right describes the physical environment of a small hotel without the use of electronic commerce. The section on the left describes these business functions as they are applied to the online environment.



**Figure 10.** Electronic Commerce Model

The physical property strategy model is segmented into three main sections: back office functions, marketing and sales, and customer facing functions. The back office functions, which include Accounts Payable (AP), Accounts Receivable (AR), General Ledger (GL), operational maintenance, supply procurement, and suppliers, provide the support and operational functions required to run the hotel. The marketing, sales, and 3<sup>rd</sup> party sales provide the majority of branding and sales utility. The final segment provides the customer facing business functions: including customer service, customer support, room types, an availability, reservations, and order fulfillment. These activities are the primary builders of trust within the physical framework.

The electronic commerce strategy attempts to move some of the customer facing business functions to the online environment. At the most basic level, the web site should be able to provide information about the hotel. In addition, the site should provide rate plans and packages, accommodations, online support partners, and an electronic

business marketing interface. These areas are mainly static in content and do not require specific applications to be written in order to provide the service. Distribution channels, room availability, reservation system, and Customer Relationship Management (CRM) would require an application or a third party service. Each of these functions can be moved to the online environment at relatively low cost to the hotel owner.

### *Subject Matter Experts (SME)*

The reviewers were chosen from several small hotel owners in Panama City Beach, FL. Each has owned a hotel in this area for more than 10 years. In addition, each currently has an online representation of their hotel. This combination of experience provided the basis for review of the electronic commerce model. Appendix N provides the review documentation.

### *SME Review of the Electronic Commerce Model*

The initial feedback revealed the model was too complex. One SME argued that:

“The concepts presented in this model would work great on Wall Street but your average small hotel owner does not understand the concepts around distribution channels, CRM strategy and e-business marketing.”

Other reviewers could not make the connection from model to the online utility. Since each of the reviewers had similar comments, additional changes were made to the documentation and examples of online utility were provided. Unfortunately, not all of the reviewers provided the feedback needed to verify the model. A personal meeting was arranged with two of the three reviewers between July 7<sup>th</sup> and July 9<sup>th</sup> of 2003. The researcher walked through the physical and online models, providing examples of each section. Based on comments made during the sessions, no additional modifications were

made. Some of the complexity was removed after the consolidation into the TEB model.

Table 4 provides the statistics gathered from the online survey.

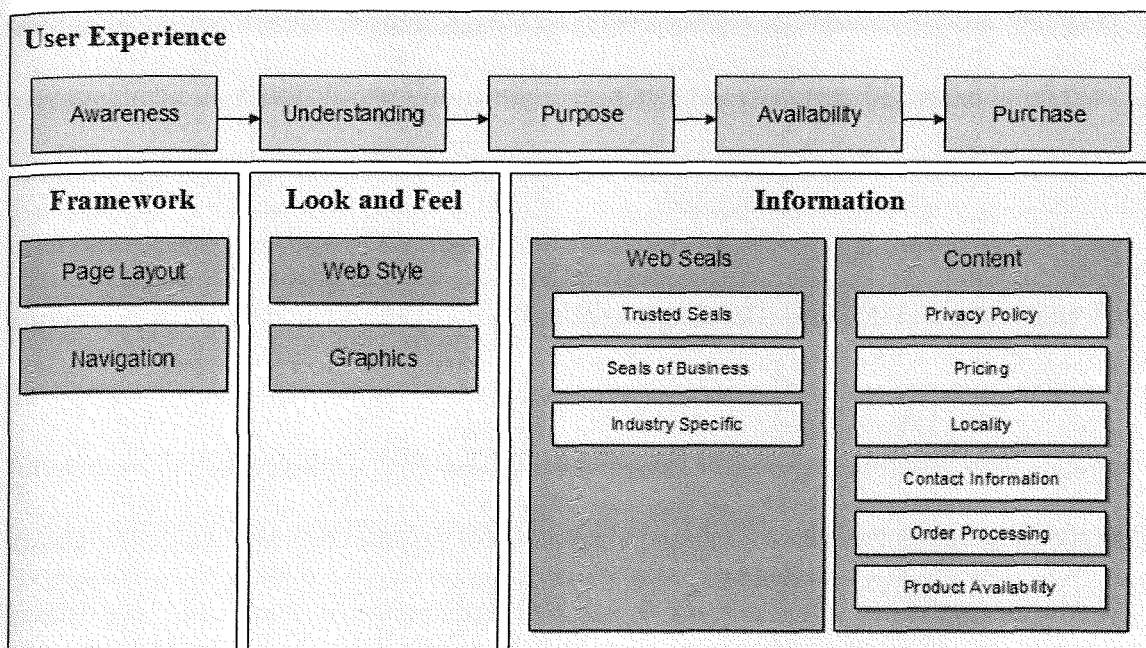
**Table 4: Electronic Commerce Model Feedback Questions**

Question	Responded "Yes"
Does the model make sense?	66%
Do you agree with the model?	66%
Do you have a web site currently online?	100%
Would research on the development of trust be of interest to you?	66%
Would you consider redesigning your web site?	33%

In the last question, only 33% of the respondents indicated they would redesign their site based on the results of this research. The researcher believes the participants might reconsider once the current environment status and main study results are published.

### **Design Element Model**

The design element model is comprised of two sections. Figure 11 provides an image of the design element model. The top section describes the process an Internet user experiences during a visit to a web site and was originally developed by Bowman and Willis (2002). The lower section describes the basic role of the design elements as described within the framework, appearance, and information model.



**Figure 11.** Design Element Model

The first step in this model is to define the process of user experience when utilizing the electronic commerce medium. Before any electronic commerce can occur the customer must be made aware of the electronic commerce site. This awareness may be created through advertising mediums, distribution channels, or technologies like search engines and portals. Then, in order to bring the business functions to the forefront of the user, additional efforts must be taken. Essential business functions, like the availability process, must be easily found by each user. From the initial home page, the customer must be able to determine exactly what type of site they are viewing. The site must have instantaneous recognition as a hotel along with the property address. Hotel sites that load banner ads at the top of the page run the risk of confusing the customer into thinking they are located at a portal type site instead of a local business.

The main purpose of the hotel site is to sell accommodations. The site must provide the required information that supports the needs of the user in order to make an informed decision on the nature of the business. The actual reservation process does not

need to be online, but the customer must be informed how to make a reservation. This may include a local or toll free phone number. Once the customer has considered the products and services of the hotel, availability becomes a key point. The availability and reservation process is one of the first opportunities to interface with the customer. The impression of this business function can set the stage for the perception a guest may feel throughout the process. Reservations refer to the process of holding accommodations for future guests (Dittmer, 2002). Quan (2001) indicates that reservations are used throughout the hospitality industry to eliminate customer uncertainty about the price and availability of the desired service. The ultimate goal of the online experience is to sell the product. In the case of the small hotel, the product is a reservation. The design, style, and features of a web application must support the user and gently nudge them toward making a reservation.

The framework section describes two basic functions that control the structure of the web site. The page layout describes how and where the different components fit into the structure, while the navigation describes the flow of pages and business functionality. The appearance section describes the user's perceptions of the site. In the content section, web seals and specific content models describe the information available to the end user. The web seals are further divided into three types:

1. Trusted Seals: i.e. eTrust
2. Seals of Business: i.e. Better Business Bureau
3. Industry Specific Seals: i.e. Mobil's four star rating system for hotels

The individual content section includes privacy statements, pricing policies, local areas of interest, contact information, order processing, and product availability. All of these



elements were pulled from the literature review as critical elements in an electronic commerce strategy.

### *Subject Matter Experts (SME)*

The three reviewers of the visual design element model were experienced web designers who work full time in this industry. Each of the experts had a minimum three years experience in web design. In addition, members of the Yahoo online user group “visual-design” were invited to participate in the review. Appendix M provides the review documentation presented to each SME.

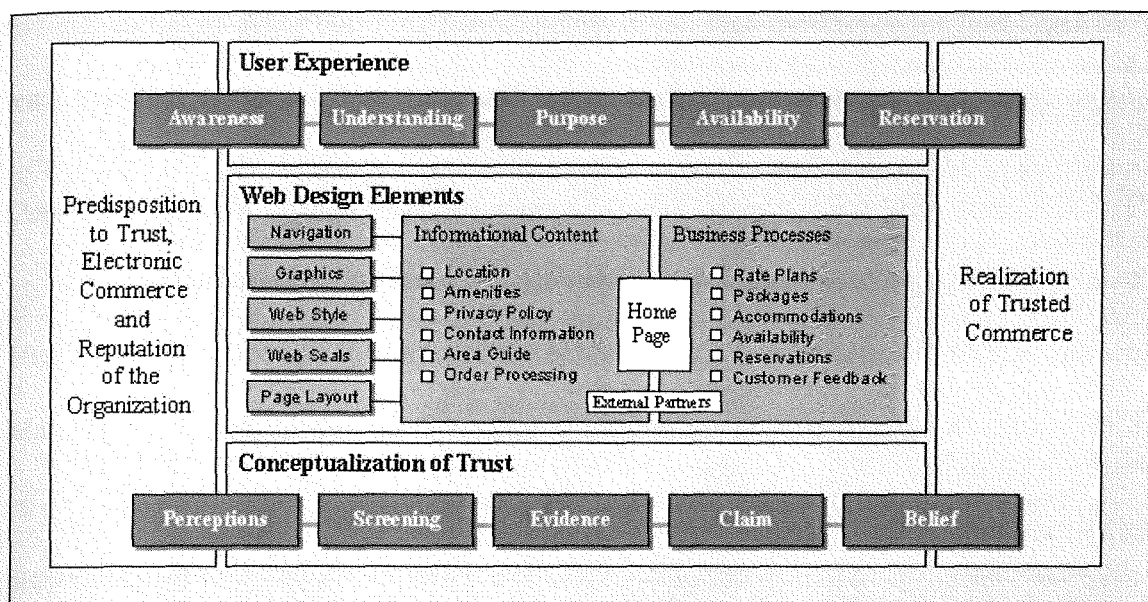
### *SME Review of the Visual Design Element Model*

The majority of reviewer comments indicated a need for additional design elements in the model. Items such as a shopping cart, transaction-state information, one-click utility, and customer profile information were suggested. Other comments focused on the readability of the content and its role in the development of trust. Several positive comments were made during the review of the universal utility of the model. However, no actual changes were made to the model due to the specific industry focus of the research. Table 5 provides the statistics gathered from the online survey.

**Table 5: Visual Design Element Model Feedback Questions**

Question	Responded “Yes”
Did the model make sense?	100%
Do you agree with the model?	75%
Do the design elements make sense?	100%
Would research on the development of trust be of interest to you?	100%

Only one of the four SMEs did not agree with the model.



**Figure 12.** Trusted Framework for Enabling the Business Model

### Trusted Framework for Enabling the Business (TEB)

One of the reoccurring suggestions of the SME review was to simplify the models. The TEB model attempts to combine all three models into a single framework for developing an online application. Figure 12 provides the final model that was used to build the online environment utilized within the research study. The following sections review the contributions made from the various sections of the literature review.

#### *Contributions from the Trust Model*

The predisposition module is a simplification of the individual trust foundation section as defined by Bhattacharya, Devinney, and Pillutla (1998). The conceptualization of the trust process, described in the lower portion of the model, was derived from the "Trust Conceptual Framework" by Benson, Curley, and Smith (1991). This section was greatly simplified by consolidating many of the functions into five steps: perceptions, screening, evidence, claim, and belief. The final element derived from the trust model is

the realization of trust. For this research study, rather than describing the four types of trust, the TEB model solely addresses the realization of trusted commerce.

#### *Contributions from the Electronic Commerce Model*

The physical property strategy section of the electronic commerce model (Figure 10) was dropped because it addressed the actual property and not the online environment. Many of the electronic commerce strategy elements were dropped based on the environment of the small hotel industry. The informational and marketing context elements were captured in the design of the home page as well as the informational elements described in the design element section. Rate plans and packages were covered in the pricing module. Accommodations and reservation functions were merged into the final model. The remaining elements, e-business marketing interface, online support partners, CRM strategy, and distribution channels were not brought directly into the TEB model due to the scope of the research.

#### *Contributions from the Design Element Model*

The user experience process was derived from the design element model. The importance of the user experience process cannot be understated. The conceptualization of trust has a direct relationship with user experience. Although, the level and degree in which a user trusts another party may be different, the relationship is clearly there. All of the design elements were integrated into the TEB model with the only consolidation occurring in the web seals area.

### *Subject Matter Experts*

The reviewers of the TEB model were a subset of the reviewers from the previous models. Appendix K provides the review documentation presented to the SME's. No major modifications were suggested by the SME's.

### *Integration of the TEB Model Overview*

The primary purpose of the TEB model was to establish a foundational process for developing a small hotel web site. The ultimate goal of the web site is to establish the trust required for a customer to make a reservation. The TEB model provided a starting point for the predisposition of trust and an ending point for the realization of trust. The two processes reveal the evolutionary phases in a user's experience and the development of trust. The design elements were divided into three sections: design principles, informational content, and hotel business processes. Each of these functional areas must be taken into account when developing an online application.

The next step was to apply the TEB model framework in the construction of an actual web site. In addition to the visual design framework, a development framework was needed in order to establish a delivery methodology. Appendix H provides an integrated view of the web development process by Bowman and Willis (2002) and the components of the TEB model. The SME involvement and the modifications of the deliverables were added to demonstrate the technical implementation of the model. The Web Development Life Cycle (WDLC) contains eight different phases: strategy, analysis, information, interaction, presentation, build, test, and maintenance. The following sections will review each of the phases as they relate to the construction of the research site. The research site is referred to as Destin Beach Resort (DBR) in this paper.

### *Strategy, Analysis, and Information Phases*

The strategy, analysis, and information phases were covered in detail during the literature review. In these phases, several of the design element components were utilized to establish the foundation required in the design and implementation phases. The designer should take into account the user predisposition to trust and the ultimate goal of the realization of trust to organize the deliverables for the web site. In addition, the user experience and the development of trust must be reviewed throughout the entire process. The deliverables from the first three phases include a strategic plan, project plan, and the feature specifications. The strategic plan is a high-level business case that ties the goals and objectives of the web site to the business strategy. Examples of the business strategy are improved customer relationships, expanded packaging, and decreased costs associated with processing customer inquiries. The web site must tie directly with these strategies in order to deliver business value. The project plan is the guideline and overview for the project scope. The project plan contains information describing the project to upper management, the customer, and the development team. The plan outlines the project phases, the team, the schedule, budget, milestones, and specific deliverables. The feature specifications include the business functions required by the small hotel. These may include online reservations, seal representation, electronic marketing materials, and business-to-business transactions.

### *Interaction Phase*

Since the first three sections of the methodology were covered in the literature review, the project began with the interaction phase and the development of the sitemap. As explained in the literature review, a sitemap is a website planning guide used to

visually communicate the functional flow of pages within the site. The sitemap not only shows the pages but also the relationships between each of the pages (Kahn & Lenk, 2001). The sitemap for the Destin Beach Resort can be found in Appendix O. This sitemap is divided into four sections beginning with the home page. The informational section is a category of web pages that are static in content and rarely changed. These pages include help, sitemap, location, amenities, privacy, contact us, area guide, seals, partners, and other informational content pages. The business processes section holds content that will change frequently or requires an online application in order to deliver the required functionality. Content areas such as rate plans, packages, accommodations, reservations, confirmation, availability, and customer feedback fall within this category.

The external site section provides the service partners that reside outside of the core sight. These services include maps, weather, directions, local guides, seals, and other related partners or service providers. The final section is the internal support required to service many of the functional areas, such as: traffic analysis, metadata, email, and domain information management. The sitemap also provides flow from one page to another. The informational pages are accessible within one click from the home page while several of the pages link to the external sites mentioned above. The “R” within the page image designates that the page was included in the design and implementation for the research site. On the business process side, the majority of business processes are related. However, only the direct end-to-end processes are linked with a relationship arrow in the sitemap. In other words, most of the time users that visit the availability section will continue to the reservation process but this action is not

required. However, anyone who completes the reservation process will always proceed to the confirmation process.

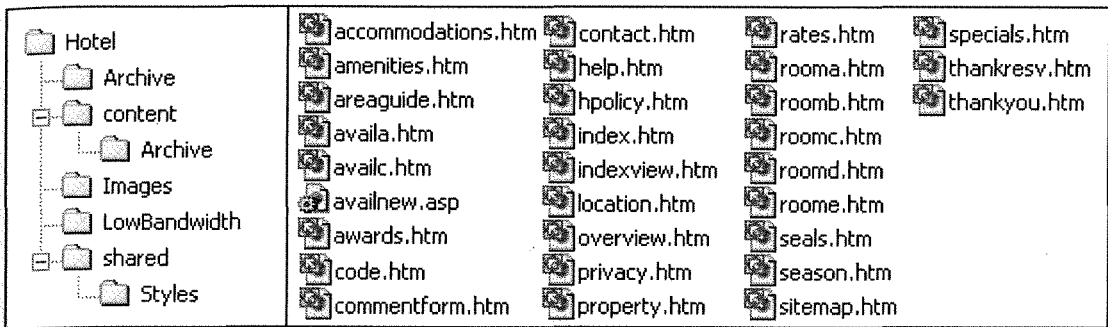
### *Presentation Phase*

The style guide is the final deliverable of the presentation phase. Appendix P presents the style guide developed by the researcher for the Destin Beach Resort. The first section describes the page layout which was used in the development of the online application. Each page can be divided into five sections: link header, brand header, navigation, content, and trailer. Each of these is reviewed in detail within the style guide. Color palette and image constraints are also covered. The final section details the required meta-tags that were included within each page.

The majority of the style elements are contained in the style sheet found in Appendix U. Cascading Style Sheets (CSS) allow the web developer to apply different styles to HTML structures. CSS has its own language described in the W3C standard, which can be found at <http://www.w3.org/Style/CSS/>. Style sheets define the look and feel for text elements such as font, font size, color, indentation, positioning and setting the bold, italics, and underline formats (Bartlett, 2002). Each of the formatted sections can be linked to one of the five sections within the page layout definition.

### *The build, test and Maintenance of the Destin Beach Resort Site*

The deliverable of the build process is the actual web site for the Destin Beach Resort. Figure 13 provides the folder structure and the list of pages within the site.



**Figure 13.** Web Development Folder Structure and Page Content

The main hotel folder holds the assembly for each page listed. Outside of the metadata, the majority of content in this folder is imported from the other folders by the use of FrontPages “include” utility. The “include” utility bounds the include pages into a single viewable page. The majority of the page content is stored within the “content” folder. The content is stored in HTML files without the style sheet attachment. The “Images” folder will hold all of the images used within the site, while the “LowBandWidth” folder assembled the content pages without the use of images. This utility was not implemented in the core site. The “shared” folder contains an additional folder for style sheets and the shared elements such as navigation, header, trailer, and brand header. The researcher, SME’s, and co-workers conducted quality assurance on the site during the month of August. A collection of the web pages that make up the Destin Beach Resort can be found in Appendix X. A total of 216 objects made up the site including: HTML, CSS, javascripts, documents, and images.

### **Research Compare Site Selection**

The following hotels were selected for the research based on their proximity to Destin, FL as well as a rating score that fit the research requirements. The scoring system



was identical to the one used in the online environment survey described in Appendix F.

Refer to Appendix V for the site comparison scores.

- Sea Oats Motel (20.83%): <http://www.seaoatsrentals.com/index.html>
- Blue Horizon Beach Resort (39.17%): <http://www.bluehorizonbeachresort.com/>
- The Pelican Beach Resort (61.67%): <http://www.pelican-beach.com/>
- The Sandestin Resort (80.00%): <http://www.sandestin.com/home.asp>

## Survey Construction

A JavaScript routine was embedded in the initial page of the survey process. The “starthere.htm” file executed the JavaScript application that generated a random number between zero and seven. Table 6 provides the hotel pairings that were presented to the participants based on the number generated.

**Table 6: Research Compare Site Selection**

Random Number	Alternative Site	First to Appear in Search
0	Sea Oats Motel	Sea Oats Motel
1	Sea Oats Motel	Destin Beach Resort and Spa
2	Blue Horizon Beach Resort	Blue Horizon Beach Resort
3	Blue Horizon Beach Resort	Destin Beach Resort and Spa
4	Pelican Beach Resort	Pelican Beach Resort
5	Pelican Beach Resort	Destin Beach Resort and Spa
6	Sandestin Resort	Sandestin Resort
7	Sandestin Resort	Destin Beach Resort and Spa

The researcher utilized a small frame at the top of the page in order to allow the participants to switch between the two sites and begin the survey process. In addition, participants could return to the search result page as well as the initial start page in order to begin the actual survey. The survey was made up of six web pages that were presented to the user in succession. Online edit programs were added in order to ensure each field was completed before proceeding to the next step. Each page result was saved as a

database record when the participant clicked the “continue” button. These records would be merged together based on the unique user key that stayed with the session for the duration of the survey. Once the sixth page was processed, an email request was presented to collect the information needed for the gift certificates. The information was extracted from the database on a daily basis in order to ensure no excessive loss of data would occur at any given point in time. Appendix W contains the user guide presented to each of the participants.

### **Pretest of the Research Instrument**

The pretest was conducted during the approximately four-week period from August 1, 2003 through August 31, 2003. The pilot study or pretest was a small-scale implementation of the survey questionnaire that assessed several critical factors:

- Ensured the online application functioned on a variety of computer systems and configurations
- Ensured that the questions were understood by the participants with a high degree of clarity
- Ensured questions were not worded such that all respondents answered in the exact same manner
- Ensured that all questions were relevant to the study
- Ensured the questionnaire length and time requirements were sufficient

A total of eight requests were sent to participants with varying degrees of computer knowledge and experience. Participants were drawn from co-workers and family. All eight of the participants responded by August 20, 2003. The demographic information can be found in Table 7.

Table 7: Demographic Information (Pretest)

Variable	Frequency	Percent
<b>Age</b>		
Less than 20	0	0.0%
20 to 25	1	12.5%
26 to 30	0	0.0%
31 to 40	3	37.5%
41 to 55	1	12.5%
56 to 65	3	37.5%
Greater than 65	0	0.0%
Totals	8	100%
<b>Gender</b>		
Male	5	62.5%
Female	3	37.5%
Totals	8	100%
<b>Income</b>		
Less than \$25,000	0	00.0%
\$25,000 to \$50,000	0	00.0%
\$50,001 to \$75,000	3	37.5%
\$75,001 to \$100,000	0	00.0%
More than \$100,000	3	37.5%
No Disclosure	2	25.0%
Totals	8	100%
<b>Education</b>		
High School Diploma	1	12.5%
2-year college Degree	1	12.5%
4-year college degree	0	0.00%
Advanced Degree	5	62.5%
Other	1	12.5%
Totals	8	100%

**Table 8: Propensity to Trust (Pretest)**

Variable	Mean	Mode	Median	Std. Dev.
Basically I am a trusting person (1=disagree, 7=agree)	4.750	5.000	5.000	1.669
It is better to trust people than to be suspicious of others until they prove themselves (1=disagree, 7=agree)	4.375	5.000	5.000	1.506
Most people are trustworthy (1=disagree, 7=agree)	4.125	5.000	5.000	1.458
I have few difficulties trusting people (1=disagree, 7=agree)	4.625	5.000	5.000	1.408
I almost always believe what people tell me (1=disagree, 7=agree)	3.875	5.000	4.500	1.642

Table 8 provides the statistics for the propensity to trust data collected during the pretest. Based on this information, a propensity to trust calculation was developed for this population by taking the average of each of the five questions. For the group as a whole, the propensity score was 4.350.

**Table 9: Online Behavior (Pretest)**

Variable	Mean	Mode	Median	Std. Dev.
How often do you typically go online? (1=monthly, 7=daily)	6.125	7.000	7.000	2.100
Over the last six months, what percentage of your travel purchases were made online? Including Hotel, Air, Rental Car, etc. (1=0%, 2=10%, 3=20%, 4=30%, 5=40%, 6=50%, 7=60% of more)	4.875	7.000	6.500	2.748
Over the next six months, what percentage of travel arrangements do you plan to make over the internet? (1=0%, 2=10%, 3=20%, 4=30%, 5=40%, 6=50%, 7=60% of more)	5.125	7.000	7.000	2.748
How would you rate your internet experience? (1=poor, 7=excellent)	5.500	5.000	5.000	1.309

Overall, how would you rate your internet purchase experiences? (1=poor, 7=excellent)	5.625	6.000	6.000	1.188
How would you rate the quality of hotel sites on the internet? (1=poor, 7=excellent)	4.375	6.000	4.500	1.408
When making a purchase over the Internet, how concerned are you that your personal information may be used inappropriately? (1=not concerned, 7=very concerned)	4.625	7.000	4.500	1.923
When making a purchase over the Internet, how concerned are you that your credit card number may be stolen? (1=not concerned, 7=very concerned)	4.125	3.000	3.500	1.727
When making a purchase over the Internet, how concerned are you that your reservation may not be fulfilled as agreed? (1=not concerned, 7=very concerned)	3.000	3.000	3.000	2.138
When making a purchase over the Internet, how concerned are you that you may not have access to your reservation and the ability to update the reservation and personal information? (1=not concerned, 7=very concerned)	2.000	1.000	1.000	1.604

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The online behavior statistics can be found in Table 9. Based this information, an online behavior calculation was developed by taking the average of each of the ten questions.

For the group as a whole, the online behavior score was 4.988. Five of the eight participants selected the Destin Beach Resort (DBR), which was the research site built based on the visual design factors.

**Table 10: Hotel Selection (Pretest)**

Survey Group	Total	DBR	Other
Destin Beach Resort, Blue Horizon Resort (Survey 1)	1 (12.5%)	0 (00.0%)	1 (100%)
Destin Beach Resort, Sea Oats Motel (Survey 2)	2 (25.0%)	1 (50.0%)	1 (50.0%)
Destin Beach Resort, Pelican Beach Resort (Survey 3)	1 (12.5%)	1 (100%)	0 (00.0%)
Destin Beach Resort, Sandestin Resort (Survey 4)	4 (50.0%)	3 (75.0%)	1 (25.0%)
Totals	8 (100%)	4 (62.50%)	3 (37.50%)

Table 10 provides the statistics for the hotel selection process. The random site selection process placed at least one participant into each of the survey groups. Four of the eight participants were placed in the “Survey 4” group, while the other groups had one or two participants. The 62.50% of the participants that chose the Destin Beach Resort was a positive sign that the research design site impacted the participant’s trust. In addition, the average trust score for those participants who chose the Destin Beach Resort was 5.356 as opposed to the 4.999 for those that chose the other sites.

### *Changes to the Research Instrument*

Based on the results of the pretest several modifications were made on the research site and survey instrument:

- Corrected a couple of typographical errors,
- Expanded question 17 of part 6 of the survey instrument to include another option with a text box for the participant to enter a different answer other than the options provided,
- Added additional descriptions on question 17 of part six for better participant understanding,
- Corrected a link issue with the search engine result set.

## **Response Rate**

The research instrument was distributed to a total of 756 participants between September 1, 2003 and September 30, 2003. In addition, four message boards were utilized to request additional participation.

- Yahoo “online-trust” Message Board
- Yahoo “visual-design” Message Board
- Nova Southeastern University School Forums
- DMReview Online Magazine

A total of 217 responses of the survey were received with 19 (8.76%) responses being rejected for incomplete data. The participants were requested for their email address in order to receive prize notification. Based on this information, a total of 145 (72.04%) participants provided their email address with 91 (67.91%) coming from direct email requests and 43 (32.09%) coming from web site postings. A total of 198 records were utilized in the research study. Based on the 756 requests sent and assuming the same ratio of participants provided email address as those that did not, the estimated response rate from direct email requests was 24.60%.

## **Demographics of Respondents**

As with the pilot study, the primary demographic variables collected included age, gender, income, and education. A summary of the demographic characteristics of the respondents can be found in Table 11.

**Table 11: Demographic Information**

<b>Variable</b>	<b>Frequency</b>	<b>Percent</b>
<b>Age</b>		
Less than 20	0	0.00%
20 to 25	10	5.05%
26 to 30	22	11.11%
31 to 40	64	32.32%
41 to 55	76	38.38%
56 to 65	23	11.62%
Greater than 65	3	1.52%
<b>Totals</b>	<b>198</b>	<b>100%</b>
<b>Gender</b>		
Male	92	46.46%
Female	106	53.54%
<b>Totals</b>	<b>198</b>	<b>100%</b>
<b>Income</b>		
Less than \$25,000	13	6.57%
\$25,000 to \$50,000	26	13.13%
\$50,001 to \$75,000	31	15.66%
\$75,001 to \$100,000	45	22.73%
More than \$100,000	60	30.30%
No Disclosure	23	11.62%
<b>Totals</b>	<b>198</b>	<b>100%</b>
<b>Education</b>		
High School Diploma	5	2.63%
2-year college Degree	16	8.08%
4-year college degree	52	26.26%
Advanced Degree	94	47.47%
Other	11	5.56%
<b>Totals</b>	<b>198</b>	<b>100%</b>

The first section of Table 11 presents the ages of the respondents. The 41-55 year old group accounted for 38.38% of all respondents. Approximately 83.84% of all respondents were over 31 years of age. The second section classifies respondents



according to gender. Approximately 46.46% of respondents were male while the remaining 53.54% were classified as female. The third section reports the income level. The largest group indicated annual earnings of over \$100,000. The smallest group of reported income earned less than \$25,000, which represented 6.57% of the population. A total of 23 (11.62%) of respondents did not report their annual income. The final section presents the education level of the respondents. Approximately 47.47% of respondents indicated they have received advanced degrees. The “other” category had the lowest response of 5.56%. Those with advanced degrees and high income have a strong representation in this survey population.

Cohen and Cohen (1983) indicate that demographics such as age, gender, and education are likely variables to examine for possible spurious relationships. One-way Analysis of Variance (ANOVA) was used to discover if the demographic information had a significant impact on the level of trust.

**Table 12: Demographic Impact on Trust**

<b>Variable</b>	<b>F-Ratio</b>	<b>P-Value</b>
Age	1.251	0.287
Gender	1.230	0.269
Education	3.167	0.009
Income	3.754	0.006

Table 12 provides the statistical information indicating only two of the demographic variables had a significant influence on trust. The results of the ANOVA test indicate that trust is significantly related to education and income, but not to age and gender.

**Table 13: Correlation Matrix (Demographic Information)**

Variable	Age	Gender	Education	Income
A. Age	1.000			
B. Gender	-0.016	1.000		
C. Education	0.251	-0.294	1.000	
D. Income	-0.068	-0.209	<b>0.270</b>	1.000

In order to perform inferential statistics on the different variables, the researcher utilized the SPSS Pearson Correlation function. Correlations will vary between -1 and +1 indicating direction and strength of the relationship. The closer to one indicates a weaker correlation while values above .75 indicate two variables may be the same (Sekaran, 2000). Reviewing the correlation factor between education and income, a 0.270 significance score was produced at the 0.01 level. This relationship may be considered obvious since generally speaking the higher education a person has the higher the income. Additional study may be required to understand the impact of education and income on our ability to trust.

### **Non-Response Bias Testing**

Non-response bias is generally measured using the “time trends” method described by Armstrong and Overton (1977). Since the participants were assured of their anonymity in completing the questionnaire, no effort was made to determine the identity of those participants not responding to the survey request. Therefore, the non-response bias testing was measured by assuming that participants who responded early would act the same as those who responded in the final days (Armstrong & Overton, 1977).

In this test, the first 50 (25% of participants) and the last 50 were compared to determine if any significant differences exist between the two groups. Separate ANOVA

tests were performed on all of the variables in the study. The findings indicate that there were no significant differences between the early and late groups.

**Table 14: Early and Late Respondents**

Variable	F-Ratio	P-Value
Trust	2.582	0.111
Online Behavior	1.990	0.161
Propensity to Trust	3.584	0.061
Page Layout	0.068	0.795
Navigation	2.244	0.137
Web Seals	2.436	0.122
Professional Style	0.742	0.391
Graphics	0.068	0.795
Content	0.037	0.847

### Descriptive Statistics

The majority of variables were constructed using a seven-point scale, with 4 being the center. Skewness is the measure of the symmetry of the data distribution. Substantial skewness is indicated when the values fall outside of the range +1 and -1 (Anderson, Black, Hair, & Tatham, 1998). Table 15 provides the skewness values for the derived variables.

**Table 15: Skewness Values**

Variable	Skewness Value
Trust	0.073-
Page Layout	0.415-
Navigation	0.583-
Web Seals	0.590
Professional Style	0.827-
Graphics	0.509-
Content	0.071
Propensity to Trust	0.311-
Online Behavior	0.752-

None of the variable skewness calculations were outside of the plus or minus one range indicating substantial skewness did not exist within the population.

A correlation matrix represents the degree of relationship between two variables. Table 16 provides the correlation matrix between the dependent and independent variables. The values in bold indicate the hypothesized relationships. With the exception of the seals, each hypothesis is supported at the  $p < .01$  level. Web seals did not produce a correlation relationship based on this matrix, which indicates that web seals have no correlation to trust.

**Table 16: Correlation Matrix**

Variable	Trust	Layout	Nav. Seals	Style	Graphics	Content
A. Trust	1.000					
B. Layout	<b>0.474</b>	1.000				
C. Navigation	<b>0.346</b>	0.802	1.000			
D. Seals	<b>0.085</b>	0.048	0.061-	1.000		
E. Style	<b>0.400</b>	0.773	0.624	0.046	1.000	
F. Graphics	<b>0.395</b>	0.674	0.611	0.073-	0.717	1.000
G. Content	<b>0.357</b>	0.255	0.203	0.190	0.235	0.201

Reviewing some of the other relationships in the correlation matrix produced some expected and unexpected results. Navigation, style, layout, and graphics had a strong correlation throughout the matrix. This seemed logical because the perception of a strong page layout includes the navigation scheme, consistency of a professional style, and solid graphics. Content had a solid correlation with trust, but a much weaker correlation with the other variables.

## Control Variables

The research study included two control variables. A control variable is a variable that affects the dependent variable. Containing these variables is critical for solid research results. The goal was to balance the variables across subjects to study the relationship between the independent and the dependent variables.

**Table 17: Control Variables and Trust**

Variable	F-Ratio	P-Value
Propensity to Trust	6.414	0.003
Online Behavior	0.379	0.685

Table 17 indicates a split influence of the control variables. Propensity to trust does have a significant impact on trust while online behavior did not. The next couple of sections review the details of these two variables.

### Propensity to Trust of Respondents

The first control variable is the propensity to trust. The propensity to trust assigns a base value to measure the participant's propensity to trust another person, organization, or web site representation. Table 18 provides the statistics for the propensity to trust questions.

**Table 18: Propensity to Trust**

Variable	Mean	Mode	Median	Std. Dev.
Basically I am a trusting person (1=disagree, 7=agree)	5.091	6.000	5.000	1.440
It is better to trust people than to be suspicious of others until they prove themselves (1=disagree, 7=agree)	4.667	5.000	5.000	1.363
Most people are trustworthy (1=disagree, 7=agree)	4.510	5.000	5.000	1.237
I have few difficulties trusting people (1=disagree, 7=agree)	4.652	5.000	5.000	1.361
I almost always believe what people tell me (1=disagree, 7=agree)	3.970	5.000	4.000	1.403

To calculate the propensity score per participant, the average of the five questions was used. For the research group as a whole, the mean propensity score was 4.577. The median for the collection was 4.600 and the mode was 5.000. The standard deviation for the propensity score was 1.059 and a standard error mean of 0.075. All of the questions provided consistent results.

An ANOVA was used to discover if the propensity to purchase had a significant impact on the level of trust. By controlling this variable within the group, its impact would be limited. The results of the ANOVA test indicated an f-value of 6.414 and a p-value of 0.003. With the rejection of the null-hypothesis, the researcher cannot rule out the influence of the propensity to trust variable on the trust felt by the participants. This result is consistent with the research done by Yamagishi and Yamagishi (1994) which indicated that in general, those who have a high propensity to trust, such as people from the individualistic cultures, are more likely to seek others who have good reputations.

## Online Behavior of Respondents

The second control variable is the online behavior of the respondents. Table 19 provides the statistical information on the online behavior questions. Online behavior is a calculated metric to measure the participant's current online experiences with the Internet.

**Table 19: Online Behavior**

Variable	Mean	Mode	Median	Std. Dev.
How often do you typically go online? (1=monthly, 7=daily)	6.707	7.000	7.000	0.953
Over the last six months, what percentage of your travel purchases were made online? Including Hotel, Air, Rental Car, etc. (1=0%, 2=10%, 3=20%, 4=30%, 5=40%, 6=50%, 7=60% of more)	5.086	7.000	6.500	2.449
Over the next six months, what percentage of travel arrangements do you plan to make over the internet? (1=0%, 2=10%, 3=20%, 4=30%, 5=40%, 6=50%, 7=60% of more)	5.278	7.000	7.000	2.216
How would you rate your internet experience? (1=poor, 7=excellent)	5.934	7.000	6.000	1.057
Overall, how would you rate your internet purchase experiences? (1=poor, 7=excellent)	5.662	6.000	6.000	1.367
How would you rate the quality of hotel sites on the internet? (1=poor, 7=excellent)	5.167	5.000	5.000	1.178
When making a purchase over the Internet, how concerned are you that your personal information may be used inappropriately? (1=not concerned, 7=very concerned)	4.758	7.000	5.000	1.831
When making a purchase over the Internet, how concerned are you that your credit card number may be stolen? (1=not concerned, 7=very concerned)	4.515	7.000	5.000	1.846

When making a purchase over the Internet, how concerned are you that your reservation may not be fulfilled as agreed?

(1=not concerned, 7=very concerned)

3.879 2.000 4.000 1.793

When making a purchase over the Internet, how concerned are you that you may not have access to your reservation and the ability to update the reservation and personal information?

(1=not concerned, 7=very concerned)

3.722 2.000 4.000 1.796

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Based this information, an online behavior calculation was developed for this population by taking the average of each of the ten questions. For the group as a whole, the online behavior score was 4.650. The median for the collection was 4.977 and the mode was 4.500. The standard deviation for the propensity score was 0.959 and a standard error mean of 0.102. For the two questions that utilized percentage as the result set. The following scale was utilized for these questions: 1=0%, 2=10%, 3=20%, 4=30%, 5=40%, 6=50%, and 7=60% or more. An ANOVA was used to discover if the online behavior had a significant impact on the level of trust. By controlling this variable within the group, its impact would be limited. The results of the ANOVA test indicated an f-value of 0.379 and a p-value of 0.685. Based on this result, the null-hypothesis cannot be rejected and the online behavior cannot be stated to significantly influence the trust variable.

### **Hotel Selection**

At the beginning of this research study, the researcher believed a web site could be developed for a side-by-side comparison. The developed site, based on the researched visual design elements, would be preferred over a comparative site not built upon the elements. Each survey participant was presented with a pair of hotel sites, one of which



was randomly selected from a pool of four and the other being the research site. Based on the control build process, each site contained a scaled percentage of the design elements, approximately 20%, 40%, 60% and 80%. The hypothesis was that the 100% research site would be selected proportionately to the difference in design element percentage. For example, the Sea Oats Motel with 20.83% of the design elements would be selected 16.67% of the time and the Sandestin Resort with 80.00% of the design elements would be selected 44.44% of the time. However, the results in Table 20 present a different view of the hotel selection. An overwhelming 70.20% of the survey participants selected the Destin Beach Resort (DBR) as their hotel of choice.

**Table 20: Hotel Selection**

<b>Survey Group</b>	<b>Total</b>	<b>DBR</b>	<b>Other</b>
Destin Beach Resort, Blue Horizon Resort (Survey 1)	61 (30.81%)	40 (65.57%)	21 (34.43%)
Destin Beach Resort, Sea Oats Motel (Survey 2)	39 (19.70%)	32 (82.05%)	7 (17.95%)
Destin Beach Resort, Pelican Beach Resort (Survey 3)	43 (21.72%)	29 (67.44%)	14 (32.56%)
Destin Beach Resort, Sandestin Resort (Survey 4)	55 (27.78%)	38 (69.09%)	17 (30.91%)
<b>Totals</b>	<b>198(100%)</b>	<b>139 (70.20%)</b>	<b>59 (29.80%)</b>

These results indicate a much smaller transgression than originally hypothesized. In addition, the estimated average selection for the random selected sites was 31.80% while the actual result was 29.80%. Although this result is not directly related to the six core hypotheses, the results do add to the validity of the process itself and the utility of the TEB model.

## Dependent Variable

The trust variable calculation is described in detail in Appendix Q. The average trust score for the population was 5.138 with a standard deviation of 0.784. As a group, the respondents seemed to trust the online hotel environment. Table 21 provides a review of the trust related questions.

**Table 21: Trust Questions**

Variable	Mean	Mode	Median	Std. Dev.
I believe that the selected hotel will act with high business standards. (1=strongly disagree, 7= strongly agree)	5.197	5.000	5.000	1.021
I believe I can count on the people at the selected hotel to behave with high business standards (1=strongly disagree, 7= strongly agree)	5.172	5.000	5.000	0.9989
I think that the selected hotel can be relied upon to fulfill their obligations to customers (1=strongly disagree, 7= strongly agree)	5.303	5.000	5.000	0.939
I feel that the selected hotel is dependable (1=strongly disagree, 7= strongly agree)	5.157	5.000	5.000	0.982
I feel that the selected hotel will not take advantage of me, if such a situation arises (1=strongly disagree, 7= strongly agree)	4.990	5.000	5.000	1.066
I do not think that the selected hotel has ill intentions about any of their customers (1=strongly disagree, 7= strongly agree)	5.298	6.000	5.000	1.125
Overall, I trust the selected hotel (1=strongly disagree, 7= strongly agree)	5.227	5.000	5.000	0.994
How likely would you be to make a reservation on the selected hotel website? (1=not likely, 7= very likely)	4.934	5.000	5.000	1.453
How would you rate the quality of the hotel? (1=poor quality, 7= excellent quality)	5.333	5.000	5.000	0.912
How confident are you that personal information provided to the selected hotel is used appropriately? (1=not confident, 7= very confident)	4.869	5.000	5.000	1.248

How confident are you that you will be able to access your personal information and alter your reservation at the selected hotel? (1=not confident, 7= very confident)	4.545	5.000	5.000	1.327
How confident are you that a customers' reservation will be fulfilled as agreed by the selected hotel? (1=not confident, 7= very confident)	5.232	5.000	5.000	1.031
How would you rate the risk of engaging in an Internet reservation with the selected hotel? (1=very low, 7= very high)	2.894	2.000	2.000	1.416*

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Note\*: A reverse value variable (i.e. lower score represents higher level of trust)

The majority of questions indicate a high degree of trust by the participant body. The lowest mean question revolved around the confidence of the participant to access their personal information online. The mean was still above 4.000 indicating an above average perception.

**Table 22: Trust Values Based on Site Selection**

Site Description	Count	Trust Score
Destin Beach Resort	139	5.188
Average of Other Four Sites	59	4.996

Table 22 compares the trust score means between the research site and the average of the other four sites. A total of 70.20% of the participants selected the Destin Beach Resort with an average trust score of 5.188 with a standard deviation of 0.643. The other hotels had a cumulative average test score of 4.996 with a standard deviation of 0.967.

However, an ANOVA test was run against the hotel selection and the trust score which produced a p-level of 0.122. This indicates that while the averages are different, the result is not significant.

## Independent Variables

In total, six independent variables were calculated from the research survey: page layout, navigation, web seals, professional style, graphics, and site content. All of the independent variable calculations can be found in Appendix Q. The test for significance for these variables was accomplished by utilizing the ANOVA statistical test. Table 23 provides the collection of detailed visual design question and statistics.

**Table 23: Visual Design Questions**

Variable	Mean	Mode	Median	Std. Dev.
Was the page layout intuitive? (1=not intuitive, 7= very intuitive)	5.414	5.000	5.500	1.166
Was the navigation system intuitive? (1=not intuitive, 7= very intuitive)	5.475	5.000	6.000	1.147
Was the page layout consistent? (1=not consistent, 7= very consistent)	5.530	6.000	6.000	1.079
The site looked professionally designed. (1= agree, 7= disagree)	2.939	2.000	2.000	1.187
The site was difficult to navigate. (1= agree, 7= disagree)	5.429	6.000	6.000	1.607
Was the content easily accessible? (1= not accessible, 7= very accessible)	5.747	6.000	6.000	1.060
How familiar are you with web seals like BBBOnline, WebTrust and Truste? (1= not familiar, 7= very familiar)	3.343	1.000	3.000	2.126
Did you notice a trusted seal on the web site? (1= Yes, 2= No. 3 = Maybe)	2.162	3.000	2.000	0.898
Have you ever seen a trusted seal before? (1= Yes, 2= No. 3 = Maybe)	1.758	1.000	1.000	0.902
Defining web style as the colors, font, size and overall structure of a website, would you say that the site was easy to read? (1= difficult to read, 7= easy to read)	5.833	6.000	6.000	1.046

Defining web style as the colors, font, size and overall structure of a website, would you say that the site was visually pleasing? (1= not pleasing, 7= very pleasing)	5.636	6.000	6.000	1.183
Defining web style as the colors, font, size and overall structure of a website, would you say that the site was consistent throughout the site? (1= not consistent, 7= very consistent)	5.727	6.000	6.000	1.084
Did the images provided by help in your decision to create a reservation? (1= no help, 7= very helpful)	5.273	5.000	5.000	1.441
Do you think that the images provided a true picture of the selected site? (1= inaccurate, 7= accurate)	5.061	5.000	5.000	1.261
Do you think that the images were professionally done? (1= amateur, 7= professional)	5.591	6.000	6.000	1.175
Visited Contact Information (0= No, 1= Yes)	55.56%: Yes			
Visited Privacy Policy (0= No, 1= Yes)	25.25%: Yes			
Visited Pricing Policy (0= No, 1= Yes)	80.81%: Yes			
Visited Order Fulfillment (0= No, 1= Yes)	24.24%: Yes			
Visited Availability (0= No, 1= Yes)	61.11%: Yes			
Visited Other Local Businesses (0= No, 1= Yes)	24.75%: Yes			
Most Important Criteria? (1= Contact, 2=Privacy, ...)	Pricing Policy (36.79%)			
Was the information found in Question 16 helpful in your decision to select ? (1= no help, 7= very helpful)	4.854	5.000	5.000	1.638

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Table 23 provides several key points. First, the web seals scored very low overall. This is especially true for the participants that had never seen a web seal before. The mean score of 1.758, indicated that the majority of participants either could not remember

seeing one or had never seen one. This score was consistent with the other web seal questions. One of the more interesting questions was the question that asked if the participants thought that the web site was professionally designed. A mean score of 2.939 indicates that the majority of participants did not think any of the sites looked professionally designed in spite of the level of design elements. The result of this question seems to contradict the other questions that rate page layout, navigation, style, graphics, and content very high. The number one content page was the pricing policy while order fulfillment and local businesses scored the lowest. This result is supported by the Gregoire, Jeong, and Oh (2001) research study that indicated that general information and price were the two most important elements of information on a site.

Table 24 presents the design element metrics.

**Table 24: Visual Design Element Review**

Variable	Mean	Std. Dev.	Std. Err
Page Layout	6.000	0.989	0.070
Page Layout – Destin Beach Resort	6.057	0.954	
Page Layout – Other Sites	5.866	1.065	
Navigation	5.950	1.191	0.084
Navigation – Destin Beach Resort	6.045	1.137	
Navigation – Other Sites	5.729	1.292	
Web Seals	3.464	1.844	0.131
Web Seals – Destin Beach Resort	3.624	1.925	
Web Seals – Other Sites	3.086	1.591	
Professional Style	5.657	0.957	0.068
Professional Style – Destin Beach Resort	5.673	0.916	
Professional Style – Other Sites	5.615	1.056	
Graphics	5.253	1.088	0.077
Graphics – Destin Beach Resort	5.234	1.077	
Graphics – Other Sites	5.297	1.123	
Content	3.659	1.435	0.102
Content – Destin Beach Resort	3.818	1.446	
Content – Other Sites	3.282	1.346	

### *Page Layout*

The page layout variable had a total mean of 6.000 with a standard deviation of 0.989 and a standard error mean of 0.070. The respondents provided a solid page layout score for the collection of sites. The Destin Beach Resort recorded a 6.057 with a standard deviation of 0.954. The other hotels had a cumulative page layout average of 5.866 with a standard deviation of 1.065.

### *Navigation*

The navigation variable had a total mean of 5.950 with a standard deviation of 1.191 and a standard error mean of 0.084. The Destin Beach Resort recorded a 6.045 with a standard deviation of 1.137. The other hotels had a cumulative navigation average of 5.729 with a standard deviation of 1.292.

### *Web Seals*

The web seal variable had a total mean of 3.464 with a standard deviation of 1.844 and a standard error mean of 0.131. The Destin Beach Resort recorded a 3.624 with a standard deviation of 1.925. The other hotels had a cumulative seal average of 3.086 with a standard deviation of 1.591.

### *Professional Style*

The style variable had a total mean of 5.657 with a standard deviation of 0.957 and a standard error mean of 0.068. The Destin Beach Resort recorded a 5.673 with a standard deviation of 0.916. The other hotels had a cumulative style average of 5.615 with a standard deviation of 1.056.

### *Graphics*

The graphics variable had a total mean of 5.253 with a standard deviation of 1.088 and a standard error mean of 0.077. The Destin Beach Resort recorded a 5.234 with a standard deviation of 1.077. The other hotels had a cumulative graphics average of 5.297 with a standard deviation of 1.123.

### *Site Content*

The content variable had a total mean of 3.659 with a standard deviation of 1.435 and a standard error mean of 0.102. The Destin Beach Resort recorded a 3.818 with a standard deviation of 1.446. The other hotels had a cumulative content average of 3.282 with a standard deviation of 1.346.

### **Internal Reliability**

As suggested by Cronbach (Ferry & Van de Ven, 1980), the reliability assessment for narrow to moderately broad constructs should be in the range of 0.55 to 0.90. Table 25 provides the number of questions and corresponding Cronbach Alpha values.

**Table 25: Cronbach's Alpha Results**

<b>Question Set</b>	<b>Questions</b>	<b>Cronbach's Alpha</b>
Trust	13	0.8870
Propensity to Trust	5	0.8365
Online Behavior	10	0.6840
Page Layout	4	0.6124
Navigation	4	0.6681
Web Seals	3	0.6151
Professional Style	4	0.7070
Graphics	4	0.6886
Content	3	0.5565



Based on the Cronbach's Alpha calculations, the research survey can be defined as internally reliable and consistent in defining the dependent and independent variables.

### **Hypothesis Testing**

In order to test the six hypotheses, the scores for each of the independent variables were categorized as high, medium, and low. Scores 3.0 and below were categorized as low, scores 5.0 and above were considered high and all others were considered medium. In doing so, the ANOVA statistical test could be used to test the hypotheses. Terrell (2003) indicates that ANOVA should be used in the case of a single dependent variable (trust) and two or more independent variable factors (page layout, navigation, web seals, graphics, style, and content).

#### *Hypothesis One*

Hypothesis one stated that the page layout would have a significant impact on the perceived trustworthiness of the hotel organization. With a non-directional hypothesis, the null hypothesis can be stated as:

There is no significant difference in the trustworthiness based on the degree of page layout.

The independent variable, page layout, has three levels defined in the previous paragraph: high, medium, and low. Table 26 provides the results of the ANOVA test run through the SPSS application.

**Table 26: ANOVA Test for Hypothesis One (Page Layout)**

<b>Page Layout</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F-Value</b>	<b>P-Value</b>
Between Groups	14.750	1	14.753	27.113	0.000
Within Groups	106.626	196	0.544		
Total	121.376	197			

A p-value of 0.000 means that the null hypothesis can be rejected and a significant difference does exist in the trustworthiness of the web site based on the different levels of page layout. Based on the correlation matrix in Table 16, page layout has a positive influence on the trustworthiness of the site.

### *Hypothesis Two*

Hypothesis two stated that navigation would have a significant impact on the perceived trustworthiness of the hotel organization. With a non-directional hypothesis, the null hypothesis can be stated as:

There is no significant difference in the trustworthiness based on the degree of navigation.

The independent variable, navigation, has three levels defined in the first paragraph: high, medium, and low. Table 27 provides the results of the ANOVA test run through the SPSS application.

**Table 27: ANOVA Test for Hypothesis Two (Navigation)**

<b>Navigation</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F-Value</b>	<b>P-Value</b>
Between Groups	7.797	2	3.898	6.693	0.002
Within Groups	113.579	195	0.582		
Total	121.376	197			

A p-value of 0.002 means that the null hypothesis can be rejected and a significant difference does exist in the trustworthiness of the web site based on the different levels of navigation. Based on the correlation matrix in Table 16, navigation has a positive influence on the trustworthiness of the site.

### *Hypothesis Three*

Hypothesis three stated that web seals would have a significant impact on the perceived trustworthiness of the hotel organization. With a non-directional hypothesis, the null hypothesis can be stated as:

There is no significant difference in the trustworthiness based on the degree of web seals.

The independent variable, web seals, has three levels defined in the first paragraph: high, medium, and low. Table 28 provides the results of the ANOVA test run through the SPSS application.

**Table 28: ANOVA Test for Hypothesis Three (Web Seals)**

<b>Navigation</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F-Value</b>	<b>P-Value</b>
Between Groups	2.035	2	1.017	1.662	0.192
Within Groups	119.341	195	0.612		
Total	121.376	197			

A p-value of 0.192 means that the null hypothesis cannot be rejected since a significant relationship cannot be determined.

### *Hypothesis Four*

Hypothesis four stated that the style would have a significant impact on the perceived trustworthiness of the hotel organization. With a non-directional hypothesis, the null hypothesis can be stated as:

There is no significant difference in the trustworthiness based on the degree of style.

The independent variable, style, has three levels defined in the first paragraph: high, medium, and low. Table 29 provides the results of the ANOVA test run through the SPSS application.

**Table 29: ANOVA Test for Hypothesis Four (Professional Style)**

<b>Navigation</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F-Value</b>	<b>P-Value</b>
Between Groups	17.053	2	8.526	15.938	0.000
Within Groups	104.323	195	0.535		
Total	121.376	197			

A p-value of 0.000 means that the null hypothesis can be rejected and a significant difference does exist in the trustworthiness of the web site based on the different levels of style. Based on the correlation matrix in Table 16, professional style has a positive influence on the trustworthiness of the site.

#### *Hypothesis Five*

Hypothesis five stated that the graphics would have a significant impact on the perceived trustworthiness organization. With a non-directional hypothesis, the null hypothesis can be stated as:

There is no significant difference in the trustworthiness based on the degree of graphics.

The independent variable, graphics, has three levels defined in the first paragraph: high, medium, and low. Table 30 provides the results of the ANOVA test run through the SPSS application.

**Table 30: ANOVA Test for Hypothesis Five (Graphics)**

<b>Navigation</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F-Value</b>	<b>P-Value</b>
Between Groups	12.455	2	6.227	11.149	0.000
Within Groups	108.921	195	0.559		
Total	121.376	197			

A p-value of 0.000 means that the null hypothesis can be rejected and a significant difference does exist in the trustworthiness of the web site based on the different levels of graphics. Based on the correlation matrix in Table 16, graphics have a positive influence on the trustworthiness of the site.

### *Hypothesis Six*

Hypothesis six stated that the content would have a significant impact on the perceived trustworthiness of the hotel organization. With a non-directional hypothesis, the null hypothesis can be stated as:

There is no significant difference in the trustworthiness based on the degree of content.

The independent variable, content, has three levels defined in the first paragraph: high, medium, and low. Table 31 provides the results of the ANOVA test run through the SPSS application.

**Table 31: ANOVA Test for Hypothesis Six (Information Content)**

<b>Navigation</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F-Value</b>	<b>P-Value</b>
Between Groups	14.297	2	7.148	13.018	0.000
Within Groups	107.079	195	0.549		
Total	121.376	197			

A p-value of 0.000 means that the null hypothesis can be rejected and a significant difference does exist in the trustworthiness of the web site based on the different levels of content. Based on the correlation matrix in Table 16, content has a positive influence on the trustworthiness of the site.

### Multivariate Regression Model

A multivariate regression model is used to predict the outcome of a dependent variable with a variety of predictors or independent variables. Based on the results of the previous section, the web seal variable was dropped for consideration in the regression model. The following equation represents the regression model reviewed in this section.

$$\text{Trustworthiness} = \hat{\alpha}_0 + \hat{\alpha}_1 X_{\text{Layout}} + \hat{\alpha}_2 X_{\text{Nav}} + \hat{\alpha}_3 X_{\text{Style}} + \hat{\alpha}_4 X_{\text{Graphics}} + \hat{\alpha}_5 X_{\text{Content}}$$

The design element data was processed in the SPSS application to produce three tables that summarize the model. Table 32 provides the model summary.

**Table 32: Regression Model Summary**

R	R Square	Adjusted R Square	Std. Error
0.554	0.307	0.289	0.662

The R Square statistic of 0.307 can be interpreted to mean that the five independent variables in the regression model account for approximately 31% of the total variation in the perceived trustworthiness of the site. The higher the R Square score the better the model fits the data collected. Our previous analysis indicated that demographics, propensity to trust, and online experience contribute to the perceived trustworthiness of the online environment. A 30% influence on the perceived trustworthiness of the site is acceptable in this research based on the number of factors reviewed in the literature

review. The adjusted R Square is generally influenced by the number of variables in the model. In this model, the adjusted R Square is essentially equal to the R Square.

The second table is an ANOVA table that describes the overall variance accounted for in the model. The f-value and p-value tests whether the R Square proportion of variance in the trust variable accounted for by the design elements is zero. If the null hypothesis is true, then there would be no relationship in the regression model between the independent and dependent variables. Table 33 provides the ANOVA results of the regression model.

**Table 33: ANOVA Results of the Regression Model**

<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F-Value</b>	<b>P-Value</b>
Regression	32.287	5	7.457	17.027	0.000
Residual	84.089	192	0.438		
Total	121.376	197			

A p-value of 0.000 means that the null hypothesis can be rejected and a significant relationship between the independent variables and the dependent variable does exist.

The five design elements are not all equal to each other and could be used to predict the dependent variable, trustworthiness, as indicated by the large f-value and a small significance level.

The final table reports the partial regression coefficients for the regression model. The coefficients indicate the increase in the value of trustworthiness for each unit of increase in the design elements. Table 34 provides the regression model coefficients.

**Table 34: Regression Model Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	T-Value	P-Value
	B	Std. Error	Beta		
(Contant)	1.890	0.391		4.837	0.000
Page Layout	0.383	0.157	0.187	2.445	0.015
Navigation	0.170	0.112	0.110	1.516	0.131
Style	0.257	0.126	0.149	2.036	0.043
Graphics	0.175	0.106	0.127	1.647	0.101
Content	0.295	0.075	0.245	3.942	0.000

The constant value of 1.890 indicates the level of trustworthiness if none of the design elements were present or in their weakest form possible. The regression model can be updated based on the “B” column results:

$$\text{Trustworthiness} = 1.890 + .383X_{\text{Layout}} + .170X_{\text{Nav}} + .257X_{\text{Style}} + .175X_{\text{Graphics}} + .295X_{\text{Content}}$$

The standardized beta coefficients are used to compare the design elements to each other. The results of this column indicate that page layout, professional style, and information content have stronger influences on the trustworthiness variable. Finally, the significance statistic indicates the probability that an increase in the independent variable is due to a sampling error. Page layout, professional style, and information content are well above the 0.05 standard, which means that we can be 95% sure that these variables are not influenced by a sampling error. The significance test for navigation and graphics indicate that we can only be 90% certain that a sampling error does not exist. Based on the sample size and the previous ANOVA calculations, the five variables are included in the final TEB model.



## Summary of Results

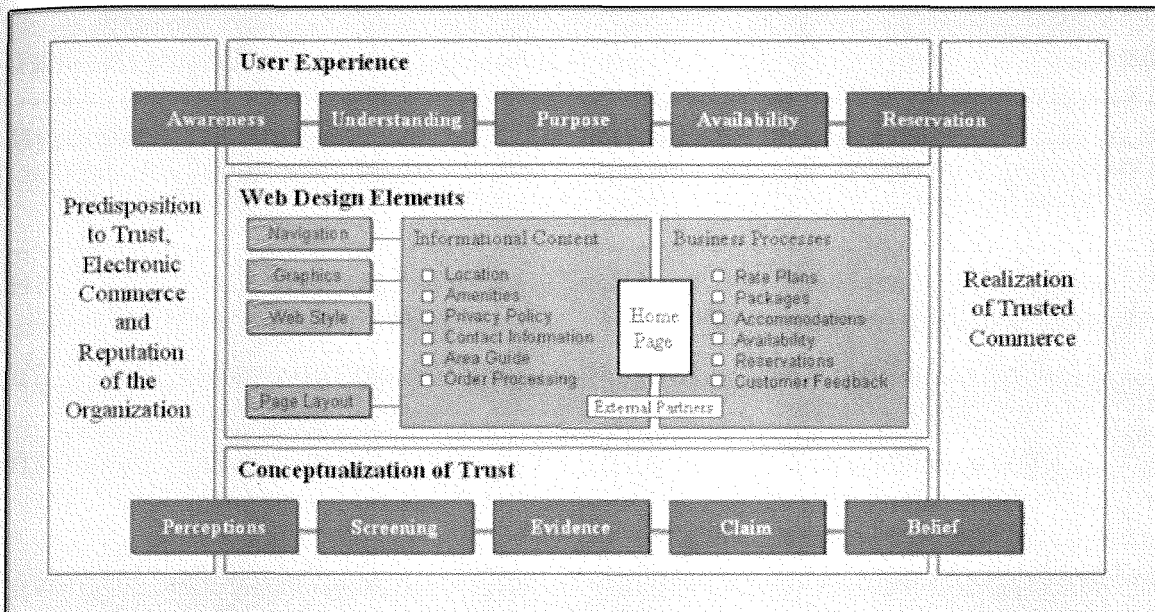
This research study set out to perform five functions, which included:

1. Surveying the small hotel online environment
2. Constructing a set of core models that represent the areas of study
3. Constructing a single Trust Enablement model
4. Constructing a small hotel online site based on the model
5. Performing a research study to test the six hypotheses

The small hotel survey revealed the amount of opportunity that exists within this industry for a framework or development model. The vast majority of the sites reviewed scored well below the 50% mark on each of the scales utilized. There were some exceptions, such as the Mansion on Turtle Creek in Texas and the Harbor Court Hotel in Maryland. Since small hotels compete on a geographic basis, any small hotel that implements the design elements described within this research is likely to stand above the crowd and increase the market share. The biggest gap in the content area was the lack of policies. As additional organizations move online, the lack of privacy, pricing, and order procurement policies will become more of an influence than it is today.

The core models, developed through the literature review and modified over a series of SME reviews, established a foundation for the research study and the construction of the test site. Only minor modifications were required from the SME process, most of which focused on the simplification of the models. The trust model established a framework for the foundation of trust, the process of conceptualizing and the realization of trust. The electronic commerce model segmented the online commerce components and the physical property components. The design element model deconstructed the user experience as well as the visual design elements under this research review.

The trust model, electronic commerce model and the visual design element model were combined into the TEB model seen in Figure 14.



**Figure 14.** Final TEB Model

Based on the SME feedback, the TEB model combined the primary aspects of the other three models to produce a structured framework for developing online web sites. Based on the survey results, the web seals box was removed.

The author utilized the TEB model in the development of the Destin Beach Resort web site. Over 70% of the participants selected the research site over the other four independent sites. The independent sites were selected based on the percentage of design elements contained within the site. The author believed participants would select the Destin Beach Resort on a progressive scale in relation the content percent. However, the site selection rate remained between 70%-80% for each site comparison.

The results of the hypothesis testing indicate that page layout, navigation, style, graphics, and content have a significant impact on trust in the electronic commerce. Web

seals were rejected as a significant independent variable leading to trust. Table 32 summarizes the hypotheses predictions and the results of the study.

**Table 35: Hypotheses Predictions and Results**

<b>Hypothesis</b>	<b>Statement (Null hypothesis)</b>	<b>Results of Significance Test</b>	<b>Comments</b>
H1	Page layout has no effect on trustworthiness	Rejected	Page layout has a positive effect on trustworthiness.
H2	Navigation has no effect on trustworthiness	Rejected	Navigation has a positive effect on trustworthiness.
H3	Web seals has no effect on trustworthiness	Accepted	Web seals do not have a positive effect on trustworthiness.
H4	Style has no effect on trustworthiness	Rejected	Style has a positive effect on trustworthiness.
H5	Graphics has no effect on trustworthiness	Rejected	Graphics has a positive effect on trustworthiness.
H6	Content has no effect on trustworthiness	Rejected	Content has a positive effect on trustworthiness.

## Chapter 5

### Conclusion, Implications, Recommendations, and Summary

#### Overview

The meanings, impact, and current state analysis of visual design elements in the context of online trust were investigated using research analysis and an online survey. The findings of this research project are based on the data analysis reported in Chapter 4. Analysis of the statistical tests reveals that the variables of page layout, navigation, professional style, graphics, and information content are significantly related to trust within the small hotel environment, while web seals were not.

#### Conclusions

The impact of the electronic commerce environment is being felt by every major industry. The small hotel industry is not immune to this paradigm shift in doing business. The establishment of online trust is one of the many imperatives to implementing an electronic commerce strategy that truly enables the business and increases revenue. The visual design elements described in the research establish the first impression and begin the process of establishing a long term trusted relationship. These visual design elements include page layout, navigation, style, graphics, and information content.

In this study, the variable page layout referred to the structure of the individual web page. In particular, the consistency of this structure throughout the entire site played an important role in the participant perceptions. The findings imply that the higher the degree of structure and functional layout the more trustworthy the small hotel is perceived. Web developers should ensure that a solid page layout is implemented with any small hotel site design. In addition, designers should ensure that a consistent format

extends the information flow from page to page. This drives the application to present information in a format that is easily read and understood. The page hierarchy should closely follow the meaning and functional flow of the business. The headings and sub-headings should be consistent within the within each page type. Text, images, and links should flow together in order to give the user a clear vision of the purpose, utility and representation of the business.

Navigation describes the process of informing the user their location and providing functional flow from one page to another. A solid navigation structure had a significant impact on the perceived trustworthiness of the e-business. Therefore, it is recommended that online representations focus on a solid information architecture in order to make the navigation process as intuitive as possible. Consistent element location, cookie trails, understandable terms, and intuitive structures will ensure that navigation has a positive impact on trust. Today, consumers demand freedom of movement, clearly marked paths, personalized service, quick delivery, and immediate answers. The ability for the average user to predict the utility of navigational elements is the first step in building a solid navigation plan (Fleming, 1998). The basic principles of navigation ensure that consumers know their location at any given point in time. This also enables the user to locate the products and services they are searching for in a short period of time (Wodthe, 2003).

Professional style was also found to contribute to increased trust in the online environment. Utilizing cascading style sheets or extensible style sheet transformations technologies will enable organizations to deliver a consistent look and feel to the online environment. This consistency and professional style eases the learning curve online

customers may be forced into without universal standards in place. Grocery store chains utilize a familiar store layout in order to keep the level of customer confusion to a minimum. Examples include aisle structure for product display, cashier locations as well as consistent placement of business units such as the pharmacy, meat counters, and milk displays. Without the consistent online structure for specific industries, organizations would be wise to follow some of the industry leaders like Amazon, Dell, eBay or Yahoo.

In the hotel industry, the graphics presented online have proven to be a differentiator between organizations. The consumer wants a visual understanding of the location, accommodations, and amenities. Graphics was shown to be a significant contributor to the development of trust, which supported the need to improve the graphic representation of the hotel. While this research did not distinguish between the quality and the quantity of images, both dimensions should be reviewed in future studies.

The final visual design element supported within this research was information content: privacy policy, pricing, locality, contact, order processes, and availability. Information should be reviewed by every site in order to ensure this information content is made available to the customer. Pricing policies presented the standard rack rate as well as any packages available to the customer. Privacy policies were constructed to ensure the customer that any information collected within the course of doing business will be used solely for the current business transaction and not shared with other parties. The contact page provided a variety of ways in which the customer could contact the business including email, phone, physical address, and other distribution channels. Local area businesses were also included as an informational source due to the needs of the business and vacation traveler. Restaurants, transportation alternatives, entertainment,

and local areas of interest are all excellent sources of information that can help the customer, which in turn may increase customer loyalty. Order processing described the process by which a customer can check availability, make a reservation, payment options, and check out/in times. This information can ease the resistance of online purchases. As mentioned above, availability is an important informational construct that can help the customer in making a decision and provide the business the opportunity to present other options or packages. Other informational pages not included in this study which could prove beneficial in the development of trust include the reservation process, business partnerships, and ability to establish and review an itinerary. Ultimately, the business and the consumer will work together on a very intimate basis. Customers that trust the small hotel will share their most sensitive information and in turn gain customized experiences and services (Dayal, Landesberg, & Zeisser, 1999).

## **Implications**

### *Theoretical Implications*

While many previous studies (Wakefield, 2001; Panichpathomortz, 2000; & Nieschwietz, 2001) addressed aspects of trust development such as propensity to purchase, online behavior, brand equity, and opportunism, this study focused on the impact of visual design elements. It is believed that this research will encourage additional studies in the area of visual design and perhaps expand the study into other industries. While this study focused on the initial development of trust, researchers should continue to look at the full lifecycle of trust development and determine what online business functions can be implemented in the web-based environment. Trust is a complex concept that requires a focused view on the dimensions of trust (Panichpathom,

2000). The study should be improved by finding causal relationships between the propensity to trust and the level of trustworthiness required to participate in extensive forms of electronic commerce.

Future studies and models should integrate propensity to trust and online behavior as part of the visual environment. This research attempted to control these variables, but other researchers should find ways to integrate these factors into the environment. Organizations that can recognize return customers and create frequent stay programs can expand the content section of the Trusted Framework for Enabling the Business (TEB) model. Developing real-time metrics for measuring the individual level of trust will enable dynamic applications to alter their utilization of the design elements.

#### *Implications for the Small Hotel Industry*

The results of the study suggest small hotels currently planning on building an online representation would be wise to invest in a professional design that includes the five supported visual design elements: page layout, navigation, professional style, graphics, and information content. The results of the site survey indicate enormous opportunities for small hotels in the online representation of their business. The larger chains are moving toward a centralized web site for their chains. In doing this, much of the influence of the local culture is lost or simply not integrated into the application. Small hotels can ensure a competitive advantage by ensuring their site reflects the local culture and seasonal amenities.

#### **Recommendations**

Clearly, the standards of professional design have evolved over the past few years. Although segmented by industry, the online environment has progressed since the



beginnings of HTML. The technology and design evolution will continue as more and more organizations look toward eXtensible Markup Languages (XML) and Flash technologies to raise the bar of the online environment. Connection speeds are steadily increasing and storage costs continue to drop. This divergence opens the door for more complex and resource dependent technologies. This constant shift in design standards and technology creates opportunities for organizations willing to invest in redefining their online presence.

Although web seals did not have a significant impact on trust in this research, small hotels should watch the online environment closely in order to determine if the image of web seals dramatically changes over a period of time. Hotels should continue to collect and co-brand with industry seals like the AAA Five Diamond Award or the Mobil Four Star Award.

Researchers should take a look at industries other than the small hotel sector, where trust is required for doing business online. Other industries may provide different results based on the product price, delivery channel, or the segmented customer base. These differences may alter the results of the trust survey and provide further insight into the realization of trust across industry segments. Researchers wanting to expand the trust study further in the small hotel industry should extend the participant pool or alter the study to include additional comparative sites.

This research study focused on the initial development of trust and the impact visual design elements have on that realization. However, trust is an emotion which is developed over time with a focus on the customer relationship. While visual design elements can set an initial level of trust, the business processes that follow must continue

to build trust between the consumer and the business. In addition, the participants of this research can be described as experienced with the vast majority going online daily. The study could be applied to a less experienced population in order to determine the impact of the six original design elements.

The final recommendation is for small hotels to continue to migrate their business functions toward the online environment. As additional organizations install wireless fidelity (WI-FI) networks, business functions like check in, check out, room service, maid service, and reserving amenities could enhance the customer experience. This will begin to build the long-term customer loyalty which can be difficult with individual hotels.

## **Summary**

Chapter 1 of this dissertation reviewed the statement of the problem to be investigated, the goals that would be achieved during the research process, the relevance and significance of the research, the barriers and issues that existed within the environment, elements, theories, and research questions investigated, limitations and delimitations of the study, and a collection of term utilized during the research.

The research assembled three basic concepts or areas of study. The small hotel industry, visual design elements of electronic commerce and the development of trust were reviewed and set into context for this research. Trust cannot be coded into an online representation; trust can only be suggested by effectively utilizing the visual design elements described in detail within the Trusted Framework for Enabling the Business (TEB) model. In the online environment, trust is a required element that is rarely addressed on the front-end of the design process. This research set out to provide a framework for developing an online representation for the small hotel based on the

principles of developing trust. The framework enables organizations to increase their market share, improve customer service, improve internal efficiencies, lower costs, and improve the product offering. Perhaps the most striking difference between the online and the face-to-face environment is the lack of personal contact with the business. As back-office business functions are moved to the Internet, the small hotel industry must evolve to take advantage of this new business paradigm. The research model presented in Figure 1 provides the visualization of the impact that page layout, navigation, web seals, style, graphics, and information content (independent variables) have on trust (dependent variable). As mentioned in this chapter, the research could be improved by future studies in this area. This is especially true around the ongoing development of trust and perhaps a metric measurement of trust.

Chapter 2 provided an historical overview of the theory and research literature among the research variables and constructs. These included trust, the lodging industry, visual design elements, electronic commerce as well as specific research that looked at combinations of these elements. Trust is an emotion that drives consumers to conduct business, either online or in physical stores. Trust allows us to believe that the party is reliable, genuine, truthful, and worthy of trust. Like most organizations, the small hotel is in the infancy stage of online business development. The hotel business is segmented into a few chain-based organizations and an enormous collection of smaller individually owned hotels. The gap between these organizations must be shortened in order for this segment of the industry to thrive in the future. Visual design is a combination of information content, professionalism, and design elements that can be combined into a single collective view that comes together to create a positive impression from the

customer's point of view. Several studies highlighted in Chapter 2 focused on trust specific research, visual design construction, and the electronic commerce environment for the lodging industry. The literature review established the foundation for the basis of this research. Wakefield (2000) specifically mentioned the need to review the impact of visual design elements on the establishment of trust. This research moved the visual design elements away from a control variable utilization to the focused independent variable view. The small hotel industry needs to review their individual environments, realizing that they not only compete with each other but the larger chains as well. While the larger chains may have the name recognition, the small hotels should focus on their strengths such as charm, local knowledge, and partnerships built within the community. Most of the smaller hotels are not meeting the needs of the customer based on research done by Gregoire, Jeong, and Oh (2001). Improving the online environment will improve the perceptions of these smaller organizations.

Chapter 3 discussed the specific methodology used during the research process. Additional information was provided on the formats of presenting the results, resource requirements, tools, domain experts, reliability, and validity. An online survey was conducted over a random sample of small hotel sites in order to determine the current level of utilization of the proposed visual design elements. An idealistic site was developed by the researcher in order to test the hypothesis. Four additional sites were chosen for a side-by-side comparison. These sites were chosen, in random fashion, to compete with the research site. The collection of participants reviewed the two sites before making a decision to make a reservation. A survey was presented to the user in order to collect the data required for the data analysis.

Chapters 4 and 5 reviewed the results of the methodology described in Chapter 3. Three models for trust, electronic commerce and design elements were created based on the literature review. These models were combined into a single trust enablement model referred to as the Trusted Framework for Enabling the Business (TEB) Model. The framework was validated by both subject matter experts and the main survey. Implementation of the framework can be accomplished at a very low cost as demonstrated by the researcher. Simple tools such as FrontPage and an online service provider can provide a solid web representation which can enable trust and enable online electronic commerce. While the relatively low cost of developing an online representation is not a "barrier to entry", the current environment survey indicates most organizations are not recognizing the opportunities and taking advantage of this economic shift in commerce practices. Each of the independent variables (page layout, navigation, professional style, graphics, trusted seals, and content) was supported with the exception of trusted seals. The online environment creates a competitive advantage for those willing to invest the time and money required. This research concludes that the basic development of trust can be achieved by implementation of a solid collection of visual design elements.

## Appendix A

### Letter to Research Participants

R. Todd Stephens  
8450 Hwy 54  
Sharpsburg, GA 30277  
[rstephen@nova.edu](mailto:rstephen@nova.edu)

September 1, 2003

Dear Participant,

My name is Todd Stephens and I am a graduate student at Nova Southeastern University conducting research on the factors that affect trust in the online environment. I am specifically focusing on the small hotel industry in order to facilitate a usable and prescriptive framework. I am developing a survey instrument that will help facilitate and define this trust-oriented framework and asking for your participation in this exciting research study.

The study will be conducted during a six-week period between November 1, 2003 and December 15, 2003. The entire study should take about 20-30 minutes of your time.

For additional information on the research process and detailed instructions please refer to the following web page: <http://www.truststudy.com/researchoverview.htm>.

The results of the research will be made available online in 2004 at the link provided above. In addition, five of the 100 to 150 participants will be awarded an Amazon.com gift certificate for \$50.00 before December 20, 2003. The drawing will be a random drawing after all participants have completed the survey. You will be asked for your name and email address at the end of the survey. You must complete the entire survey in order to be eligible for the drawing. If you do not wish to be part of the drawing simply leave the email and user name blank on the very last screen. If you do not wish to participate in the survey, then perhaps you could forward this email to someone else.

Thank you very much for your participation in this study. Your response is very important to me in the expansion of this body of knowledge. Please respond to this email by October 15, 2003 if you would like to participate in this research.

Sincerely,

R. Todd Stephens

## Appendix B

### Letter to Lodging Subject Matter Experts

R. Todd Stephens  
8450 Hwy 54  
Sharpsburg, GA 30277  
[rstephen@nova.edu](mailto:rstephen@nova.edu)

May 1, 2003

Dear Participant,

My name is Todd Stephens, and I am a graduate student at Nova Southeastern University conducting research on factors that affect trust in the online environment. I am specifically focusing on the small hotel industry in order to facilitate a usable and prescriptive framework. I am asking your participation in order to verify the viability of the model and implications in the small hotel industry. The framework will be based on a literature review and a pilot study of the survey instrument. Specifically, I would like for you to comment on the following:

- Do you have a website available on the Internet?
- Would research on the development of trust in the Internet be of interest to you?
- After reviewing the attached framework, what comments or suggestions would you make concerning the viability of the model?
- Assuming the research verifies the design assumptions, would you consider redesigning your website to include the new design elements?
- In a few sentences, how has the Internet impacted your organization?

All information gathered in this study will remain in strict confidence and only be used in the academic pursuit of knowledge and understanding. The pilot study will be conducted between June 1, 2003 and June 30, 2003. If you do not wish to participate in the survey, then perhaps you could forward this email to someone else in the small hotel business.

For additional information on the research process and detailed instructions please refer to the following web page: <http://www.truststudy.com/researchframework.htm>.

Thank you very much for your participation in this study.

Sincerely,

R. Todd Stephens

## Appendix C

### Letter to Research Subject Matter Experts

R. Todd Stephens  
8450 Hwy 54  
Sharpsburg, GA 30277  
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July 1, 2003

Dear Colleague,

My name is Todd Stephens, and I am a graduate student at Nova Southeastern University conducting research on the factors that affect trust in the online environment. I am specifically focusing on the small hotel industry in order to facilitate a usable and prescriptive framework. I am asking your participation in order to provide feedback on the readability and the usability of the survey instrument. Would you please take the survey and comment on the following:

- Did you find any bias in the survey?
- If so, how could the bias be eliminated or at least minimized?
- What alternative wording would make the survey more readable?
- Were the instructions very clear for a novice web user?
- What is missing from the survey?
- How would you improve the survey?

All information gathered in this study will remain in strict confidence and only be used in the academic pursuit of knowledge and understanding. The feedback session will be conducted between August 1, 2003 and August 15, 2003. If you do not wish to participate in the survey, then perhaps you could forward this email to someone else.

For additional information on the research process and detailed instructions please refer to the following web page: <http://www.truststudy.com/researchquestion.htm>.

Thank you very much for your participation in this study. Your response is very important to me in my hopes to expand the body of knowledge.

Sincerely,

R. Todd Stephens



## Appendix D

## Research Survey Model

<b>Information Category</b>	<b>Questions</b>
Demographic Information	1 – 4
Propensity to Trust	5 – 9
Online Behavior	10 – 19
Online Model Site Specifics	20 – 33
Design Element Specific	
Page Layout	34 - 36
Navigation	37 - 39
Web Seals	40 - 42
Web Styles	43 - 45
Use of Graphics	46 – 48
Information Content	49 - 51
General Overview	52 - 54

Appendix E provides the survey that will be used during the research study. An online version will be created with the following modification:

1. The headings will be removed.
2. The DBH(DCHR) will be replaced by the actual choice of web representation. For example, instead of the subject seeing: “I think that DBH(DCHR) can be relied upon to fulfill their obligations to customers like me”. They will actually see: “I think that Destin Crescent Hotel and Spa can be relied upon to fulfill their obligations to customers like me”.

## Appendix E

## Research Survey

**Demographic Information**

1. Age                     Less than 20  
                               20 to 25  
                               26 to 30  
                               31 to 40  
                               41 to 55  
                               56 to 65  
                               Greater than 65
2. Gender                 Male  
                               Female
3. Family Income:       Less than \$25,000  
                               \$25,000 to 50,000  
                               \$50,001 to \$75,000  
                               \$75,001 to \$100,000  
                               More than \$100,000  
                               I do not wish to disclose income
4. Education:            High school diploma  
                               2-year college degree  
                               4-year college degree  
                               Advanced degree  
                               Other

(Note: Please indicate the highest degree attained)











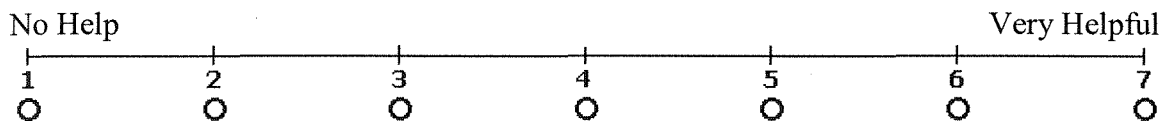




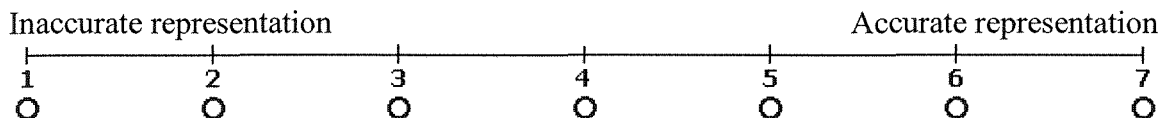




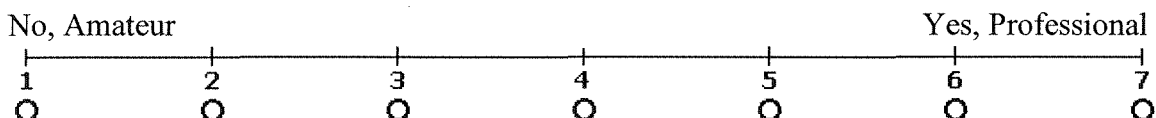
46. Did the images provided by DBH(DCHR) help in your decision to create a reservation?



47. Do you think that the web images provide a true picture of DBH(DCHR)?



48. Do you think that the images were professionally done?

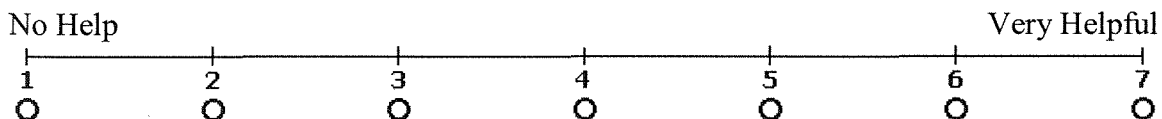


49. Which of the following sections did you visit at DBH(DCHR)?

(Check all that Apply)

- Contact Information
- Privacy Policy
- Pricing Policy
- Order Fulfillment
- Availability
- Other Local Businesses

50. Was the information found in Question 49 helpful in your decision to select DBH(DCHR)?



51. Which of the following sections was the most important in your decision to make a reservation with DBH(DCHR)?

(Select only one)

- Contact Information
- Privacy Policy
- Pricing Policy
- Order Fulfillment
- Availability
- Other Local Businesses
- Other: \_\_\_\_\_

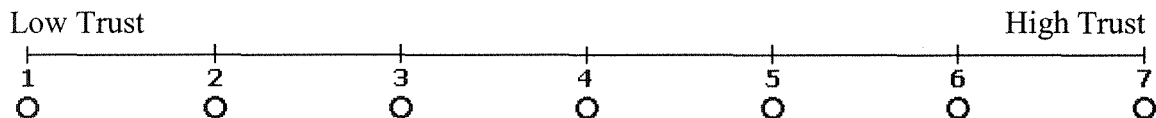
## General Information

52. Do any of the following design elements stand out as a contributor to your level of trust for DBH(DCHR)?

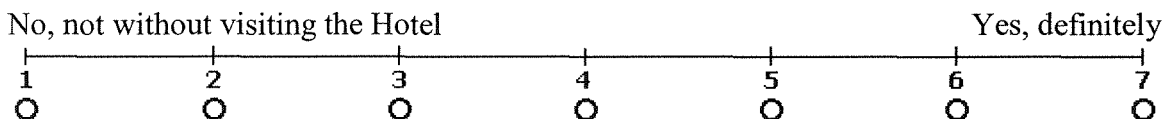
(Check all that Apply)

- The Page Layout
- The Navigation System
- Trusted Web Seals
- Web Style (Color, font, size)
- Use of Graphics
- Information Content

53. How would you estimate your level of trust with DBH(DCHR), based on only the web representation of this organization?



54. Would you recommend this site to a friend?



## Appendix F

### Design Element Classification Criteria

This section details specific criteria that are required for a particular design element within the framework. Each of the six design elements is broken down in the percentage based classification model. Although some of the elements are subjective, this model provides a more definitive structural break down. As a general rule, a higher percentage element is assumed to have all of the components of the lower element.

#### *Page Layout Classification Model*

<b>Description</b>	<b>Percentage</b>
Consistent format extends the information flow from page to page; easy to read, and understand; layout works with different pages sizes and monitors.	100%
Hierarchy closely follows meaning; the headings, and sub-headings are consistent within the pages; text, images, and links flow together.	80%
Heading label section and create hierarchy with some consistency.	60%
Text is broken down into paragraphs and sections	40%
Layout has no structure or information architecture	20%
No content	0%

#### *Navigation Classification Model*

<b>Description</b>	<b>Percentage</b>
Excellent Information Architecture, Street Signs, Consistency, Understandable Terms, and Intuitive structure. Search Utility is included.	100%
Solid Information Architecture and Intuitive for the average user including a search utility.	80%
An average navigation system is provided based on simple links yet the application is very consistent.	60%
Links are provided in a consistent and understandable fashion	40%
Inconsistent navigation system.	20%
No navigation structure.	0%

*Web Seals Classification Model*

<b>Description</b>	<b>Percentage</b>
A collection of seals can be found on a single page dedicated to the presentation of the seals of approval. Included with the seals are links, descriptions, and comments about how the seal impacts current customers.	100%
A single seal can be found dedicated to the presentation of the seals of approval. Included with the seals are links, descriptions, and comments about how the seal impacts current customers.	80%
Several seals can be found with little information on the use or purpose of the seals.	60%
A single seal is found with little information on the use or purpose of the seal.	40%
Seals are mixed in with useless web awards or hidden from direct view of the user.	20%
No Seals exist for the site	0%

*Web Style Classification Model*

<b>Description</b>	<b>Percentage</b>
The web style is driven by technology like Cascading Style Sheet (CSS) which enforces a consistency of font, color, size, tables, etc.	100%
The application does a great job at trying to keep the web style consistent but does not use the CSS technology.	80%
Better than average at keeping the design elements consistent	60%
Lower than average at keeping the design elements consistent	40%
No defined style exists yet still looks effective.	20%
No defined style exists and is a burden to the reader.	0%

*Graphics Classification Model*

<b>Description</b>	<b>Percentage</b>
Professionally built, placed in effective locations in order to support a message, No noticeable impact to the download speed.	100%
Professionally built, placed in effective locations in order to support a message, A noticeable impact to the download speed exists.	80%
Normal graphics used in an effective fashion. The graphics add to the site's information content.	60%
Average graphics that may fit into the site context.	40%
An overuse of non-professional and oversized graphics.	20%
No Graphics exist.	0%

*Content Classification Model*

<b>Description</b>	<b>Percentage</b>
All pages exist with solid information content. In addition, these pages are integrated with other pages and linked appropriately. The information architecture provides the reader with a complete understanding of the organization and transactional process.	100%
4-6 of the pages exist with solid and functional content	80%
4-6 of the pages exist but with limited content.	60%
1-3 of the pages exist with solid and functional content.	40%
1-3 of the pages exist but content is rather low.	20%
None of the prescribed content pages exists.	0%



## Appendix G

## Web Page Score Sheet

Researcher will record the following demographic information from the hotel website.

Date of Review: \_\_\_\_\_

Name of the Organization: \_\_\_\_\_

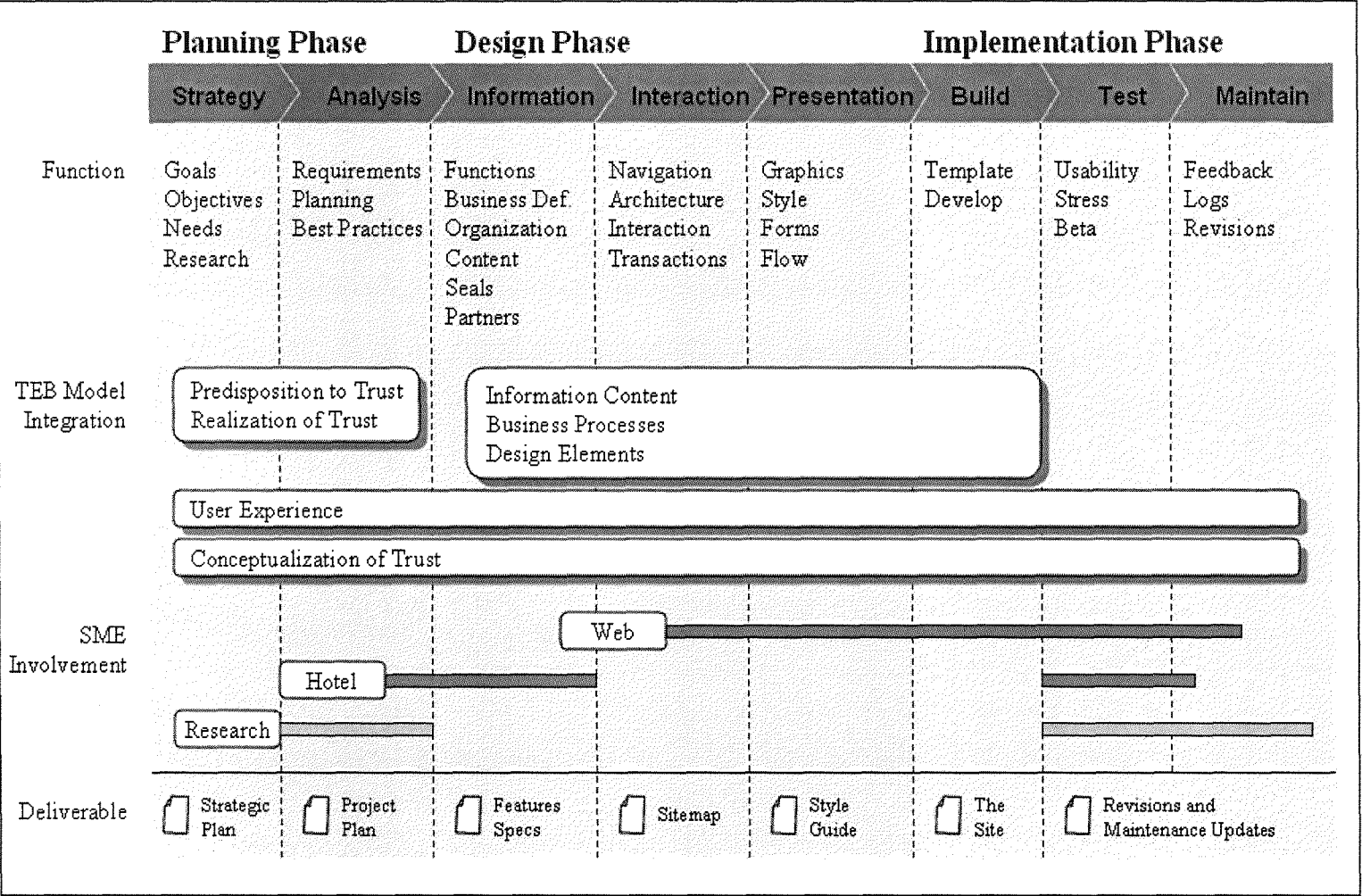
URL: \_\_\_\_\_

City, State: \_\_\_\_\_

Based on the criteria described in Appendix F, the Researcher will record the percentage of design elements within the site.

<b>Design Element</b>	<b>Score</b>
Page Layout	_____ %
Navigation	_____ %
Web Seals	_____ %
Web Style	_____ %
Use of Graphics	_____ %
Information Content	_____ %
Average	_____ %

Web Development Lifecycle with Integrated TEB Model



## Appendix I

## Tools Required for Dissertation

<b>Tool Description</b>	<b>Release</b>	<b>Function</b>
Microsoft's Office 2000 Applications	2000	General Research Delivery
Microsoft's Project Application	98	Project Management
Adobe Acrobat	4.0	Web Delivery of PDF
Microsoft's Image Composer	2.0	Image Creation
Microsoft's FrontPage	2002	Web Development
Biblioscope	3.0	Bibliography Information
Visio	2000	Process Flow
Erwin	3.5.2	Database Modeling
SPSS Grad Pack	11.0	Statistics Software

## Appendix J

### Trust Research Process for SME Review

#### ***Online Trust Research Overview***

By R. Todd Stephens

##### Overview

For those of you not familiar with my research, this section will provide a basic overview of the thoughts and ideas that surround the study.

Trust plays an important role in any customer relationship or transaction. This is especially true in the world of commerce. Buyers and sellers must make the conscious decision whether or not to trust the other party. Trust is an integral part of commerce and has been in existence since the beginning of human social interactions. With the emerging use of the Internet as a business medium of exchange, trust maintains an important role in electronic commerce. This research reviews the role of trust within the small hotel industry and the design elements having the highest impact toward developing trust between the buyer and seller.

Trust is a concept that most people understand but have trouble defining. Brick and mortar companies can establish trust by providing personal service, one-on-one contact and creating an environment that communicates trust to the customer. In the electronic commerce environment, the face-to-face experiences a shopper receives from the physical store are missing. The online shopper must develop a level of trust based on the web representation of the company or organization. Only through good experiences are the bonds of trust solidified, making the user more comfortable with sharing information and engaging in extensive forms of commerce. Trust must be established from the first exposure to the property or online representation of the hotel. How can the small hotel compete with large chains, such as Marriott, Sheraton, Hilton, or Embassy Suites? The Internet is becoming the main communication channel for the Business to Consumer (B2C) market, leaving the ability to differentiate between the luxury hotel and the small hotel to the skill of the web developer. Therefore, smaller hotels must exploit the Internet in order to develop trust and increase their market share.

The goal of this research is to create a usable framework for building trust in an online environment, focusing specifically on a small hotel sector within the lodging industry. This framework will be constructed based on the literature review and will enable the development of a solid information architecture and Internet strategy.

##### Research Questions

As a reminder, the following hypotheses represent the research questions that will be addressed within the study.

H1: The page layout of a hotel website will have a significant impact on the perceived trustworthiness of the hotel organization.

H2: The navigation system of a hotel website will have a significant impact on the perceived trustworthiness of the hotel organization.

H3: The existence of web seals will have a significant impact on the perceived trustworthiness of the hotel organization.

H4: Professional style will have a significant impact on the perceived trustworthiness of the hotel organization.

H5: The use of graphics will have a significant impact on the perceived trustworthiness of the hotel organization.

H6: The information content of a hotel website will have a significant impact on the perceived trustworthiness of the hotel organization.

### Participant Selection Process

The five participants required for the pilot program will include two family members and three BellSouth co-workers. These participants have been invited and provided verbal commitments to participate during the first two weeks of August.

The 100-150 participants required for the formal study will be assembled from the following sources. I am requesting that people forward the survey to others and I expect a 10% response from those individuals.

<i>Participant Source</i>	<i>Expected Response</i>	<i>10% Forward Response</i>
Family and Friends	30	3
BellSouth Co-Workers	20	2
Students	15	1
User Group Members	10	1
Hotel Owners	10	1
Hotel Web Designers	10	1
<b>Total</b>	<b>95</b>	<b>9</b>

### Participant Process

Each participant will begin the survey from the following URL.

<http://www.truststudy.com/mainsurvey.htm>

From this URL, the participant can review the original letter that was sent to the survey participants. In addition, the researcher has created a step-by-step user guide that can walk the less experienced web user through the survey.

Original Letter: <http://www.truststudy.com/Research/Notes/Participant.pdf>

Step-by-Step User Guide: <http://www.truststudy.com/Survey/Step-by-step%20v1.pdf>

#### *Step 1: Review Destin, FL.*

The study begins by providing the participant a chance to visit some of the sights and attractions of the Destin area. This link will provide a nice overview of the area.

<http://www.truststudy.com/Survey/destin.htm>

## Step 2: Review Hotels

The study continues by presenting the participant with two hotels in the Destin, Florida area. There are eight possible combinations of search results.

<http://www.truststudy.com/Search/StartHere.htm>

The “starthere.htm” file will actually execute a JavaScript application that will generate a random number between zero and seven. The following table provides the hotel pairings that will be presented to the user, the percentage of design elements and the first site to appear in the search engine.

<i>Random Number</i>	<i>Alternative Site that will be presented along side of Destin Beach Resort and Spa</i>	<i>First to appear in Search Appearance</i>
0	Sea Oats Motel (20%)	Sea Oats Motel
1	Sea Oats Motel (20%)	Destin Beach Resort and Spa
2	Blue Horizon Beach Resort (40%)	Blue Horizon Beach Resort
3	Blue Horizon Beach Resort (40%)	Destin Beach Resort and Spa
4	Pelican Beach Resort (60%)	Pelican Beach Resort
5	Pelican Beach Resort (60%)	Destin Beach Resort and Spa
6	Sandestin Resort (80.00%)	Sandestin Resort
7	Sandestin Resort (80.00%)	Destin Beach Resort and Spa

Note: See Appendix A for the detail scores for each hotel.

## Step 3: Take the Online Survey

Once the participant has decided on a particular hotel, the survey questionnaire will be presented. Since the survey is dependent on the random hotel selection, the user must visit the sites first to establish which survey to present. An error message will appear, if the user jumps immediately to the survey.

<http://www.truststudy.com/Search/StartSurvey.htm>

### Questionnaire

The survey will be divided into five main parts.

- Demographic Information – The first section of the questionnaire will collect general demographic information of the participant.
- Propensity to Trust – The second section will determine the participant’s propensity to trust, an important variable in determining the relationship between the independent variable and the actual research question.
- Electronic Commerce Behavior – The third section will ask questions based on the participant’s electronic commerce behavior in the past.
- Trust Survey Specific -This section will ask the participant which site they would have purchased and the primary reason for that decision.

- Design Elements Relationship to Trust – The final section will ask detailed questions involving the design elements that were present.

### Hotel Selection

The following hotels were selected for this research based on their proximity to Destin, FL as well as a rating score that fit the research requirements.

1. Sea Oats Motel (20.83%): <http://www.seaoatsrentals.com/index.html>

Located in Destin, FL., the Sea Oats motel scored the lowest in the scoring system. The hotel is located right on the beach with many amenities. The site itself is rather simple and should offer an excellent basis for research.

Layout	Navigation	Web Seals	Web Styles	Graphics	Content
40.00%	20.00%	0.00%	15.00%	30.00%	20.00%
Average:					20.83%

2. Blue Horizon Beach Resort (39.17%): <http://www.bluehorizonbeachresort.com/>

Located in Destin, FL., the Blue Horizon Beach Resort scored a decent score on the system. The hotel is also located right on the beach with many amenities. Most of the major features of a web site are here and accessible from the home page. The site is a little more extensive and should be a great compare site for the research.

Layout	Navigation	Web Seals	Web Styles	Graphics	Content
60.00%	45.00%	0.00%	60.00%	45.00%	25.00%
Average:					39.17%

3. The Pelican Beach Resort (61.67%): <http://www.pelican-beach.com/>

Located in Destin, FL., the Pelican Beach Resort is an excellent site. As the comparison sites get into the 60% range, we should see the competition get stiffer. This site is well done and only missing the trusted seal. The other elements could be improved but only slightly.

Layout	Navigation	Web Seals	Web Styles	Graphics	Content
80.00%	60.00%	0.00%	80.00%	80.00%	70.00%
Average:					61.67%

4. The Sandestin Resort (80.00%): <http://www.sandestin.com/home.asp>

Located in Destin, FL., the Sandestin Resort is almost perfect. The only missing element is the trusted seal. It will be a huge challenge to build a better site than this one.

Page Layout	Navigation	Web Seals	Web Styles	Graphics	Content
100.00%	100.00%	0.00%	100.00%	100.00%	80.00%
Average:					80.00%

## Appendix K

### TEB Model Overview for SME Review

#### *Trust Enabling the Business Model*

By R. Todd Stephens

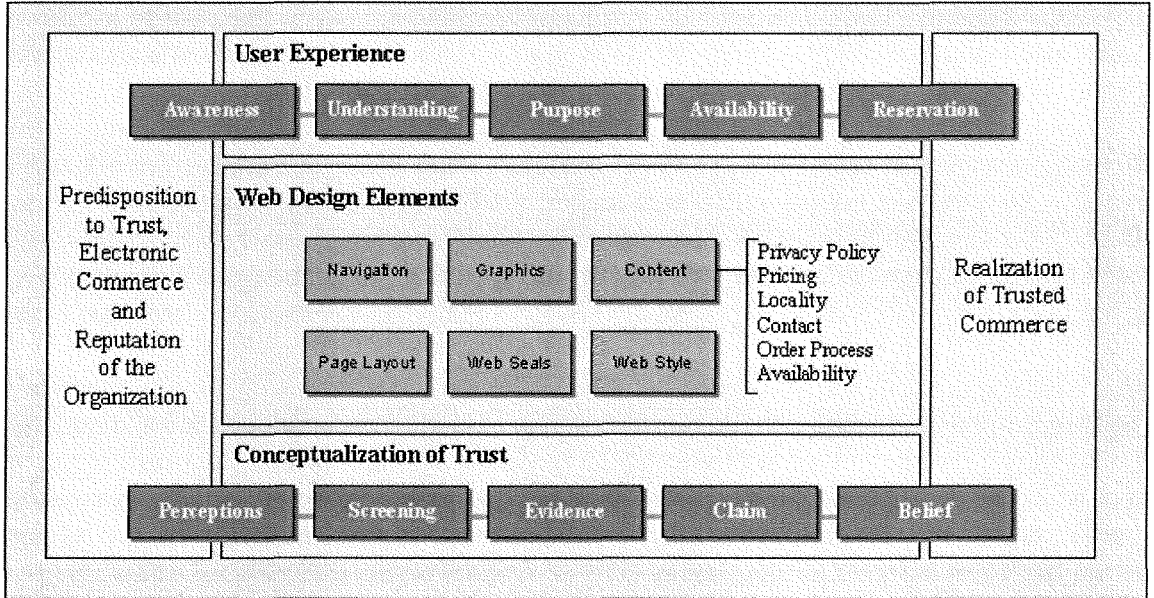


Figure 1: TEB Model

The Trust Enabling the small hotel Business (TEB) Model is the result of consolidating the three researched models, which included the trust model, the visual design element model and the electronic commerce model for the small hotel. Each of these models was developed from an exhaustive academic research study within each of the subject areas as well as a SME review. The predisposition and reputation of trust area to the left of the model indicates that every user will have a predisposition to trust and knowledge of the organization, industry or location. On the far right is the realization of trust, which should correspond to a belief in the organization and a purchase of the product. The product in the small hotel is a reservation for future delivery of the hotel accommodations.

There are two main processes described within the TEB model: the online user experience and the conceptualization of trust. Each process will be different for each user based on the amount of time required for each step.

#### **User Experience Process**

The user experience process describes the flow by which the average user attempts to understand the information, product and procurement process of an online business model (Cato, 2000). The core concept is customers must gain an awareness of the information and context before they can understand the purpose of the web application. Once the user gains the understanding and purpose of the web site, and then they can



determine the choices they have to move forward to taking action. That action in the small hotel is the reservation.

*Awareness:*

Before any electronic commerce can happen the customer must be made aware of the web site. This awareness may be created through advertising mediums, distribution channels or technologies like search engines and portals. Once the site is found, additional efforts must be taken into account to push the business functions to the forefront of the user. Essential business functions, like the availability process, must be easily found by every user.

*Understanding:*

From the initial home page, the customer must be able to determine exactly what type of site they are visiting. The site must have instantaneous recognition as a hotel as well as the location of service. Hotel sites that load banner ads at the top of the page run the risk of confusing the customer into thinking they are located at a portal type site instead of a local business.

*Purpose:*

The main purpose of the hotel site is to sell accommodations. The site must provide the required information that supports the needs of the user in order to make an informed decision on the nature of the business. The actual reservation process does not need to be online, but the customer must be informed on how the reservation process works. This may include a local or 800 phone number as well as instructions on what to expect during the transaction or stay.

*Availability:*

Once the customer has considered the products and services of the hotel, availability becomes a key point. The availability and reservation process is one of the first opportunities a hotel has to interface with the customer. The impression of this process can set the stage for the perception a guest may feel throughout the process. Reservations refer to the process of holding accommodations for future guests (Dittmer, 2002).

*Purchase:*

The ultimate goal of the online experience is to sell the product. In the case of the small hotel, the product is a reservation. The design, style and features of a web application must support the user and gently nudge them toward making a reservation at all times.

**Conceptualization of Trust Process**

The second process within the model is designed from the "Trust Conceptual Framework" by Benson, Curley, and Smith (1991). The process begins in the data generation module. This module describes the web-based information that is retrieved by the visual aspects of the online environment.

This screening process filters the data generated and the data actually used to construct the argument or case for trustworthiness. The screening process begins with the

perceptions each user has concerning the online environment and business industry. The evidence process is the assimilation of observed and perceived information that is gathered through the online screening process. The evidence process can be described as the process of taking an observation and making a judgment or leap to a claim. The final step in the process is to take the claims and attempt to pull these emotions, visual cues, and observations into a belief. For this research the belief is that the person, organization or object is trustworthy. To say that someone is trustworthy is to say they are “worthy of trust” (Flores & Solomon, 1998).

### Visual Design Elements

The framework that the web application is built upon is very important to the logical flow of business utility. The middle section of the model describes the visual design elements required in an online hotel environment.

## Page Layout

The page layout is the visual presentation of the web page by means of background color, white space, horizontal and vertical scrolling, font size, color combinations, and other design elements (Becker & Mottay, 2001). Graphical layout is a prime consideration in the design of a functional website. Designers must consider the font size and placement, scrolling versus hypertext linkage, sentence and paragraph lengths, and several other factors that are logically integrated into a structure (Palmer, 2002). Page layout is one of the strongest contexts used by designers today. These layout-based contexts have grown or evolved based on the experience of web designers and the current user base (Veen, 2001).

The majority of web pages can be broken down into the parts that make up the screen real estate. Nielsen (2000) indicates that the content of a web page should take up to around 80% of the screen real estate while the navigation structure should be around 20%. Nielsen’s description is at a very high level, by breaking down the contents of a page design we can see that the designer has many other elements to contend with. Table 1 provides a list of the most common elements used by today’s designers.

**Table 1: Web Page Breakdown**

Category	Description
Actual Content	Information contained in the page.
Brand Related	Logo, tag line, and other items used to promote the brand or company.
Navigation	Links, search, and other tools used to jump from page to page.
Tool and Utility	Date, time, sign in, are examples of tools used within the site to aid the user.
Advertising	Advertising are elements to promote other products
White Space	Space that is not used within the page.

---

Table 1 does not cover every possible element, but the vast majority of elements will fall into one or more of these categories. The web designer's ultimate role is to place these elements into a page layout that works for the first time user, intermittent, and frequent users of the website. Shneiderman (1997) provides a clear understanding of the importance of design on these three categories of users.

“First-time users need an overview to understand the range of services and to know what is not available, plus buttons to select actions. Intermittent users need an orderly structure, familiar landmarks, reversibility, and safety during exploration. Frequent users demand shortcuts or macros to speed repeated tasks, compact in-depth information, and extensive services to satisfy their varied needs.”

By structuring a web page into a familiar convention, the user will be able to scan the information more easily and faster. Every publishing medium develops conventions and continues to refine them and even develop new ones over time. The web already has several conventions derived from newspaper and magazine standards (Krug, 2000). Generally speaking, the top section of a web page is used for branding and site navigation. The left-hand side navigation section is also used to provide the user a more detailed navigation structure than can be provided within the top sections. The use of a blue font color and underlining for external links is a convention that most web pages use. These are a few of the page layout conventions used today and with the newer technologies and additional designers these will no doubt change over time. Another convention is the differences in the home page and the other informational pages within the site. The home page is the most important page on any website, getting more views than any other page (Nielsen & Tahir, 2002). Designers should understand the differences and needs of the users for both of these page layouts.

## Navigation

The concept of navigation covers a broad spectrum of concepts described in the current literature. Eismann, McClelland, and Stone (2000) describe the navigation structure as a framework for providing viewers the information required to know where they are and a method of getting where they want to go. In addition, navigation quickly becomes intuitive when you use consistent treatment, placement, weight, and behavior of navigation web elements. Navigation is a goal-centered and action-oriented activity that revolves around the user experience. A navigation system should be easily learned, consistent, provides visual feedback, appear in context, offer alternatives, and provide an economy of action and time (Fleming, 1998). Nielsen (2000) defines navigation as the basic user interface by which users click on navigation links or icons in order to move around the site. Navigation in this context should be able to answer the questions:

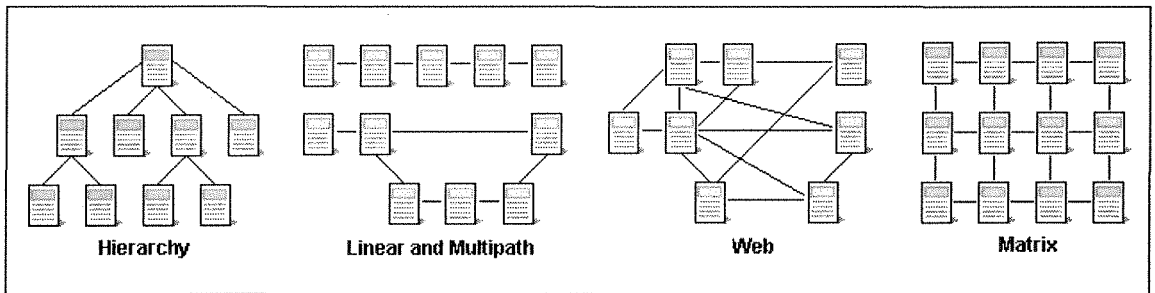
- Where am I?
- Where have I been?

- Where can I go?

A solid navigation structure is important since it is easy for users to get lost in web applications because there is less structure than in other applications. Page design can help a user keep track of where they are. As a best practice, Meehan and Shubin (1997) indicates that the use of clear and consistent navigational aids like page names, logos, banners, icons, background color act as visual clues for the user. Morville and Rosenfeld (1998) published:

“The foundation of almost all good information architectures is a well-designed hierarchy. In this hypertext world of nets such a statement may seem blasphemous, but it’s true. Hierarchy is ubiquitous in our lives and informs our understanding of the world in a profound and meaning way.”

A web application is a series of nodes that are linked together. These web applications can also be linked together and the combination of all of the web network nodes make up the World Wide Web (WWW). Within the web environment, four key information structures exist. Figure 1 provides an example of each of these structures.



**Figure 1.** Major Types of Information Structures

The hierarchy structure is by far the prevalent structure on the web. The reason for this is because human beings naturally order their world by establishing categories and subcategories (Farkas & Farkas, 2000). The navigation system should be constructed in order to replicate this structure and provide a cognitive approach to the information architecture defined within the web. A navigation scheme that works should be consistent. Users rely on the navigation framework will begin to predict the location of the navigational elements and performance will improve over time (Fleming, 1998)

### *Web Style*

A web style guide is a collection of principles, guidelines, and conventions brought together into a single medium and presents a consistent look and feel (Ohnemus, 1997). Although style has a history in the documentation field, in this context the researcher will be focusing on the formatting, structure, graphics, color, and fonts. These are some of the broad categories defined by Forsythe, Grose, and Ratener (1996). The objectives of a style guide are to promote visual and functional consistency, promote good design practice, and reinforce the organizational brand (Gale, 1996). The Cascading Style Sheet (CSS) is one of the technologies on the web that helps to enforce a certain style.

Although HTML encompasses font and layout, keeping the level of consistency needed in good design is difficult. The CSS is a powerful tool for specifying how the content should look. For example, the CSS can specify the size, margin, font, and type for header text (Veen, 2001). This look and feel for the header text will be consistent throughout the site unless overridden by a browser or the HTML code. Style sheets have two main advantages over HTML only based applications. First, CSS separates the content from the design. The content markup reflects the logical structure of the information and the style sheet provides the presentation instructions. Second, the style sheet provides efficient control over large document sets (Horton & Lynch, 1999).

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- Does the graphic highlight a feature on the page and does the graphic draw the attention of the user?
- Does it make a feature more usable, for example, illustrating how to use a specific function or color combination?
- If associated with content, does the graphic enhance the user's understanding, similar to the way photos are used in articles?
- Does it reinforce the brand?

If the image does not fit in these criteria then the graphic should be removed in order to increase the download speed. Good design and usability indicates that images should be reused where appropriate, sized based on function, and alternative text-only methods of access provided (Siegel, 1997).

## **Trusted Seals**

The idea of the development of trusted seals is to provide consumers with a trusted third party view of an institution. The third party view provides consumers with a methodology of developing institution-based trust (Chervany, Cummings, & McKnight, 1998). Several Internet services have emerged on the Internet that can enable trust. These services include BBBOnline Privacy, BBBOnline Reliability, TRUSTe, and WebTrust (Wakefield, 2001). The Council of Better Business Bureaus Inc. established the two "BBB" seals to enhance consumer confidence while engaging in online transactions. These programs require that organizations adhere to the following policies found on the BBBOnline website (2002):

- Become a member of the Better Business Bureau where the company is head quartered;
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- Be in business a minimum of one year;
- Have a positive complaint handling record with the BBB;
- Agree to participate in the BBB's advertising self-regulation program and correct or withdraw online advertising when challenged by the BBB and found not to be substantiated or not in compliance with BBB's children advertising guidelines;
- Respond promptly to all consumer complaints; and
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Each organization that uses the seal must follow a code of ethics that covers advertising, disclosure, information practices, security, customer satisfaction, and special provisions to protect children.

WebTrust was developed by the American Institute of Certified Public Accountants. The purpose of this service is to provide assurance by an independent and objective Certified Public Accountant (CPA) and inform consumers that a website is safe and reliable (Portz, 2000). In order to present the WebTrust seal organizations must provide business practice disclosure, proof of transaction integrity, and information protection for the consumer. Examples of business practices that should be disclosed include order fulfillment, delivery, refund policies, and contact information. Transaction integrity is designed to ensure that orders that are taken over the web are delivered and billed correctly. The primary purpose of this function is the accuracy and completeness of the order process. The information protection ensures that consumer's information is kept confidential and only used for legitimate purposes. TRUSTe is a privacy seal that contains standards designed to protect consumers from problems related to products and services. The Consumer and Business Affairs of Victoria (2002) indicate the core elements of TRUSTe include the following:

- Notice - Websites displaying the TRUSTe seal must display a notice indicating what personal information is being gathered and with whom it is shared. This notice must be easy to read and be accessible by one mouse click from the home page.
- Choice - Users must have the ability to choose whether to allow the secondary use of that personal information.
- Access - Users must have reasonable access to information that may be held about them to correct inaccuracies.
- Security - The site must provide reasonable security to protect data that is collected.

Although several other seals exist, these are the primary ones present on the Internet today. The question remains if seals are an effective assurance to trust and if online users actually notice the seals and understands their meaning. Portz (2000) indicates that 94%

of the participants noticed the WebTrust seal in her research. In addition, 83% of the participants actually drilled down on the WebTrust logo to learn more. Nieschwietz (2001) indicates that web assurance seals provide a limited influence on the subject's perceptions of the provider's attributes. Wakefield (2001) states that web assurance seals are significantly related to the trust developed for an organization. However in a survey done at Princeton University (2002), only 19% of respondents said that seals were very important in the formation of trust.

### *Contact Information*

In a recent study done by the Princeton Survey Research Associates (2002), 81% of the respondents indicated that it is very important for organizations to provide email address, street address, and phone number in the development of trust. Users need to believe that if they have problems, they will have the opportunity to speak to someone to resolve the problem quickly. A retailer's willingness to rectify any problem arising from customer satisfaction and honor its commitments can be presented to the user as visual cues. Traditional but familiar communication systems like faxes, phone numbers, and physical address indicate that the product line is backed up by a viable fulfillment facility (Ang, Dubelaar, & Lee, 2001). Egger and Shelat (2002) identify information content as the most important contributor to trust in an online environment. Over a third of the respondents indicated that information like company address, phone, staff, and policies are critical in the development of trust. The web should serve as a strategic information center for the organization. Key information, such as physical locations, key agents, new products, and services should be posted on the site as well. The content will build the customer's knowledge of the company and provide a level of relationship management for the organization (Gilbert, Powell-Perry, & Widijoso, 1999).

### *Privacy Policy*

One of the biggest fears consumers have with the electronic commerce is the fear of divulging their personal data. Control over the secondary use of personal information continues to be one of the main barriers of Internet commerce (Hoffman, Noval, & Peralta, 1999). This concern of privacy is a major trust issue for consumers. Information provided on the basis of a purchase must be protected and stay as a matter of privacy (Ahuja, 2000). Shneiderman (2000) provides the following guideline around the principle of ensuring trust.

“Make the it easy to locate, read, and enforce policies involving privacy and security. Although privacy policies are widespread, some are so difficult to find and incomprehensible to read that they only undermine trust. Good policies are enforceable and verifiable, so consumers can be assured that implementation matches the promise. Expectations are rising rapidly as consumers become informed. Therefore, well-designed policy statement accompanied by reports on effective enforcement will distinguish some websites. When violations occur, prompt action is expected.”

The key to this strategy is to only collect the information required to perform the business function. If a user is requesting an email notification of upcoming sales, then there is no reason asking for the home address.

### *Pricing Policy*

The Princeton Survey Research Associates (2002) identified six key factors in choosing an electronic commerce site. The number one issue was the identification of all fees that you will be charged for ordering a particular product. The costs would include the product, shipping, transaction fees, and handling fees. Any web-based system should provide the perceived utility of the products and services of the company in relation to the total cost of obtaining them. Besides general information, information on price such as room rate, price range, and price comparison should be provided (Gregoire, Jeong, & Oh, 2001).

### *Order Fulfillment*

One of the most important elements of trust development is fulfillment. Since the basics of trust are developed over time, it stands to reason that organizations that can provide an overview of the ordering process will have a higher propensity to trust than those that do not provide this information. Trust is earned by meeting the expectations and as small commitments are met, consumer confidence grows in the belief that the organization will fulfill larger expectations (Qualls, Sultan, & Urban, 2000). Reichheld and Schefter (2000) indicate that trust comes down to simple customer service basics. Providing information on the quality of customer service, product presentation, and simple instructions on how the ordering process works will provide a solid base of the enablement of trust.

One of the most referenced research studies in electronic commerce and trust is the Cheskin Research Study (1999). The authors indicate that order fulfillment is one of the most important components of building online trust. The order fulfillment function clearly indicates how orders will be processed and provides information on how to seek recourse if there are any problems is crucial to the definition of trust.

### *Product Availability and Information*

Shneiderman (2000) discusses the concept of accelerating action by clarifying responsibility. As soon as a user begins the process of investigating the purchase of a product or service, the website should begin to address the emerging resistance by clarifying the responsibilities and obligations. A well-designed website should provide meaningful descriptions of products and a comprehensible process for checking the availability of the product. Any organization on the web must engender belief in the information. The information should always be accurate and complete as possible. Sites that ask a user to make a purchase should provide all of the information needed to make an informed decision to purchase or not. Information like product specifications, prices, in-stock availability, and delivery times is critical to building on the initial trust developed between the user and the organization (Qualls, Sultan, & Urban, 2000).

### *Locality*

The process of adding business partners to the design of a web application is described as building a virtual community. The challenge is to develop a meaningful community, composed of relationships that create a sense of loyalty to the web application. This



community creates a personal involvement for the end-user, which in turn increase the involvement a company may have in the purchase decision (Chaudhury, Mallick & Rao, 2001). In the lodging industry, the term "locality" is used to describe the additional business partners an organization can add to the website in order to provide a complete list of services. For example, the Prescott Hotel in San Francisco, California, provides a link on their website called "Our Neighborhood". The hotel describes some of the local amenities that are within walking distance to the hotel. The King and Prince Resort located in St. Simons, Georgia, provides a large collection of local businesses that range in services from kayak rental to fishing charters. Adding a flavor of locality can enhance the user experience and in turn increase the usage of the website. Dayal, Landesberg, and Zeisser (1999) created a pyramid of trust, where the final stage of trust development was the collaboration between the consumer and the business. Trust is nurtured when the organization encourages customers to contact and provides the means to contact other related businesses.

Organizations like Travelocity and Expedia understand the concept of locality and they have integrated this concept into their service offering. Travelocity offers air, lodging, car rental, and local attractions via the vacation planner. Value-chain integration means that an organization's business system can no longer be confined to the internal process or business offerings (Papazoglou & Yang, 2000). Several research articles advocate the development of a Destination Management System (DMS). A DMS supports the development of a horizontally, vertically, and diagonally integrated destination by providing information, facilitating the reservation process, and supporting transactions for the entire tourism region (Dargan & Prosser, 2001). Insufficient destination information may make a hotel seem like an island. Very few sites have relevant content to help the leisure traveler truly plan a trip (DeMoulin, Harteveltdt, McCarthy, & Wakeman, 2000).

### **Model Utility**

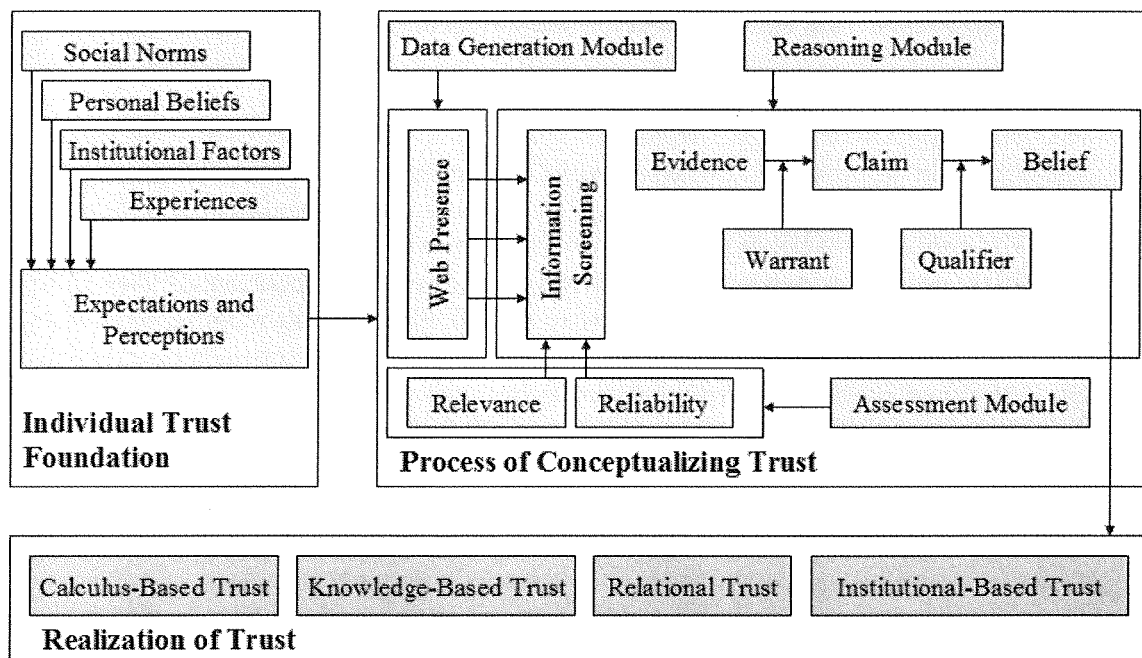
The TEB model will primarily be used to guide online developers in delivering key small hotel business utility along with the development of trust. These core elements allow the web developer to stay focused on the needs of the business. The research study that will utilize this model will attempt to prove the relationship between the development of trust and the visual design elements.

## Appendix L

### Trust Model Overview for SME Review

#### *Trust Model*

By R. Todd Stephens



The trust model can be broken down into three key areas. The first area is the establishment of an individual's foundation or propensity to trust. Each and every person has different experiences and beliefs to draw upon in the process of establishing this foundation. This section of the model is developed from the Bhattacharya, Devinney, & Pillutla (1998) "Integrated Model of Trust Formation". The social norms and opinions of certain reference groups have a powerful influence on the formation of individual's specific and general expectations of trust. In addition, the reputation of the institution will influence these perceptions or expectations of trust.

The second section of the model is designed from the "Trust Conceptual Framework" by Benson, Curley, and Smith (1991). The process begins in the data generation module. This module describes the web based information that is retrieved by the visual aspects of the online environment. A customer screens the inputs by the reliability and the relevancy of the information in order to develop evidence to move forward in the model. Individuals must be able to evaluate information based on reliability, relevancy, and authenticity in order to assess the credibility and usefulness of the information itself (Karvonen & Nikander, 2000).

This screening process filters the data generated and the data actually used to construct the argument or case for trustworthiness. The screening process begins the reasoning module, where the ultimate goal is to support or disprove a trusting belief. The evidence process is the assimilation of observed and perceived information that is gathered through the screening process. The warrant process can be described as the process of taking an observation and making a judgment or leap to a claim. The final step in the process is to take the claims and attempt to pull these emotions, visual cues, and observations into a belief. For this research the belief is that the person, organization or object is trustworthy. To say that someone is trustworthy is to say they are “worthy of trust” (Flores & Solomon, 1998).

The third section of the model describes the four basic types of trust that can be developed in the online environment: calculus-based trust, knowledge-based trust, relational trust, and institutional-based trust. Calculus-trust is based on the idea of rational choice between the two trusting parties (Edvardsson, Gustafsson, & Skalen, 1999). This type of trust focuses on the individual doing what they say they are going to do for which they are rewarded or punished. Failure to deliver on the promises or expectations of the other party will produce a form of punishment or a curtailment of future contracts. This type of trust is more sensitive to the market-based exchanges than the emotional responses that cannot be calculated (Searle & Wilson, 2002). The calculus-based trust will question management incentives, deterrents, policies, formalities or an organizational structure that could suggest increasing or decreasing predictability for the actions of the other party (Herting, 2002).

An example of calculus-based trust can be found in the client-vendor relationship. The client executives trust and cooperate with vendor communities based on the expectation of structural controls, penalty clauses, business reputation, and the fear of losing the business to control the relationship. The vendor also has expectations of trust based on calculated factors like late payments, contracts, and future engagements. Some researchers indicate that this type of trust is based on fear rather than a desire to build a trusting relationship (Sitkin & Weingart, 1995). However, trust can be built and subsequently maintained because of the cost to repair the relationship or the damage the organizational or personal reputation. This fact will push a party to act in the best interest of the relationship.

Knowledge-based trust is based on the predictability created through information collected between parties (Sabherwal, 1999). This is the most common form of trust in business as well as personal relationships. Over time, numerous interactions with the other party and our knowledge of them lead us to associate a certain level of trustworthiness (Couturier, Hacker, & Israel, 2000). Factors that can influence the knowledge-based trust include information gathering, product evaluation, strategic planning, perceptions of stability, communications, frequency of interactions, and other climate factors (Herting, 2002).

The third type of trust is commonly referred to as relational trust. Trust is a dynamic fluctuation from a calculus-based emotion to a relational emotion that is impacted by

institutional support and control mechanisms (Feldheim & Liou, 1999). Information availability forms the basis of relational trust. Reliability and dependability of the information as well as the interactions with the trustor has an impact on the relational trust (Burt, Camerer, Rousseau, & Sitkin, 1998). In relational trust, the formation process takes time based on the required interactions between the two parties. This is different than calculus-based trust, which can be defined over a short period of time based on visual information (Edvardsson, Gustafsson, & Skalen, 1999).

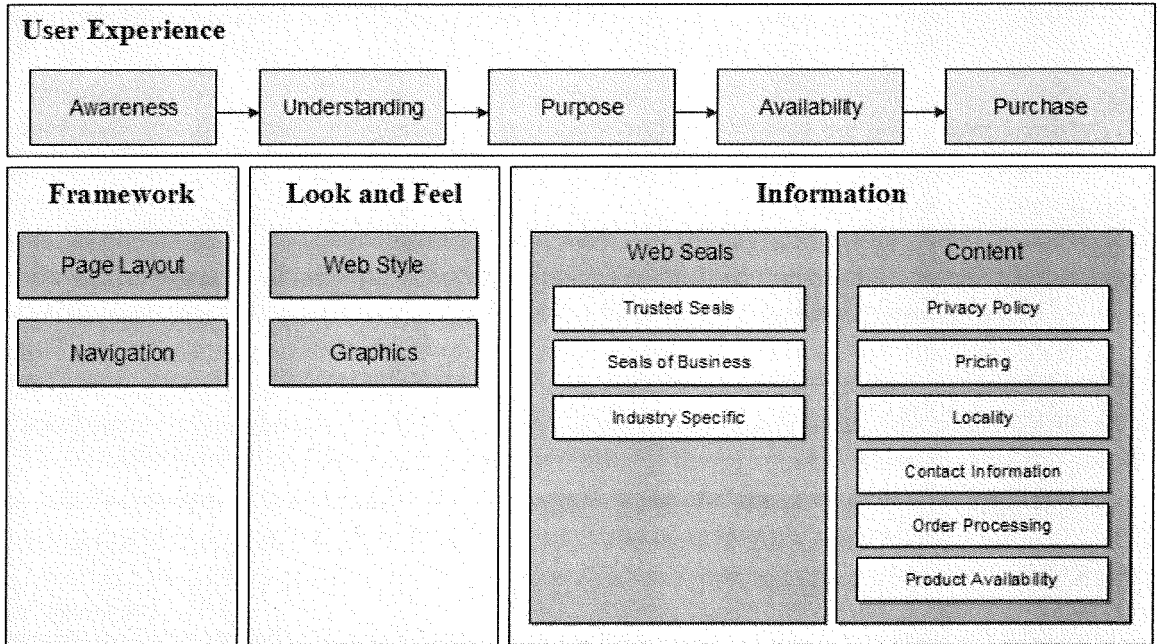
Institutional-based trust is based on one's belief in other members of the organization. This type of trust is also referred to as deterrence-based trust which eases the formation and maturity of the other three types. Based on the research, one's confidence in knowing that the reputation of the other party matters will then permit the relationship to form and mature (Burt, Camerer, Rousseau, & Sitkin, 1998).

## Appendix M

### Design Element Model Overview for SME Review

#### *Design Element Model*

By R. Todd Stephens



The design element model is broken into two main sections. The top section describes the process that an Internet user experiences during their visit to a web site and was originally developed by Bowman and Willis (2002). The lower section describes the basic role of the design elements as described within the framework, appearance and information model.

#### **User Experience Process**

##### *Awareness:*

Before any electronic commerce can happen the customer must be made aware of the web site. This awareness may be created through advertising mediums, distribution channels or technologies like search engines and portals. Once the site is found, additional efforts must be taken into account to push the business functions to the forefront of the user. Essential business functions like the availability process must be easily found by every user.

##### *Understanding:*

From the initial home page, the customer must be able to determine exactly at what type of site they are looking. The site must have instantaneous recognition as a hotel as well as the location of service. Hotel sites that load banner ads at the top of the page run the

risk of confusing the customer into thinking they are located at a portal type site instead of a local business.

*Purpose:*

The main purpose of the hotel site is to sell accommodations. The site must provide the required information that supports the needs of the user in order to make an informed decision on the nature of the business. The actual reservation process does not need to be online, but the customer must be informed on how the reservation process works. This may include a local or 800 phone number.

*Availability:*

Once the customer has considered the products and services of the hotel, availability becomes a key point. The availability and reservation process is one of the first opportunities a hotel has to interface with the customer. The impression of this process can set the stage for the perception a guest may feel throughout the process. Reservations refer to the process of holding accommodations for future guests (Dittmer, 2002). Quan (2001) indicates that reservations are used through out the hospitality industry to eliminate customer uncertainty about the price and availability of the desired service.

*Purchase:*

The ultimate goal of the online experience is to sell the product. In the case of the small hotel, the product is a reservation. The design, style and features of a web application must support the user and gently nudge them toward making a reservation.

**Framework**

The framework that the web application is built upon is very important to the logical flow of business utility. Page layout and navigation structures are the two primary design elements that fit into this category.

## **Page Layout**

The page layout is the visual presentation of the web page by means of background color, white space, horizontal and vertical scrolling, font size, color combinations, and other design elements (Becker & Mottay, 2001). Graphical layout is a prime consideration in the design of a functional website. Designers must consider the font size and placement, scrolling versus hypertext linkage, sentence and paragraph lengths, and several other factors that are logically integrated into a structure (Palmer, 2002). Page layout is one of the strongest contexts used by designers today. These layout-based contexts have grown or evolved based on the experience of web designers and the current user base (Veen, 2001).

The majority of web pages can be broken down into the parts that make up the screen real estate. Nielsen (2000) indicates that the content of a web page should take up to around 80% of the screen real estate while the navigation structure should be around 20%. Nielsen's description is at a very high level, by breaking down the contents of a page

design we can see that the designer has many other elements to contend with. Table 1 provides a list of the most common elements used by today's designers.

**Table 1: Web Page Breakdown**

Category	Description
Actual Content	Information contained in the page.
Brand Related	Logo, tag line, and other items used to promote the brand or company.
Navigation	Links, search, and other tools used to jump from page to page.
Tool and Utility	Date, time, sign in, are examples of tools used within the site to aid the user.
Advertising	Advertising are elements to promote other products
White Space	Space that is not used within the page.

Table 2 does not cover every possible element, but the vast majority of elements will fall into one or more of these categories. The web designer's ultimate role is to place these elements into a page layout that works for the first time user, intermittent, and frequent users of the website. Shneiderman (1997) provides a clear understanding of the importance of design on these three categories of users.

“First-time users need an overview to understand the range of services and to know what is not available, plus buttons to select actions. Intermittent users need an orderly structure, familiar landmarks, reversibility, and safety during exploration. Frequent users demand shortcuts or macros to speed repeated tasks, compact in-depth information, and extensive services to satisfy their varied needs.”

By structuring a web page into a familiar convention, the user will be able to scan the information more easily and faster. Every publishing medium develops conventions and continues to refine them and even develop new ones over time. The web already has several conventions derived from newspaper and magazine standards (Krug, 2000). Generally speaking, the top section of a web page is used for branding and site navigation. The left-hand side navigation section is also used to provide the user a more detailed navigation structure than can be provided within the top sections. The use of a blue font color and underlining for external links is a convention that most web pages use. These are a few of the page layout conventions used today and with the newer technologies and additional designers these will no doubt change over time. Another convention is the differences in the home page and the other informational pages within the site. The home page is the most important page on any website, getting more views than any other page (Nielsen & Tahir, 2002). Designers should understand the differences and needs of the users for both of these page layouts.

## Navigation

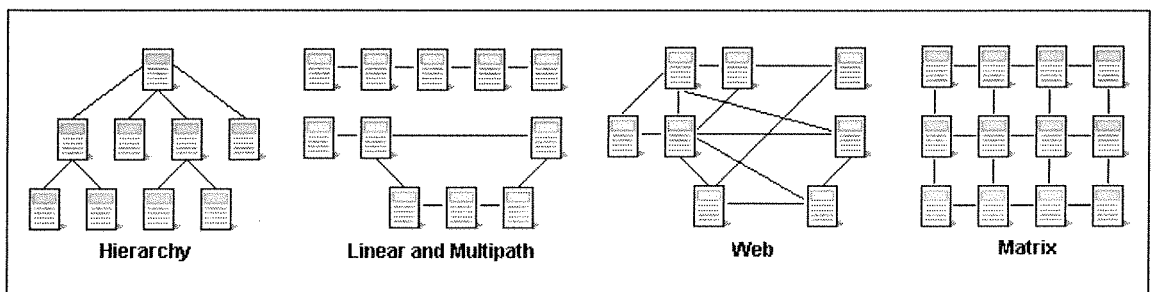
The concept of navigation covers a broad spectrum of concepts described in the current literature. Eismann, McClelland, and Stone (2000) describe the navigation structure as a framework for providing viewers the information required to know where they are and a method of getting where they want to go. In addition, navigation quickly becomes intuitive when you use consistent treatment, placement, weight, and behavior of navigation web elements. Navigation is a goal-centered and action-oriented activity that revolves around the user experience. A navigation system should be easily learned, consistent, provides visual feedback, appear in context, offer alternatives, and provide an economy of action and time (Fleming, 1998). Nielsen (2000) defines navigation as the basic user interface by which users click on navigation links or icons in order to move around the site. Navigation in this context should be able to answer the questions:

- Where am I?
- Where have I been?
- Where can I go?

A solid navigation structure is important since it is easy for users to get lost in web applications because there is less structure than in other applications. Page design can help a user keep track of where they are. As a best practice, Meehan and Shubin (1997) indicates that the use of clear and consistent navigational aids like page names, logos, banners, icons, background color act as visual clues for the user. Morville and Rosenfeld (1998) published:

“The foundation of almost all good information architectures is a well-designed hierarchy. In this hypertext world of nets such a statement may seem blasphemous, but it’s true. Hierarchy is ubiquitous in our lives and informs our understanding of the world in a profound and meaning way.”

A web application is a series of nodes that are linked together. These web applications can also be linked together and the combination of all of the web network nodes make up the World Wide Web (WWW). Within the web environment, four key information structures exist. Figure 1 provides an example of each of these structures.



**Figure 1.** Major Types of Information Structures

The hierarchy structure is by far the prevalent structure on the web. The reason for this is because human beings naturally order their world by establishing categories and



subcategories (Farkas & Farkas, 2000). The navigation system should be constructed in order to replicate this structure and provide a cognitive approach to the information architecture defined within the web. A navigation scheme that works should be consistent. Users rely on the navigation framework will begin to predict the location of the navigational elements and performance will improve over time (Fleming, 1998)

### **The Look and Feel Section**

The look and feel of the site can really have an impact on the user from a usability standpoint. The level of consistency can define by how well this section is put together.

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### **Information Section**

The information section defines how the content and trusted seals are used to reinforce the business functionality.

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### *Privacy Policy*

One of the biggest fears consumers have with the electronic commerce is the fear of divulging their personal data. Control over the secondary use of personal information continues to be one of the main barriers of Internet commerce (Hoffman, Noval, & Peralta, 1999). This concern of privacy is a major trust issue for consumers. Information provided on the basis of a purchase must be protected and stay as a matter of privacy (Ahuja, 2000). Shneiderman (2000) provides the following guideline around the principle of ensuring trust.

“Make the it easy to locate, read, and enforce policies involving privacy and security. Although privacy policies are widespread, some are so difficult to find and incomprehensible to read that they only undermine trust. Good policies are enforceable and verifiable, so consumers can be assured that implementation matches the promise. Expectations are rising rapidly as consumers become informed. Therefore, well-designed policy statement accompanied by reports on effective enforcement will distinguish some websites. When violations occur, prompt action is expected.”

The key to this strategy is to only collect the information required to perform the business function. If a user is requesting an email notification of upcoming sales, then there is no reason asking for the home address.

### *Pricing Policy*

The Princeton Survey Research Associates (2002) identified six key factors in choosing an electronic commerce site. The number one issue was the identification of all fees that you will be charged for ordering a particular product. The costs would include the product, shipping, transaction fees, and handling fees. Any web-based system should provide the perceived utility of the products and services of the company in relation to the total cost of obtaining them. Besides general information, information on price such as room rate, price range, and price comparison should be provided (Gregoire, Jeong, & Oh, 2001).

### *Order Fulfillment*

One of the most important elements of trust development is fulfillment. Since the basics of trust are developed over time, it stands to reason that organizations that can provide an overview of the ordering process will have a higher propensity to trust than those that do not provide this information. Trust is earned by meeting the expectations and as small commitments are met, consumer confidence grows in the belief that the organization will fulfill larger expectations (Qualls, Sultan, & Urban, 2000). Reichheld and Schefter (2000) indicate that trust comes down to simple customer service basics. Providing information on the quality of customer service, product presentation, and simple instructions on how the ordering process works will provide a solid base of the enablement of trust.

One of the most referenced research studies in electronic commerce and trust is the Cheskin Research Study (1999). The authors indicate that order fulfillment is one of the most important components of building online trust. The order fulfillment function clearly indicates how orders will be processed and provides information on how to seek recourse if there are any problems is crucial to the definition of trust.

### *Product Availability and Information*

Shneiderman (2000) discusses the concept of accelerating action by clarifying responsibility. As soon as a user begins the process of investigating the purchase of a product or service, the website should begin to address the emerging resistance by clarifying the responsibilities and obligations. A well-designed website should provide meaningful descriptions of products and a comprehensible process for checking the availability of the product. Any organization on the web must engender belief in the information. The information should always be accurate and complete as possible. Sites that ask a user to make a purchase should provide all of the information needed to make an informed decision to purchase or not. Information like product specifications, prices, in-stock availability, and delivery times is critical to building on the initial trust developed between the user and the organization (Qualls, Sultan, & Urban, 2000).

### *Locality*

The process of adding business partners to the design of a web application is described as building a virtual community. The challenge is to develop a meaningful community, composed of relationships that create a sense of loyalty to the web application. This community creates a personal involvement for the end-user, which in turn increase the involvement a company may have in the purchase decision (Chaudhury, Mallick & Rao, 2001). In the lodging industry, the term “locality” is used to describe the additional business partners an organization can add to the website in order to provide a complete list of services. For example, the Prescott Hotel in San Francisco, California, provides a link on their website called “Our Neighborhood”. The hotel describes some of the local amenities that are within walking distance to the hotel. The King and Prince Resort located in St. Simons, Georgia, provides a large collection of local businesses that range in services from kayak rental to fishing charters. Adding a flavor of locality can enhance the user experience and in turn increase the usage of the website. Dayal, Landesberg, and Zeisser (1999) created a pyramid of trust, where the final stage of trust development was the collaboration between the consumer and the business. Trust is nurtured when the organization encourages customers to contact and provides the means to contact other related businesses.

Organizations like Travelocity and Expedia understand the concept of locality and they have integrated this concept into their service offering. Travelocity offers air, lodging, car rental, and local attractions via the vacation planner. Value-chain integration means that an organization’s business system can no longer be confined to the internal process or business offerings (Papazoglou & Yang, 2000). Several research articles advocate the development of a Destination Management System (DMS). A DMS supports the development of a horizontally, vertically, and diagonally integrated destination by providing information, facilitating the reservation process, and supporting transactions

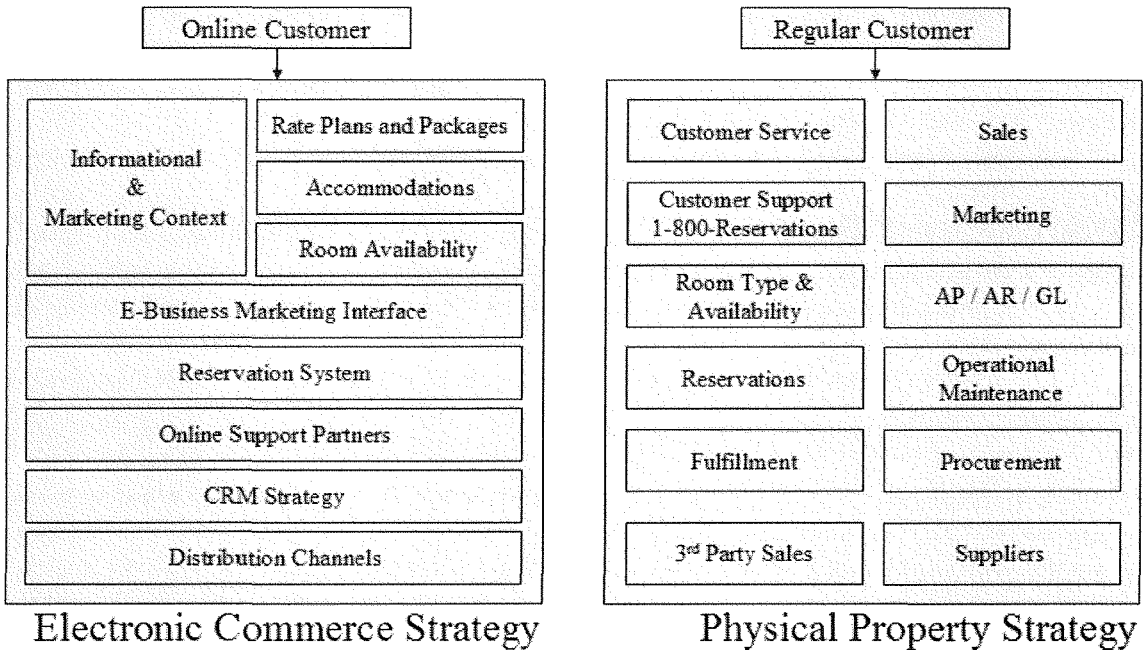
for the entire tourism region (Dargan & Prosser, 2001). Insufficient destination information may make a hotel seem like an island. Very few sites have relevant content to help the leisure traveler truly plan a trip (DeMoulin, Harteveltdt, McCarthy, & Wakeman, 2000).

## Appendix N

### Electronic Commerce Model Overview for SME Review

#### *Electronic Commerce Model for the Small Hotel*

By R. Todd Stephens



The electronic commerce model for the small hotel is broken into two main sections. The section on the right describes the physical environment of a small hotel without the use of electronic commerce. The section to the left describes several of these business functions as they are applied to the online environment.

#### **Physical Property Strategy**

All small hotels will have some form of the following business functions embedded in their overall strategy.

##### *Customer Service and Customer Support:*

The customer facing operations include customer service representatives like reservationists, waiters, and customer support personnel. The function of this group is to develop and deliver the guest experience. The guest experience can be defined as the summation of the service product, service setting, and the service delivery system (Ford & Heaton, 2000). In large part, these entities help define the overall experience for the customer and provide an ability of the hotelier to differentiate themselves from the other hotels within the area.

##### *Reservations, Order Fulfillment, Room Type and Availability:*

The availability and reservation process is one of the first opportunities a hotel has to interface with the customer. The impression of this process can set the stage for the perception a guest may feel throughout the process. Reservations refer to the process of holding accommodations for future guests (Dittmer, 2002). Quan (2001) indicates that reservations are used through out the hospitality industry to eliminate customer uncertainty about the price and availability of the desired service. A reservation can fall into three categories. A guaranteed reservation is reserved with a credit card or some other payment before the check-in process. A walk-in customer does not actually make a reservation but rather takes an immediate purchase of the product. A regular reservation is not paid in advance and the room is only held for a specific time period (Weissinger, 2000). The reservation system allows the hotel operator to access the inventory of room availability for a specific unit and time period. Once a reservation is made the system immediately updates the inventory and ensures the room is not promised to another customer. In addition to providing information and reservations, the front office provides check-in and check-out services. This process may be the first time the customer comes face-to-face with the service provider. The check-in process involves securing payment, assigning rooms, collecting customer information, providing keys, and other informational exchanges. The check-out process is simply securing additional payments, room inspections, and collecting feedback from the customer (Dittmer, 2002).

Yield management is a term used to describe the process of getting the most revenue out of the available rooms. The hotel industry is an ideal industry for implementing yield management due to low variable costs, high fixed costs, on-hand perishable inventory, variable demand patterns, and ability to forecast future demands (Cross, Hanks, & Noland, 2002). It is based on the economics of supply and demand, which means that prices drop when demand is weak and rise when demand is strong. The purpose of the yield management is to increase the profitability of the hotel. Hotel management would like to sell every room at the highest rack rate. However, most rooms are sold with some sort of a discount on the rack rate (Walker, 2001). Another aspect of the pricing strategy is the physical location, property shape, and immediate competition. These factors shape the pricing strategy, which impacts the yield of the rooms (Weissinger, 2000).

#### *Sales, Marketing and 3<sup>rd</sup> Party Sales:*

The promotion function is the process of sales, marketing, branding and promotion of the hotel. One of the unique properties of the hotel product is that customers generally do not purchase a room for the room itself. The hotel room is simply a means to an end and is generally described as "Derived" demand (Ingram & Medlik, 2000). The business customer is more interested in attending a convention and a holiday traveler is more concerned with the local beach or ski-slope (Ingram & Medlik, 2000). Another aspect of the product is that the hotel room is a time-based product. If the product is not used then the sales are lost for that day. A hotel room has a 24-hour shelf life and cannot generate additional sales once the room inventory is depleted. In addition, the customer must be physically present at the time of fulfillment and the product cannot be stored for future use (Lashley, 2000). The concepts of packaging, promotion, and branding are driven by the product characteristics of the hotel industry.



The basic function of a promotion is to create awareness and stimulate demand. The typical role of marketing can be performed by the use of advertising, brochures, and many other types of promotions. Marketing is not just a sales job, just about everything the customer sees must reflect the brand or image the hotel is trying to establish (Rutherford 2002). These visual cues may include signage, public relationships, amenities, color, and overall design. For example, a hotel located on the beach may select a color scheme that is bright with a fun décor. A beach hotel built in a rustic fashion simply would not fit the beach-oriented culture. Promotions are designed to increase demand and drive the consumer toward a purchase or reservation. However, hotels only have a limited quantity of products and promotions should be designed to entice the customer to purchase early or during periods of time where demand is soft (Dittmer, 2002). Segmentation is part of creating demand and can be described as the process of dividing a market into meaningful groups that have similar needs and wants. Targeted marketing is simply choosing the segments you will go after as a customer base. This may also be described as positioning the product (Morris & Shaw, 2000).

The concept of branding describes the process of combining the product with a collection of services in order to create a holistic perception for the customer. The brand may be described as the name, logo, symbol, identity or trademark. However, a better definition of the brand is one that embodies all for which the business stands. The brand is the hallmark for quality, a promise or assurance of quality that a customer will receive (Dev & Prasad, 2000).

#### *AP/AR/GL, Procurement and Suppliers:*

As with every business, the process of procuring products and tracking that information is critical to the success of the organization. Accounts payable, accounts receivable and general ledger should be used to track the transactions of the business in order to determine what state the business is in at any given moment.

#### *Operational Maintenance:*

Support operations may or may not come into contact with the customer. These activities may include housekeeping, security, laundry, and accounting. One of the most important aspects of the guest experience is delivering a consistent product to the customer. Of the three main activities that impact the customer, none are more important than the housekeeping function. The main function of the housekeeping department is the cleaning and maintenance of the rooms and other areas of the hotel.

#### **Electronic Commerce Strategy**

The general idea of electronic commerce is the ability to move some of the fore mentioned business functions to the online environment. Electronic commerce can be defined as the buying and selling of information, products and services via computer networks (Kalakta & Whinston, 1996). The business value of electronic commerce is derived from three methodologies. First, the business value is derived from improving existing processes within the organization. This can be accomplished through improving product promotion and the development of a new sales channel. Improvements can be

made by reducing costs of processing information or reducing the time to market for a particular product or order. An organization may also see improvements in the customer service offerings by providing 24x7 hours of operation. Second, electronic commerce can transform an organization by changing the way the company communicates with the customer base. Organizations can utilize the Internet to gain knowledge of the user's buying habits, specific target offers and deploying new processes. Finally, organizations can redefine their products and business models to leverage new distribution channels, new products, and fundamentally change the way industry operates (Bloch & Segev, 1996).

#### *Informational and Marketing Context:*

At the most basic level, the online environment allows the customer base to see the promotional materials about the hotel. Information content is defined as the use of Internet technologies to deliver information to the customer relating to company, product description, and product procurement. This information content will enable the "for-value" business transactions required to occur in an online environment.

#### *Rate Plans and Packaging:*

Rate plans and packages can be considered as an informational aspect of the small hotel. However based on the trend toward the commoditization of hotel rooms, owners need to be able to update and package very quickly in order to meet the market needs. Based on this fact, we pull the business function out of the information stack and into it's own area.

#### *Accommodations:*

Providing detail product descriptions are critical to the online environment. The accommodations section allows the viewing of the rooms, facilities, and amenities that would otherwise only be seen with a physical visit to the location.

#### *Availability:*

Shneiderman (2000) discusses the concept of accelerating action by clarifying responsibility. As soon as a user begins the process of investigating the purchase of a product or service, the website should begin to address the emerging resistance by clarifying the responsibilities and obligations. A well-designed website should provide meaningful descriptions of products and a comprehensible process for checking the availability of the product.

#### *Customer Relationship Management (CRM)*

CRM is a business strategy using the Internet to collect, store, and derive value from the customer information. This information can be used to anticipate, understand, and respond to the needs of the customer faster than using traditional methods.

#### *Reservation System*

The online reservation system allows the customer to access the inventory of room availability for a specific unit and time period. This allows the customer to review different accommodations, time periods and pricing plans without the need for a hotel

representative. The online environment can also offer upgrades to higher priced or higher margin rooms at the time of reservation.

#### *Online Support Partners*

In the online world, a small hotel may not be able to provide the entire spectrum of services required. As in the previous section, the online reservation application may be outsourced to another organization. For those organizations that do provide a reservation, a vast majority utilizes a service provider like Pegasus Solutions. Other possible support partners might include local guides, weather reports, maps, and directions from specific locations.

#### *New Distribution Channels*

One of the big advantages of the Internet is that it opens up new distribution channels for the small hotel. Sites like Travelocity, Expedia, and Orbiz provide new opportunities for this industry. Organizations can redefine their products and business models to leverage new distribution channels, new products, and fundamentally change the way industry operates (Bloch & Segev, 1996).

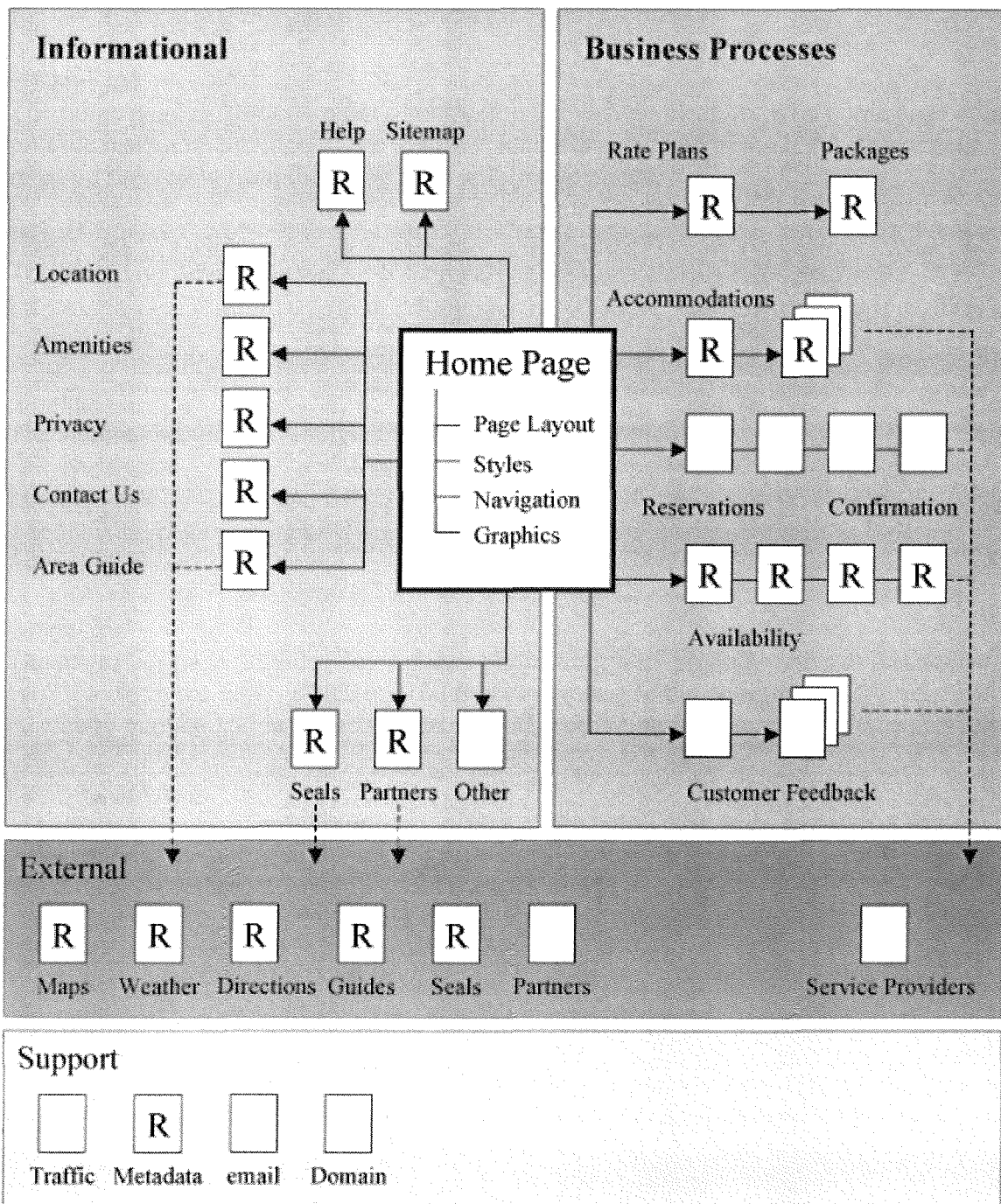
#### *E-Business Interfaces:*

The final area is the e-business interfaces that might allow the small hotel to lower operational expenses. Things like reservation confirmations or itinerary worksheets are ideal information segments to offer customers.

## Appendix O

### Destin Beach Resort Sitemap

The sitemap provides a visual representation of the online environment, which includes web pages, page relationships and business functionality. This section will review the sitemap and provide descriptions of each page within the site.



The basic structure of the sitemap is split into four sections. The informational pages, business processes, external and support pages provide the basic context for the web application. Each section will contain a collection of pages that fit into the category. The pages labeled with an “R will be implemented into the model site for this research.

## **Informational Pages**

The informational pages are basic static in content. They provide the support information for the business process pages described in the next section.

### Home Page

The home page is the main point of entry into the web application. The home page must provide instant recognition of the industry, location and name of the hotel. Every page must be accessible from the home page within two clicks.

### Help

The help page provides users with frequently asked questions as well as contact information for additional help in setting up a reservation, vacation travel or local sites of interest.

### Sitemap

The sitemap provides direct links to all of the pages of the site.

### Location

The location page provides driving directions from main landmarks such as cities or major highways.

### Amenities

The amenities page provides descriptions of the additional products and services that are available from the hotel, which may be free or at a cost to the consumer. All prices will be clearly marked and any brand name amenities may link to an outside service provider.

### Privacy Statement

The privacy page presents the privacy policy of the hotel. The main purpose of the privacy policy is to inform the user of the use of personal information, security policies and the use of certain technologies like cookies or SSL.

### Contact Page

The contact page provides the options to the consumer in order to contact the hotel. The consumer will be provided an online form, phone numbers and the hotel’s address.

### Area Guide

The area guide provides a collection of links to business and attractions within the local area of interest.

### Seals

A page will be dedicated to the collection of trusted seal, awards and ratings that the hotel has earned. The seals will be identified, discussed, and linked back to the home site of the seal producer.

## **Business Functions**

The business functions of the hotel will revolve around product pricing, product availability, product packaging and the procurement process. Some of the business functions may be presented in an informational format while others may be deployed utilizing Active Server Page (ASP) technology. The key distinction between an informational page and a business function page is that information within the business function may change at any point in time.

### Rate Plans

The rate plan business process informs the customer what the room costs. The price can vary for a wide variety of reasons. The simplest model is a two dimensional model that plots the price of the room against the type of room. However, most hotel pricing models are more complicated than this. Table 1 provides a list of other dimensions that could affect the price or create separate pricing plans.

**Table 1: Pricing Factors**

<b>Pricing Factor</b>	<b>Examples</b>
Time of the year or seasonal pricing	Winter, Spring, Summer, Fall
Day of the week	Weekday, Weekend
Location of room	Ocean View, Garden
Number of days required	Daily, Weekly, Monthly
Occupancy	Single, Double, Multiple
Number of rooms required	Single, Adjoining
Packages	Hotel and Air
Prior stay	Returning Guest
Rate range	Specific Amount, Range

Although other factors like sales channel could impact the rate, these focus on the rack rate without special discounts arranged through intermediaries.

For this research site, the pricing model will include the following dimensions: rate packages, seasonal offering, room type, occupancy, rate range, and the prices will reflect a daily rate.

### Product Packages

The product package will constrain one or more of the pricing factors. In addition, the hotel may combine local attractions, travel and other amenities as a purchase package.

For example, the hotel could offer a winter package that includes tickets to a local theater as well as a three-night minimum. This package limits the time of year, days of stay, days of the week and combines products with another service provider.

### Accommodations

Accommodations are basically the product catalog of the rooms available for rent. This catalog can range from a simple page describing the room type to an extensive catalog of the individual rooms, which can be searched or drilled down through a hierarchy style presentation. The accommodation page may contain many of the following elements:

- Room descriptions
- Floor plans
- Square footage
- Room images
- Property map
- Available amenities
- Detailed information like beds, rooms, floor, rates, bathrooms, kitchens, etc.

### Availability

Availability is the business process of cross-referencing the inventory of rooms with the calendar. If another party has not reserved the room and the available days are open and continuous then the room is said to be available for reservation. There may be multiple rooms available and the user may have the option of selecting the specific room or just the category of room. The hotel may want to reserve a percentage of rooms for walk-in customers that are more likely to pay the higher rack rate. This is especially true during periods of high demand.

### *Customer Feedback*

The customer feedback utility can provide a wide variety of utility for the organization ranging from a simple feedback form to a community forum. This research application will provide the feedback form.

### *Reservation Process*

The reservation process includes the process of collecting customer information, processing payments and providing confirmation of the reservation. For this research, the reservation process will not be included.

## **External Service Providers**

External service providers can provide utility that can enhance the web representation of the hotel. One key issue with utilizing an extensive amount of service providers is that linking customers to other sites means that they might not return. This is especially true with local guides where other hotels may have purchased advertising.

### *Maps*

Several service providers, like Yahoo and MapQuest, provide map software that allows the customer to know where the property is located and provide driving directions.

### *Driving Directions*

In the location page, a service was mentioned that the customer could enter their address and produce specific driving directions. This type of utility can be found in the map section or the location section.

### *Weather*

Weather is a very important aspect of a hotel. Several weather sites like weather.com , are available as an external service provider.

### *Local Guides*

Most major cities provide a local chamber of commerce or visitor's bureau that could be linked to the hotel site. The hotel needs to be aware of linking to an official chamber of commerce versus a "portal" type site that attempts to mirror the functionality. These sites are supported by advertising and may tempt the customer not to return to the hotel site.

### *Seals*

As mentioned in the informational section, seals that are presented should be linked back to the hosting site in order to provide additional information on the utility of the seal.

### *Partners and Service Providers*

Partners and service partners provide products that are not directly tied to the hotel. An example would be if the hotel put a package together with an airline, a link should be provided in order to fulfill the order with the partner. Services could range from air travel to equipment rental.

## **Support Utilities**

The online service provider generally provides the support utilities used to enhance the online experience.

### *Traffic Analysis*

Although traffic analysis may have a direct impact on the customer, the analysis could help shape the navigation and flow of the site itself. Therefore, enhancing and improving the customer experience.

### *Metadata*

The metadata provides the information used in the search engines which could position the hotel higher in the result set.

### *eMail*

An online email account provides direct communication with the consumer. In addition, several of the business functions can be moved to the online channel. For example, packages and confirmations can be delivered to the consumer with very little cost by using the email channel.

### *Domain Name*



The domain name is important to establish the brand of the hotel. Sites that end in “.com” and are less than 10 bytes in length are far easier to remember than longer domains.

## Appendix P

### Destin Beach Resort Style Guide

All web pages that represent the Destin Beach Resort and Spa, must comply with the minimum design standards and include essential elements. Within this document, these standards will be described in detail.

The purpose of web page design standards is to:

- Reinforce the hotel's identity
- Provide continuity in web site appearance
- Protect and regulate the use of proprietary Destin Beach Resort and Spa name, logo and graphic devices
- Faithfully represent Destin Beach Resort and Spa to the public

## Page Layout

Each web page will be broken down into five key sections. Figure 1 provides the layout of the basic page structure.

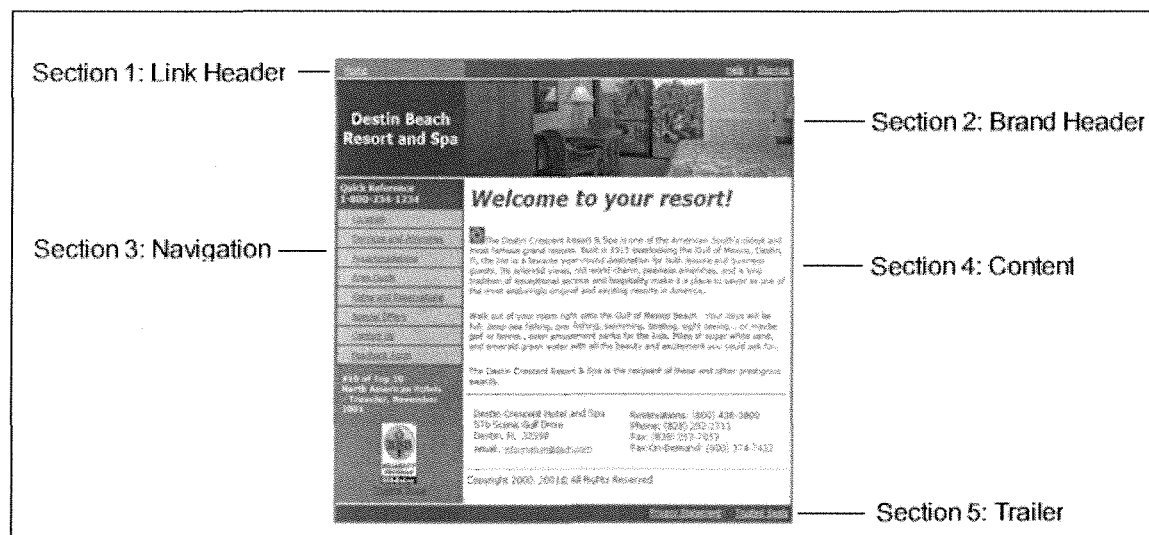


Figure 1: Page Layout Image

Any reference to a particular style can be cross-referenced with Appendix U for the actual CSS style code.

### Section 1: Link Header

The link header section provides the global navigation for the web site. These links provide access to application utility not directly tied to a business function or to the hotel property. There are two areas within the link header section, which can be described as the left and right sub-sections. Figure 2 provides an image of the link header section.



### Section 3: Navigation

The navigation section provides the main point of entry into the online functionality. This navigation section will be placed in the familiar location to the left of the content information. The section will be broken down into three sub-sections. Figure 3 presents an image of the navigation section.

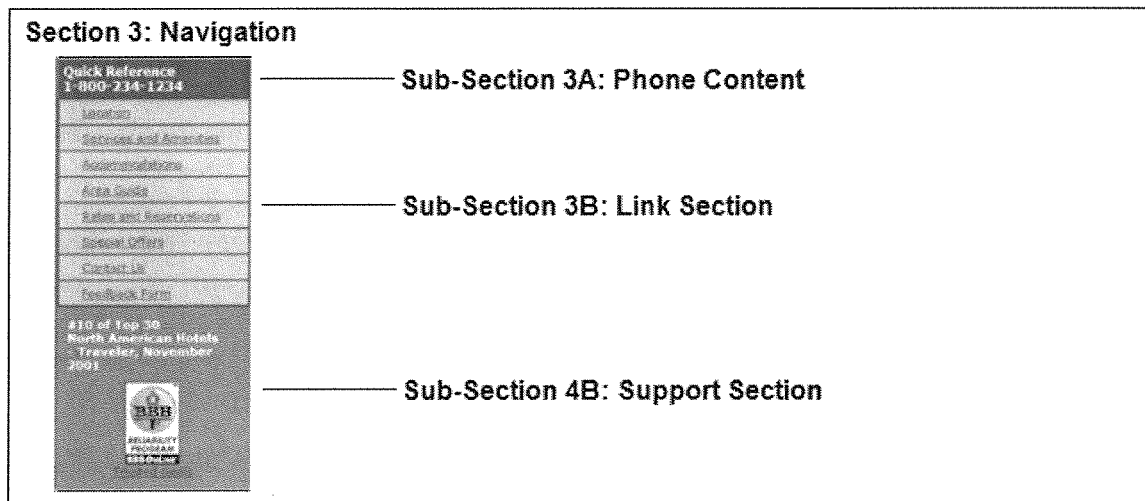


Figure 3: Navigation

#### *Sub-Section 3A: Phone Content*

The top sub-section of the navigation area is dedicated to presenting the user with the 1-800 number for the hotel. As with the branding section, the access phone number needs to be presented to the end user at all times. This section will follow the rules defined in the "PNPhone" class.

#### *Sub-Section 3B: Link Section*

The main link section will follow the rules defined in the "Navtable" class definition. This section will provide a direct "whole" page link to the indicated content page. A "whole link" is defined as a linkage to another page that does not open a separate window or any frame type of implementation. The following links will be presented within this section.

- Location
- Services and Amenities
- Accommodations
- Area Guide
- Rates and Reservations
- Special Offers
- Contact Us
- Feedback Form

### *Sub-Section 3C: Support Section*

The final sub-section is the support section where the hotel can place any supporting information such as trusted seals or service awards. The support section will follow the “PHNormal” class description.

### Section 4: Content Section

The content section provides the main point of communication within the application. While the other sections will remain persistent, the content section will change based on the functional information. With the exception of the home page, all of the subsequent pages will include a link trail indicating how the user traveled to the particular page. The style classes used within this section include: “txtnormal”, “heading5”, “heading6”, “normallink”, “heading1” and “printmsg”. The page can be broken down into four sub-sections which include the content header, content, address, and copyright statement. Figure 4 provides an image of the content section.

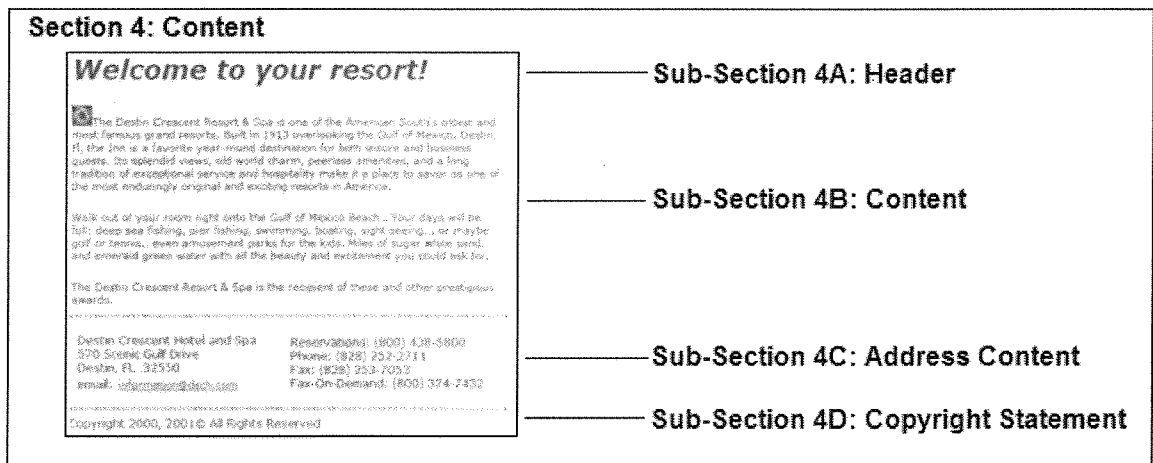


Figure 4: Content Section

### *Sub-Section 4A: Page Header*

The page header will simply indicate the name of the page where the user is located. The only exception is the home page where a welcome message will be presented.

### *Sub-Section 4B: Content*

The main content section will vary from page to page as well as have a mixture of tables, images headers and content.

### *Sub-Section 4C: Address Content*

Each page will contain the contact information for the hotel. Again, the user should be presented with the contact information at all times so that they don't waste time searching for this information. Once the decision is made to make a reservation, the application should ensure the customer has the information needed to make a reservation.

### *Sub-Section 4D: Copyright Statement*

Each page will contain the copyright information.

## Color Palette

Figure 7 provides the current color palette that will be used for the Destin Beach Resort and Spa. These colors will be the primary selection for headers, page sections and lines. Other colors like black and white are used in conjunction with these colors.



Figure 7: Color Palette

## Image Constraints

Figure 8 provides an example header image and the length and width constraints.



Figure 8: Main Image Header Constraints

All header images must conform to the 483 pixels length and 129 pixels in height. In addition, the image must be less than 12k in size. Additional images are limited to not exceed 300 pixels in width and 250 pixels in height. Images should be limited to property views, floor plans and business partners.

## General Rules

The following design rules apply across the board:

- All pages not in a business process should only be two clicks from the home page
- All pages will be developed with CSS technology

## Metadata

All web pages will contain a collection of metadata tags to identify and catalog the information content. There are two basic types of meta tags. The first is the "HTTP-EQUIV" tag that is used as a directive to the browser. The directive might include "en-us" to define the language as English and the United States. The second type of meta tag

is the "NAME" tag. This tag provides the developer a mechanism for documenting the page. This meta tag provides a robust collection of documentation keywords. Table 1 provides a sample of basic tags that will be included into each web page.

**Table 1: Web-based Meta-tags**

---

**Sample Meta-tag.**

---

```
<Title>Destin Beach Resort and Spa: Destin, FL Resort Hotel</Title>
<META NAME= "Description" CONTENT=" The Destin Crescent Resort & Spa is one
of the American South's oldest and most famous grand resorts. Built in 1913 overlooking
the Gulf of Mexico, Destin, Fl, the Inn is a favorite year-round destination for both
leisure and business guests. Its splendid views, old world charm, peerless amenities, and
a long tradition of exceptional service and hospitality make it a place to savor as one of
the most enduringly original and exciting resorts in America.">
<META NAME= "Keywords" CONTENT="destin, florida, hotel, motel, vacation,
ocean, sand, emerald, waters, resort, accommodations, photographs, maps, dining,
shopping, business,, holidays, sights, tourist attractions, sports activities, golf resort,
tennis, snorkelling, scuba diving, wind surfing">
<META NAME= "Title" CONTENT="default.htm">
<META NAME= "Author" CONTENT="R. Todd Stephens">
<META NAME= "Language" CONTENT="en-us">
<META NAME= "Classification" CONTENT="General">
<META NAME= "Distribution" CONTENT="Global">
<META NAME= "Generator" CONTENT="Microsoft FrontPage 5.0">
<META NAME= "Progid" CONTENT="FrontPage.Editor.Document">
<META NAME= "Revisit-After" CONTENT="30-Days">
<META NAME= "Robots" CONTENT="All">
<META http-equiv="Content-Language" content="en-us">
<META http-equiv="Content-Type" content="text/html; charset=windows-1252">
```

---

## Appendix Q

### Variable Calculation Overview

#### Dependent variable

The hypothesis set required the calculation of a trust score resulting from the responses of the participants. Based on the experience of the researchers the following calculation was used to calculate the trust score to be used in the significance test. Table Y provides the questions found in section five of the survey as well as a percentage impact to the trust score from each question.

**Table 1: Trust Calculation**

Trust Related Question	Percentage
I believe that DBH(DCHR) will act with high business standards?	8%
I can count on the people at DBH(DCHR) to behave with high business standards.	8%
I think that DBH(DCHR) can be relied upon to fulfill their obligations to customers 24.	8%
I feel that DBH(DCHR) is dependable.	8%
I feel that DBH(DCHR) will not take advantage of me, if such a situation arises.	8%
I do not think that DBH(DCHR) has ill intentions about any of their customers.	8%
Overall, I trust DBH(DCHR)	20%
How likely would you be to make a reservation on the DBH(DCHR) website?	5%
How would you rate the quality of the DBH(DCHR) hotel?	5%
How confident are you that personal information provided to DBH(DCHR) is used appropriately?	5%
How confident are you that a customers' reservation will be fulfilled as agreed by DBH(DCHR)?	5%
How confident are you that you will be able to access your personal information and alter your reservation at DBH(DCHR)?	5%
How would you rate the risk of engaging in an Internet reservation with DBH(DCHR)?	7%

The responses from the participant community were based on these weights and applied as the dependent variable in each of the significance tests. Question seven was assigned the highest rank based on the fact that this question asks the question of trust directly to the participant.



## Independent Variables

The design elements or independent variables were categorized into a low, medium, or high ranking. Calculated scores below three were considered low and scores above five were considered high. All others were categorized as medium. As with the trust score, the design elements had multiple questions, which resulted in different weights being used to categorize the design element score. Figure 1 provides an image of how the page layout data was categorized and then assembled with the trust score in order to test for significance.

Trust Score	2.36	2.73	4.88	2.93	3.15	4.26	2.38	0.25	3.15
	3.71	0.69	3.61	1.84	4.78	0.09	0.56	2.12	5.36
	0.68	4.39	6.52	3.67	4.17	0.28	5.83	6.10	4.13
	2.35	0.80	1.27	4.83	6.10	5.61	0.17	4.06	6.03
	3.48	5.22	6.11	3.53	1.26	1.40	4.58	1.25	0.75
	0.27	3.59	6.31	5.16	3.51	1.50	3.95	0.79	4.97
	3.36	5.57	3.61	3.91	6.26	4.82	1.68	3.77	3.78
	6.04	1.14	1.65	1.24	4.35	0.46	0.62	3.92	4.83
	0.29	3.91	1.81	6.32	5.30	1.37	6.64	0.72	1.44
	3.32	3.84	5.73	3.71	2.20	0.50	4.29	2.78	5.60
	Low			Medium			High		
	Page Layout								

Null Hypothesis for H1:

H1:  $\mu_{\text{Low Page Layout}} =$   
 $\mu_{\text{Medium Page Layout}} =$   
 $\mu_{\text{High Page Layout}}$

Figure 1: Independent and Dependent Variables

The page layout categorization was based on the results from the following questions and corresponding weights.

Table 2: Page Layout Categorization

Page Layout Related Questions	Percentage
Was the DBH(DCHR) page layout intuitive?	30%
Was the DBH(DCHR) page layout consistent?	40%
The site looked professionally designed.	20%
Was the DBH(DCHR) content easily accessible?	10%

The navigation categorization was based on the results from the following questions and corresponding weights.

Table 3: Navigation Categorization

Navigation Related Questions	Percentage
Was the DBH(DCHR) navigation system intuitive?	40%
The site was Easy/Difficult to navigate?	40%
The site looked professionally designed.	10%
Was the DBH(DCHR) content easily accessible?	10%

The web seal categorization was based on the results from the following questions and corresponding weights.

**Table 4: Web Seal Categorization**

<b>Web Seal Related Questions</b>	<b>Percentage</b>
How familiar are you with web seals like BBBOnline, WebTrust and TRUSTe?	30%
Did you notice a trusted seal on the DBH(DCHR)?	60%
Have ever seen a trusted seal before?	10%

The professional style categorization was based on the results from the following questions and corresponding weights.

**Table 5: Professional Style Categorization**

<b>Professional Style Related Questions</b>	<b>Percentage</b>
Defining web style as the colors, font, size, and overall structure of a website, would you say that the DBH(DCHR) was easy to read?	20%
Defining web style as the colors, font, size, and overall structure of a website, would you say that the DBH(DCHR) was visually pleasing?	30%
Defining web style as the colors, font, size, and overall structure of a website, would you say that the DBH(DCHR) was used a consistent web style throughout the site?	40%

The images categorization was based on the results from the following questions and corresponding weights.

**Table 6: Images Categorization**

<b>Images Related Questions</b>	<b>Percentage</b>
Did the images provided by DBH(DCHR) help in your decision to create a reservation?	40%
Do you think that the web images provide a true picture of DBH(DCHR)?	30%
Do you think that the images were professionally done?	20%

The content categorization was based on the results from the following questions and corresponding weights.

**Table 7: Content Categorization**

<b>Content Related Questions</b>	<b>Percentage</b>
Which of the following sections did you visit at DBH(DCHR)?	60%
Was the information found in Question 49 helpful in your decision to select DBH(DCHR)?	30%
Which of the following sections was the most important in your decision to make a reservation with DBH(DCHR)?	10%

## Appendix R

## Hotel Review Site List

<b>Hotel Name</b>	<b>City</b>	<b>State</b>
The Pickwick Hotel	Birmingham	AL
The Crenshaw Guest House B&B	Auburn	AL
Inn South	Montgomery	AL
Beach Side Resort Hotel	Gulf Shores	AL
The Victoria	Anniston	AL
Hotel Edgewater and Conference Center	Seward	AK
The King Eider Inn	Barrow	AK
The Breakwater Inn	Juneau	AK
The Sitka Hotel	Sitka	AK
Keystone Hotel	Valdez	AK
Arizona Inn	Tucson	AZ
The Sanctuary Inn	Tucson	AZ
Smuggler's Inn Resort	Tucson	AZ
Westward Look Resort	Tucson	AZ
Jacob Lake Inn	Jacob Lake	AZ
The Crescent Hotel	Eureka Springs	AR
Palace Hotel and Bath House	Eureka Springs	AR
Riverview Hotel	Calico Rock	AR
Black Oak Resort	Oakland	AR
Beland Manor Inn	Fort Smith	AR
Gold Bear Inn	Berkeley	CA
Anabella Hotel	Anaheim	CA
Anaheim Royal Pacific Inn	Anaheim	CA
Mt. Shasta Resort	Mt. Shasta	CA
Ventana Inn	Big Sur	CA
Saint Cload Hotel	Canon City	CO
The Wayside Inn	Breckenridge	CO
Cross Creek Resort and Conference Center	Frisco	CO
Grand Vista Hotel	Grand Junction	CO
Broan Palace Hotel	Denver	CO
Inn at Iron Masters	Lakeville	CT
The Colony	New Haven	CT
New Haven Hotel	New Haven	CT
The Oakdell Motel	Waterford	CT
The Inn at Stoneington	Stonington	CT
The Zwaanendael Inn	Lewes	DE
The Inn at Montchanin	Montchanin	DE
The Bellmoor	Rehoboth Beach	DE
Boardwalk Plaza Hotel	Rehoboth Beach	DE

Darley Manor Inn	Wilmington	DE
Starfish Motel	Longboat Key	FL
The Seaview Hotel	Bal Harbour	FL
The Grey Gull Beach Resort	Madeira Beach	FL
Colonial Resort Motel	Cape Coral	FL
Hotel Place St. Michel & Restaurant hotel	Coral Gables	FL
The Dogwood Riverside Inn	Blue Ridge	GA
The Lodge at Amicalola Falls	Dawsonville	GA
Trellis Garden Inn	Statesboro	GA
Whitepath Lodge	Ellijay	GA
The Gastonian	Savannah	GA
Hawaii Polo Inn	Honolulu	HI
Hawaiiana Hotel	Honolulu	HI
Pono Kai Resort	Kapaa	HI
Maalaea Surf Resort	Maui	HI
Princeville Resort	Princeville	HI
The Statehouse Inn	Biose	ID
Paradise Valleeu Inn	Bonnors Ferry	ID
The Littletree Inn	Idaho Falls	ID
Meadow Creek Inn	Stanley	ID
Blue Heron Inn	Rigby	ID
Amber Inn	Chicago	IL
Talbott Hotel	Chicago	IL
Write Inn	Oak Park	IL
Carrie's Vintage Inn	Galena	IL
Cass Hotel	Chicago	IL
Indian Oak Resort	Chesterton	IN
Walden Inn	Greencastle	IN
Andrews Lakeside Resort	Monticello	IN
Creekwood Inn	Michigan City	IN
Santa's Lodge and Resort	Santa Claus	IN
Hotel Fort Des Moines	Des Moines	IA
Hotel Pattee	Perry	IA
Pella Motor Inn	Pella	IA
Kingsley Inn	Fort Madison	IA
Mont Rest	Bellevue	IA
New Cottonwood Inn	Phillipsburg	KS
The Dodgehouse Hotel	Dodge City	KS
Brickyard Barn Inn	Topeka	KS
Landmark Inn	Oberlin	KS
Hedricks Country Inn	Nickerson	KS
Breckinridge Inn	Louisville	KY
GaltHouse Hotel	Louisville	KY
Gratz Park Inn	Lexington	KY
Magnolia Manor	Gilbertsville	KY
Shiloh Motor Inn	Lake Cumberland	KY

Alexa Hotel	New Orleans	LA
Avenue Garden Hotel	New Orleans	LA
The Columns	New Orleans	LA
The Calloway Inn	Baton Rouge	LA
Jean Lafitte Inn	Crown Point	LA
Atlantis Oakes	Bar Harbor	ME
Bar Harbor Inn	Bar Harbor	ME
Asticou Inn	Northeast Harbor	ME
Camden Harbour Inn	Camden	ME
The Grey Havens	Georgetown Island	ME
Failingers Hotel Gunter	Frostberg	MD
WhiteHaven Hotel	Whitehaven	MD
Harbor Court Hotel	Baltimore	MD
The Casselman	Grantsville	MD
Colony South Hotel	Clinton	MD
The Colonial Inn	Concord	MA
Beacon Inn	Brookline	MA
Wayside Inn	Chatham	MA
Battle Green Inn	Lexington	MA
Red Lion Inn	Stockbridge	MA
Sand Hills Lighthouse Inn	Ahmeek	MI
Wolf Lake Motel	Baldwin	MI
Village Inn of Dearborn	Dearborn	MI
Milner Hotel	Detroit	MI
Amway Grand Plaza	Grand Rapids	MI
Cass Lake Lodge	Cass Lake	MN
Breezy Point Resort	Breezy Point	MN
Ruttger's Birchmont Lodge	Bemidji	MN
Northern Inn	Spicer	MN
Brookside Motel	Wadena	MN
The Goodnite Inn	Buffalo	MO
Bridgeport Resort	Cape Fair	MO
QuarterAge Hotel	Kansas City	MO
Arrow Head Lodge	Lake Ozark	MO
Tradition Inn	Farmington	MO
Bonne Terre Hotel	Nesbit	MS
Bridgewater Inn	Greenwood	MS
Vicksburg Inn	Vicksburg	MS
Edisonwalt Hall Hotel	Jackson	MS
Monmouth Plantation	Natchez	MS
Fairmont Hot Springs Resort	Fairmont	MT
Galletin Gateway Inn	Bozeman	MT
Papoose Creek Lodge	Cameron	MT
Lakeside Resort Hotel	Lakeside	MT
Izaak Walton Inn	Essex	MT
The Corn Husker	Lincoln	NE

Surburban Inn	Omaha	NE
The Marina Inn	South Souix City	NE
New England Center	Durham	NE
Mt. View Grand	White Field	NE
White Oak Motel	Holderness Township	NH
The Button Wood Inn	North Conway	NH
Lakeview Lodge	Newbury	NH
Pilgrim Inn	Plymouth	NH
The Beachview Inn	Hampton Beach	NH
The Thunderbird Hotel	Las Vegas	NV
St. Tropez Hotel	Las Vegas	NV
Vica Las Vegas Villias	Las Vegas	NV
Mt. Charleston Hotel	Mt. Charleston	NV
Show Boat Inn	Reno	NV
Sea Shell Hotel	Beach Heaven	NJ
Freehold Gardens Hotel	Freehold	NJ
Westminister Hotel	Livingston	NJ
The Doral Forrestal Hotel	Princeton	NJ
Kenilworth Inn	Kenilworth	NJ
The Plaza Inn	Albuquerque	NM
Upper Canyon Inn	Ruidoso	NM
The Historic Plaza Hotel	Las Vegas	NM
The Inn of the Governors	Santa Fe	NM
Rancho Des Sab Juan	Espanola	NM
Adirondack Inn	Lake Placid	NY
Danfords	Long Island	NY
Midwood Suites	Brooklyn	NY
Apple Grove Inn	Medina	NY
Canandaigua Inn On The Lake	Canandaigua	NY
The Whaler Inn	Atlantic Beach	NC
Haywood Park	Ashville	NC
The Magnolia Inn	Pinehurst	NC
The Beech Alpen Inn	Beech Mt.	NC
The Golden Sand Hotel	Carolina Beach	NC
The RoadKing Inn	Grand Forks	ND
The International Inn of Minot	Minot	ND
Expressway Inn	Bismark	ND
Totten Trail Inn	Devils Lake	ND
Davis Motel	Devils Lake	ND
Inn Towner Motel	Logan	OH
The Red Maple Inn	Burton City	OH
University Plaza Hotel	Columbus	OH
Sawmill Creek Hotel	Huran	OH
Oberlin Inn	Oberlin	OH
Cookson Bend Resort	Cookson	OK
Broodway Suites	Edmond	OK

The Thunderbird Lodge	Norman	OK
Hotel Ambassador	Tulsa City	OK
Shiloh Morning Inn	Ardmore	OK
Alderwood Inn	Portland	OR
Hotel Lucia	Portland	OR
Ochoco Inn	Prineville	OR
Prospect Hotel	Prospect City	OR
Hood River Hotel	Hood River	OR
Bird in Hand Hotel	Bird in Hand	PA
Meiserville Inn	Mt. Pleasant Hill	PA
The Rittenhouse Hotel	Philadelphia	PA
Logan Inn	New Hope	PA
Lincoln Plaza	Reading	PA
Anchor House	Block Island	RI
Springhouse Hotel	Block Island	RI
Bay Willows Inn	Middletown	RI
Newport Bay Club	Newport	RI
Pleasant View Inn	Westerly	RI
The Guest House at Houndslake	Aiken	SC
Seaside Inn	Isle of Palms	SC
Youngs Plantation Inn	Florence	SC
Shem Creek Inn	Mt. Pleasant	SC
Main Street Inn	Hilton Head	SC
Quails Crossing Motel	Hill City	SD
Roosevelt Inn	Keystone	SD
Thunder Cove Inn	Deadwood	SD
Govener's Inn	Pierre	SD
Hotel Alex Johnson	Rapid City	SD
Guest House Inn	Nashville	TN
The Heritage Hotel	Nashville	TN
Talley Ho Inn	Townsend	TN
Creek Side Inn	Gatlinburg	TN
Music Road Hotel	Pigeon Forge	TN
The Ocean House	Corpus Christi	TX
Melrose Hotel	Dallas	TX
The Mansion on Turtle Creek	Dallas	TX
La Mansion Del Rio	San Antonio	TX
Woodland Resort	The Woodlands	TX
Golden Hirsch Inn	Park City	UT
Bryce Cannon Lodge	Bryce Canyon	UT
Beaver Creek Lodge	Garden City	UT
Terrace Brook Lodge	Springdale	UT
Stratford Court Hotel	Ceder City	UT
Governer's Rock	Shaftbury	VT
The Wiley Inn	Peru	VT
The Hawk Inn	Plymouth	VT



Sunderland Motor Lodge	Arlington	VT
Colonel Williams Inn	Marlboro	VT
The Wayside Inn	Middletown	VA
Virginia Suites	Arlington	VA
The Stratford Inn	Danville	VA
The Jefferson Hotel	Richmond	VA
Station One Hotel	Virginia Beach	VA
Lynnwood Landmark Inn	Lynnwood	WA
The August Inn	Anderson Island	WA
Lyle Hotel	Lyle City	WA
The Coachman Inn	Oak Harbor	WA
Lake Quinault Lodge	Quinault	WA
Elkins Motor Lodge	Elkins	WV
Historic Wells Inn	Sistersville	WV
Hillsbrook Inn	Charlestown	WV
Lakeview Resort	Morgantown	WV
Twin Fall Hotel	Beckley	WV
Rainbow Hotel	Burlington	WI
The Landing Resort	Egg Harbor	WI
New Glarus Hotel	New Glarus	WI
Harbor View Resort	Ephraim	WI
Hickory Hill	Viroqua	WI
The Rusty Parrot	Jackson Hole	WY
The Wort Hotel	Jackson Hole	WY
Irma Hotel	Cody City	WY
Sun Dance Motel	Pinedale	WY
The Hachet Resprt	Moran City	WY

---

## Appendix S

## Hotel Site Research Statistics

**Central Tendency**

<b>Area of Interest</b>	<b>Mean</b>	<b>Median</b>	<b>Mode</b>	<b>Midrange</b>
Page Layout	44.78%	40.00%	20.00%	50.00%
Navigation	42.61%	40.00%	40.00%	50.00%
Web Seals	8.88%	0.00%	0.00%	45.00%
Professional Style	42.66%	40.00%	60.00%	50.00%
Graphics	48.72%	40.00%	40.00%	50.00%
Information Content	27.78%	20.00%	20.00%	50.00%

**Dispersion**

<b>Area of Interest</b>	<b>Range</b>	<b>Variance</b>	<b>Std. Dev.</b>	<b>Coeff. Var.</b>
Page Layout	100.00	617.47	24.85	55.50%
Navigation	100.00	564.04	23.75	55.73%
Web Seals	90.00	377.35	19.43	218.66%
Professional Style	100.00	777.98	27.89	65.38%
Graphics	100.00	548.68	23.42	48.08%
Information Content	100.00	435.30	20.86	75.10%

## Appendix T

## Top and Bottom Five Sites

**Page Layout: Top and bottom five sites**

<b>Hotel</b>	<b>City</b>	<b>State</b>	<b>Score</b>
Harbor Court Hotel	Baltimore,	MD	100%
Hotel Ambassador	Tulsa City	OK	100%
The Mansion on Turtle Creek	Dallas	TX	100%
Woodland Resort	Woodlands	TX	100%
The Rusty Parrot	Jackson Hole	WY	100%
Breckinridge Inn	Louisville	KY	0%
Village Inn of Dearborn	Dearborn	MI	0%
Bird in Hand Hotel	Bird in Hand	PA	0%
Darley Manor Inn	Wilmington	DE	5%
The Grey Gull Beach Resort	Madeira Beach	FL	5%

**Navigation: Top and bottom five sites**

<b>Hotel</b>	<b>City</b>	<b>State</b>	<b>Score</b>
Harbor Court Hotel	Baltimore	MD	100%
Arizona Inn	Tucson	AZ	90%
The Gastonian	Savannah	GA	90%
The Mansion on Turtle Creek	Dallas	TX	90%
Princeville Resort	Princeville	HI	85%
Breckinridge Inn	Louisville	KY	0%
Bird in Hand Hotel	Bird in Hand	PA	0%
The Grey Gull Beach Resort	Madeira Beach	FL	5%
Keystone Hotel	Valdez	AK	10%
Milner Hotel	Detroit	MI	20%

**Web Seals: Top and bottom five sites**

<b>Hotel</b>	<b>City</b>	<b>State</b>	<b>Score</b>
The Rittenhouse Hotel	Philadelphia	PA	90%
Princeville Resort	Princeville	HI	80%
Amway Grand Plaza	Grand Rapids	MI	75%

Arizona Inn	Tucson	AZ	65%
The Jefferson Hotel	Richmond	VA	65%
<hr/>			
The Corn Husker	Lincoln	NE	0%
Tradition Inn	Farmington	MO	0%
Shiloh Morning Inn	Ardmore	OK	0%
The Grey Havens	Georgetown Island	ME	0%
The Bellmoor	Rehoboth Beach	DE	0%
<hr/>			

### Web Styles: Top and bottom five sites

Hotel	City	State	Score
Woodland Resort	The Woodlands	TX	100%
The Corn Husker	Lincoln	NE	100%
The Rusty Parrot	Jackson Hole	WY	100%
The Mansion on Turtle Creek	Dallas	TX	100%
Harbor Court Hotel	Baltimore	MD	100%
<hr/>			
Breckinridge Inn	Louisville	KY	0%
Bird in Hand Hotel	Bird in Hand	PA	0%
The Grey Gull Beach Resort	Madeira Beach	FL	0%
Milner Hotel	Detroit	MI	0%
Surburban Inn	Omaha	NE	0%
<hr/>			

### Web Graphics: Top and bottom five sites

Hotel	City	State	Score
The Wort Hotel	Jackson Hole	WY	100%
Stratford Court Hotel	Ceder City	UT	100%
Sand Hills Lighthouse Inn	Ahmeek	MI	100%
The Jefferson Hotel	Richmond	VA	100%
Bar Harbor Inn	Bar Harbor	ME	100%
<hr/>			
Mt. Charleston Hotel	Mt. Charleston	NV	0%
Inn Towner Motel	Logan	OH	5%
Gold Bear Inn	Berkeley	CA	5%
The Victoria	Anniston	AL	5%
Jacob Lake Inn	Jacob Lake	AZ	10%
<hr/>			

**Web Content: Top and bottom five sites**

<b>Hotel</b>	<b>City</b>	<b>State</b>	<b>Score</b>
The Jefferson Hotel	Richmond	VA	100%
Hotel Lucia	Portland	OR	85%
The Gastonian	Savannah	GA	85%
Virginia Suites	Arlington	VA	80%
The Doral Forrestal Hotel	Princeton	NJ	80%
Mt. Charleston Hotel	Mt. Charleston	NV	0%
Gold Bear Inn	Berkeley	CA	0%
The Victoria	Anniston	AL	0%
Anchor House	Block Island	RI	0%
The Wayside Inn	Breckenridge	CO	0%

**Overall: Top and bottom five sites**

<b>Hotel</b>	<b>City</b>	<b>State</b>	<b>Score</b>
Harbor Court Hotel	Baltimore	MD	86.67%
The Rusty Parrot	Jackson Hole	WY	85.00%
The Mansion on Turtle Creek	Dallas	TX	85.00%
The Jefferson Hotel	Richmond	VA	84.17%
Hotel Ambassador	Tulsa City	OK	83.33%
Breckenridge Inn	Louisville	KY	3.33%
Bird in Hand Hotel	Bird in Hand	PA	3.33%
Mt. Charleston Hotel	Mt. Charleston	NV	4.17%
The Victoria	Anniston	AL	4.17%
The Grey Gull Beach Resort	Madeira Beach	FL	4.17%

## Appendix U

### Cascading Style Sheet

```
label {cursor: hand;}
```

```
/* Element Descriptions
```

```
*/
```

```
/* -----*/
```

```
body {
```

```
    font-family: Verdana, Arial, Helvetica, sans-serif;
```

```
    font-size: 12px;
```

```
    font-weight: normal;
```

```
    color: black;
```

```
    text-decoration: none;
```

```
    background: White;
```

```
    margin-top: 0;
```

```
    margin-left: 0;
```

```
}
```

```
hr {
```

```
    border: 0px none;
```

```
    width: 100%;
```

```
    color: #077498;
```

```
    background-color: white;
```

```
    height: 1px
```

```
}
```

```
p {
```

```
    font-family: Verdana, Arial, Helvetica, sans-serif;
```

```
    font-size: 11px;
```

```
    color: #000000;
```

```
}
```

```
pre {
```

```
    font-family: "Andale Mono", "monotype.com", "Courier New", monospace, mono;
```

```
    font-size: 12px;
```

```
}
```

```
font {
```

```
    font-family: Verdana, Arial, Helvetica, sans-serif;
```

```
}
```

```
ol {
```

```
    font-family: Verdana, Arial, Helvetica, sans-serif;
```

```
}
```

```
ul {
  font-family: Verdana, Arial, Helvetica, sans-serif;
  font-size: 11px;
}

li {
  font-family: Verdana, Arial, Helvetica, sans-serif;
  font-size: 11px;
}

h1 {
  font-family: Verdana, Arial, Helvetica, sans-serif;
  font-size: 28px;
  font-weight: bold;
  color: #077498;
  line-height: 10px;
  font-style : italic;
}

h2 {
  font-family: Verdana, Arial, Helvetica, sans-serif;
  font-size: 18px;
  font-weight: bold;
  color: #996600;
}

h3 {
  font-family: Verdana, Arial, Helvetica, sans-serif;
  font-size: 18px;
  font-weight: bold;
  color: #666666;
}

h4 {
  font-family: Verdana, Arial, Helvetica, sans-serif;
  font-size: 12px;
  font-weight: bold;
  color: #666666;
}

h5 {
font-family: Arial;
  font-size: 12px;
  font-weight: bold;
  color: Black;
```

```
}
```

```
h6 {  
  font-family: Verdana, Arial, Helvetica, sans-serif;  
  font-size: 14px;  
  font-weight: bold;  
  color: #00759C;  
}
```

```
a {  
  font-family: Verdana, Arial, Helvetica, sans-serif;  
  font-size: 11px;  
  font-weight: normal;  
  color: #0066CC;  
  text-decoration: underline;  
}
```

```
a:link {  
  font-family: Verdana, Arial, Helvetica, sans-serif;  
  font-size: 11px;  
  font-weight: normal;  
  color: #0066CC;  
  text-decoration: underline;  
}
```

```
a:hover {  
  font-family: Verdana, Arial, Helvetica, sans-serif;  
  font-size: 11px;  
  font-weight: normal;  
  color: #FF6633;  
  text-decoration: underline;  
}
```

```
a:visited {  
  font-family: Verdana, Arial, Helvetica, sans-serif;  
  font-size: 11px;  
  font-weight: normal;  
  color: #666666;  
  text-decoration: underline;  
}
```

```
a:active {  
  font-family: Verdana, Arial, Helvetica, sans-serif;  
  font-size: 11px;  
  font-weight: normal;  
  color: #666666;
```



```

text-decoration: underline;
}

/* form tags */

select {
font-family: Verdana, Arial, Helvetica, sans-serif;
font-size: 11px;
color: #000000;
}

option {
font-family: Verdana, Arial, Helvetica, sans-serif;
font-size: 11px;
color: #000000;
}

textarea {
font-family: Verdana, Arial, Helvetica, sans-serif;
font-size: 11px;
color: #000000;
}

input {
font-family: Verdana, Arial, Helvetica, sans-serif;
font-size: 11px;
color: #000000;
}

/* Class Descriptions: Persistence Linkage A */
/* ----- */
.PLtable {
background : #077498;
color: White;
border : none;
}

.PLnormal {
font-family: Verdana, Arial, Helvetica, sans-serif;
font-size: 11px;
font-weight: normal;
color: White;
background : #077498;
text-decoration: none;
}

```

```
.PLlink {
    font-family: Verdana, Arial, Helvetica, sans-serif;
        font-size: 11px;
        font-weight: normal;
        color: White;
        background : #077498;
        text-decoration: underline;
}
```

```
.PLlink a:link { text-decoration: underline; color: White;}
.PLlink a:visited { text-decoration: underline; color: White;}
.PLlink a:active { text-decoration: underline; color: White;}
.PLlink a:hover { text-decoration: normal; color: White;}
```

```
/* Class Descriptions: Persistence Linkage B */
/* ----- */
```

```
.PHtable {
    background : #6EA6C1;
        color: White;
        border : none;
}
```

```
.PHnormal {
    font-family: Verdana, Arial, Helvetica, sans-serif;
        font-size: 11px;
        font-weight: normal;
        color: White;
        background : #6EA6C1;
        text-decoration: none;
}
```

```
.PHlink {
    font-family: Verdana, Arial, Helvetica, sans-serif;
        font-size: 11px;
        font-weight: normal;
        color: White;
        background : #6EA6C1;
        text-decoration: underline;
}
```

```
.PHlink a {
    color: black;
}
```

```
.Navtable {
```

```

        background : #B3DAEE;
font-family: Verdana, Arial, Helvetica, sans-serif;
        font-size: 11px;
        font-weight: normal;
        color: black;
}

```

```

.Navtableo {
        background : #B3DAEE;
font-family: Verdana, Arial, Helvetica, sans-serif;
        font-size: 11px;
        font-weight: normal;
        border-color: #077498;
border: 1px solid #077498;
        border-collapse: separate;
}

```

```

.Navtablew {
        background : White;
font-family: Verdana, Arial, Helvetica, sans-serif;
        font-size: 11px;
        font-weight: normal;
        border-color: #077498;
border: 2px solid #077498;
        border-collapse: separate;
}

```

```

/* Navigation Section */
/* ----- */
.Navtable a:link { text-decoration: underline; color: blue;}
.Navtable a:visited { text-decoration: underline; color: blue;}
.Navtable a:active { text-decoration: underline; color: blue;}
.Navtable a:hover{ text-decoration: normal; color: #FF6633;}

```

```

/* Title Section */
/* ----- */
.Title {
        background : #0A5187;
font-family: Verdana, Arial, Helvetica, sans-serif;
        font-size: 20px;
        font-weight: bold;
        color: White;
        text-align: center;
}

```

```

/* Print Message Text */
/* ----- */
.Printmsg {
                                font-family: Arial;
                                font-size: 10px;
                                color: Red;
                                font-style : italic;
                                text-align: right;
                                text-decoration: underline;
}
.PrintMsg a:link { text-decoration: underline; color: red;}
.PrintMsg a:visited { text-decoration: underline; color: red;}
.PrintMsg a:active { text-decoration: underline; color: red;}
.PrintMsg a:hover{ text-decoration: normal; color: red;}

/* Phone Number Table */
/* ----- */
.PNtable {
                                background : #077498;
                                border : none;
}

.PNnormal {
                                font-family: Verdana, Arial, Helvetica, sans-serif;
                                font-size: 16px;
                                font-weight: normal;
                                color: white;
                                background : #077498;
                                text-decoration: none;
}

.PNphone {
                                font-family: Verdana, Arial, Helvetica, sans-serif;
                                font-size: 12px;
                                font-weight: bold;
                                color: white;
                                background : #077498;
                                text-decoration: none;
}

/* Class Descriptions: Image - Home */
/* ----- */
.IMhome {
    background-image:
    url('../images/beachview.jpg');

```

```

background-repeat: no-repeat;
background-position-x:left
}

.IMaccomodations {
background-image:
url('../images/roomview.jpg');
background-repeat: no-repeat;
background-position-x:left
}

.txtnormal {
font-family: Verdana, Arial, Helvetica, sans-serif;
font-size: 12px;
font-weight: normal;
color: black;
text-decoration: none;
background: White;
margin-top: 0;
margin-left: 0;
}

.heading1 {
font-family: Verdana, Arial, Helvetica, sans-serif;
font-size: 28px;
font-weight: bold;
color: #077498;
line-height: normal;
font-style : italic;
}

.heading5 {
font-family: Arial;
font-size: 12px;
font-weight: bold;
color: Black;
}

.heading6 {
font-family: Verdana, Arial, Helvetica, sans-serif;
font-size: 14px;
font-weight: bold;
color: #00759C;
}

```

```
/* ----- */  
.Normallink {  
    background : White;  
    font-family: Verdana, Arial, Helvetica, sans-serif;  
    font-size: 10px;  
    font-weight: normal;  
    color: black;  
}  
.Normallink a:link { text-decoration: underline; color: blue;}  
.Normallink a:visited { text-decoration: underline; color: blue;}  
.Normallink a:active { text-decoration: underline; color: blue;}  
.Normallink a:hover { text-decoration: normal; color: #FF6633;}
```

## Appendix V

### Research Compare Sites

#### The "20% Based" Research Site:

Sea Oats Motel

3420 Old Highway 98 East

Destin, Florida 32540

URL: <http://www.seaoatsrentals.com/index.html>

#### Evaluation Scores

Hotel	Score
Page Layout	40.00%
Navigation	20.00%
Web Seals	0.00%
Professional Style	15.00%
Graphics	30.00%
Information Content	20.00%
Average	20.83%

#### The "40% Based" Research Site:

Blue Horizon Beach Resort

1120 Santa Rosa Boulevard

Fort Walton Beach, FL 32548

URL: <http://www.bluehorizonbeachresort.com/>

#### Evaluation Scores

Hotel	Score
Page Layout	60.00%
Navigation	45.00%
Web Seals	0.00%
Professional Style	60.00%
Graphics	45.00%
Information Content	25.00%
Average	39.17%

**The “60% Based” Research Site:**

Pelican Beach Resort

1002 Highway 98 East

Destin, FL 32541

URL: <http://www.pelican-beach.com/>**Evaluation Scores**


---

<b>Hotel</b>	<b>Score</b>
Page Layout	80.00%
Navigation	60.00%
Web Seals	0.00%
Professional Style	80.00%
Graphics	80.00%
Information Content	70.00%
<hr/>	
Average	61.67%

---

**The “80% Based” Research Site:**

SanDestin Resort

9300 Emerald Coast Pkwy W

Sandestin, FL 32550

URL: <http://www.sandestin.com/home.asp>**Evaluation Scores**


---

<b>Hotel</b>	<b>Score</b>
Page Layout	100.00%
Navigation	100.00%
Web Seals	0.00%
Professional Style	100.00%
Graphics	100.00%
Information Content	80.00%
<hr/>	
Average	86.67%

---



## Appendix W

### Participant User Guide

# Step-by-Step Guide for the Online Survey

## Overview of Study:

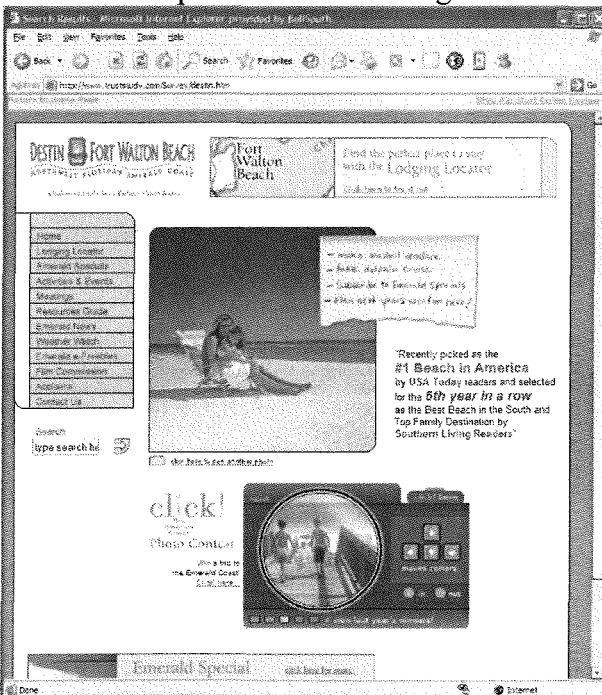
This study reviews the effects of web site design in relation to online trust within the electronic commerce environment. Sounds Complicated? Not really. As a participant you can follow this step-by-step guide and you can have an enormous impact on the expansion of the body of knowledge within the electronic commerce environment. “www.Truststudy.com” is the author’s web site for showing the research and providing access to the results once the study is complete. You are more than welcome to explore the site to review the information provided or just follow these simple steps to participate in the study.

## Step 1: Review Destin, FL.

The study presumes that you and your family will be vacationing in Destin, FL. If you have never been to Destin and would like to find out more information on the city’s attractions, click on the following link and read additional details on the emerald waters, white sandy beaches and great attractions.

<http://www.truststudy.com/Survey/destin.htm>

The link will present the following screen.



Notice the two links at the very top of the page. The link on the left (Return to Home Page) will return you to the TrustStudy main page. The link on the right (Step #2: Start Online Review) will continue to the next step of the process.

Note; you can close the page when finished and continue to step 2.

## Step 2: Review Hotels

We've actually or theoretically decided to visit Destin and now, it's time to make a reservation. Where will you stay? Luckily, there is a tool that will provide two quality hotels for you to choose. Visit the two hotel web sites by clicking the following link:

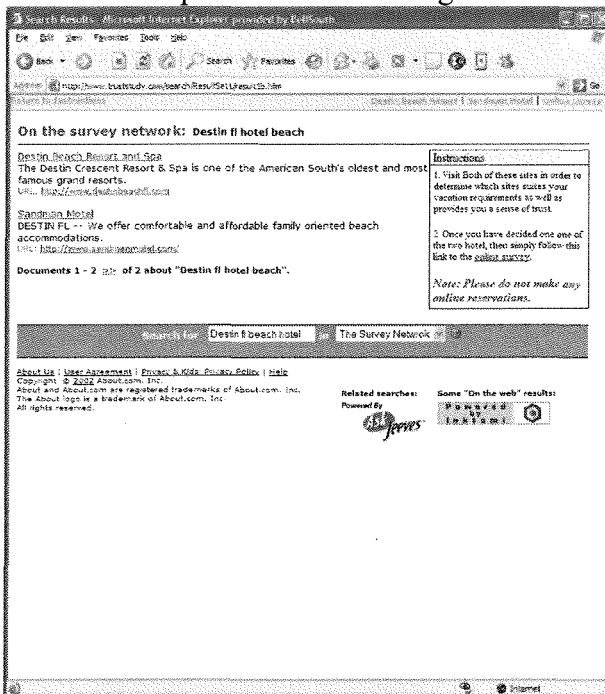
<http://www.truststudy.com/Search/StartHere.htm>

Be sure to make your decision based on the hotel's web site, following these guidelines:

1. Don't call or physically visit either hotel.
2. Do not make a reservation at either hotel.
3. Assume the room prices are the same (don't make your decision on price alone)
4. Don't use other search engines that bring additional hotels into the study.

This is an academic study of the online environment, which means we cannot reverse any charges or refund deposits made at the hotel. As you review the hotel sites, which one would you choose to make a reservation?

The link will present the following screen.



This screen views the two hotels that you will be reviewing. Please understand, your hotel choices may be different from other participants. There are four links provided at the top of the page that should always appear during the review phase. The link on the left (Return to Instructions) will return you to the TrustStudy main page. Two of the three links on the right side are the hotel sites presented in the results. Using these links allows you to switch between hotel sites without having to return to the main page. The link on the right (Online Survey) will go to the next step of the process.

Note: you can close the page when you are done with the review and take the next step within this document.

Remember to look at both hotel sites and perhaps take a few notes of why one hotel stood out from the other or what pages you visited. During the survey phase, I will be asking questions like:

- Which Site did you choose?
- Which pages did you visit within the site?
- Did the site look professionally designed?

- Would you have made a reservation online vs. placing a phone call if available?

### Step 3: Take the Online Survey

Once you have decided your hotel of choice, please take the following survey which should only take about 15-20 minutes to complete. Upon completion, you will be offered a chance to provide your email address to be entered into the random drawing for the five \$50.00 Amazon.com gift certificates. Begin by going to <http://www.truststudy.com/Search/StartSurvey.htm>

This screen should appear.

Remember the survey will only continue if each question is answered.

The first set of questions ask about your past experience with online purchases and your likelihood to trust online organizations.

The 4<sup>th</sup> page will ask which site you chose during the review. The 5<sup>th</sup> and 6<sup>th</sup> pages will address questions specifically about the hotel you chose.

It's that simple.

Thank you so much for your contribution. I have also included a FAQ page for your review. If you have an additional questions, please mail me at [rstephen@nova.edu](mailto:rstephen@nova.edu)

***Note: I respect your privacy! Any and all information collected at this site will be kept strictly confidential and will not be sold, reused, rented, loaned, or otherwise disclosed.***

# Research Study FAQ

## **Will any of my information be published?**

No, the actual information is stored in six different data bases. Based on different key structures, I cannot tie your email account with any of the answers you give. After the study is complete, all of the information will be erased and deleted from the student computer system.

## **How long will the survey take?**

The actual survey should only take about 15-20 minutes.

## **Is there any special equipment or software that I will need?**

Internet access is the only requirement.

## **What is a cookie and why should I allow them?**

The survey itself does use two cookies. The term "cookie" is the name given to a small file of information (normally less than 1K) that a web site, accessed by you the visitor, places onto your hard disk drive so that the depositing site can remember something about you when you access that site, or in some cases other sites, at a later time. I will set the expiration date to 5 days. The contents of the cookies are as follows:

1. A random number between 0-7 will be produced in order to determine which of the portfolio of sites you will review and what order they will appear in the search utility.
2. The name of the hotel you select on the 4<sup>th</sup> screen will be saved in order to place the name of the hotel in the next set of questions.

## **Should I delete the cookies after the survey?**

You can, again it is a very small file and you likely already have hundreds of cookies on your system. There are many utilities and applications that can do this for you. Step-by-step instructions can be found on the Internet.

## **What is the context of this survey? Business? Advertisements?**

I am working on my Ph.D. in Information Systems at Nova Southeastern University. As part of most dissertation projects, you must perform a survey of a small population of participants. The survey will be used to analyze the impact of web-based design elements on electronic commerce trust. Again, all information collected will be held absolutely confidential.





## **Can I see the results? When will the results be posted?**

Yes, I will post the final dissertation and overview on the TrustStudy.com web site. The results should be posted in the January 2004.

## Appendix X

## Sample Pages from Destin Beach Resort Site


## Home Page:

<a href="#">Home</a>	<a href="#">Help</a>   <a href="#">Sitemap</a>
<h2 style="text-align: center;">Destin Beach Resort</h2>	
<b>Quick Reference</b> 1-800-111-1111	<h1 style="text-align: center;">Welcome to your resort!</h1>
<a href="#">Location</a>	
<a href="#">Services and Amenities</a>	<p>The Destin Beach Resort is one of the American South's oldest and most famous grand resorts. Built in 1913 overlooking the Gulf of Mexico, Destin, FL, the Inn is a favorite year-round destination for both leisure and business guests. Its splendid views, old world charm, peerless amenities, and a long tradition of exceptional service and hospitality make it a place to savor as one of the most enduringly original and exciting resorts in America.</p>
<a href="#">Accommodations</a>	
<a href="#">Area Guide</a>	<p>Walk out of your room right onto the Gulf of Mexico Beach . Your days will be full: deep sea fishing, pier fishing, swimming, boating, sight seeing... or maybe golf or tennis.. even amusement parks for the kids. Miles of sugar white sand, and emerald green water with all the beauty and excitement you could ask for.</p>
<a href="#">Rates and Reservations</a>	<p>The Destin Beach Resort is the recipient of these and <a href="#">other awards</a>. Mobil Three Star ★★★ AAA Four Diamond ◆◆◆◆</p>
<a href="#">Special Offers</a>	
<a href="#">Contact Us</a>	
<a href="#">Feedback Form</a>	
<p><b>#10 of Top 30 North American Hotels</b> - Traveler, November 2001</p>  <p><a href="#">More Awards and Seals</a></p>	
	<p>Destin Beach Resort 570 Scenic Gulf Drive Destin, FL 32550 email: <a href="mailto:information@dsch.com">information@dsch.com</a></p> <p>Reservations: (800) 111-1111 Phone: (800) 222-2222 Fax: (800) 333-3333 Fax-On-Demand: (800) 444-444</p>
	<p>Copyright 2000, 2001© All Rights Reserved</p> <p style="text-align: right;"> <a href="#">Privacy Statement</a>   <a href="#">Trusted Seals</a> </p>

## Accommodation Page:

Home
Help | Sitemap

## Destin Beach Resort



**Quick Reference**  
1-800-111-1111

[Location](#)

[Services and Amenities](#)

[Accommodations](#)

[Area Guide](#)

[Rates and Reservations](#)

[Special Offers](#)


[Contact Us](#)

[Feedback Form](#)

## Accommodations

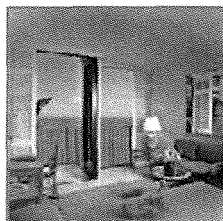
[Home](#) > Accommodations

---



The Destin Beach Resort's 185 rooms and 29 suites range in size from 300 to 1200 square feet, and all boast dramatic ocean or garden views.

All rooms feature exquisite linens, down comforters and refrigerators. If you're traveling for business, you'll appreciate standard room items that include two-line speakerphones, high-speed Internet access, Web TV, data lines, desks, and safes. See [Amenities](#) for a complete detail list.




[Check Availability](#) | [Rates](#) | [Property Map](#) | [Season Calendar](#)

---

Room Fees are as follows:

- [Beach View with Kitchen](#) from \$129.00
- [Beachside with Kitchen](#) from \$119.00
- [Beachside without Kitchen](#) from \$109.00
- [Garden View](#) from \$99.00
- [Value Rooms](#) from \$89.00

**#10 of Top 30  
North American Hotels**  
- Traveler, November  
2001



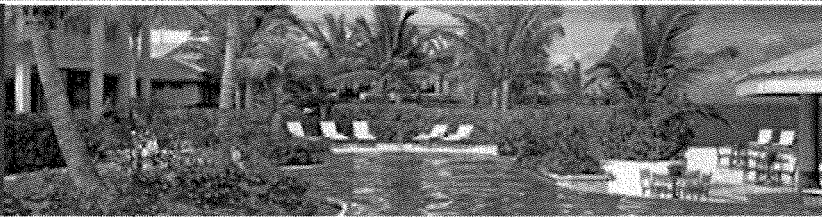


[More Awards and Seals](#)

Destin Beach Resort  
570 Scenic Gulf Drive  
Destin, FL 32550  
email: [information@dsch.com](mailto:information@dsch.com)

Reservations: (800) 111-1111  
Phone: (800) 222-2222  
Fax: (800) 333-3333  
Fax-On-Demand: (800) 444-444

[Privacy Statement](#) | [Trusted Seals](#)


## Feedback Page:

Home	<a href="#">Help</a>   <a href="#">Sitemap</a>	
<b>Destin Beach Resort</b>		
<b>Quick Reference</b> 1-800-111-1111	<h2>Information Feedback</h2>	
<a href="#">Location</a>	<a href="#">Home</a> > <a href="#">Feedback</a>	
<a href="#">Services and Amenities</a>		
<a href="#">Accommodations</a>	We value your comments and suggestions. Your input is important to us to help make Destin Beach Resort the best site on the Internet. Thank you.	
<a href="#">Area Guide</a>		
<a href="#">Rates and Reservations</a>	<b>Name</b> <input type="text"/>	
<a href="#">Special Offers</a>	<b>Email</b> <input type="text"/>	
<a href="#">Contact Us</a>	<b>City</b> <input type="text"/>	
<a href="#">Feedback Form</a>	<b>State</b> <input type="text" value="Please Make A Selection"/>	
<p>#10 of Top 30 North American Hotels - Traveler, November 2001</p>  <p><a href="#">More Awards and Seals</a></p>	<input checked="" type="checkbox"/> <b>May we include you in our vacation email subscription list?</b> (uncheck the box if you don't wish to be included)	
	<b>Comments</b> <input type="text"/>	
	<b>CONTINUE</b> >	
	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">           Destin Beach Resort            570 Scenic Gulf Drive            Destin, FL 32550            email: <a href="mailto:information@dsch.com">information@dsch.com</a> </td> <td style="width: 50%; text-align: right;">           Reservations: (800) 111-1111            Phone: (800) 222-2222            Fax: (800) 333-3333            Fax-On-Demand: (800) 444-4444         </td> </tr> </table>	Destin Beach Resort 570 Scenic Gulf Drive Destin, FL 32550 email: <a href="mailto:information@dsch.com">information@dsch.com</a>
Destin Beach Resort 570 Scenic Gulf Drive Destin, FL 32550 email: <a href="mailto:information@dsch.com">information@dsch.com</a>	Reservations: (800) 111-1111 Phone: (800) 222-2222 Fax: (800) 333-3333 Fax-On-Demand: (800) 444-4444	
Copyright 2000, 2001© All Rights Reserved		
<a href="#">Privacy Statement</a>   <a href="#">Trusted Seals</a>		

## Room Description Page:

[Help](#) | [Sitemap](#)

# Destin Beach Resort



**Quick Reference**  
1-800-111-1111

[Location](#)

[Services and Amenities](#)

[Accommodations](#)

[Area Guide](#)

[Rates and Reservations](#)

[Special Offers](#)


[Contact Us](#)

[Feedback Form](#)

## Beach View with Kitchen

[Home](#) > [Accommodations](#) > Beach View with Kitchen

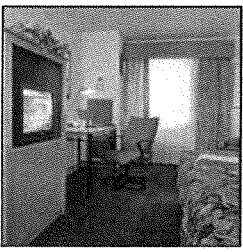
---



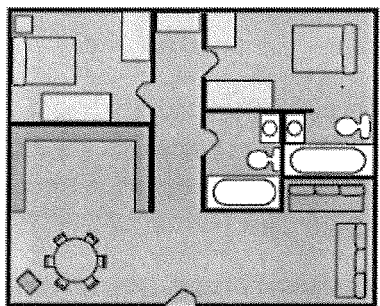
### Beach View with Kitchen

These well appointed rooms have a comfortable elegance of furnishings. A spacious queen and double beds appointed with the finest linens and an oversized bathtub for soaking make these rooms supremely comfortable. A nicely sized table is perfect if you have to work while on the road or to enjoy a room-service dinner for four. Each room comes with a well equipped kitchen as well as a beautiful view of the Gulf of Mexico. These rooms sell out in a hurry, so please make your reservation now.

The Beach View rooms are located in buildings 500, 400 and 300. When you step out of these rooms directly on the white sandy beaches of Destin, FL. The interior of the room and the quality of decoration and amenities are equally as nice as the finest hotels.



### Floor Plan:



#### Room Statistics

Bedrooms: 2  
Bathrooms: 2  
Kitchen: Yes  
Dining Area: Yes  
Max. Capacity: 8  
Bed Size: Queen, Double  
Couch: Pull-Out Style

[Check Availability](#) | [Rates](#) | [Property Map](#) | [Season Calendar](#)

### Other Available Rooms

[Gulf View](#) | [Beach Side with](#) | [Beach Side w/o](#) | [Garden View](#) | [Value Room](#)

---


Destin Beach Resort  
570 Scenic Gulf Drive  
Destin, FL 32550  
email: [information@dsch.com](mailto:information@dsch.com)

Reservations: (800) 111-1111  
Phone: (800) 222-2222  
Fax: (800) 333-3333  
Fax-On-Demand: (800) 444-444

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#10 of Top 30  
North American Hotels  
- Traveler, November  
2001



**BBB**  
RELIABILITY  
PROGRAM  
BBBONLINE

[More Awards and Seals](#)



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