Destination Reputation in Online Media:
Covered Topics and
Perceived Online Dominant Opinion

A dissertation presented by

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Abstract

Context

Online public opinions using various forms of social media are generating challenges for the tourism industry, which is intrinsically a "reputation-dependent" domain. Electronic-word-of-mouth (eWOM) has forced destination managers to rethink branding strategies, suggesting a shift from an architecture brand perspective to a live context perspective where travel markets are considered to be conversations and the monitoring of online conversations constitutes the first phase of a digital destination marketing strategy. Therefore, because eWOM might present ongoing social discussion about tourism destinations, and they represent one of the main sources of information for prospective travelers, who are the public interested in the destination, an analysis of eWOM is considered an efficient approach to indirectly measure public attitudes, beliefs, and values related to tourism destinations. Moreover, little research has so far examined the importance of the various messages contained within online conversations as proxies for public opinion (i.e., reputation in online media) in the tourism domain.

Purpose

This thesis investigates tourism destination reputation and how online conversations have been changing the nature of destination marketing in the digital context. It aims to identify the relevance of various online message cues that support the reputation of a destination in online media. The first part describes a theoretical investigation of the operationalization in multiple dimensions of opinions expressed online about a tourism destination. In the second part, a model for perceived online dominant opinion about tourism destinations is developed and tested.

The research builds upon evidence from studies of organizational reputation in which the analysis of the intangible assets of an organization are defined by beliefs and attitudes shared among a group of stakeholders. It also builds on evidence from media effects and social psychology studies in which perceived public opinions are affected by several components, e.g., message cue characteristics, trust of online media, reputation seeker attitude, confirmation/disconfirmation of prior belief.

Method and Results

The research was conducted using a mixed methods approach. A framework was proposed to capture the major topics dimensions, and the sentiment expressed in social media contents. Several tests of online content analysis case studies and user perception investigations were performed in order to refine the framework. The empirical investigation was conducted through a quasi-experimental design via an online survey

with American respondents, focusing on the effects of online message cues in the confirmation/disconfirmation of prior beliefs.

Results, analyzed using structural equation modeling (SEM), show that message characteristics and the attitude of web users toward being reputation seekers have a significant impact on opinions expressed about a destination in social media. Other positive correlations were found between reputation seekers and the perception of the message characteristics, in particular message sidedness, consistency, and the overall argument strength, which in turn led to a confirmation of prior belief. A weaker effect was found between the perception of a dominant opinion and trust toward online conversations. Alternative models and grouping analysis, which considered the role of the experience with the destination and the types of destination, were also performed.

Findings and Implications

The main finding is that the attitude of being an online reputation seeker acts as an antecedent in the message elaboration process. Furthermore, the recognition of an online dominant opinion tends to be perceived as a source of information for the confirmation of prior beliefs. The findings contribute to the establishment of a theoretical base for the emergent field of reputation in online media in the tourism domain by providing evidence of the positive effects of online message cues on a perceived dominant opinion. The results have also practical implications, particularly the assessment of the vast amount of online conversations about how travelers perceive the destination. This enables destination-marketing organizations to design more effective strategies to attract prospective travelers and promote the value of a territory.

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DEDICATION
a mamma Lucia e papà Antonio

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List of Abbreviations

DMO: Destination Marketing/Management Organization

eTDR: online Tourism Destination Reputation framework

eWOM: electronic-Word-of-Mouth

ICTs: Information and Communication Technologies

TD: Tourism Destination

UGC: User-generated content

Chapter 1: Introduction

Overview: This chapter presents an overview of the research and its structure, putting it into context in relation to existing work. The research questions are outlined, applied methods are presented, and the respective and overall outcomes of the research are described.

1.1. Context and Motivation

The use of a communication perspective is relevant for research on the reputation of various tourism destinations in online media, as it considers the web as one more content-publishing arena. In this communication arena people access information and form a mediated experience, providing content which is accessed by many people. This content (in the form of online conversations) generally consists largely of opinions, and its overall assessment might be considered the proxy of a perceived reputation presented in the online domain, which in turn might affect other users making decisions regarding a destination. Reputation is a complex construct which reflects the dynamics of a modern society, that is, people use reputation to simplify information processing when they are overwhelmed by information.

In the tourism domain, prospective travelers who do not have prior experience of a destination might encounter several limitations in their decision-making: a lack of knowledge might generate fear about visiting an unsafe place, the risk of losing money in inefficient services, etc. Thus, recommendations from second-hand sources may act as reputation mediators, being crucial assets in a decision-making process. Moreover, together with information from proven sources, word-of-mouth stories about a place may stimulate the imagination and encourage people to visit. Word-of-mouth allows us to participate in comments and opinions with a group of people, and acts as a social stimulus. However, oversimplifying the characteristics of a tourism destination through word-of-mouth can distort prospective travelers' perceptions of a place.

Figure 1.1 shows the research context for this study and the related research objectives, as well as practical implications. The starting point is represented by the complexity of a tourism destination (TD), depicted as a puzzle composed of several undefined pieces (e.g. attractions, hotels, transportations, etc). In the web environment, we assumed that electronic-word-of-mouth (eWOM) would condense the complexity of a destination down to a few aspects which would be perceived by prospective travelers. eWOM represents a concern for those who have to manage the promotion of a tourism destination. Indeed, enhancing the value of place is dependent on the way its products and services are communicated. In this scenario, the role of experts/researchers should be to elaborate systems that capture and map the online contents of sites that contain visitors' opinions of a place. This should be done in order to help marketers to design more effective strategies to attract prospective travelers, and thus enhance the value of a territory, meaning the perceived desirability on the part of tourists.
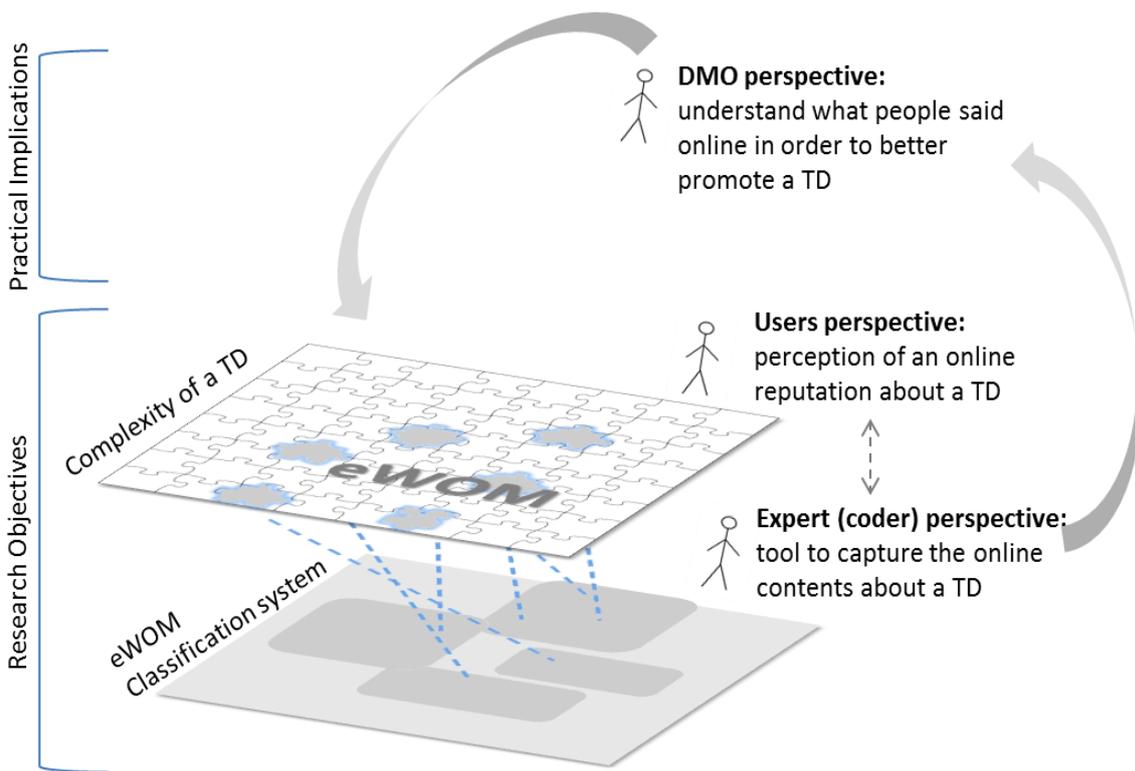
Figure 1.1. Research context e main research question

The dynamics of online communication are thus the main focus of this study, which deals with the issue of reputation, whereby messages are generated online by a sender or multiple senders and perceived by a receiver or multiple receivers.

Understanding the role of online content as a potential proxy for the creation of a tourism destination's reputation in online media is challenging for the tourism industry, which is intrinsically reputation-dependent. In fact, the only way to determine whether a place is worth visiting is to visit it. Moreover, research on how to analyze online content as a mediating source of information which might drive a perceived reputation in online media and, in turn, might be an influence on reputation is in its infancy. There is thus a need for theoretical investigation into the conceptual basis of the reputation phenomenon. Moreover, studies on information communication technologies can benefit from research about the formation of reputation as a new area for the investigation of measurement indicators and definition of variables. This research also aims to provide practical guidelines for tourism managers who want to analyze the reputation of a tourism destination in online media. This study will further allow researchers and marketers to identify potential areas of strength and weakness of a destination attractions' system through a systematic analysis of the online contents.

1.2. Outline of the Study and Research Objectives

The perspective chosen for this research is rooted in the studies of media effects, social psychology, and organizational reputation; that is, it presents an analysis of the intangible assets of an organization as defined by beliefs and attitudes shared among a group of stakeholders, as discussed in chapter 2.

The analysis of the value generated by (online) intangible assets might be useful for tourism organizations seeking to manage the promotion of a destination — that is, Destination Management Organizations (DMOs). A DMO is in charge of managing the online promotion of a tourism destination. A DMO can thus be considered an actor that wants to manage its reputation both from the standpoint of appeal (i.e., it seeks to attract tourists), and in order to reinforce the brand of the place over that of the competition. A clarification of the differences between a company and a DMO will be provided during this study. The value of a tourism destination is shaped by several factors; however, it is known that all the actors involved with a destination contribute, voluntarily or involuntarily, to the attractiveness of a place. Thus, it is possible to argue that a destination has certain behaviors, and generates a performance that people then judge. Mapping the reported judgments as expressed online, or the experiences of past tourists regarding topic destination dimensions will allow a DMO to identify whether the public

opinion shared about a destination online is favorable or not. This online content might be considered an unstructured response to satisfaction surveys. Reputation is a social construct and requires a third party in order to be perceived and used. Reputation may generate consequences, as tourists' decisions to visit a particular place will result in business opportunities there. However, more than an economic interest provokes this research — there is also a communications element to the motivation: the way in which a place is portrayed and whether it is perceived as attractive both affect the opportunity for prospective tourists to discover new cultures, traditions, natural attractions, etc., or, conversely, might reduce the chance of knowing a place and sharing knowledge between people.

Given the above assumptions, two research phases were outlined to answer to the following research questions:

1. *What are the message cues to analyze and what are the consequences of this reputation in an online information elaboration process done by prospective travelers?*

2. *eWOM tourism destination-related contents might generate a perceived reputation of a tourism destination in online media?*

The first question is related to the definition of a protocol of analysis for the investigation of online contents about tourism destinations. In particular, a framework is proposed to capture the dimensions of the major topic and the sentiment expressed in social media content. It represents the first research phase of this study. Online content analysis and an investigation of users' perceptions have been performed in order to refine the theoretical framework. Moreover, a coding test is performed with untrained users in order to reveal users' agreements on coding about the topic, and the feelings expressed on social media pages.

The empirical investigation represents the second research phase of this study. It is conducted through a quasi-experimental design via online survey with American respondents focusing on the effects of online message cues in the confirmation/disconfirmation of prior belief about tourism destinations.

Table 1.1 provides an overview of the research and its structure, outlining research objectives, methodologies applied, and respective and overall outcomes.

Overall research goal			
Understand the existence of a perceived reputation in online media about a tourism destination from the opinions expressed online, and provide a framework for investigation of reputation in online media within the tourism domain.			
Specific research objectives			
Phase A1 (see Chapter 3)	Phase A 2-3 (see Chapter 3)	Phase A4 (see Chapter 3)	Phase B (see Chapter 4)
Classification system development (eTDR framework)	A2: test via online case studies; A3: self-declared level of relevance of online contents	Online contents coding test with untrained web users	Investigation on the perceived reputation in online media
Methodology			
Literature and Interviews	A2: Content Analysis; A3: Survey	User test	Quasi-Experiment via Online Survey
Main outcome			
Thematic and attitudinal dimensions definition	Framework refinement	Coding protocol refinement	Message cues effect on dominant opinion expressed online based on statistical analyses of the experiment results
Overall outcome			
Theoretical framework for the analysis of the message cues as drivers that affect the reputation of a tourism destination in online media. The research aims to support tourism marketers to design more effective strategies to attract prospective travelers, and thus enhance the value of a territory.			

Table 1.1. Overview and structure of the research

Chapter 2: Theoretical Background

Overview: This chapter presents the background of the thesis, looking at the interplay of the three main studied elements, namely reputation, online communication, and tourism destinations. In section 2.3, the theoretical foundations of this study are investigated, which are related to media effects studies, in particular to the (new media) agenda-setting and the spiral-of-silence theories, and the information asymmetry, signaling, and dual-process theories. The applied domain, tourism destinations and place branding, together with the role of the web, are discussed in section 2.4, establishing the basis for the practical contribution of this research. Subsequently, an operationalization of the reputation construct is proposed (section 2.5). Measured constructs of the current research in tourism are classified according to their conceptual similarities, with the reputation elements identified and presented in this paper. Actual tourism research in the field of online content analysis are classified according to whether or not relevant studies reflected analyses of instances of public opinion (section 2.6). Lastly, the development of the main hypotheses and research questions for this doctoral thesis conclude the chapter (section 2.7).

Parts of this chapter have appeared in the following publications:

Marchiori, E., Cantoni, L. (2012). The Online Reputation Construct: Does it Matter for the Tourism Domain? A Literature Review on Destinations' Online Reputation, Journal of Information Technology & Tourism, 13 (3):139-159.

Mandelli A., Marchiori E. (2011). Conversation is not Image, Image is not Reputation: Opening up a Conceptual and Methodological Discussion on Current Practices in the Field of the so-called "Online Reputation". Paper presented at the 15th International Conference on Corporate Reputation, Brand, Identity and Competitiveness, New Orleans, Louisiana (USA), May 18-20, 2011.

2.1. Introduction

In order to provide a comprehensive theoretical background for this thesis, it is necessary to look at several research areas from diverse academic disciplines. The thesis connects three overlapping domains:

- Investigation of different approaches to reputation definition and analysis, providing a comprehensive, unifying approach to it, guided by a linguistic/semantic analysis of the very term "reputation".

- Investigation of the applications of reputation in the tourism field, in terms of the reputation of tourism destinations.

- Investigation of the intersection among reputation, online communication, and tourism.

Figure 2.1 illustrates the interdependency of relevant academic disciplines and research areas forming the research domains for this doctoral thesis, and shows how the reputation of a tourism destination in online media emerges as the connecting link.
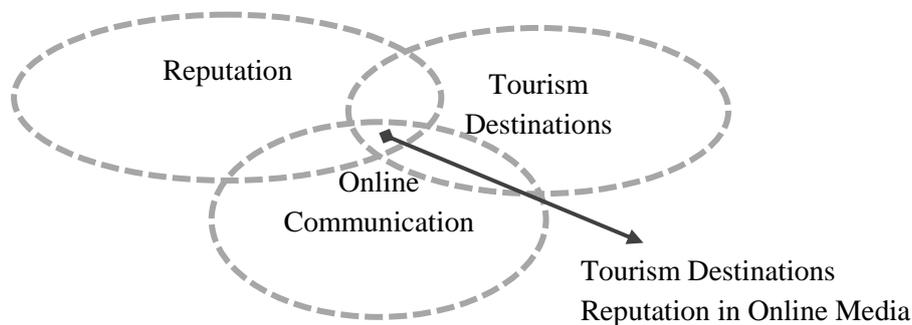
Figure 2.1. The three main studied elements: Reputation, Online communication and Tourism destinations.

The interplay of the three main studied elements, reputation, online communication, and tourism destinations, is addressed as follows: the following sections deal with the research domain — information communication technologies in tourism communication, which provide a description of the key contexts of this study, electronic word-of-mouth and the related public opinions. The theoretical foundations of this study are investigated in section 2.3 and are related to media effects studies, in particular the (new media) agenda-setting and the spiral-of-silence theories, information asymmetry, signaling theory, the dual-process theory. The applied domain, tourism destinations and place branding, together with the role of the web, are discussed later in this chapter (section

2.4), establishing the basis for the practical contribution of this research. Finally, an operationalization of the reputation construct is proposed (section 2.5). Measured constructs of the current research in tourism have been classified according to their conceptual similarities, with the reputation elements identified and presented in this paper. Actual tourism research in the field of online content analysis was classified according to whether or not it reflected analysis of the instances of public opinion, as the contents published online were analyzed as a set of data which contains the online representations of a tourism destination (section 2.6). Lastly, the conceptual development of the definition of the main hypotheses and research questions conclude this chapter (section 2.7).

2.2. The research domain: ICTs in Tourism Communication

The continuous development of Information Communication Technologies (ICTs) during the last decade has had profound implications for the whole tourism industry (Buhalis, 2003; as a noteworthy example) during the last few years both the way of purchasing tourism goods and the way by which travelers gather information and comment on the travel experience, have changed dramatically.

Tourism is an information intensive activity (Gretzel et al.2000) and it is possible to argue that the importance of ICTs in the tourism industry (= eTourism) is due to the purchase process (Werthner and Klein, 1999). However, the rise of the Internet as an information channel creates new opportunities for promotion and marketing strategies in the tourism industry (Buhalis, 2003; Fesenmaier et al. 2010; Xiang and Gretzel, 2000, 2010; Xiang et al., 2008; Inversini et al, 2009, 2010; Marchiori 2010, 2011; Reino et al., 2012). Not only the use of official (i.e., institutional) websites is a challenge for the online presence of a Tourism Destination (TD), also the monitoring of the contributions produce by other users, named user-generated-contents (UGCs) is an activity in which TD managers are investing efforts to find strategies to analyze online unstructured data produced by travelers. eWord-of-Mouth (eWOM) takes generally place within social media websites, which allow users to easily upload contents such as texts, videos, and photos. Scholars have studied the presence of social media on the first pages results of search engines (Xiang and Gretzel, 2010), underlining how those websites are playing an important role as information sources for prospective travelers (Xiang, Wöber and Fesenmaier, 2008), and negative online conversations found during online search can affect the final decision-making process. Fogg (2001, 2003) and other scholars (Arsal et al. 2009; Kim and Fesenmaier 2008) argue that the Internet is a particularly effective

communication medium to persuade people. This is particularly true in the online tourism domain (Kim and Fesenmaier 2008), where the message found online, through institutional or non-institutional websites (senders), represents the mediated experiences for a prospective traveler or for a tourism player (receivers), who would like to have information regarding a tourism destination. The way in which the message is presented along with its context, can persuade people during their decision-making process to visit a given destination.

Applying Jakobson's Communication Model (Jakobson, 1960) in the Tourism domain (see Table 2.1), it is possible to define similarities between the communication acts among tourism sender(s) and receiver(s). The basic concept of Jakobson's theory is that verbal communication consists of six factors: addresser, message, addressee, context, code, contact (see table below). These factors are also presented in the online tourism domain as a space where a written communication is shaped:

Table 2.1. Application of Jakobson's Communication Model in the Tourism domain

Jakobson's Communication Model components	Jakobson's Communication Model: Factors description	Online Tourism Domain Application
Addresser	Who sends a message	The website owner/user who posts a message (can be an institutional, non-institutional source). In the online environment is possible to identify a multi-senders.
Message	The information sent by the addresser	The information published online, and the physical characteristics of the landing page of the websites within which the message is shaped.
Addressee	The one to whom the message is delivered	The person who accesses the message (can be a prospect traveler or an organization). In the online environment there a multi-receivers.
Context	The general environment to which the message refers or exists in	The tourism destination itself.

Code	The mean through which the 'addresser' and the 'addressee' communicate	Texts, videos, photos, audio…
Contact	The physical channel and psychological connection between the addresser and the addressee, enabling both of them to enter and stay in communication	The web channel (used as info source or communication channel by the addressees).

Table 2.1 (continued). Application of Jakobson's Communication Model in the Tourism domain

The focus of this study is the message sent by the addresser in the tourism context and published online, with a focus only on textual elements.

According to a recent study from Li, Pan, and Zhang, (2009), a prospective traveler is influenced by the affective components expressed on social media websites (e.g. declaration of the experience satisfaction, hotel-restaurants' reviews, recommendation of things to do once arrived at the destination). Moreover, a recent analysis of Nielsen Global Online Consumer Survey (April, 2012), shows that 92% of consumers around the world say they "trust earned media, such as word-of-mouth and recommendations from friends and family, above all other forms of advertising—an increase of 18 percent since 2007" (Nielsen, 2012). Therefore, social media websites are perceived as equally trustworthy as official websites. However, web marketing strategies and the Internet itself are continuously changing, and it is becoming more and more difficult to recognize official sources or viral marketing activities posted online; thus the investigation of the overall dominant opinion perceived aims at putting basis for research in reputation in online media.

2.2.2. The key context: electronic-Word-of-Mouth

Arndt (1967, p.3) defines word-of-mouth (WOM) as: "oral, person-to-person communication between a receiver and a communicator whom the receiver perceives as non-commercial, regarding a brand, a product or a service".

Blackwell et al. (2001, p. 404) revised the definition of WOM, underlining the concept of "informal transmission of ideas, comments, opinions, and information between two or more individuals, neither one of which is a marketer." WOM represents a communication channel for marketers, and it has been shown to be a more effective

marketing communication tool that many of the traditional ones (Gruen et al., 2006). However, due to its volatile nature, WOM results are difficult to control, but may be powerfully used for marketing purposes. Indeed, according to early studies in WOM, it is usually associated with the concept of decision-making, due to its powerful influencing role (Katz and Lazarsfeld, 1955; Arndt, 1967).

WOM can exercise its role as an influential element, when:

- consumers have little knowledge and experience with an object;

- the object is intangible and difficult to evaluate;

- perception of a high risk in the decision making;

- high involvement in the purchasing decision.

The Internet allows one-to-one and many-to-many communications, and in this arena, it is possible to find shared opinions that compose electronic word-of-mouth (eWOM). Hennig-Thurau et al. (2004, p. 39) refer to eWOM communication "as any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet".

Thus, the Internet allows people to share opinions and experiences easily online, in the form of text, audio, or video/pictures, which work as an information source in the marketing communication mix, and helping potential consumers to find information that matches their needs (Chen and Xie, 2008).

Sharma et al. (2012) illustrated the eWOM ecosystem, referring to the terminology framework designed by the Word-of-Mouth Marketing Association (WOMMA), in which the eWOM has functionalities, attributes, relationships, and behaviors (such as hits, downloads, streaming, sales, and revenues that may be derived).

The eWOM eco-system can be summarized as (Sharma et al. (2012):

- participants (senders or receivers of information), and actions, which are the activities that a participant performs on WOM units, such as reading a blog post, replying or composing a comment, or recommending or suggesting content to others.

- WOM unit: a consumer generated online message such as posts/comments.

- Venues: locations where WOM activities take place, such as social media or virtual communities (Sharma et al., 2012).

As can be seen from the above definitions, eWOM can be considered an unstructured source of sentiment/feelings.

Another key element in the analysis of eWOM is the concept of the reference group (Blackwell et al., 2001), which is a group of people who significantly influence the behavior of an individual. As observed in Blackwell et al. (2001), in the online environment we may encounter several reference groups, and the nature of their influence can be:

- normative influence, which appears when people alter their beliefs or behaviors to conform to the expectations of others (Homans, 1961);

- value-expressive influence, which occurs when there is a need for a subject to have a psychological association with a group (Bearden and Etzel, 1982); or

- informational influence, which occurs when people perceive the opinions of others as valid evidence about reality (Calder and Burnkrant, 1977).

Moreover, Blackwell et al. (2001) notes that a reference group's influence may be higher in the following cases: in the presence of a high desire for social acceptance, if a person has little experience with the object, in a case of public conspicuousness of purchase and use, or in a case of complexity of products or luxury items.

In the tourism domain, eWOM has an increasing role in shaping the representation of a destination. Online, tourism destinations are accessible through search engines, and it is possible to find official destination and attraction websites (e.g. cultural heritage attraction websites) as well as unofficial blogs, online communities, social networks, personal websites, etc. (Thevenot, 2007; Xiang et al., 2009). Search engines are offering – together with "official" institutional information – many stories produced by ordinary people. Moreover, unofficial websites are competing to reach end-users, presenting almost the same information as official websites do (Inversini and Buhalis, 2009). Social media enable travelers to share information, in a context in which the end-user has become information consumer, player and provider (Nicholas et al., 2007). Finally, websites offering eWOM messages – be their texts, images, videos and/or audios – are more likely to provide emotionally rich pieces of information, and to have an impact on the reputation of a destination.

2.2.3. Definition of public opinions

The essential elements of a public opinion are the "opinion" itself and the "public" dimension of sharing that opinion among a group of people.

Opinion is the cognitive/evaluative connection between the person and the object. Two elements to be considered are:

(a) Opinions can be held only on debatable topics/cognitive objects: I cannot have the opinion that 2+2 is 4, or that the name of the US President is Obama. This is knowledge (in ancient Greek the distinction between *opinion* and *knowledge* is manifested in the opposition between *doxa* and *episteme*);

(b) opinions do usually entail an evaluation, they are then based on a value system, which may be different for different people.

To summarize, from an epistemic point of view there is room for opinions as long as the knowledge is not certain; from an axiological/evaluative point of view, opinions are oftentimes linked with an evaluation, so opinions can be also about science, as long as an evaluative element is included. E.g.: Lorenzo's son's perspective: "Lorenzo is 44 [this is knowledge] and puto (= I have the opinion) that he is quite old", versus: Lorenzo's rector's perspective: "Lorenzo is 44 [this is knowledge] and puto (= I have the opinion) that he is quite young".

The sphere of "public" opinion refers to information available and accessible to everyone. It also involves the concept of aggregate views of beliefs, attitudes, and opinions among a group of people. There is, however, no standard definition of public opinion, as it varies depending on the different perspectives from which scholars approach the issue (Splichal, 1999).

An early contribution to this issue was the work of Lippmann in 1922. In his book *Public Opinion*, he applied his research to the political context, arguing that people need a sort of map or maps in order to know and interpret the world. Having a "map", a sort of pre-information, people tend to respond to a "pseudo-environment", in particular when they do not have direct experience with an object. Lippmann also raised the problem of trustworthiness and honesty of information sources. In particular, mass media as information sources represent the main channels through which information is shared among people, which in turn helps the public to create its own opinion about reality, or a distorted version thereof. The main approach to research in public opinion involves considering the aggregate analysis of public opinions as a method of collecting messages expressed by disparate individuals, and analyzed statistically. However, critics of how to represent and measure public opinion are numerous (Splichal, 1999). They point out, for example, the fact that the random sampling procedure in public opinion survey research

cannot ensure the representativeness of the entire population; the artificial representation of the reality generated by statistical aggregation of opinions; and several inequalities within a society that a public opinion analysis might reveal, such as unbalanced education representativeness and media access (Splichal, 1999).

Nevertheless, as indicated above, with the advent of the eWOM we enter a new sphere of analysis in which it is possible to find many instances of public opinion. In particular, the character of social media allows large numbers of people to participate in the public opinion-building process. However, research in this field is still in its early stages (Zhou and Moy, 2007). Since eWOM and the related opinions shared online serve as an information source and a potential new public sphere, theories related to its media effects and information processing are relevant in this context and are addressed below.

2.3. Media effects studies

In this study, a review of the main theoretical perspectives and empirical findings in the field of computer-mediated communication (CMC) is provided, with a specific focus on the role CMC plays in the context of perceived public opinion online in the tourism domain. Computer-mediated communication (CMC) systems, defined as "any communicative transaction that occurs through the use of two or more networked computers" (McQuail, 2005, p. 551), have become an integral part of many interpersonal relationships. Thanks to CMC, it is possible to share and read others' opinions, and thus continually form and re-form our impressions and evaluations about products, services, people, places, and countless objects (Walther et al, 2009). However, the way CMC affects communication among individuals and how people form their opinions are still open questions in interpersonal CMC research (Walther and Parks, 2002; Walther, 2010). When addressing the topic of computer-mediated communication, Walther and Parks (2002) make distinctions among different theories, which are classified according to the way users respond to the characteristics of CMC systems, and which are:

- cues-filtered-out theories, which argue that the nonverbal cues characteristic of CMC lead to impersonal orientations among users;

- experiential and perceptual theories of CMC, referring to the communicators' characteristics, which in turn might affect the perceived communication systems; and

- cues-filtered-in theories (such as interpersonal adaptation and exploitation of media), which reflect the ways in which communicators treat the cue limitations of CMC systems compared to face-to-face communications.

Following the cues-filtered-in theories, a theory relevant to this study is Social Information Processing Theory (Walther, 1992; 2009), which states that online interpersonal communication is a function of the content, style, and timing of verbal

messages. In particular, the temporal dimension seems to be a crucial element in the development of an impression, due to the fact that a CMC requires more time for impression development, as it contains less information than a face-to-face interchange. However, as noted by Antheunis et al. (2010), the advent of social media added a new perspective to Social Information Processing Theory, as social media are characterized by pictorial information and elements of socio information/affective components which might reduce the uncertainty in communication among strangers, and thus increase the effectiveness of an online message.

2.3.1. (New Media) Agenda Setting and Spiral of Silence theories

Agenda Setting theory (McCombs et al., 1972; Weaver et al., 1981) receives extensive support from empirical evidence in the literature, which posits that media coverage affects the development of individuals' opinions about social issues. This theory connects media coverage (salience about an object in mass media) to a public agenda (the perception about the object within a group). The two dimensions of agenda-setting are analyzed:

- media salience, first order: represents the prominence of a topic, meaning the selective attention of the public to a specific object; and

- media salience, second order: refers to favorability — that is, the attitude/evaluation of the object (positive or negative tone/opinion polarity).

With the advent of social media and the related eWOM, research has expanded its interest to the new media domain (see Figure 2.2). McCombs (2005, p. 546) argues that, "whether the basic agenda setting effects of news media continue in much the same fashion as the previous decades or eventually disappear because of the changing media landscape, measuring these effects will remain high on the research agenda for at least the near term". In a recent study, Meraz (2009) investigates the influence of traditional media on social media agenda-setting in political blog networks, showing how the agenda-setting of traditional media has lost power. In her study's conclusions, Meraz (2009, p. 701), argues that "as predicted by long tail media theory (Anderson, 2005), citizen media's efficacy (e.g. eWOM) is in its aggregate effect, an effect which is able to blunt traditional media's singular agenda setting effect." However, the assessment of the effectiveness of the agenda setting implications (e.g. a change in public agenda) cannot be reduced to the analysis of prominence and tone, but should also consider the extent of people's exposure to the messages, their level of interest towards the topic, and the overall credibility of the contents viewed. A person's perception of public opinion in online media can be influenced by several things.
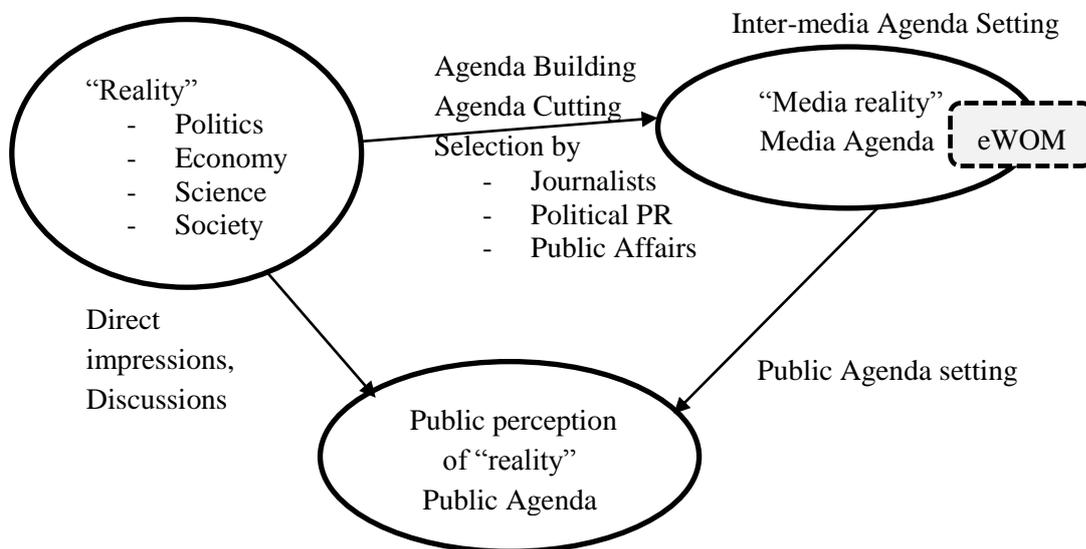
Figure 2.2. Media reality, the Public Agenda (McCombs et al., 1972, 2005), and the role of eWOM

Different theories have helped researchers understand how perceived opinions might differ from measured opinions analysis. In particular, the spiral-of-silence theory (Noelle-Neumann, 1974) suggests that a perception of a homogenous opinion within a society might influence people to conform to that opinion or keep silent.

This situation may be due to the fact that individuals who perceive themselves as part of a minority are often unwilling to expose themselves because of their fear of being isolated, creating the so-called "spiral-of-silence process" as the coverage of certain opinions generates the impression that those opinions are the dominant public opinion.

According to Ho and McLeod (2008), people involved in computer-mediated communication (CMC) are more likely to expose their opinions, due to the possibility of maintaining their anonymity. Therefore, in complex media environments such as the Internet, people can find alternative sources of information that help test the agenda climate and increase their exposure to public opinions. However, the overwhelming amount of information available online might activate shortcuts in the message perception and distort the representation of an object, such as the object in this study representing a tourism destination.

2.3.2. Information Asymmetry and Signaling theory

In the decision-making process, having access to full information is one of the key issues in ensuring a decision. However, having access to full information about a product or service is an ideal, rather than a realistic, situation. In this regard, Akerlof (1970) introduced the concept of a "market of lemons", describing a situation in which information about different objects is not equally distributed, and the supply or demand side lacks knowledge about the quality of products in relation to the price at which they are offered (Baggio and Baggio, 2011). However, it is not unusual for people to find solutions accidentally to the problem of information asymmetry. In the economic literature, signaling theory (Spence, 1973) postulates that some observable attributes of a person or organization can serve as a signal of quality in a context of information asymmetry. The notion of a signal of quality can be interpreted variously, but as in Connelly et al. (2011, p. 42), can be generally defined as the "unobservable ability of the signaler to fulfill the needs or demands of an outsider observing the signal". This theory is particularly relevant in reputation studies as, for an organization, be associated with good or positive messages (signals) can be considered as indicators of good quality of the organization itself (Kreps and Wilson, 1982). Connelly et al. (2011), in their review of signaling theory's components, identify the main elements at play (Figure 2.3): the signaler, the receiver, and the signal itself. The signaling timeline shows the possibility of feedback generation by the receiver.

Time 1	Time 2	Time 3	Time 4
--------	--------	--------	--------
Signaler	**Signal**	**Receiver**	**Feedback**
(person, product, or firm) has underlying quality	sent to receiver	observes and interprets signal	sent to signaler

Signaling Environment
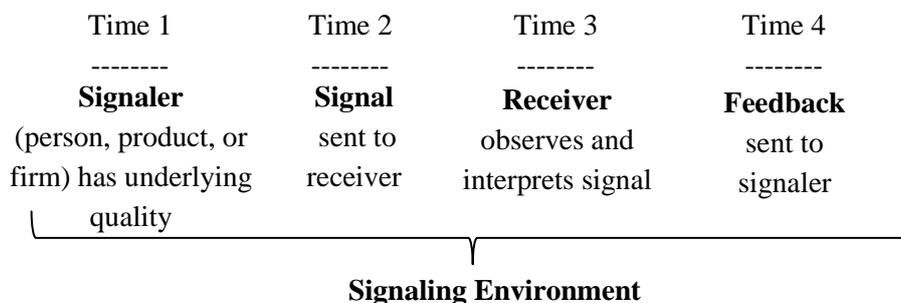
Figure 2.3. Signaling Timeline (Connelly et al., 2011)

Therefore, this theory is particularly relevant to the online domain, as it raises the informational aspects of the messages communicated among different groups. Indeed, the signaling timeline proposed by Connelly et al. (2011) presents possible commonalities between the signaling elements and the online environment: the online domain has multiple signalers (i.e., DMO messages, past tourists), receivers (i.e., prospective travelers), and signals or competing signals (i.e., the online messages, e.g. a majority of people agreeing on the good offers at a destination). Adapting the signaling

components to the online domain regarding tourism destinations, it is possible to argue several implications for research on different online signals (messages, opinions) as elements that might generate a change in the prior beliefs of users about a tourism destination. As well, a destination wanting to communicate its selling points and attractiveness has to deal with an online market in which others actors co-create signals about the place. Therefore, studies focused on understanding how the elements of reputation are shaped online and how message cues are perceived by the public should take into account evidence from such research.

2.3.3. Dual process theory

The dual-process theory (Deutsch and Gerard, 1955; Chaiken and Trope, 1999) is a psychological theory designed to analyze the persuasiveness of received messages. This theory has been considered in this study because it represents a valid aid to the investigation of message cues when it comes to analysis of the perception/influence level of message reception. In analyzing online opinions presented in the form of text messages expressed online, a web user may be affected by several influencing message cues. In the dual-process theory, message cues in two main categories are seen to influence an individual in his/her reception of a message:

i) The informational influence category is related to the message-receiver's judgment of the received information. Three major informational components characterize the message evaluation: the source, the content of the message, and the receiver. Focusing on the content of the message in the online context, Cheung et al. (2009), note that message argument strength and message sidedness (whether the message is positive or negative) are the main cues that might affect message reception.

ii) The normative influence category is related to the norms/expectations of others present in a group or community. This type of influence occurs when common evaluation by a group is present during communication. Focusing on the content of the message in the online context, Cheung et al. (2009) note that message consistency is one of the main cues that might affect message reception. The informational and normative influences have also been studied in the eWOM context, confirming their strong power in message reception (Cheung et al., 2009). Cheung et al. (2009) extend previous research by applying the dual-process theory in an online context; they found that both the information-based components and normative components significantly influenced perceived eWOM review credibility, meaning the extent to which an individual considers an online comment (e.g. a recommendation/review) to be true and/or worthy to be taken into account in future decisions.

The following sections introduce the applied domain (tourism destinations) and the main construct (reputation) addressed in this study.

2.4. The applied domain: Tourism Destinations

2.4.1. Tourism Destinations and Place Branding

Tourism can be summarized as a hedonic consumption experience (Dann, 1996) represented by narratives which function as the attraction system of a tourism destination and which define its cultural identity (e.g., narratives about national histories, literatures, popular culture; narratives on origins; traditions; foundational myths; and national folklore). The concept of a tourism destination (TD) does not match specific geo-administrative coordinates, but rather socially perceived coordinates, which can have different granularity levels: a tourism destination is a complex object, and can be considered as a social construct based on individual and group emotional thoughts about a place (Lawson and Baud-Bovy, 1977). A tourism destination is also composed of a series of services (e.g. transport, accommodation, entertainment, hospitality, attractions) which contribute to the identity of a place. A detailed definition of the concept of a tourism destination, from an organizational perspective, is addressed in Chapter 3 of this study.

The cultural identity of a place, formed by narratives, lives with a commercial need represented by tourism operators interested in providing the experience that tourists are looking for (Go and Govers, 2005; Tasci et al., 2007). Out of this tension between the actual cultural identity of a place and the commercial need to profit and create business there are generated those narratives about a destination which are shaped by different public and private opinions. The management of narratives about a place is generally outside the complete control of whoever has the responsibility to communicate and promote the area.

Destination Management Organizations (DMOs) represent organizations within the tourism industry in charge of the promotion and marketing of a tourism destination, and can be categorized according to the geographical and political level at which they operate. In particular, DMOs can operate at a:

- national level, at which they are called National Tourism Authorities (NTAs) or Organizations (NTOs);

- regional, provincial or state level, at which they are called RTOs, and are responsible for the management of tourism in a geographic region such as a country, state or province;

- local level, operating in smaller geographic areas, such as cities or towns.

The role of a DMO is crucial in the tourism industry, as it represents a key success factor for a country as a whole, as well as for regions and cities, because of its efforts to reach global audience (Buhalis, 2003). DMOs are primarily marketing organizations, in particular dedicated to the development of a destination's image, and to coordinating internal stakeholders to provide tourism products and services to visitors (Gretzel et al., 2006). According to Gretzel, et al. (2006), it is possible to summarize a DMO's main activities as follows:

(i) coordination of shareholders (including the political and business industry representatives);

(ii) leadership role and advocacy for tourism within the local community, in order to create awareness among the residents on the relevance of the tourism industry;

(iii) support on the development of tourism facilities and attractiveness;

(iv) information supporting of the tourist before and during their visit;

(v) assistance to third parties such as tour operators and travel agents.

Therefore, the main focus of a DMO is thus to manage the place branding of a destination, which is related to the process of destination image communication to a specific audience (Govers and Go, 2009). Place branding is a "marketing activity to consolidate and reinforce the recollection of pleasurable memories of the destination experience, with the intended purpose of creating an image that influences consumers' decisions to visit the destination in question, as opposed to an alternative one" (Ritchie and Ritchie, 1998; Blain et al. 2005, p. 331-2).

In other words, a place brand is:

• a representation of a place's identity;

• building a favorable internal (with those who deliver the experience) and external (with visitors) image;

• leading to favorability: brand satisfaction and loyalty, name awareness, perceived quality.

Several approaches exist to destination-brand management; according to Morgan and Prichard (2004), five main phases characterize the brand-building process in destination branding: phase 1) market analysis; phase 2) development of the brand identity; phase 3) launch of the brand; phase 4) implementation of the brand; 5) brand evaluation and monitoring. Establishing a destination-brand loyalty is the ultimately aim of a destination-brand-building process.

Several steps should be taken into account by destination managers, including brand awareness, brand associations, and brand loyalty, all of which are crucial to the creation of a positive perception/mental representation of a destination to prospective travelers. Opinions shared online play a role in the creation of brand associations, awareness and, ultimately, destination brand loyalty, and represent a concern for tourism marketers, as the analysis of clear steps in their management is still under research and development.

2.4.2. Tourism Destinations and role of the Web

From a social science perspective, Dann (1996) in his book "The language of tourism: a sociolinguistic perspective" argued how tourism, in the act of promotion, has a language of its own and through texts, pictures, brochures and other channels attracts people to become tourists, who in turn will then communicate their experiences. As investigated in this chapter, a communication circle is emphasized by the role of the web, and in particular by the role of eWOM. In particular, web 2.0 with the related eWOM, raised new opportunities for the DMOs in the relationship between prospective tourists and the destination itself.

- From the DMO's point of view, the Internet has become the primary channel for planning and communicating the promotional messages, enhancing destination's performance on the global tourism market (Xiang et al., 2008; Cantoni et al., 2009).

- From the prospective tourist's point of view, the Internet has become the primary channel for information and holiday planning and booking (Pan and Fesenmaier, 2006; Xiang et al., 2008)

The main way the DMOs use for interacting with tourists is their official website (Choi et al. 2007) promoting the destination image and providing information about the destination. However, together with the official websites other information sources are concurring on the generation of information around a place (Xiang and Gretzel, 2009). Internet conversations act as a mediated experience, through which the messages spread online are used by both, prospective tourists and DMO managers, and both are concurring to generate contents online, e.g. commenting reviews, asking for tips, describing places. Results of a recent study by Li, Pan, Zhang (2009) showed that affective image components significantly change after the Internet exposure of a prospect traveler. In fact, as Peter and Olsen (2002) underlined, online sources, particularly online social media, can be more effective in terms of eliciting affective responses. Moreover, as in Govers and Go (2009), people's perceptions of places, without prior visits, will be co-created in their connection with others or based on what

they have seen on television, in virtual representations online, in magazines…etc. Taking into consideration the online contents, these could be the sources where new place identities are created (Blain et al. 2005; Govers and Go, 2009). The amount of online contents represent a platform where it is possible to have a mediated experience and to get image projections as prospective travelers or as destination management organizations DMOs (who are the actors of this study). Both of them are interested: the former for information seeking and the latter to study its online image (= what prospective travelers can perceive from online contents. Are these contents consistent with the place brand strategy?). Since eWOM is generally beyond DMO's control, destination marketers have found challenging to use it (Li, Pan, Zhang, 2009), while the online presence is within a DMO's place brand strategy.

The extent to which the actual place experience meets or exceeds expectations will determine the level of visitor satisfaction (Govers and Go, 2009). Govers and Go (2009) described this situation as "place brand satisfaction gap" whereby unrealistic or incomplete place images have been projected, or people's interpretation of the place images is distorted because of several reasons, among which information generated by eWOM.

As such, the opinions about a destination shared in the eWOM context, represents a central concern for destination managers who try to manage the way the products and services within the destination are communicated (e.g. avoiding a place brand satisfaction gap, avoiding that a place failed to be chosen as a destination worth to be visited). Indeed, several researchers (Morgan et al. 2004; Go and Govers, 2005) have noted that the emergence of social media has forced destination managers to rethink branding strategies (Xiang and Gretzel, 2009), suggesting a shift from an "architecture" brand perspective (Morgan et al., 2004), to a "live context perspective" where travel markets "are conversations," and where the monitoring of online conversations should represent the first phase of any destination marketing strategy.

2.4.3. Image versus Reputation

Destination image studies find their main application in destination brand analysis, focusing on the way managers emphasize the use of resources to achieve a customer response (input perspective), or focusing on the way customers interpret and use resources to enhance a personal experience (output perspective) (Ritchie and Ritchie, 1998; Tasci et al., 2007). Researchers agree that even if image is different from branding, branding is created through image and therefore several related concepts might overlap (Gartner, 2003; Govers and Go, 2009). The analysis of image perception appears to be the focus of the majority of the studies in that field.

Hence, image can be generally summarized as: "the perceptions of individual destination attributes …[and] the holistic impression made by the destination. [It]… consists of functional characteristics, concerning the more tangible aspects of the destination, and psychological characteristics, concerning the more intangible aspects. Furthermore, [it]… Can be arranged on a continuum ranging from traits which can be commonly used to compare all destinations to those which are unique to very few destinations" (Echtner & Ritchie, 1993, p. 8)

This definition seems to encounter agreement among the tourism science community in terms of what constitutes destination image; however, a uniform definition is far from being established.

Another terminology issue which needs to be clarified is that between image and perception. According to Fridgen (1987, p.102), image is considered "a mental representation of an object, person, place, or event which is not physically before the observer". This definition emphasizes that the presence of environmental stimuli is not necessary; thus, image may or may not include perception.

Image is also confounded with the concept of reputation. A helpful clarification comes from studies in corporate communication, and in particular from the *Journal of Corporate Reputation*, in which image and reputation are constructs well-defined as distinct from each other. Reputation is considered the overall attractiveness of the company to all of its constituents, a sort of meta-belief: a belief about belief and evaluations which might help in the absence of direct experience (Fombrun, 1996; Fombrun and Shanley, 1990). From this perspective, image cannot overlap with the reputation of the company, as it is considered a mental representation of what an individual thinks about a company. Conversely, reputation is what is narrated about a company among a group of stakeholders. Thus, reputation requires verbalization of the image. However, a reported experience at the individual level is not enough to be

considered reputation: the opinion must be shared among a group of stakeholder (Figure 2.4) (Mandelli and Cantoni, 2010).

Therefore, image assumes the potential to activate reputation as soon as it is propagated within the relevant population. It is also useful for guiding the actions of people who do not have direct experience of the object in question.

IN = mental representation ➔ **IMAGE**
perception of attributes (I think)

OUT = verbalization ➔ **<u>REPUTATION</u>**
opinion shared among a group of stakeholders (we tell)

Reputation must be <u>communicated</u> in order to be effective
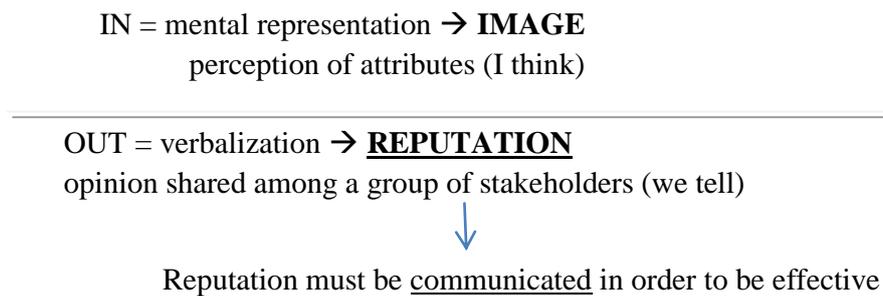
Figure 2.4. Main differences between image and reputation

These measurements for investigations of a destination's image are generally developed with a psychological perspective, particularly in information-processing studies. Four main theory streams can be considered as foundations in destination image studies:

• **Attribute-based (piecemeal) theory** (Keaveney and Hunt, 1992) posits that individuals' evaluative impressions are formed on an elemental or "piecemeal" basis. In this theory, information/attributes are perceived as new each time, and the overall judgments are formed by combining these new information/attributes.

• **Category-based theory** (Keaveney and Hunt, 1992), recognizes that individuals do not face a new stimulus as a new experience, but compare incoming data against information stored in memory. Individuals will first attempt to match stimuli to known categories stored in memory.

• **Heuristic-Systematic Model of Information Processing** (Chaiken and Trope, 1999) attempts to explain how individuals are more keen to reduce their use of cognitive resources, thus affecting the intake and processing of messages.

• **Consumer involvement theory** (Poiesz, 1989) refers to the involvement of individual emotions (e.g. emotional / rational, desire versus logic) in market related behaviors, such as how much time and resources people devote to the purchase process.

The application of these theories in the tourism domain for the investigation of destination image draws on the work of Gartner (1986), introducing the cognition investigation of the image. Indeed, it has been determined that a consumer will evaluate a destination on the basis of attributes and activities if these conditions are applied:

A. central-systematic processing;

B. piecemeal-based processing,

C. high-involvement

This cognitive approach considers "the consumer as a logical thinker, who forms impressions by evaluating objects, attribute by attribute, each time" (Gartner, 1986).

Studies done by Crompton (1979) bring into image studies the affective component, which is the sum of beliefs and impressions. His assumptions are based on the following conditions:

A. peripheral (heuristic) processing,

B. category-based processing,

C. low-involvement

This affective approach considers the fact that the consumer tries to simplify the evaluation process by using different criteria depending on the situation in order to reduce the resources required for the interpretation of new situations.

As seen in Figure 2.5, the three main components of image can be summarized as follows: two components relate to mental responses to stimuli in the environment, a) cognitive components (i.e., what someone knows or thinks he or she knows about a destination) and b) affective components (i.e., how one feels about this knowledge); and a third component, introduced by Um and Crompton (1990), is related to behavioral/attitudinal components — c) conative components (i.e., how one acts on the information and how he or she feels about it).

Cognitive components	Affective components	Conative components
Mental responses to the stimuli in the environment	How one feels about this knowledge	Behavioral/attitudinal components (Um and Crompton, 1990)

Figure 2.5. Image components (Gartner, 1986; Crompton, 1979)

An analysis of the factors influencing destination image formation reveals the basis for the analysis of reputation. Studies on attitude determinants in tourism destination choice (Um and Crompton, 1990) reveal that external and internal inputs concur on the formulation of a tourism destination choice at different levels. In particular, reputation can be considered part of the external inputs — social stimuli (Howard and Sheth, 1969) (e.g. word-of-mouth), which can affect the information processing in a passive phase (which turns on awareness), and/or in an active information search (which turns on selection of a place to be visited). Studies from Beerli and Martin (2004) applied the Um and Crompton (1990) approach, and revealed that information source factors (primary and secondary sources), along with personal factors such as motivations, vacation experiences, and socio-demographic characteristics, are the main factors influencing destination image formation. As in Um and Crompton (1990), the secondary-source information (external inputs) is the official information from institutional sources, autonomous sources (i.e., magazines, guides sources), and organic sources (i.e., recommendations from friends, family and word of mouth). In particular, the organic source seemed to be the most influential sources of information in destination image formation. Bringing these issues into the online domain, organic sources can be represented by online conversations; the need to understand their effect should thus be investigated.

2.5. The key research issue: the Reputation construct

The concept of reputation has been a part of studies spanning many fields and approaches, such as the analysis of the reputation formation from different sources, the influence of the reputation on decision making processes, the Reputation as a business asset of an organization, demonstrating that there is a broad application of this concept. Therefore, defining the reputation construct is a very complex issue, especially while applying this concept in a different context, such as the web. According to the Oxford dictionary (Oxford English Dictionary, www.oed.com), reputation can be considered as "the condition, quality, or fact of being highly regarded or esteemed; credit, fame, distinction; respectability, good report", and "the estimation in which one is held; character in public opinion; the character attributed to a person, thing, or action". The reputation concept is applied to different fields of research assuming somehow different meanings. An investigation on how these approaches are using the concept of reputation might help in the definition of the construct itself, enriching it by the contributions provided by different disciplinary perspectives.

From a psychological perspective, reputation is considered as a phenomenon occurring for the sake of simplification: "it's a form of reassurance against inner discomfiture caused by ignorance" (Bergler, 1948, p. 680). Reputation can be considered as the amount of cognitive associations related to an object which drive the stakeholders' behaviour. The input is memorized if connected with a signification system, e.g. relevance, similarities, differences, and stored on the short term memory. If the input is repeated, it will be eventually memorized on the long-term memory (Jackman, 1990).

From a sociological perspective, reputation is considered as a collective agreement about an actor's attributes or achievement, based on what the relevant public "knows" about the actor (Lang & Lang, 1988; Camic, 1992). This perspective also views reputation as a social construct, which acts as evaluation assessment of many factors that give a certain degree of legitimacy to an actor and to the network context within which it operates.

From an economic perspective, reputation is considered as a cognitive interpretation of the organization performance gathered by stakeholders, shareholders and managers to construct meaning for the organization itself, and the amount of consumers' expectations and beliefs about a firm's products quality (Shapiro, 1983; Allen, 1984; Weigelt & Camerer, 1988). From this approach, reputation is perceived as one of the most important success factors of an organization, as it allows stakeholders to trust and cooperate with the company so that transactions are carried out with low trading costs. Organizations' culture and identity become key elements to build a reputation and organization's behaviors are the unit of analysis. According to Rindova et al. (2005)

organizational reputation comprised two dimensions: a perceived quality dimension, which is related to the evaluation of an organization made by its stakeholders on a specific attribute; and a prominence dimension, which is related to the collective recognition of an organization in its organizational field.

From a marketing and corporate communication perspective, reputation is considered as a perceptual representation of a company's past actions and future prospects that describes the firms overall appeal to all of its key constituents when compared with other leading rivals (Fombrun, 1996, 1999; Dowling, 2008). Reputation is also considered as the perception of quality associated to a company or brand, in terms of cognitive and affective meanings attributed by consumers to a product or service. These meanings are generated based on contacts established between the consumer and the company/brand (Shamsie, 2003). In this perspective the distinction among identity: the essence of a company, image: what an individual thinks about a company made by perceptions about the object, and Reputation: the opinion shared among a group of stakeholders, has been developed to inform the communication strategy of a company (Dowling, 2008). These elements at play, form the company's corporate communication assets, and Reputation is analyzed as the perceptions which are stable on regards the behavior of the corporation itself.

Defining standard models for reputation measurement has been the challenging goal of more application-oriented research institutions, such as the Reputation Institute, which aims at providing reputational ranking of corporations through an analysis of stakeholders' perceptions. Standard dimensions and indexes allow: (i) reputation monitoring of a company over time; (ii) reputation comparison among competitors (index of best reputable companies in a specific sector); (iii) comparing reputation data with other data, such as finances data, in order to investigate weaknesses or strengths. Reputation models like RepTrack and Reputation Quotient, both developed by the Reputation Institute, divide the object of analysis, a company, in company's performance dimensions. These reputation dimensions are: products and services, innovation, workplace, governance, citizenship, leadership, and performance.

Stakeholders' perceptions are classified according to the above mentioned dimensions, through the analysis of cognitive components (beliefs) and attitudinal components (affect-based), expressed in form of feelings, such as: esteem, admiration, trust towards a company. The reputation of a company is then inferred from the aggregate analysis of the stakeholders' feelings about it (Mandelli and Cantoni, 2011). Under this perspective, the agenda-setting theory introduced the analysis of media as a reputation creator. According to the media effect concept to which "media can shape people mind" (Carroll and McCombs, 2003; Carroll, 2004), the impact of media visibility on firm's name

recognition, demonstrated that a firm's appearance in the news had a stronger effect on its standing among the public than either advertising or news releases. Content analysis and survey represent the main methods used in these processes of reputation search, aiming at collecting the amount of media coverage of a company and at correlating them with a survey's respondents knowledge about the company itself (Carroll and McCombs, 2003).

A brief linguistic analysis – based both on the etymology of the word "reputation" as well as on its semantic structure (Rigotti et al., 2006) – can help us provide a unifying view, which may be helpful in harmonizing all the previous perspectives, without losing their individual peculiarities. "Reputation" is a de-verbal noun, derived from the verb "Reputo". "Reputo" comes from the Latin language, and is made of the prefix "re-" and the verb "puto". Puto means having an opinion, considering something in a specific way, at the same time acknowledging that others may have different opinions. I can "puto" (= "have the opinion") that Lorenzo is about 50 years old as long as I do not see his own passport or id card, once I've got the exact information I cannot say "puto" but have to say "cognosco"/"know".

"Puto" is a predicate whose (hidden) semantic structure can be reconstructed as follows: P(Person, Opinion, Object, [Sources]). Hereafter the four arguments of the predicate:

- Person: human beings may have opinions, God knows everything perfectly, while things without conscience cannot have thoughts. Opinions are held about something – an object – which has to be of interest for the person having them, hence we can call that person a stake-holder.

- Opinion: is the cognitive/evaluative connection between the person and the Object. Two elements are to be considered: (a) Opinions can be held only on debatable topics/cognitive objects: I cannot have the opinion that 2+2 is 4, or that the name of the US President is Obama. That's knowledge (in ancient Greek this opposition was manifested in the opposition between doxa and episteme); (b) opinions do usually entail an evaluation, they are then based on a value system, which may be different for different persons. To summarize: from an epistemic point of view there is room for opinions as long as the knowledge is not certain; from an axiological/evaluative point of view, opinions are oftentimes linked with an evaluation, so opinions can be also about science, as long as an evaluative element is included. E.g.: Lorenzo's son perspective: "Lorenzo is 44 [this is knowledge] and puto (= I have the opinion) that he is quite old", versus: Lorenzo's Rector perspective: "Lorenzo is 44 [this is knowledge] and puto (= I have the opinion) that he is quite young".

- Object: everything can be object of "puto": human beings, things, deeds, beliefs, etc. As long as something can be thought, a person can have an opinion about it. If a person has an opinion about something, it has to be somehow relevant for her.

▪Sources (this predicate may not be explicit): opinions are based on sources, which may be related to its cognitive component and/or to its axiological/evaluative component. Knowledge sources may be direct experience or mediated experience, e.g.: "I've met Lorenzo, and puto (= I have the opinion) that he is quite an active person", "I believe that the president Obama is not that different from his predecessor". Due to the richness and complexity of human experience, opinions are oftentimes based on a number of different sources. On the axiological/evaluative side, opinions do refer to evaluation/ethical frameworks, which are usually socially shared, e.g.: "Puto (= I have the opinion) that Lorenzo works too much (/ is a lazy person)"; "Puto (= I have the opinion) that this smartphone costs too much (/ is really inexpensive)".

The Puto predicate can be further qualified depending on time and commitment.

▪Opinions can be changed along time, depending on different experiences or changes in referenced value frameworks (e.g.: "Putavi (= I had the opinion) that Lorenzo was lazy, but now puto (= I have the opinion) that he is just tired"; "Putavi (= I had the opinion) that Lorenzo was too severe, but now puto (= I have the opinion) that he is doing what is needed by the circumstances").

▪Individuals may have different commitments to different opinions (e.g.: "I've a strong opinion", "It's just an opinion", …).

Let now move to the prefix "Re-", which means iteration of something, be it at the level of re-peating (re-making, re-producing, …) it as individual instances, or at the level of re-inforcing it; as one can see, in English it has the same value as it used to have in Latin. Applied to puto to form re-puto, it implies always an evaluative dimension. That's why reputation is always marked from an evaluative viewpoint: it's good or bad, but never neutral: It's possible not to have a reputation, but if you have it, it must be somehow good or bad. This is clear in the semantic network of the English term, as analyzed by WordNet (2011):

- (n) repute, reputation (the state of being held in high esteem and honor

- (n) reputation (notoriety for some particular characteristic) "his reputation for promiscuity".

- (n) reputation, report (the general estimation that the public has for a person) "he acquired a reputation as an actor before he started writing"; "he was a person of bad report".

The analysis provided by WordNet shows that, in the first instance, good reputation is the default value. In addition, the prefix re- further specifies puto in two directions: it indicates that such puto is somehow stable across different individuals, as well as across

time. "Re-" reinforces "puto" adding to it a community aspect and a time-stability one; it sort of crystallizes individual volatile opinions into community somehow stable opinions. To summarize those two aspects: (a) the subject who reputes has to be a group of people, and (b) reputation can change, but it is not as volatile as individuals' opinions. This explains why reputation is so closely linked with (mass) media: because they are among the most important sources of mediated experiences of masses of people, as well because they have a major role in informing and shaping socially shared value frameworks.

We can summarize this linguistic/semantic analysis stressing five distinctive elements within the reputation construct (see Figure 2.6):

I. the Opinion, which contains an evaluation (evaluation assessment), about an Object;

II. the Stakeholder, who expresses an Opinion formed through different sources;

III. the relevant Object, which is the holder of the Stakeholder's Opinion;

IV. the Social dimension: the same Opinion (or similar opinions) are connected with the expectations of an individual toward the object and/or values shared among a group of Stakeholders.

V. Long-Term: opinions shared in a society are somehow stable and evolve over time as a result of the evaluation of an Object by a group of Stakeholders.

The re-putation process can be explained by the sum of puto levels.
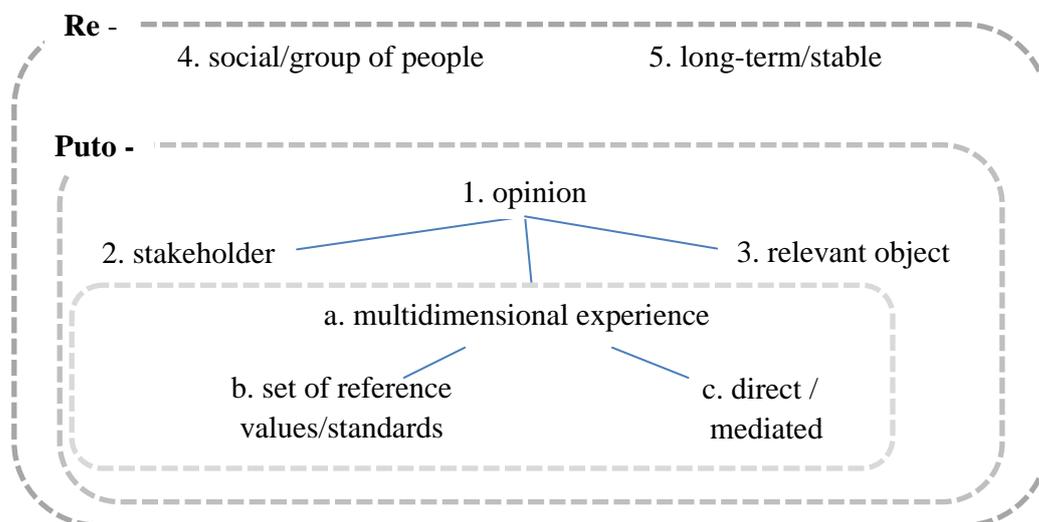
Figure 2.6. Reputation construct components

Let us look at these five distinctive elements within the reputation construct in more detail.

I. Opinion: an opinion contains a feeling which might contain a positive or negative evaluation-judgment about an object. These evaluation-judgments could be related to factual aspect such as the physical characteristics of an object: e.g. the landscape of a tourism destination, the physical aspect of a person, the colors of a company logo, etc. Evaluation-judgments can refer also to the behavior of the object: e.g a company acting in a dishonest manner, a tourism destination which doesn't care about the nature. Thus, an object can have more reputations: for example, a tourism destination can hold a positive reputation for its natural heritage, but a bad one for its pollution.

II. Stakeholder(s): opinions are held by a group of people, who can be considered stakeholders. A large sample and/or multiple case studies are needed in order to investigate more points of view. Moreover each group member has own personal background and demographic characteristics, which might influence the formation of their opinion. On the corporate reputation studies the limit of the stakeholders' personal background is reduced by the consideration of the perception from an aggregate level on which their opinions are collected and analyzed. Stakeholders can form their opinion based on a direct experience with an object, like a purchase of a quality product (Allen, 1984); or through a mediated experience. Within the various experiences it is possible to collect several sources: word of mouth, friends and collegues (Whitmeyer, 2000); through an indirect information gathered by continuous positive actions of a company; from a mix of signals emitted by an organization, such as historical economic performances (Weigelt and Camerer, 1988); from organization's directors who are perceived to have high personal reputations (Weigelt and Camerer, 1988); through the physical trappings of an organizations, like a prestigious address and expensive office furnishings (Whitmeyer, 2000); by the awards or prizes won by an individual; derived through a third party for example by renting another agent's reputation. According to Masum-Zhang (2004) the two biggest changes in how reputation is formed in a mediated experience context, came from the pervasive spread of mass media and from advances in information technology. Internet, in particular, acts as a mediator for info searching, and this action can be influential on the decision making and idea formation about an object for a prospective customer.

III. Relevant Object: the opinions about an object can change depending on the context within which the stakeholder is acting. It is possible to argue the existence of a multidimensional trait of the reputation composed by the amount of context-related area of the object's behavior. Under the corporate communications and corporate reputation management studies, the object (= an organization) holds reputation dimensions related to the specific characteristics along which the stakeholder expectations are classified.

IV. Social dimension: the Social dimension trait is represented by the connection between the expectations of an individual toward the object and the social implication and/or values shared among a community.

Evaluation function: an individual acts within a society that holds shared values. These shared values among a community guide the interpretation of an object. For example, an individual can evaluate as positive the behavior of a tourist destination towards its environment, because the tourism destination seeks to reduce pollution and to preserve green areas. The positive evaluation is referred to a social shared value: respect of the environment, which is considered as a good action, worthy of esteem.

Social expectation function: reputation can act as a social control mechanism: people tend to behave socially following patterns of behavior in order to address the problem of trust towards something or someone of which there isn't a direct experience. A good reputation of an object can influence the development of a stronger social status and the reputation holder will be rewarded with the attribution of a positive Reputation: "a given identity has fully satisfied the expectations of its roles" (Bagheri et al. 2008). On the contrary, if an individual acts against social standards a negative reputation will arise amongst community members.

V. Long-term: reputation evolves over time as a result of consistent behavior of an object. However, actions over time might influence the reputation. For example, a tourism destination acts in respect of its environment, in particular trying to reduce pollution with the waste disposal. The same tourism destination is also committed to providing a good public transportation service for tourists, maintaining an affordable price and compliance with the schedules. Both performances are holders of positive values and worthy of good reputation. The same tourism destination at a certain point in time is discovered to not dispose of the waste, scattering the waste in the territory. This performance is holder of a negative value. This situation can affect the reputation of a tourism destination about its relationship with the environment, while not touching its positive reputation regarding the efficiency of the public transportation.

Along these five reputation traits this research seeks to understand how the Internet can be treated investigating the concept of reputation in online media: how can it be analyzed; which are the indicators of the reputational traits presented online? Considering that the online opinions are the subject of many studies spanning several fields, is that possible to identify similarities with the reputational traits seen above in order to understand how to harness the efforts of analysis made so far?

2.6. Reputation in Online Media

As it is known, Information and Communication Technologies, and the Internet have played and are playing a major role in the field of tourism. Before approaching the overlapping area between reputation, tourism and online communication, we need now to approach the common areas between reputation and Online communication as well as between Tourism destinations and Online communication.

Online communication is relevant for a research on reputation for two main reasons:

i. it is one more publishing arena, where people access information and form a mediated experience. To apply it to tourism destination: what one knows about a foreign country is found not only on printed press, radio, cinema and television, but also on the Internet. Provided those contents are accessed by many people, and those people form opinions similar to those expressed, those contents can be considered as proxies of reputation.

ii. applications and usages belonging to the so-called Web 2.0 allow individuals to publish online their opinions: user generated contents (UGC)/online conversations. Those individual opinions may be seen as instances of reputation: they can be harvested and treated as answers to an implicit survey.

In other words, the online environment matters for reputation either because it provides published opinions (= proxies of reputation), either because it provides individual opinions (= instances of public opinion). The latter are anyway published and accessible, which makes a dramatic difference in comparison with the pre-online situation. There, mass media provided published opinions, while individual opinions were accessible only through surveys and were not able to extremely influence others' opinions. Online, the same item can be treated as individual instance of public opinion (person X has opinion Y about object Z), and at the same time as published opinion, due to its accessibility to others; even more, it may become highly influential because it is accessed by several people – for instance because that individual online conversation is well ranked on a search engine.

It is important to note that naïve attempts to consider online accessible published opinions as simple proxies of public opinion do not take into adequate consideration the studies done in this field, especially those on social effects of mass media. Readers do form their own opinion also based on the mediated information they get, but this process is far from being a linear one. Approaches in this field use methods as surveys, interviews and focus groups in order to collect individual perception to be analyzed at

the aggregate level. However, as in Mandelli (2010; 2011) these approaches suffer of research limitations at the level of media exposure and interpretation, as well as of perceptions and attitudes. Moreover, not all contents influence individuals equally, brand perceptions (images) do not exert the same influence on reputation in all stakeholder groups. Finally it should be taken into account that an individual exposed to the online conversations must be interested in that content, and that content must be perceived as credible (Fogg, 2003).

A major contribution to the analysis of the data published online comes from the use of sophisticated algorithms to support data collection and analysis.

Dickinger et al. (2011) compared how offline survey and data presented online produce similar results in the tourism domain. These sophisticated algorithms built instruments and new researches in particular for online data acquisition, data mining, content analysis, classification of user-generated-contents and/or other communication sources, such as professional news media, corporate communication, and official-institutional websites. The content analysis of data published online connected with the concept of Reputation has seen two major directions:

i. website design research: the websites is perceived as an holder of reputation itself, following the concept that technologies can influence users' behavior (Fogg, 2003). Moreover, multiagent systems approach, and online Reputation feedback mechanism approach were investigated (Zacharia et al. 2000; Bolton et al., 2004; Dellarocas, 2003, 2005) and reputation is defined as the amount of signals offered by a websites design, such as the recommendation dynamics within a network like in eBay. These online signals can mitigate the moral hazard and trust problems associated with spatially distant exchange among unknown people by providing traders with the type of information available in small group, where members are frequently involved in one another's dealing (Bolton et al. 2004). Recommendations among users can be used to infer reputation in online media of an object. Within this approach, social network analysis is the main used method.

ii. content analysis research: in this direction the main research goal is to analyze what is said online. This approach seemed to better encounter the industry need to understand and manage the online presence of an organization, and saw an increase in the creation of professional tools for data harvesting, and data classification. Methods used are mainly frequency analysis of keywords, coverage and sentiment analysis, semantic analysis, topic association with brand values. However, the methodological issue in this approach is still open, in fact there are not standard models and procedures, and the analysis of the contents online is still time consuming with a heavy delegation to technology. Moreover, according to Mandelli (2011), these analysis approaches may produce misleading results, as the reputation concept could be (i) confused with

consumer brand advocacy (consumers' suggesting the adoption of a specific product); (ii) confused with reports of customer satisfaction and stories about specific episodes of relationships with brands (reported consumer experiences).

In this scenario, the web has opened a challenge for the tourism domain, both for the organizations working in the tourism industry, and also for the tourists: the contents published online, whether from official or unofficial sources, can become an object of analysis in order to better investigate:

(i) from a tourism industry perspective, what the prospective travelers can perceive from online contents, helping the tourism managers to understand what travelers experienced at the destination, and what future travelers may need-search-visit, and ultimately which kind of topic they can encounter online (and might influence the decision to visit the destination);

(ii) from a tourist perspective, to know what they are going to choose as an investment for their future trip, what to expect from a destination, getting ideas, forming their opinions about the place.

2.6.1. Reputation Measurement Tools in Tourism

Another approach to reputation analysis in the tourist domain sees an application of the theories of social media effects, with particular reference to agenda setting, defining analytical models specifically for countries' reputation and tourism destination's reputation analysis (see Table 2.2). These tools mainly use survey of public opinion and media coverage analysis in order to anticipate market trends and improve the tourism industry business. In particular these tools focus on the analysis of various perceptions of a country held by various stakeholders: to help countries define existing programs and initiatives toward key dimensions and publics, and to understand the impact of country reputation on corporate brands (Country Rep Track); to help clients assess the impact of media coverage on their reputation (Media Rep Track); to track the international image of individuals, organizations, regions, cities, sectors or destinations in a given country (Nation Brand Perception), to understand whether media content has an impact on public behavior or not (Media Tenor); to rank countries across key image attributes (Country Brand Index); to measure the image and reputation of world nations, and to track their profiles as they rise or fall (Anholt-GFK Roper Nation Brands Index).

Table 2.2. Reputation Measurement Tools used also in Tourism

Tool	Measured construct	Method	Core dimensions/drivers
Anholt – GFK Roper Nation Brands Index www.gfkamerica.com	Countries brands reputation and perception	Online Survey (more than 40 questions)	Core dimensions: a. Exports; b. Governance; c. Culture and Heritage; d. People; e. Tourism; f. Investment and Immigration
Country Rep Track – Reputation Institute www.reputationinstitute.com/advisory-services/reptrak	Country perception	Interviews (offline-online). Countries evaluation based on stakeholders' degree of Admiration, Trust, Good Feeling and Overall Esteem according to core dimensions and drivers.	Advanced Economy: produces high quality products and service; is inventive; is technologically advanced; is an important contributor to global culture. Appealing Environment: is a beautiful country; is an enjoyable country; it offers appealing lifestyle. Effective Government: offers a favourable environment for doing business; is run by an effective government; has adopted progressive social and economic policies; is a responsible participant in the global community.
Country Brand Index – Future Brand www.futurebrand.com	Countries brands perception	Survey Expert panel 47 tourism, development, policy and academic professionals	Measures of brand strength: a. Awareness; b. Familiarity; c. Preference; d. Consideration; e. Advocacy; f. Active decisions to visit; g. Associations. Image attributes: Authenticity, History, Art & Culture, Resort & Lodging Options, Ease of Travel, Safety, Rest & Relaxation, Natural Beauty, Beach, Nightlife, Shopping, Fine Dining, Outdoor Activities & Sports, Friendly Locals, Families, Value for Money, Rising Star, Standard of Living, Ideal for Business, Easiest to Do Business In, New Country for Business, Conferences, Extend a Business Trip, Political Freedom, Most Like to Live In, Quality Products, Desire to Visit/Visit Again, Advanced Technology, Environmentalism.
Media Rep Track http://www.reputationinstitute.com/	Media coverage on reputation	Text analysis of media contents such as broadcast, print, and online media, via human coding and digital analysis to quantify and track the companies' coverage	Use of the RepTrak™ framework core dimensions: a. Products and Services; b. Innovation; c. Workplace; d. Governance; e. Citizenship; f. Leadership; g. Performance.

Media Tenor www.media tenor.com	Media coverage	Human content analysis of original print copy and broadcasting (no transcripts) based on Agenda Setting. Agenda Cutting: what reality has been ignored by media outlets via external statistic comparison	1. Media Presence; 2. Media Rating; 3. Share of Voice; 4. Balanced Topic Structure; 5. Comparison with Direct Competitors and Similarly Influential Organizations; 6. Industry Analysis; 7. Balanced Internal Sourcing; 8. Importance of 'Soft' Stories; 9. Balanced Media Structure; 10. Share of Quoted Anaysts.
Nation Brand Perception – East West Communica tion www.eastw estcoms.co m	Tonality, positive and negative, of mentions of places in news articles	Text analysis/algorithm that detects grammatical associations (not just proximity) of terms with the names of the places being analyzed, based on a lexicon of over 16,000 words and phrases.	Negative-Neutral-Positive Perception Score based on these dimensions: Tourism; Culture; Business; Government. Other mentioned classification dimensions: competitors tone of coverage comparison in a specific time period; competitors volume of coverage comparison in a specific time period; key brand messages reflected in media coverage; top positive and negative messages mentioned; current public relations strategies influence on media coverage; entity's policies perception by international audiences in target markets.

Table 2.2 (continued) Reputation Measurement Tools used also in Tourism

2.6.2. Current research approaches to the analysis of online content about Tourism Destinations

Online contents, in particular the online conversations, have received a new research attention as they could act as a mediated source where new place identities/narratives are created, and used by prospective travelers or by destination managers. Travelers' experiences can be shared thanks the so-called Web 2.0, the social web which allows users to easily share information online supported by user friendly platforms' which allow media sharing and communities building (Gretzel, 2006). As confirmed by (Xiang and Gretzel, 2010; Buhalis, 2003; Inversini and Buhalis, 2009; Marchiori et al. 2011; Reino et al., 2012), tourism-related online conversations are mainly experience based, about specific tourism topics generally with a sentiment expressed, which can be negative or positive, and their meaning might impact on the decision-making process to visit a given destination.

The goal of this research is to investigate whether it is possible to define a framework for the analysis of the reputation in online media in the tourism field, in particular applied to tourism destinations. The approach used is to learn from the studies done so far in the field of the online tourism related contents analysis. Measured constructs and related constructs have been classified according to their conceptual similarities with the reputation traits presented and discussed above

Through an extensive literature review of studies conducted in the Tourism domain, a set of publications has been selected and analyzed according to the following two criteria: tourism destination as analyzed object, online corpus of data are tourism-related online conversations. As outlined in Table 2.3, measured constructs by current researches in tourism about the content published online, follow three main directions of analysis:

(i) websites design/features analysis: online communities member reputation and reputation-based electronic tourism system;

(ii) content analysis: destination image, online representation; online arguments expressed online, travel preferences, and DMO's web presence;

(iii) perception analysis of the online contents: tourists' trust towards travel 2.0 applications, and eWord-of-Mouth influence on tourism destination choice.

First and second directions reflect the analysis of the instances of public opinion as the contents published online are analyzed as a set of data that contains the online representations of a tourism destination. The third direction reflects the analysis of the proxies of reputation as the published opinions are analyzed and compared with users' perception.

Table 2.3. Online content analysis researches in Tourism
*Study Type = A: proxy of reputation (published opinion); B: instances of reputation (public opinion)

Author(s) (year)	Study Type*	Research Area	Measured Construct	Method	Findings	Limitations
Banyai, Glover (2011)	B	Travel research	Research methods	Literature review of the current research on travel blogs	Most popular research methods used are: a) Content analysis to make generalizations. b) Narrative analysis	- Content analysis: issue of representativeness
Chiappa (2011)	A/B	Hospitality image	Trustworthy tourists feel the of travel 2.0 applications	823 questionnaires were used for descriptive analyses (One-Way ANOVA with a Post Hoc Bonferroni test)	Most trustworthy channels were online Travel Agents (OTAs), tourism-related blogs, social networks, media sharing, non-tourism-related social networks and microblogging	- Snowball sampling - Trustworthiness applied without considering the person who made the posting
De Ascaniis and Greco Morasso (2011)	B	Argumentation studies	Online arguments	- Arguments detection and analysis for posts on social media; reconstruction of arguments using the pragma-dialectical model of critical discussion	This approach allows to grasp the core touristic value of a destination expressed on social media	- Coders interpretation
Dickinger et al (2011)	A/B	Marketing intelligence, place branding	Destination image;	Survey among tourists; semi-automated analysis of travel blogs; Keywords analysis and Sentiment detection; Category building (manual analysis)	Almost all the conventional destination image study have been detected within the online environment	- Convenience sampling (two travel websites)
Fedele et al. (2011)	B	Argumentation studies	Online arguments	Arguments detection and analysis of posts on Travel Forum section presented on Tripadvisor and advertising brochure of Malta DMO.	Tourists' appreciations are only partially in line with the arguments used by the DMO. Travel reviews seem to be a more adequate source for online arguments investigation than official sources.	- Coder(s) interpretation - Convenience sampling (one social media) - Time demanding
Horster (2011)	A/B	Corporate Communication	Company reputation; consumer behaviour	Theoretical analytic model development which explains the role of company reputation in influencing online travel decisions.	Tool to capture the effect of public relations and marketing activities on reputation and their impact on the travel decision	- The model is still under development
Ip et al. (2011)	B	Online consumer behavior	Travel preferences	Content Analysis of comments posted by Chinese online users on Ctrip.com about six destinations.	Six destinations were found as the most preferred for the Chinese market and researchers classified them according to the travel preferences expressed.	- Convenience sampling (two travel websites)

Tab. 2.3: Online content analysis researches in Tourism (continued)

* Study Type = A: proxy of reputation (published opinion); B: instances of reputation (public opinion)

Author(s) (year)	Study Type*	Research Area	Measured Construct	Method	Findings	Limitations
Marchiori, Inversini, Cantoni, Da Col (2011)	B/A	Destination marketing	Online contents classification, online reputation	Contents classification framework (DORM) was created from RepTrack and Reputation Quotient models (Reputation Institute) and tested using online content analysis, interviews with tourism experts	Tourism destinations related contents online were mainly about products and services	- Manual analysis is time-consuming - Coders interpretation
Mich and Kiyavitskaya (2011)	B	Place branding; online promotion	DMO's web presence	- quality analysis of the official websites applying the inspection schema (Mich, Franch & Martini, 2005); - web presence of the official pages of the destinations on 3 social networks	Switzerland, Sweden and Norway results as well associated between the high website quality and an effective web presence (n° members or views on the social networks) on at least one of the social networks, and a well-connected presence map	- Convenience sampling (three social networks)
Burgess, Sellitto, Cox, Jeremy Buultjens (2009)	A	Online Consumer behavior	Consumers' views on UGC in relation to Travel planning	Online survey: participants' previous exposure to sites containing UGC related to travel. Useable number of responses was 12,544.	Main benefits of UGC sites: trust in the source; traveler opinions; relevance to user; recommendations; amount of information. Main concerns about UGC sites: trustworthiness/ reliability; lack of relevance to user; extreme opinion ; security/ privacy	- Reliability determination of the source of UGC
Inversini; Cantoni (2009)	B	Online marketing	Online contents classification; online reputation	Manual content analysis of a Mediterranean destination. 540 search results were classified as BMOW – 'Brick and mortar' organizations' websites or MOOWAI – Mere online organizations' websites and individual websites.	Unofficial websites gained more popularity among search engine results and the information market is characterized by them (i.e., Google 46% and Yahoo 48%). Majority of positive emotional arguments on MOOWAI	- Manual analysis is time-consuming - Coders interpretation

Tab. 2.3: Online content analysis researches in Tourism (continued)

* Study Type = A: proxy of reputation (published opinion); B: instances of reputation (public opinion)

Author(s) (year)	Study Type*	Research Area	Measured Construct	Method	Findings	Limitations
Litivin, Goldsmith, Pan (2009)	B	Hospitality and tourism marketing	Tourism related eWOM	Theoretical investigation on eWOM contents classifications.	Social media websites offer numerous first-hand commentaries and ratings posted by	-
Zhu, (2009)	A/B	Online tourist behavior	eWOM influence on the tourism destination choice	Relationship between volume of online review from two Chinese traveling websites and scenic spot's 2007 annual reception population of Zhejiang Province (China)	Significant relationship between volume of online review and the reception population of scenic spot. Comments grades and the volume of travels consultation do not correlated significantly with tourist reception population	- Convenience sample
Arsal, Baldwin, Backman (2008)	B	Online marketing	Communities member reputation	Threads on Thorn Tree Forum from Lonely Planet website were analysed for eight months period	Medium activity level members were the most influential members in the online community.	- Coders interpretation - Convenience sample (one community)
Scharl, Dickinger, Weichselbraun (2008)	B	Information Technology and Tourism	Destination coverage; Knowledge acquisition	News media coverage analysis on a selection of international news media sites gathered from a crawling agent. Country rankings by frequency and sentiment expressed on the text retrieved	Sophisticated form of automated content analysis and ontology extension prototype to help distinguish between synonym–antonym and hyponym–hypernym pairs, extends and validates tourism knowledge	- Queries automatic disambiguation and classification
Tussyadiah Fesenmaier (2008)	B	Online marketing	Consumer generated media	Video (from YouTube) decomposition process: feature extraction; structure analysis; abstraction by exploring images, motion, audio and text. Keywords and clusters (CATPAC) from video titles, tags, comments and descriptions were compared to the results from video content analyses to identify the video narratives.	The site-centric videos feature landscape, the activity centric videos feature tourist activities, and the other-centric videos feature the socioscape of New York City. Videos appear to generate mental pleasures through imagination that bring to life people's dreams and fantasies of visiting the city, in turn, their imaginations of re-experiencing the past real trips to the city	- Coders data interpretation

Tab. 2.3: Online content analysis researches in Tourism (continued)
* Study Type = A: proxy of reputation (published opinion); B: instances of reputation (public opinion)

Author(s) (year)	Study Type*	Research Area	Measured Construct	Method	Findings	Limitations
Choi, Lehto, Morrison (2007)	B	Online marketing	Destination image	Classification of Macau travel-related websites from Google and Yahoo: content analysis of the text (CATPAC II); visual info classification in categories and them compared across the websites based on frequency analysis	The image of Macau projected online varies by the different online information sources and could be explained by the different communication objectives and targeted audiences of the different web information sources	- Coders interpretation
Pan, MacLaurin and Crotts (2007)	B	Destination Marketing	Destination experiences	Travel blogs on Charleston, South Carolina were analysed using: frequency analysis; semantic network analysis; content analysis via Nvivo to build categories of topics and sentiment dealt with in the blogs	Major strengths of the destination were its attractions: historic charm, Southern hospitality, beaches, and water activities. Major weaknesses included weather, infrastructure, and fast-service restaurants	- The applicability of the coding categories to other cities is limited - Sample size - Coders interpretation.
Chao, Schniederjans (2006)	B	Information system management	Reputation-based electronic tourism system	RET system (Reputation-based electronic tourism) to calculate the vendor reputation, based on post-consumption rating by customers, and the preference of the potential customer. Online survey questionnaires on hotels were used to validate the system	An artificial neural network model was created for the reputation agent (one of the components of RET) to evaluate and select products/services based on a multiple criteria decision-making concept in an e-tourism setting.	- Small number of output variables, namely, the number of the hotels from which to choose.
Go Govers (2005)	B	Online marketing	Destination image	20 Dubai-based tourism company websites: content analysis of pictures (motif, arrangement; contextualization). Content analysis (CATPAC) for the frequency and proximity matrix for the most commonly used words in the text	The way Dubai projects its imagery as a tourism destination lacks creativity and cross border thinking between tourism sectors and therefore fails to coherently reflect its true cultural identity.	- Coder interpretation

Based on the above investigation, Table 2.4 depicts the general composition of the online reputational indicators for tourism destinations.

The first column shows the general reputation element (opinion, stakeholder, relevant object, social expectation, long-term), the second column shows the correspondence elements for the online environment. The third column concerns the unit of analysis that we considered as the indicators to analyze. The fourth column shows the analysis method used by the authors of the articles analyzed, and the fifth column presents the authors who conducted the research.

Table 2.4. Tourism destinations online Reputation indicators

General Reputation element	Online Reputation element	Unit of Analysis / Indicator	Method	Author
I. Opinion	Judgments/ feelings expressed on the online conversations	a. Text	a. Tone expressed, argument expressed	a. Dickinger et al. (2011); Go, Govers (2005); Choi et al. (2007); Pan et al. (2007); Ip et al. (2011); Marchiori et al. (2011); Scharl et al. (2008); Fedele et al. (2011); De Ascaniis, Greco Morasso (2011)
		b. Picture	b. Motif, arrangement, contextualization	b. Govers, Go (2005)
		c. Video	c. Frames, shot analysis	c. Tussyadiah, Fesenmaier (2009)
II. Stakeholder	Authors, website's owner	d. Members level of activity	d. Member activities n° of post frequency analysis	d. Arsal et al. (2008)
		e. Network (relevance of the websites)	e. N° of views and N° of members of the DMO's page on social networks; Volume analysis of the online reviews with statistics of annual reception.	e. Mich, Kiyavitskaya (2011); Zhu, (2009)
		f. Credibility of the online sources	f. Online survey	f. Chiappa (2011); Burgess et al. (2009)
III. Relevant Object	Tourism destination multidimensional categories	g. Multi-dimension categories were gathered from the data analysis	g. Content analysis via CATPAC-Nvivo or via manual analysis; Semantic network analysis; keywords frequency analysis	g. Dickinger et al. (2011); Go, Govers (2005); Tussyadiah, Fesenmaier (2009); Choi et al. (2007); Pan et al. (2007); Ip et al. (2011); Scharl et

		h. Pre-established multi-dimension (obtained through a lit. review and interviews with tourists and experts)	h. Classification of the contents under a specific dimension via human analysis	al. (2008) h. Marchiori et al. (2011)
IV. Social Dimension	Comparison with the public opinion (unofficial and official sources)	i. Social media contents comparison with official websites j. Search engine results analysis	i/j. Topic comparison	i/j. De Ascaniis, Greco Morasso (2011); Fedele et. al. (2011); Inversini, Cantoni (2009)
V. Long-term	k. Monitoring: this activity is usually performed by professional tools (see Tab. 1) Longitudinal Study			

Table 2.4 (continued) Tourism destinations online Reputation indicators

Applying the five reputation elements to the online environment specifically for a tourism destination, it was possible to identify 11 reputational online indicators, which can be considered for an online reputation analysis of a tourism destination.

The online reputational indicators identified per each reputation element, are:

I. Opinion: online opinions are the contents belonging to a specific semiotic code: (a) text, (b) picture, (c) video. These contents contain a value expressed about an attribute related to an object. Their analysis therefore needs to investigate the level of judgment expressed. Content analyses which can be performed on these forms of opinion, use different methods according to the type of contents.

II. Stakeholder: who expresses an Opinion formed through different sources. Online it can be the authors of the online conversations, and the related websites on which the content is published. The website on which the opinion is published, can be considered a stakeholder itself as it also might have its own reputation. For example, being a popular website is a signal of good reputation as a lot of people use it. The stakeholder's reputation can be inferred by the analysis of the level of activity of the users within the website (d), and that level of activity can reflect the authority of the author: high level is a good signal of an active user. A network analysis (e) can be performed in order to analyze the popularity of the page within the online domain, according to the popularity principle: a well-connected website is a signal of a good network.

Moreover, the credibility of the source can be assessed (f) in order to assign a level of relevance and impact of the sources analyzed.

III. Relevant Object: which is the holder of the Stakeholder's Opinion, online is the expressed topic. Contents are generally clustered based on the type of the topic expressed. Two main directions for the contents classification have been identified: (g) bottom-up/inductive, topic categories created after the content analysis; (h) top-down deductive, topic categories created before the content analysis, using a pre-established model, which allows for a systematic analysis of the object. This second approach is also common to professional tools presented in Table 2.2.

IV. Social dimension: the same Opinion (or similar opinions) has to be shared by many Stakeholders, and refers to shared values within a community. Online, the social indicator can be related to the amount of opinions expressed online by different stakeholders and it can be analyzed using (i) a comparison approach among the sources of contents presented online: official and unofficial sources; or (j) using a topic comparison among the results offered by search engines.

V.Long-term: opinions shared in a community are quite stable and evolve over time as a result of the evaluation of an object by a group of stakeholders. On the web this part can be related to the monitoring (k) of the topics and the related feelings expressed over time (longitudinal studies). This activity is usually performed by professional tools (see Tab. 2.1). Results from the literature review show the tendency of the current analysis on online contents related to tourism destinations to consider the opinions expressed online as public opinions that can be harvested and treated as answers to an implicit survey.

The majority of the research done in this domain focused mainly on text analysis (posts of blogs, reviews or comments), on which contents and keywords frequency analysis has been performed. The definition of topic categories is in general done after the data analysis. Research areas involved on contents analysis are mainly related to destination marketing and online consumer behavior studies. Marketing intelligence, argumentation studies, place branding, and information system management were also present. Online reputation studies can thus contribute in these specific areas of research.

2.7. Towards a definition of Reputation in Online Media within Tourism Destinations

Organization studies are used in this investigation to explore the reputation of a tourism destination in online media, managed by destination management organizations.

According to Berens and van Riel (2004), there are three main conceptual streams in the literature of corporate reputation which deal with good or bad associations with a company:

i) The first conceptual stream sees a tendency of the scholars to cluster the different stakeholders' associations with the behavior of a company in the society. The creation of predefined thematic dimensions seems crucial to performing systematic analysis among organizations and investigating the best performer in terms of good reputation. The most popular example is the Reputation Quotient scale (Fombrun et al., 2000), with the creation of thematic dimensions such as quality of products and services, leadership in the industry, relationship with the environment and so on, allowing for the capture of stakeholders' perceptions among these reputation dimensions.

ii) The second conceptual stream sees stakeholders' associations on the basis of different corporate personality traits (constructs that are used to explain company behavior, such as agreeableness, enterprise, competence, chicness, ruthlessness, machismo, and informality), considering the Corporate Personality Scale developed by Davies et al. (2003) as the most representative work in this stream.

iii) The third conceptual stream sees the issue of trust (in terms of reliability, honesty, and benevolence) as the main element in investigating what concerns associations about a company, considering the Corporate Credibility Scale developed by Newell and Goldsmith (2001) as the most representative work in this stream.

A valuable contribution to reputation studies has been made by Money and Hillenbrand (2006). Authors provided a map of the current reputation measurements for the investigation of instruments that allow understanding the value of reputation to a business. Authors used the Walsh and Wiedmann (2004) theoretical causal framework of reputation, which sees the reputation construct composed of antecedents and consequences.

Money and Hillenbrand (2006) also referred to the Fishbein and Ajzen (1975) causal framework for the investigation of the perception components to study within reputation research: experiences, belief, attitudes, intentions, and behaviours with respect to a given object, where:

-experiences are considered as information elements which concur in the creation of beliefs;

-beliefs are considered elements which determine people's attitudes toward an object;

- attitudes toward an object are related to people's intention to perform certain behaviours with respect to the object, and each intention is related to the corresponding behaviour.

	Antecedents	**(Corporate) Reputation**	**Consequences**
Strategic level	Asset generating activities	Intangible assets	Market assets / performances
Perception level	Observations Experiences	Belief (Thematic dimensions) Attitudes (Emotional appeal)	Intentions Behaviours
Relevance of the analysis	Understanding how reputation is developed	Placing a value on the intangible assets in an organization	Understanding the value placed on reputation and its impact on the performance of an organization

Table 2.5. Corporate Reputation causal framework. Elaboration from Money and Hillenbrand, 2006

As shown in Table 2.5, Money and Hillenbrand (2006) observe that at the strategic level, reputation is considered an intangible asset to an organization, conceptualized by stakeholders' beliefs and attitudes about an organization. The reputation antecedents are considered to be the asset-generating activities through which it is possible to analyze the stakeholders' experiences and observations. An analysis in that direction reveals how reputation is developed. The reputation consequences are represented by the market assets/performances which are stakeholders' intentions and behaviors towards the organization. An analysis of the reputation consequences allows for investigation of the value placed on reputation (Money and Hillenbrand, 2006).

Within this stream of reputation studies (the first stream according to the classification proposed by Berens and van Riel (2004), this research focuses on the intangible assets of a tourism destination (i.e., belief about thematic dimensions; and attitudes expressed as emotional appeal) expressed online in the form of online conversations. The consequences level is also investigated, represented by the potential change

(confirmation/disconfirmation of prior belief) which in turn might generate intention-behaviors towards a destination.

2.7.2. From Organizational Reputation to Country Reputation to Tourism Destination Reputation

As seen earlier in this study, a tourism destination cannot be treated as a company, as it has not purely corporate components. For example, in a corporation, the ownership structure is usually well-defined; in a destination, the organizational network is composed of different independent actors at different levels. In this unstructured organizational context characteristic of the destination, a tourist could interact with different realities/actors at a destination during his/her travel experience, as well as prior to and/or after the visit. These contacts can ultimately influence his/her opinion and memories about a tourism destination. Hence, in order to proceed with a systematic analysis of the dimensions of a destination which are the objects of the online conversations, and are perceived as dominant, it is necessary to break a tourism destination down into measurable dimensions (multidimensional traits), as addressed in the next two chapters. An application of the organizational reputation principle to the tourism-related domain is the Country Reputation Index (Passow et al., 2005), and its revised version by Yang et al. (2008). The development of this index followed a similar process as that seen in the Reputation Quotient model (Fombrum et al., 2006). A set of appeal dimensions is used to capture stakeholders' perceptions (beliefs and attitudes) related to a specific country (see Table 2.6). Findings from these studies underline how the analysis of reputation in tourism-related studies using the causal reputation framework allows for systematic analysis of the power of reputation in tourism.

	Antecedents	**(Country) Reputation**	**Consequences**
Perception level	Personal experiences; Second-hand experiences	Emotional appeal Physical appeal Financial appeal Leadership appeal Cultural appeal Global appeal Political appeal	Supportive intentions towards the country: • Tourism • International consumers' purchasing behaviours

Table 2.6. Country Reputation causal framework. Elaboration from Yang et al.,2008

From an intangible assets perspective, a country reputation can be measured by investigating the beliefs and attitudes of a group of stakeholders using seven main appeal dimensions (Passow et al., 2005; Yang et al., 2008). The method used is generally a survey which asks stakeholders to declare their general feelings (in order to discern the actual belief and attitudes), and then analyzes the survey's responses at the aggregate level in order to infer reputation across the group of stakeholders surveyed.

The county appeal dimensions introduced are:

1. Emotional appeal: How much the country is liked, admired, and respected;

2. Physical appeal: Perceptions of the country's infrastructure such as roads, housing, services, health care, and communications;

3. Financial appeal: Perceptions of the country's competitiveness, profitability, growth prospects, and risk of investment;

4. Leadership appeal: How well the country demonstrates a strong leadership and communicates an appealing vision of the country;

5. Cultural appeal: How well the country retains the values of distinct, appealing culture and a rich historical past;

6. Global appeal: Perceptions of the country as having high standards in its dealings with global community, good causes, and environmental policies;

7. Political appeal: Perceptions of the country's political status such as internal relationships, democracy, and stable political environments.

(Passow et al., 2005 ; Yang et al., 2008)

From an antecedent's perspective, country reputation can be based on a personal experience and/or second-hand experience:

*1. **Personal experience:** direct contact with the place.*

*2. **Second-hand experience:** information gathered from others sources like friends, family, word-of-mouth communications and other communication channels including mass media.*

(Yang et al., 2008)

As reputation consequence implications, scholars identified two main aspects that might be affected by a country reputation, and are:

*- **Tourism:** as the key outcomes of nation brand this might be affected by the country Reputation. In particular, reputation can play a significant role in tourism to what concern the promotion and marketing of a destination.*

- ***International consumers' purchasing behaviors:*** *likewise, a positive country reputation can influence international publics' behaviors to purchase products and brands made in the country.*

(Yang et al., 2008)

2.8. Development of Hypotheses, Research Questions, and Method

In the tourism domain, scholars note how the Internet represents the primary source of information (Gretzel and Fesenmaier, 2000; Pan and Fesenmaier, 2006), and in particular, the eWOM represented by user-generated content spreads quickly on social media platforms. Therefore, since eWOM can be seen to summarize ongoing social discussion and contains reported experiences about tourism destinations, and these are the main source of information for the majority of prospective travelers (the public interested in the destination), analysis of online conversations is an efficient way to measure indirectly public attitudes, beliefs, and values related to tourism destinations. This indirect measurement is supported by successful use of media coverage to predict percentage values of public opinion over time (Fan, 1997; Bengson and Fan, 1999; Deephouse, 2000). Many studies already have shown how media are playing an important role in influencing public attitudes and beliefs about various issues (Bengson and Fan, 1999; Reino et al, 2012). That is, there is a relationship between the relative emphasis given by the media to an issue, and the degree of salience these topics have for both the general public and the political agenda.

Regarding the advent of the eWOM, and the related role of social media in place branding, Morgan and Pritchard (2011) underline how the new-media landscape should be taken into account by DMOs, as they need to reposition their web presence alongside their tourism communication. As observed by Morgan and Pritchard (2011), a destination's reputation reflects the perception of others, and its management might challenge the destination to what the actors involved in the tourism domain want.

Therefore, this study focuses on the analysis of the intangible assets generated by online content posted by web users. The analysis of the value generated by the intangible assets might be useful for tourism organizations in charge of managing the promotion of a destination, as is the case with a DMO. This research thus aims to produce practical indications of the message cues that may be used by anyone involved in enhancing the value of a tourism destination through online communication.

Using the definition of the reputation construct presented in section 2.5 of this study, the main research focus is on the individuals' PUTO (the opinion expressed by a stakeholder about an object), and this is analyzed at the aggregate level in order to infer proxies of public opinion in online media. At the RE level, this research focuses on the perceived opinion among a group of stakeholders, in order to verify people's familiarity with a dominant online opinion, and to investigate the message cues that affect the perception and a possible confirmation/disconfirmation of prior belief.

Table 2.7 shows the adaptation of the reputation causal framework from an organization viewpoint to the tourism destinations context, wherein the analysis of the reputation is linked to its own consequences, e.g. how the published online opinions affect the confirmation/disconfirmation of prior belief (which in turn might affect the intention to visit a destination of a prospective traveler who uses the web as a second-hand source of information). In order to proceed with such empirical investigation, the need to establish evidence of the existence of a perceived reputation from online opinions is addressed. Thus, the investigation follows the findings from dual-process theory and media effects studies wherein a message needs to be perceived in order to generate a behavior change. Thus, this research focuses on the investigation of the message cues that characterize the perception of the dominant opinion in the online context, setting the basis for future research in this field, namely, in reputation in online media. The causal framework for the investigation of the tourism destination reputation is illustrated in Table 2.7.

	Antecedents	**(Tourism Destination) Reputation** *in online media*	**Consequences**
Perception level	Focus on second-hand experiences (online reported experiences)	*Classification of the public opinions expressed online.* - Thematic dimensions - Attitudinal variables *Perception of the public opinions expressed online by users.*	Confirmation/ disconfirmation of prior belief

Table 2.7. The proposed causal framework on tourism destination
reputation in online media. Elaboration from Yang et al.,2008

The following paragraphs describe how the main hypotheses have been elaborated to form the main research questions for this doctoral thesis project. A description of the method used to solve the research objective is also presented.

Having this perspective as a basis, the following hypotheses have been formulated:

Hypothesis 1: A DMO acts as an organization in charge of managing the online promotion of a tourism destination. Therefore it can be considered an actor who can and wants manage its reputation both from a standpoint of being appealing (i.e., to attract tourists), and of reinforcing the place's brand against the competition. Unlike a company, a DMO can see its selling point, the tourism destination with all its attractiveness, as a collection of thematic dimensions with respect to which tourists can have an experience. Mapping the reported experiences of past tourists on macro thematic dimensions will allow a DMO to identify the public opinion shared online about a destination, and ultimately identify the areas of weakness or strength which may affect prospective tourists' intentions towards the destination.

Hypothesis 2: This considers the web as a communication channel through which it is possible to find published public opinions which might be considered as unstructured responses to satisfaction surveys. According to media agenda-setting theories, the analysis of the online contents (in terms of public opinions expressed online) can be treated as media coverage, capturing the topic and tone expressed. Therefore, an *ad-hoc* classification system specifically designed for tourism destinations is needed.

Hypothesis 3: A reputation, defined as a social construct perceived by a third party, is given particular credence during secondhand information seeking. Indeed, a lack of knowledge and a lack of a direct experience with a destination, plus an overwhelming online information arena, create the basis for an intensive indirect use of reputation in online media. This phenomenon is particularly evident when a prospective traveler seeks information for his/her next trip. Scholars in the tourism literature (as described previously in this study) have confirmed the relevance of the web as a mediated information source, and in particular the role of user-generated contents. The issue of particular interest is whether there is a general understanding of these online contents as, collectively, public opinion, and if this perception can be associated with an idea of reputation. As reputation seeks to simplify a complex issue and it is a peculiarity of the human being to rely on it involuntarily, the last hypothesis is that users tend to use just a few content cues to simplify the complexity of a destination, justifying this phenomenon as the presentation of a place's reputation in online media. This general simplification of

the destination learned from exposure to public opinion expressed online might in turn confirm or disconfirm prior belief about a destination.

Given the above hypotheses, two research phases were outlined. The methodology employed in the research integrates a qualitative and a quantitative approach, based on content analysis, survey, user tests, and the use of statistics for data interpretation and modeling. The methodology rolls out in the following two phases, with the related sub-phases and research questions:

Research Phase A (see Chapter 3):

Development of a framework for the definition of a protocol of analysis for the investigation of online content regarding tourism destinations.

This research phase considers the operationalization of what concerns the topic dimensions expressed online of a destination.

The developed hypotheses 1 and 2 fall in this first phase, which is the definition of a protocol of analysis for the investigation of online content regarding tourism destinations. An aggregate analysis of the public opinions published online will be the basis for the investigation in phase B of the perceived online reputation of a tourism destination. The methodology for the definition of a classification system for the investigation of online content regarding tourism destinations includes a content analysis informed by relevant literature review on reputation, experts interviews, online multiple case studies, and the refinement process.

Phase A. 1. This phase is divided into two main steps/processes:

(i) a deductive approach to develop a theoretical classification system for tourism-destination-related online conversations based on the RepTrak Framework (reputationinstitute.com), and

(ii) a series of focus groups and interviews with domain experts in order to collect the interviewees' perceptions of how the elements of the proposed model relate to and influence the perception of reputation in regard to a tourism destination.

RQ: *What are the reputation dimensions (thematic dimensions and attitudinal variables) characteristic of a tourism destination?*

Phase A. 2. Four online case studies have been performed in order to test the content-classification system. The methodology consists of three main steps: (i) query selection and search activities, (ii) results classification and (iii) content analysis. Google was used as the search engine for the study as it is the most used search engine, including in the travel sector.

RQ: *Which types of reputation dimensions are typical of online conversations about a TD (tourism destination)?*

Phase A. 3. Refinement of the content-classification framework via interviews in order to verify whether the proposed thematic dimensions represent the social expectations of real tourists towards tourism destinations. A survey addressing the destination demand side, namely a survey of prospective leisure tourists, was performed in August 2010 at two Italian airports in order to collect their perceptions of how the elements of the proposed model might influence perceptions of a tourism destination. In particular, the following was investigated:

RQ: *Do travelers trust online conversations?*

RQ: *What kind of destination reputation dimensions are most relevant to users in their decision-making process?*

Phase A. 4. Content analysis coding test with untrained users. In order to understand the agreement on content coding among users regarding the topics and feelings expressed on a social media page, a user test is performed before moving forward with Phase B of this research.

The contribution of this user test is to assess the presence of a common recognition of the main topic on a page which helped define the stimuli materials foreseen during the Phase B of this study.

Research Phase B (see Chapter 4):

Investigation of perceived reputation in online media among web users.

The third hypothesis falls into this second research phase, namely the investigation of whether so-called online reputation is perceived by web users and might affect their perception of the destination. The description of the hypothesis developed for this research phase is presented in Chapter 4 of this study. An experiment with prospective tourists will be performed via online survey, exposing the respondents to stimulus materials based on the destinations' topic-dimensions results from Phase A, constituted by online content about given tourism destinations. Perceptions have been collected and analyzed with statistical methods.

Chapter 3: Classification of public opinions expressed online

Overview: This chapter presents the development of the thematic components of a tourism destination and the related attitudinal variables to be used for the classification of the public opinions expressed online. This work consists of four phases: phase A1) definition of protocol analysis to capture the online content; phase A2) testing of the classification of contents with online case studies; phase A3) framework refinement via users' perceptions; phase A4) coding test with untrained users in order to understand the agreement on coding among users about topic and feelings expressed within singles social media page. Findings from this research phase demonstrate how the theoretical framework developed for the classification of the public opinions expressed online was able to capture and map the online dialogues (the ones, which express value judgments) using mainly five reputation drivers, which are: the tourism destination offers products and services that are 'good value for the money'; the tourism destination offers interesting local cultures and traditions; the tourism destination offers a satisfying tourism experience; the tourism destination offers a safe environment; and the tourism destination offers a favorable weather.

Parts of this chapter have appeared in the following publications:

Marchiori E., Inversini A., Cantoni L., Da Col S. (2011). Classifying Online Conversations about Tourism Destinations – a Tourist Perspective. Proceedings of the 7th International Conference Thought Leaders in Brand Management, in Lugano - Switzerland, March 11-12 2011, 165-175

Marchiori E., Inversini A., Cantoni L., Dedekind C. (2010). Towards a Tourism Destination Reputation Model. A first step. Proceedings of the 6th International Conference Thought Leaders in Brand Management, (Lugano, Switzerland, 18-20 April 2010), CD-ROM (ISBN: 978-88-6101-006-2), 921-930

Marchiori, E., Inversini, A., Da Col, S. Cantoni, L. (2011). Il passaparola online sulle destinazioni turistiche: di che cosa parlano i turisti? Il caso del Canton Ticino (Svizzera), in Roberta Garibaldi e Roberto Peretta (Eds.), Facebook in tourism. Destinazioni turistiche e Social Network, FrancoAngeli, Milano, 69-88

Marchiori E., Inversini A., Cantoni L. (2010). Measuring the Online Reputation of Sustainable Tourism Destinations. presented at the 14th International Conference on Corporate Reputation, Brand, Identity and Competitiveness. Rio de Janeiro (Brazil), May 19-21, 2010

Inversini A., Marchiori E., Dedekind C., Cantoni L. (2010). Applying a Conceptual Framework to Analyze Online Reputation of Tourism Destinations. In Ulrike Gretzel, Rob Law & Matthias Fuchs (eds.), Information and Communication Technologies in Tourism 2010 (Proceedings of the International Conference in Lugano, Switzerland, February 10-12, 2010), Springer, Wien – New York, 321-332

Marchiori, E., Cantoni, L., (2013). Cues affecting the recognition of the dominant topic and sentiment expressed on social media pages. Proceedings of the TTRA European Chapter Conference "New Directions: Travel and Tourism at the Crossroads", 17-19 April 2013, Dublin, Ireland. Forthcoming

3.1. Introduction

The following paragraphs present the steps used for the construction of an online contents classification system, named eTDR (online Tourism Destination Reputation) to use for a systematic investigation of the thematic dimensions and attitudinal variables presented online. The dimensions raised from this research phase constituted the base for the last investigation of this research, namely the presence of a perceived reputation of a tourist organization in online media. The table below depicts the research phase presented in this chapter, highlighted by a circle (Table 3.1). A five-step process has been used for the framework development, adapting a similar process used by Fombrun (1990, 1996) for the creation of the Reputation Quotient scale.

	Antecedents	**(Tourism Destination) Reputation *in online media***	**Consequences**
Perception level	Focus on second-hand experiences (online reported experiences)	*Classification of public opinions expressed online.* - Thematic dimensions - Attitudinal variables *Perception of public opinions expressed online by users.*	Confirmation/ disconfirmation of prior belief

Table 3.1. The proposed causal framework on tourism destination reputation in online media. Elaboration from Yang et al.,2008

The use of a qualitative content analysis approach has been accompanied by the use of a quantitative approach for the statistical investigation of the contents occurrence of particular texts or concepts. As suggested by Neuendorf (2002), the two approaches can be used in combination in contents analysis research.

3.2. *Phase A1.* Development of a theoretical classification system for tourism destinations related online conversations

A deductive approach has been used in order to develop the theoretical classification system for tourism destination-related online conversations. Phase A1 is divided into two main steps:

(i) Literature review: an adaptation of a RepTrak model (developed by the Reputation Institute, www.reputationinstitute.org, used to measure corporate Reputation) was adapted as a base for the development of the Tourism Destination (TD) reputation online framework. The RepTrak helped on the definition of the core dimensions and drivers to measure the reputation of a TD considering its particular characteristics as an organizational unit. This eTourism Destination Reputation Framework (eTDR) is based on several drivers that work as predictors of reputation (Vidaver-Cohen, 2007). The drivers are grouped in 7 core dimensions: Organizational Leadership, Product & Services quality, Workplace environment, Performance, Citizenship activities, Innovation initiatives, and Governance procedures. The framework was created and adapted based on an extensive literature review.

(ii) Structured interview and focus group with the tourism domain experts, in order to assess, through semi structured interviews with domain experts (i.e., new media, economics of tourism, brand reputation and practitioners. N° =7 interviews), the reputation dimensions of the eTDR's framework raised from the literature review.

3.2.1. Design of the theoretical classification system for tourism destination related online conversations (eTDR)

Taking into consideration RepTrak as basic reputation model, the following paragraphs present the theoretical construction of the core dimension and reputation drivers conceived for the proposed reputation framework applied to tourism destinations. This paragraph provides a review of the main factors affecting the reputation of a tourism destination which compose the eTDR (eTourism Destination Reputation Framework).

Comparison between RepTrak and eTDR

1. Products and services core dimension (Tab. 3.2):

Driver 1 (d1): it has been argued (Yoon, Guffey & Kijewski, 1983; Roberts & Dowling, 2002; Vidaver-Cohen, 2007) that the process of building reputation is highly correlated to the perception of quality. Roberts & Dowling (2002) argued that reputation serves as a signal which underlines the quality of firm's products and services. In Tourism Destinations (TDs), the notion of quality is also a determinant factor for convincing new tourists to come and visit, as well as to encourage past visitors to return. Driver 2-3 (d2 and d3): quality in tourism not only relies on the quality of the services and products offered to the tourists, but also in the quality of the environment in which these products are presented. The level of satisfaction derived from staying at a tourism destination, is not only depending on the visitors' experience, but in other factors as "hospitality, safety and security, sanitation, traffic and visitor management [...] as being part of the infrastructure and environment" (European Commission, 2000, p. 13). Driver 4 (d4): Sönmez (1998) presented a view of the effects of risks upon tourism arrivals in different destinations. The author explained that statistics demonstrate that risk factors alter tourism demand. Political turmoil, terrorism and other security concerns including burglars and petty crimes have an impact on tourist travel behaviors and destination choice (Ritcher, 1999). Hence, safety and security distress have a negative effect on the tourists' perception towards TDs and as a result they will experience a reduction on the number of visitations (Sönmez, 1998). For this reason having high levels of security and safety within a destination are important for both their reputation and for attracting more visitors. Driver 5 (d5): The final driver considered for this core dimension assesses the perceived value for money. This concept can be explained by one definition of quality which assesses the products and services quality with respect to the monetary cost to acquire those (Sproles, 1999). Thus, value for money explores the relation between the benefits obtained from the use of a good (e.g. product or service) versus the cost of obtaining the resources to pay for them.

Table 3.2. Drivers from RepTrak, the final Product and Service drivers and related literature

RepTrak	eTDR	Evidence from Literature
Products	*Products and Services*	
(c = company)	*(d = reputation driver;*	
	TD = tourism destination)	
(c) offers high quality products and services.	d1: (TD) offers quality tourism products and services.	Caruana, 1997; Augustyn, 1998; Sönmez, 1998; Sproles,
(c) stands behind its products and services.	d2: (TD) offers a pleasant environment.	1999; Vivader-Cohen, 2007; Sönmez and Graefe, 1998;

(c) meets customer needs: (c) offers good value for money.	d3: (TD) features adequate infrastructure for tourists. d4: (TD) offers a safe environment. d5: (TD) offers products and services that are good value for the money.	D'Amore and Anuza, 1986; European Commission, 2003

2. Innovation (Tab. 3.3):

Driver 6 (d6): the innovation core dimension was included due to the increased importance of this concept in the business strategies. Drivers identified in the original model related the reputation building process to the capacity of firms to adapt to changing environments as well as the ability to present new products or services to the market. In order to assess and measure the impact of innovative behavior in TDs, there is a need to focus on the improvement or modification of the destination's products and services (López, Serrano & Gómez, 2003). For this reason the research proposes to measure innovation of a destination by examining the degree in which a TD continuously improves their products and services. This reputation driver can be linked to the drivers presented in the original model which measure the promptitude of firms to satisfy market needs and quick adaptation to change (Radu & Vasile, 2007). Driver 7 (d7): The second driver considered for this core dimension evaluates the innovation of a destination specifically in regards to its products and services. Based on the innovation presented by Hjalager (2002), this core dimension also needs to consider product innovation as a driver of reputation. Hjalager (2002) explained this category as the "new or improved products or services which represent a novelty to users".

Table 3.3. Drivers from RepTrak, the final Innovation drivers and related literature

RepTrak	**eTDR**	**Evidence from Literature**
Products *(c = company)*	*Products and Services* *(d = reputation driver;* *TD = tourism destination)*	
(c) is an innovative company. (c) generally first to market. (c) adapts quickly to change.	d6: (TD) continuously improves their tourism products and services. d7: (TD) presents innovative tourism products and services.	De Jong et al., 2003; Hjalager, 1997, 2002; Jacob et al. 2003; Rindova, 2005; Radu and Vasile, 2007; Lopez et al. 2003; Rindova, 2005.

3. Society (Tab. 3.4):

Driver 8-9-10 (d8, d9 and d10): it has been recognized that tourism can be used as a source of development for cities, regions or entire countries. Moreover, TDs that develop this industry in a systematic and organized way may achieve an increase of population income, higher education rates, increase employment opportunities, improve local infrastructure and services and foster social interaction (Tosum, 2002). Destinations as tourism centers and Destination Management Organizations as lead figures of the local industry have to promote and guide the development in a sustainable manner. To do so, destinations should promote positive and responsible behaviors between visitors and residents (Fuchs and Weiermain, 2004); scholars actually demonstrate the importance of culture as one of the major drivers for destinations' selection (especially in leisure tourism). These experiences help visitors grow and develop their culture and knowledge. Being part of the tourism product, these elements have an effect on the reputation of the destination. Crick (2003) described the friendliness and warmth of the society within a destination as a "vital pillar" for the tourism industry. The author explained that tourism is one of the few industries in which customers have contact with service providers, but also with the local population during the consumption process.

Table 3.4. Drivers from RepTrak, the final Society drivers and related literature

RepTrak	eTDR	Evidence from Literature
Products	*Products and Services*	
(c = company)	*(d = reputation driver;*	
	TD = tourism destination)	
(c) rewards its employees fairly.	d8: (TD) encourages responsible behaviors between their visitors/residents.	Tosum, 2002 ; Crick, 2003 ; Ryan, 1995; Allen et al., 2005;
(c) concerns for the health and well-being of its employees.	d9: (TD) offers interesting local culture and traditions.	Carey et al. 1997; Fuchs and Weiermain, 2004; Pizam et al.
(c) offers equal opportunities in the workplace.	d10: (TD) has hospitable residents.	2000; Brunt and Courtney, 1999; Russo and VanDer Borg, 2002.

4. Governance (Tab. 3.5):

Driver 11-12-13 (d11, d12 and d13): In the tourism domain, an increase in the importance of governance practices can be observed. This trend can be attributed to the socio-cultural changes of the environment; the rapid, and in many cases, disorganized development of the tourism industry as well as the fragmented nature of this industry; increasing the need for destinations' governance protocols (Manning, 1998; Palmer,

1998). In this regard, governance practices can be used as a supportive tool that increases cooperation between these actors. Hence, this cooperation and interaction increases the capabilities and resources that are available for TDs, helping them to achieve a better touristic product (Beritelli, Bieger & Laesser (2007). In TDs, local residents have a role in the tourists' experience (as it has been explained in the society core dimension). It has been recognized and explained how tourism and tourists impact the local society and population. Tourism service providers are not capable of providing a pre-experience to prospect travelers. This situation increases the risk in regards to information asymmetries, raising the concerns of future customers as they are not sure if the quality and characteristics of the offering are similar to the ones being advertized. Research in the field of tourists' satisfaction (Gnoth, 1997) stressed the point that consumers might negatively evaluate their vacation if there is a difference between the vacation advertisement and what is actually consumed by them. In this regard, it is important to note that fairness and ethical behavior goes hand in hand with the perception of trust (Manning, 1998; Palmer, 1998). In order to achieve a positive reputation is it necessary to satisfy customers' needs and desires. To do so, destinations, and in general all industries, have to provide and deliver what was promised to their customers.

Table 3.5. Drivers from RepTrak, the final Governance drivers and related literature

RepTrak	eTDR	Evidence from Literature
Products	*Products and Services*	
(c = company)	*(d = reputation driver;*	
	TD = tourism destination)	
(c) is open and transparent, (c) behaves ethically. (c) is fair in the way it does business.	d11: (TD) tourism industry and organizations cooperates and interacts between them. d12: (TD) tourism industry and organizations behave ethically in confront of their visitors and residents. d13: (TD) delivers tourism products and services that match their offering.	Palmer, 1998; Manning, 1998; Beritelli et al. 2007; Gnoth, 1997

<u>*5. Environment (Tab. 3.6):*</u>

Driver 14-15-16 (d14, d15 and d16): The importance of physical environment and location is highlighted in the literature (Henderson, 2007; Keller, 2002) as elements that contribute to the destination's competitiveness. The tourism industry, more than other economic activities (e.g. IT, manufacturing), uses the environment as a production factor (e.g. raw material) and as a geographical location (e.g. coastal areas) to accommodate their infrastructure. In addition to this the tourism industry also uses the environment as part of their offering. This idea can be easily confirmed by looking at travel advertisement brochures, as most of them feature a sunny beach; high mountains or interesting cosmopolite cities to attract more visitors. It has been recognized (Tearfund, 2002), that social responsible initiatives within the tourism industry might be a key element to achieve a "good" tourism industry development. Tilt (1997) argued that environmental initiatives influence the perception of consumers; hence environmental initiatives have an influence upon their perception of reputation. The same author argued that social responsible and sustainable initiatives demonstrate firms' concern on the effects of their operation, and a destination which includes this type of programs is capable of gaining the trust and a positive reputation between its stakeholders (Tilt, 1997).

Table 3.6. Drivers from RepTrak, the final Environment drivers and related literature

RepTrak	**eTDR**	**Evidence from Literature**
Products	*Products and Services*	
(c = company)	*(d = reputation driver;*	
	TD = tourism destination)	
(c) supports good causes. (c) has a positive influence on society. (c) acts responsibly to protect the environment.	d14: (TD) is responsible in the use of their environment. d15: (TD) supports ecological initiatives. d16: (TD) is a sustainable tourism destination.	Blanco, 2008; Keller, 2008; Nicolau, 2008; Tearfund, 2002; Tilt, 1997; Dodds and Joppe, 2000

6*. Leadership (Tab. 3.7):*

Driver 17-18-19 (d17, d18 and d19): in order to adapt this core dimension and include it in the destination reputation framework (eTDR), there is a need to first identify the organizational and managerial aspects of the leader organization. Due to this fragmented nature of the tourism industry, there has always been the need for an organization which is capable of presenting the tourism destination as a whole (Jamal and Getz 1995). In the conceptual model presented by Presenza, Sheehan, & Ritchie (2005), the authors divided the functions of a Destination Management Organization into two main categories: External Destination Marketing (EDM) and Internal Destination Development (IDD). The EDM functions focus on the activities related to marketing and advertisement with the aim of attracting visitors to the destination. The task of presenting and creating the image of tourism destinations abroad has been recognized by far as the most important function of these organizations in which Destination Management Organizations allocate most of their resources. In addition to these reputation drivers, the eTDR framework also contemplates the IDD functions of the Destination Management Organization as elements that influence the reputation of a tourism destination. These activities are performed by Destination Management Organizations in order to provide support and sustain the tourism industry. Presenza et al. (2005) argued that in order to fulfill this role, Destination Management Organizations work as a coordinating unit of other organizations and stakeholders (E.g. Hotels, Restaurants, Convention Center, Universities, etc). This relation facilitates the overall support and enhancement of the tourists' experience. The management of the destination's resources is a key leadership role performed by Destination Management Organizations. The adequate utilization of them promotes long-term and sustainable development as well as growth of the destination's tourism industry.

Table 3.7. Drivers from RepTrak, the final Leadership drivers and related literature

RepTrak	eTDR	Evidence from Literature
Products	*Products and Services*	
(c = company)	*(d = reputation driver;*	
	TD = tourism destination)	
(c) is a well-organized company.	d17: (TD) presents accurate information of their tourism	Jamal and Getz, 1995; Heath and Wall, 1992; Getz et al.,
(c) has strong and appealing leader.	products and services.	1998; Gretzel et al., 2006; Pike,
	d18: (TD) presents an accurate	2008; Ritchie and Crouch,
(c) has excellent managers.	image as a tourism destination.	2003; Heath and Wall, 1992;
(c) has a clear vision for the future.	d19: (TD) uses their resources and infrastructure adequately.	Presenza, Sheehan, and Ritchie, 2005

7. Performance (Tab. 3.8):

Driver 20-21-22 (d20, d21 and d22): the information collected using the RepTrak framework shows that this core dimension focused mainly in financial and economic aspects of the firms. Tourists evaluate destinations based on the attributes that they are mostly interested in during their travel experience (e.g. interesting culture, untouched nature, vivid nightlife). Elements such as activities, location, climate, price and other influence the destination's choice; while, elements such as destination's profits, sales, ROI, or other financial ratios or indicators, are not considered, reviewed nor accessed by tourists. The products and services create utility and in particular the characteristics and attributes derived from their use (Lancaster, 1966; Papatheodorou, 2001). Divisekera (2003) explained that tourists derive utility from spending time and visiting a particular destination, experiencing and using the destinations tourism system (tourism infrastructure and environment).

The utility then, is the result from the destination's attributes such as climate, scenery, and socio cultural features which are consumed together with other goods and services (attractions) available at the destination. Following this, it is possible to say that tourists will prefer a TD from which they derive more utility when using and experiencing their attributes. Therefore, if one TD outperforms other destinations, provides more utility by better satisfying tourists' needs, this will be reflected in a positive reputation. The measurement of customers' satisfaction also helps to identify whether previous consumers are willing to make positive recommendations of the product and product providers. These recommendations influence and increase the positive word of mouth regarding their experience having as a result an increase their positive reputation (Bigné & Andreu, 2004).

Table 3.8. Drivers from RepTrak, the final Performance drivers and related literature

RepTrak	eTDR	Evidence from Literature
Products	*Products and Services*	
(c = company)	*(d = reputation driver;*	
	TD = tourism destination)	
(c) is a profitable company.	d20: (TD) outperforms' other	Lancaster, 1966; Divisekera,
(c) delivers good financial	competitor tourism	2003; Liljander and Stramdvik,
results.	destinations.	1997; Oliver, 1993; Yu et al.
(c) shows strong prospects for	d21: (TD) meets my	2007; Yu and Dean, 2001;
future growth.	expectations as a tourism	Bigné and Andreu, 2004
	destination.	
	d22: (TD) offers a satisfying	
	tourism experience.	

The proposed contents classification for the tourism destination thematic dimensions has been depicted in Figure 3.8, where the external layer shows the dimensions from RepTrack, whereas the internal layers show the adapted reputation tourism dimensions with the relative drivers. The central core dimension is represented by the emotional feelings, which generally are possible to be tracked for future online content analysis.
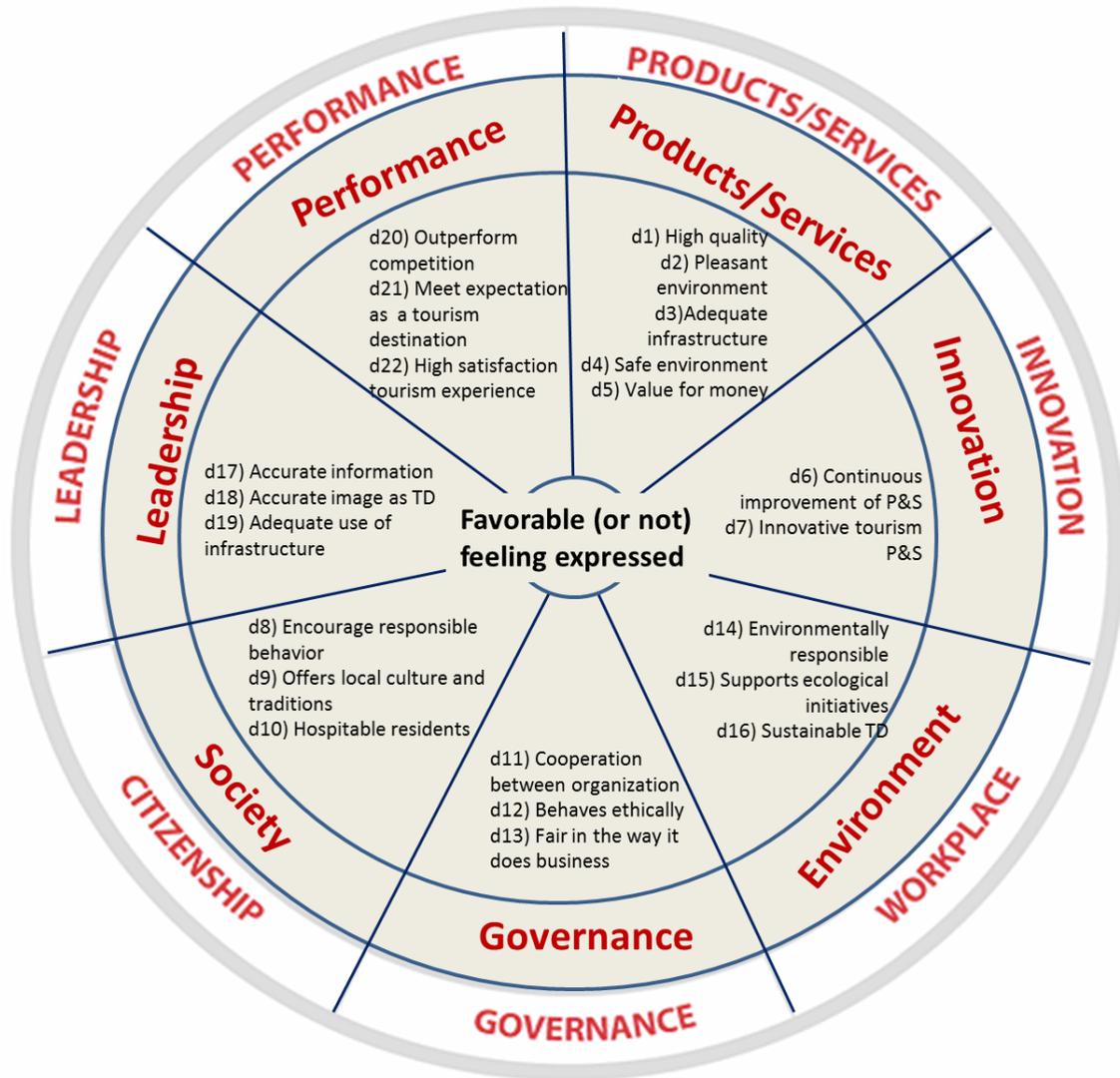
Figure 3.1. eTDR: *the proposed contents classification for the tourism destination thematic dimensions.*

3.2.2. Structured interviews with tourism domain experts

Seven domain experts (academics and tourism professionals) in the fields of new media, economics of tourism, brand reputation and practitioners have been selected for this assessment process. The experts were asked to participate in a series of interviews (duration of the interviews: 45 minutes each interview), and to complete and comment questions presented in a structured questionnaire.

The semi-structured questionnaire included two close-ended and one open-ended question. The first question required from the participant to rank the importance of each of the 7 core dimensions featured by the model. The second close-ended question, instead, required from the participant the assignation of a value (5-point Likert scale). This value was assigned in relation to the influence of each reputation driver to the overall reputation of a TD. The third and last part of the questionnaire included one open-ended question. Finally, one open-ended question required participants to add any additional element perceived as having an influence upon the overall reputation of a TD and which was not previously considered.

Respondents assigned the 1st rank to the core dimension that according to them had the most influence, while the 7th place was assigned to that with the least influence upon the reputation. The results rankings were: Products & Services, Leadership, Innovation, Performance, Society, Environment, Governance (see Tab. 3.9). Out of the 7 core dimensions analyzed with the tourism industry experts, four of them can be considered most significant as predictors of reputation: Products & Services, Leadership, Innovation, and Performance. These results show that the accuracy of the information and image in regards of the destination's products, services and attractions as well as the appropriate management and adequate use of their resources and infrastructure has a high effect on the reputation of a destination. Moreover, no suggestions to complete/increase the core dimensions and drivers were found.

Table 3.9. Mean, ranking and variance results of the core dimensions

Total Core	Mean	Ranking	Variance
Products & Services	1.3	1st	0.6
Leadership	3.0	2nd	3.0
Innovation	3.9	3rd	4.0
Performance	4.6	4th	4.1
Society	5.0	5th	1.1
Environment	5.1	6th	1.6
Governance	5.1	7th	3.8

This research highlights the importance of reputation research for tourism destinations. The eTDR framework, structured into dimensions and drivers, has been outlined and described. The structured interviews with domain experts confirmed the adequacy of the 7 core dimensions outlined in to the model; however, only 4 out of 7 outlined dimensions (Products & Services, Leadership, Innovation, Performance) can be seen as predictors of reputation.

Given the relevance of the topic for destinations communication strategies, some limitations can be underlined: (i) few tourism experts were involved in the focus group (N=7) and moreover no costumers (i.e., tourists were involved); (ii) dimensions and drivers have been outlined, and described but no content association guidelines were designed; (iii) destinations are here presented as complex organizations where different dimensions might be relevant in such a study: eTDR has been only designed without carrying out field studies which might change, and expand drivers and dimensions. So that, future research will mainly regard: (i) the possibility of running a survey in order to submit the eTDR to real tourists with the goal to validate the model and understand the interdependencies among variables/drivers from consumer point of view and from professional point of view; (ii) the creation and the validation of a process to associate contents to specific drivers; (iii) the need to run the research for several different destinations (field study) in order to test the eTDR and verify whether other dimensions/drivers are missing. Finally, destinations managers who are investing time and efforts in brand management activities, should find in eTDR a structured approach to map the reputation perceptions around their destination.

3.3. *Phase A2.* Testing the eTDR via online case studies

A preliminary test of eTDR was conducted thanks to an online case study; the presence of reputation drivers was assessed thanks to a content analysis. London as one of the most popular tourism destination worldwide was chosen for this preliminary research.

A second test on three similar tourism destinations was performed in order to understand the presence of others dimensions which may be remained uncovered by the first test.

The following research questions were formulated to guide the online case studies:

- How many online conversations can be directly accessed by users based upon specific queries?

- Which reputation dimensions and drivers are mainly represented by the discovered texts?

3.3.1. London case study

The online case study consisted of three main steps: (i) query selection and search activities, (ii) classification of results, and (iii) content analysis. Google was used as search engine, for the study is the most used search engine, also in the travel sector (Hopkins, 2007; Bertolucci, 2007).

1. Query selection: 10 keywords were selected in order to perform the search on Google. Relevant tourism keywords were selected thanks to two web services given by Yahoo and Google (http://suggestqueries.google.com and ff.search.yahoo.com), which suggest related user search for a given term (in this case the input term was "London"). Among 15 keywords suggested by the services, only 10 tourism-related keywords were selected for the study: (i) london times, (ii) london weather, (iii) london eye, (iv) london underground, (v) london fog, (vi) london England, (vii) london map, (viii) london hotels, (ix) london transport, (x) london zoo. The 10 keywords were used to perform 10 different search activities on google.com (international results only) considering the first three results pages as relevant for the end user (Comescore, 2008).

2. Results classification: Unique results (Table 3.10) obtained from Google, were firstly classified according to Inversini, Cantoni and Buhalis (2009) in: (i) BMOW – "Brick and mortar" organizations' websites, including all players that are doing business also in the offline world. Most of these organizations were doing business long before the Internet was developed. (ii) MOOWAY – Mere online organizations' websites and individual websites, including all individual websites – mainly blogs – and those organizations doing business (almost) exclusively online. These providers couldn't be even

conceivable without the info-structure provided by the Internet. (iii) not working websites. This classification elaborates the one given by Anderson (2006) and Inversini and Buhalis (2009) because of the complexity of the tourism domain, where the simply difference among official and unofficial sources is not enough.

Table 3.10. Unique results classification

	Unique results	**BMOW**	**NW**	**MOOWAY**
Google.com	463	106	0	357
				UGC
				95

Among the results obtained considering both organic and sponsored websites (total results: 463), the websites belonging to the MOOWAY (357 results) which contained user-generated-contents (UGC) were 95 (approximately 20,51%). This first result suggested that social media represented a substantial part of the online tourism domain and play an important role in shaping it (Greztel and Xiang, 2010).

3. Content analysis: The 95 websites hosting online conversations identified were used for a content analysis based on a reputation codebook (Inversini et al., 2010) and on the eTDR framework. Content analysis moved from previous studies in the field (e.g. Inversini et al., 2011; Inversini and Cantoni, 2009; Xiang and Gretzel, 2010). Firstly the coder was asked to classify the 95 social media websites to the following types (Xiang and Gretzel, 2010) in order to describe the information market around the online tourism domain:

- Virtual Community (e.g. Lonely Planet, IgoUgo.com, Yahoo Travel);
- Consumer Review (e.g. Tripadvisor.com);
- Blogs and blog aggregators (e.g. personal blog, blogspot);
- Social Networks (e.g. Facebook, Myspace);
- Media Sharing (Photo/Video sharing – e.g. Flickr, YouTube);
- Other (e.g. Wikipedia, Wikitravel).

Secondly, the pages identified as social media were examined using specific guidelines (Inversini et al., 2010) in order to associate the topics contained within the page to the eTDR drivers.

User Generated Contents (UGC) information market around London online tourism domain have been represented as follow: among the categories selected for the analysis, the majority of websites were classified under the category "Other", which counted 34.7% of the total results and it was represented mainly by Wikipedia pages. The rest of the social media websites were balanced between: Consumer Review (19.7%), Media Sharing (19.7%), Blogs and blog aggregators (17.3%). Few websites were Virtual Community (8.7%) and no mentions for Social Networks and Web 1.0 websites.

Once the social media websites were identified, contents from each single landing page was analyzed and associated to specific drivers. Where more than one driver was presented on the same landing page, coder was asked to classify them using (where needed) more than one driver (e.g. a blog can have a post which talk about Products and Services and a comment about Society, in that case the coder will count two items).

From 95 UGCs/online conversations pages, the coder was not able to associate 22 search results to any drivers (approximately 12.7% of the total results). A further qualitative analysis showed that the content of these 22 search results was mainly not relevant for the tourism field (i.e., contents about people, journals, advertisements, news, websites guidelines which have London as part of the title name). Keywords which mainly gave applicable websites were: Transport, Map, Hotels in fact they were tourism related keywords. On the contrary, keywords as Fog, Times and Underground were the ones which mainly gave the not-applicable urls in fact they were partially tourism related keywords.

Thus from 73 remaining urls, the coder found 151 drivers (approximately 2.06 drivers per landing page). Coder was also asked to define the value of the judgments expressed within the following metric:

- The item does not express any value judgment
- The item expresses a value judgment
- The item expresses positive value judgments
- The item expresses positive value judgments as well as negative judgments
- The item expresses more negative value judgments rather than positive ones
- The item expresses negative value judgments

Table 3.11 below shows that the online word-of-mouth perceived London with the following reputation dimensions frequencies and argument values:

- Products and Services dimension counted for 63.6% of the total results with an overall of positive values expressed. Nevertheless a negative mention was d3: [D] features adequate infrastructure for tourists. Comparing this result against the distribution of the drivers on the media, shows that this core dimension is mainly presented on Consumer Review websites, Other and Media Sharing websites.

- Innovation dimension counted for 12.6%. The vast majority of comments were positive, nevertheless negatives mentions were for d6: [D] continuously improves their tourism products and services; and d7: [D] presents innovative tourism products and services.

- Society dimension counted for 11.9% with both negative mentions (d8: [D] encourages responsible behavior between their visitors /residents), as well as positive value judgments.

- Leadership dimension counted for 5.3% with few positive presences. Nevertheless a negative mention was for the driver d17: [D] presents accurate information of their tourism products and services.

- Environment dimension counted for 3.3% with few positive mentions as well as items without any judgment expressed.

- Performance dimension counted for 2% with only 3 presences: two were positive and one negative for the driver d22: [D] offers a satisfying tourism experience.

- Governance dimension counted for 1.3% with one positive presence.

The negative mentions counted for 10.3% of the total arguments value results and they were mainly presented on Media Sharing websites (e.g. YouTube.com), Blogs and Consumer Review websites as for example, Tripadvisor.com.

No value judgments expressed counted for 51% of the total results and they were mainly in "Other" media. Out of 77 no-value results 14 were Wikipedia pages which usually presents item description rather than judgments.

The not mentioned drivers were part of the reputation dimensions which obtained few mentioned: Environment with the missing driver d15: [D] supports ecological initiatives; and Governance with the missing drivers d12: [D] tourism industry and organizations behave ethically in confront of their visitors and residents; d13: [D] delivers tourism products and services that match their offering.

Table 3.11. eTDR drivers table with presence and argument values results

Core Dimensions	Drivers	UGC total items	Don't express a value	Express a value
Products and Services 96 items = 63.6%	[d1]: [D] offers quality tourism products and services	29	14	15
	[d2]: [D] offers a pleasant environment	26	17	9
	[d3]: [D] features adequate infrastructure for tourists	13	4	9
	[d4]: [D] offers a safe environment	9	6	3
	[d5]: [D] offers products and services that are good value for the money	19	12	7
Innovation 19 items = 12.6%	[d6]: [D] continuously improves their tourism products and services	3	0	3
	[d7]: [D] presents innovative tourism products and services	16	8	8
Society 18 items = 11.9%	[d8]: [D] encourages responsible behaviour between their visitors / residents	10	1	9
	[d9]: [D] offers interesting local culture and traditions	4	2	2
	[d10]: [D] has hospitable residents	4	3	1
Leadership 8 items = 5.3%	[d17]: [D] presents accurate information of their tourism products and services	1	0	1
	[d18]: [D] presents an accurate image as a tourism destination	1	1	0
	[d19]: [D] uses their resources and infrastructure adequately	6	4	2
Environment 5 items = 3.3%	[d14]: [D] is responsible in the use of their environment	2	2	0
	[d15]: [D] supports ecological initiatives	0	0	0
	[d16]: [D] is a sustainable tourism destination	3	2	1
Performance 3 items = 2%	[d20]: [D] outperforms other competitor tourism destinations	1	0	1
	[d21]: [D] meets my expectations as a tourism destination	1	0	1
	[d22]: [D] offers a satisfying tourism experience	1	0	1
Governance 2 items = 1.3%	[d11]: [D] tourism industry and organizations cooperates and interacts between them	2	1	1
	[d12]: [D] tourism industry and organizations behave ethically in confront of their visitors and residents	0	0	0
	[d13]: [D] delivers tourism products and services that match their offering	0	0	0
Total 100%		151	77	74

eTDR framework was applied to the analysis of the user generated content around London. Within this particular case, out of the 7 core dimensions analyzed within the online conversations market, only four of them can be considered as predictors of reputation: (i) Products and Services, (ii) Innovation, (iii) Society, and (iv) Leadership dimensions. In addition, the online dialogues for the given keywords about London have been observed mostly in websites which share contents (namely in Other media, Media

Sharing, Consumer Reviews and Blogs), than websites which are more related (or present) user profiling characteristics such as virtual communities or social networks.

In the presented case study, eTDR is able to capture and map the online dialogues (the ones which express values judgments) using only its first 4 dimensions (out of seven). The arguments which express values judgments count approximately 93% of the results. Actually, reputation in online media investigation with eTDR can be carried out only with the first ten drivers (out of 22). Furthermore, within the "not applicable user generated contents" (the ones not relevant for the tourism domain) no suggestions to complete/increase the core dimensions and driver were found.

3.3.2. Sustainable Tourism Destination case studies

The lack of some drivers in the previous pilot study (and the limited item presence for Environment, Performance, and Governance dimensions), allows to run the research for other different destinations in order to test eTDR and verify whether other dimensions are missing; and to use a list of tourism keywords (to query search engines) in future research, in order to understand if the limited presence of some drivers are related to the query inquire or to the actual reputation market in online media around a destination.

Moreover, the previous test focused on a popular destination (e.g. London) and results suggested that only few dimensions in the eTDR model could be considered as relevant while dealing with this topic (popular tourism destination), namely products and services, leadership and society; few work has been done so far to understand if niche destinations, such as the sustainable ones, might present different online contents and/or online discourses. In order to tackle this issue, this research focuses on sustainable TDs, which are defined by the World Tourism Organization (UNWTO) as follows:

"Sustainable tourism development meets the needs of present tourists and host regions while protecting and enhancing opportunity for the future. It is envisaged as leading to management of all resources in such a way that economic, social, and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity, and life support system." (WTO, 1998, p. 19).

From the Sustainable Tourism Development Report (UNESCO, 2009), the behavioral aspects in the tourism field point out several tendencies for the tourists' decision making process. Tendencies related to the topic of this research show (i) an increased tourists' awareness for the environment, (ii) a higher consciousness of quality and value for money, (iii) more selected choice of destination, (iv) tourists have become more

physically and intellectually active, (v) tourists want to visit places that are environmentally friendly and socially. Furthermore, (vi) there is a general tendency to increase the use of technology – especially the Internet. In other words, sustainable tourism destination is ecologically sustainable, economically viable as well as ethically, and socially equitable; thus, moving from this perspective, it can be anticipated that a relevant part of online content and online discourses about sustainable destinations fit into the two related eTDR dimensions: Environment and Society.

The research is designed as a multiple case study. The three destinations selected were recognized as sustainable and mentioned in popular sustainable TDs lists (Top Five Destinations for Ecotourism - Independent Traveleler.com; Top Ten Eco-Friendly - gogreenearth.com 2009; European Destinations of Excellence – EDEN project – which are a showcase for local environment, culture and social fabric preservation and enhancement). Furthermore, islands were selected in order to facilitate the definition of the destination boundaries: in fact the concept itself of destination sometimes does not match specific geo-administrative boundaries, but only with socially perceived coordinates, which can have different granularity levels: a destination, in fact, is a social construction built by communication acts such as "impressions, prejudice, imaginations and emotional thoughts an individual or group might have of a particular place" (Baud-Bovy, Lawson, 1977).

The selected destinations were: (i) Reykjavik, (ii) Palau, (iii) Malta. In order to find online contents and online discourses about them, a set of search engine queries were defined; since search engines provide one of the primary "access to the information" for travelers.

The methodological approach has been mainly based on content analysis as in section 3.3.1 of this study: (i) data collection was made thanks to extensive queries on a given search engine; (ii) results were analyzed thanks to a destination reputation codebook (Marchiori et al., 2010).

(i) Data collection was made querying the search engine Google.com (international version, from Lugano, Switzerland, in March 2010). Google was used as the only search engine for this study due to its popularity among Internet users also in the travel sector (Hopkins, 2007; Bertolucci, 2007). The name of the destinations was mixed with specific travel keywords (Xiang et al., 2009) as presented in Table 3.12.

Table 3.12. Name of the destinations mixed with specific travel keywords

D1: Reykjavik	D2: Palau	D3: Malta
Visit Reykjavik	Visit Palau	Visit Malta
Travel Reykjavik	Travel Palau	Travel Malta
Holiday Reykjavik	Holiday Palau	Holiday Malta
Vacation Reykjavik	Vacation Palau	Vacation Malta

The four keywords were used to perform different search activities on google.com; the first three results pages (i.e., 30 results overall) were considered (Comescore, 2008). Thus 360 results were analyzed (120 results per destination, 3 times)

(ii) Content analysis was done with two coders, using a version of the Destination Reputation Codebook presented by Inversini, Cantoni and Buhalis (2009) where coders were asked to assess each URL within the search activity following a set of codes starting from the technical classification of the medium up to the main content recognition (eTDR dimension and value expressed). The atomic unit of the analysis for the study was the landing page: each coder was asked to identify the major eTDR driver in its text, in case more than one were equally represented, up to three drivers for a single landing page could be coded.

Sustainable Online case study Results

Results firstly helped to map the information market around the four destinations (Table 3.13). Among the 360 analyzed results, 86 contained online conversations (23.8 %), 234 did not contained online conversations and 40 were not working or not relevant (these website were intended as the ones not accessible or with no relevance for the touristic market). These results confirmed that social media websites are playing a relevant role in the online tourism domain (Greztel and Xiang, 2009), and counted for the 23.8% of the overall results. This tendency is confirmed also by other studies in the field (e.g tendency of 20.5% in Inversini et al., 2010).

Table 3.13. Information Market around the three destinations

	Presence of Online Conversations	No Presence of Online Conversion	URL Not Relevant/URL Not Working
Reykjavik	26	89	5
Palau	47	44	29
Malta	13	101	6
Total	86	234	40

Among the analyzed destinations only Palau presented a balance between social media websites (n=47) and not social media websites (n=44). The same destination unfortunately presented a high number of not working and not relevant websites (n=29). In the other cases the number of not social media websites is always greater than the number of social media websites. Among social media websites, consumer review websites were the most present online conversations (n=32, Tripadvisor being the most present website for this category). Virtual communities and blogs were also predominant in the tourism online domain analyzed and lonelyplanet; vistualtourist; travbuddy, and 43things websites were the most present ones.
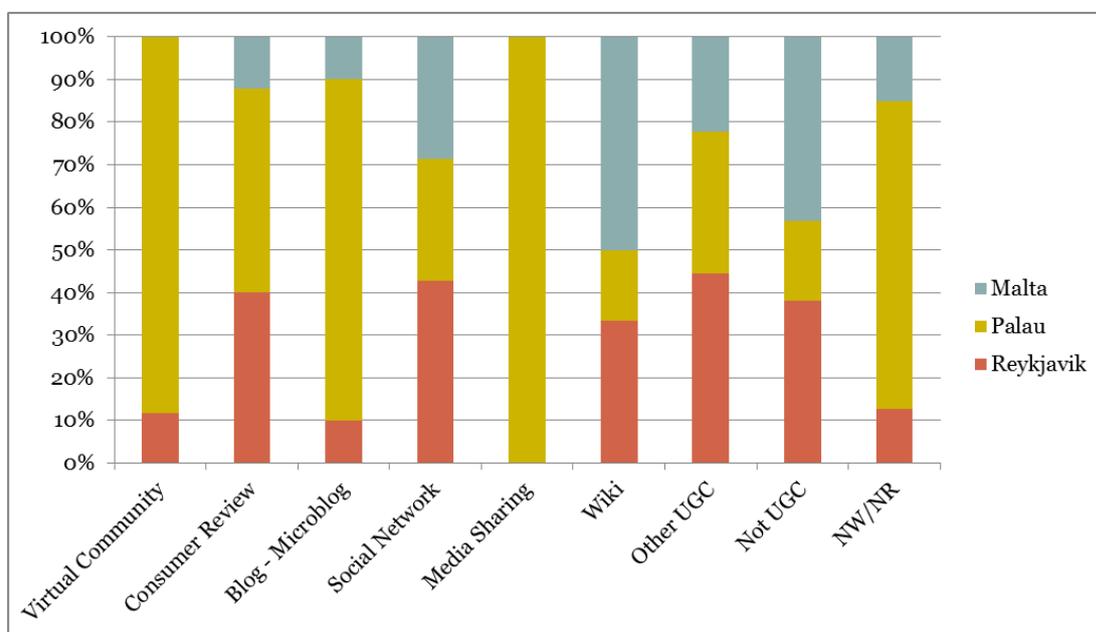
Figure 3.2. Social media websites in the four analyzed destinations

Figure 3.2 shows how the online conversations market is organized among the four destination. Social media websites were classified according to five categories: virtual community, consumer review, blog and micro blogging, social network, media sharing, wiki and other social media (Gretzel, 2010). Considering each destination it is possible to underline that consumer reviews (8.3%), and other social media (6.7%) were the most important categories for Reykjavik, wiki (2.5%) and Other social media (3.3%) were really relevant for Malta and consumer review (5.8%) and blog and micro blogging were relevant for 5%. Due to the limited number of not social media websites (36.7%) Palau had interesting results for virtual community (12.5%), consumer review (10%) and blog and micro blogging (6.7%).

Once social media websites were identified, content from each single landing page was analyzed and associated to specific drivers (up to three): e.g. a trip description written on a virtual community could present contents related both to the dimension of products and services as well as to the dimension of society; in that case coders counted two items associated to one driver each, each of them with a specific value judgment.

Only 16 drivers out of 23 appeared in the social media websites. Only seven drivers appeared in all the destinations' results, mainly for products and services dimension (i.e., d1, d2, d3, d5, d9, d18 and d22).

The minimum number of major drivers which were preset in the social media results for the analyzed destination was 9 (i.e., Malta and), while Reykjavik presented 10 drivers. Interesting is the fact that Palau outperformed all the other destination presenting 15 drivers. This is mainly due to the high number of social media websites retrieved in the search engine. On the one sides, society and environment dimensions drivers were present and distributed in the 3 destinations; as regards the society dimension, d9 (destination offers interesting local culture and traditions) is present in all the destinations, d10 (destination has hospitable residents) is not present in Reykjavik. As regards the environment dimension, d14 (destination is responsible in the use of its environment) is not present in Malta and surprising d15 (destination supports ecological initiatives) is present only in Palau. On the other side it is possible to notice that only product and service and environment dimensions had got all the drivers mentioned at least for one destination. Finally, the means of the drivers' occurrences of the sustainable destinations together with the percentage of the positive value expressed was compared between the sustainable destinations group (Table 3.14).

Table 3.14. Drivers occurrence and value expressed within the sustainable destinations. The mean, the standard deviation and items percentage have been considered.

Dimension	Code	Driver	Driver Occurrence	Positive Value Expressed
Products & Services 52.6%	d1	D. offers quality tourism P&S	13 (4.4*)	61.5%
	d2	D. offers a pleasant environment	8 (9.6*)	95.8%
	d3	D. features adequate infrastructure for tourists	4 (1*)	75.0%
	d4	D. offers a safe environment	0.7 (1.2*)	100%
	d5	D. offers P&S that are good value for the money	3.7 (3.1*)	36.4%
Society 12.5 %	d9	D. offers interesting local culture and traditions	4.3 (2.3*)	76.9%
	d10	D. has hospitable residents	2.7 (3.1*)	62.5%
Leadership 10.7%	d17	D. presents accurate info of their P&S	1.7 (2.1*)	60.0%
	d18	D. presents an accurate image as a tourism destination	4.3 (4*)	76.9%
Environment 9%	d14	D. is responsible in the use of their environment	4.3(6.7*)	92.3%
	d15	D. supports ecological initiatives	0.7 (1.2*)	50.0%
Performance 6.6%	d21	D. meets my expectations as a tourism destination	1.3 (2.3*)	100%
	d22	D. offers a satisfying tourism experience	2.3 (2.1*)	85.7%
Governance 3.6%	d11	D. tourism industry and organizations cooperates and interacts between them	1 (1*)	33.3%
	d12	D. tourism industry and organizations behave ethically in confront of their visitors and residents	1 (1.7*)	33.3%
Innovation 0.6%	d6	D. improves tourism P&S	0.3 (0.6*)	100%
Not Applicable 4.2%	d23			

Table 3.14 shows that the products and services dimension counted for 52.6% of the total results (which means that it obtained the most presence of the drivers mentioned): d1, d2 and d3 are relevant with an overall of good value judgment. Besides, d4 and d5 which are not appearing in were found contradictory: d4 regards the safety of environment and scored totally positive, while d5 which regards the good value for money scored positive only for the 36.4% of the contents. Performance dimension seemed important for sustainable destinations with an overall positive value judgment. Governance and innovation dimensions were not relevant but they had contradictory results: content about governance were judged positive (33.3%), while contents about innovation were considered very positive by coders (100%).

Society (counted for 12.5%) and Environment (counted for 9%) dimensions which were considered relevant as predictors of reputation for sustainable destinations were analyzed as follows: d9 (destination offers interesting local culture and traditions) was not so

relevant but it obtained better value judgments in the online discourses. D10 (destination has hospitable residents) was more relevant but it obtained an overall positive score only in online contents. D14 (destination is responsible in the use of its environment) was relevant positive value judgment scores (92.3%). Finally, d15, (destination supports ecological initiatives) was present with only 50% of positive value judgment.

Results show that only 16 drivers out of 23 were present within the four destinations. Consequently, only these 16 drivers can be considered as reputation predictors within the analyzed destinations.

In all the three destinations labeled as sustainable there was a considerable presence of the drivers about Product and Service dimension (52.6%). This could be partially justified by the fact that regardless the overall promotion strategy and positioning of the destination (e.g. sustainable tourism destination) one of the major topic for the online discussions is products and services: themes related to accommodations are always a very important discussions' starting point. This finding confirmed a tendency presented in Inversini et all. (2010): the tourists always need accommodations while being abroad and due to the abundance and popularity of the accommodations' review websites (e.g. tripadvisor.com) they judge and review online the hotel where they stayed. Furthermore, it is possible to find different results coming from websites such as tripadvisor.com in the first thirty search engine results due to the constant popularity that the Web 2.0 websites are gaining within search engine results (Gretzel, 2006).

Finally, Environment and Society eTDR dimensions cannot be considered as reputation predictors for sustainable destinations, but as regards Society eTDR dimension, the driver d9 is very popular among the destinations analysed, and driver d10 only lacks in the Reykjavik results. The overall value judgment for the destination labeled as sustainable is positive. Values, (i.e., d9: 76.9% positive and d10: 62.5% positive) indicates that there are discussions about the society dimension within the destination; these specific discussions could be deeply analyzed and the discussions moderated by the Destination Management Organization to foster the sustainable image of the destination. As regard the Environment dimension, only driver d14 is very popular while d15 (the driver about ecological initiatives) did not appear in the online conversations. This result sounds strange for the overall communication strategy used by these destinations. In order to foster their sustainable reputation in the online tourism domain, destinations might guide discussions also about these topics in order to reflect in the online market their communication strategies and activities.

Guidelines for online contents interpretation specific to online conversations (can be communicated by text, image, video, or other symbol) have been describe in Table 3.15. A coder can use these guidelines to classify the main relevant topic expressed according to the given reputation drivers and indicate the sentiment expressed using a 5-point Likert Scale.

Table 3.15. Guidelines for online contents interpretation specific to tourism destination-related online conversations

Core Dimensions	Drivers	Examples of topic expressed (can be communicated by text, image, video, or other symbol)	Examples of sentiment (positive/negative)
Products and Services Subcategories: Accommodation Food & Beverage Site Attractions Events Entertainment Transportation Infrastructure Other	[d1]: Destination offers a satisfying tourism product or service	Accommodation: hotel room, concierge. Restaurant: menu, valet. Sports: baseball game Package service: guided tour through city	"The waiter gave us excellent wine recommendations with our dinner"
	[d2]: [D] offers a pleasant atmosphere	Weather: comfort and seasonal aesthetics. Attractions: design, cleanliness Architecture: museums, concert halls	"Autumn in New York is a beautiful time to visit and take lots of photos"
	[d3]: [D] offers products and services that are good value	Accommodation: affordability and overall value for price of hotel rooms. Transportation: reasonability of fares and charges for time spent	"My taxi fare cost 30 USD… very expensive!"
	[d4]: [D] presents accurate information of their products and services	Attractions: insider guides to lesser-known points of interests, insight into daily life	"Don't listen to the guidebooks- I'll share my favorite galleries off the beaten path"
Society	[d5]: [D] offers interesting local culture and traditions	Attractions: festivals, holidays Sports: national teams and competitions People: diversity of food, drink, language, architecture, religion	"The pumpkin festival is an annual favorite amongst locals and tourists alike"
	[d6]: [D] has hospitable residents	Restaurants: welcome of tourists Accommodation: hospitality and value added recommendations; and delivery of standard room quality Transportation: standard rate cards for fares by zone Shopping: negotiations at public markets	"When the locals saw we were lost, they helped us with our directions on the map" "The blankets cost twice as much for tourists as for locals"

Governance	[d7]: tourism industry and organizations cooperate and interact	Public figures/government: regulation of industries related to tourism; Accommodation + Transportation: interaction between segments; Local population + tourists: welcome	"You could be fined for feeding wild animals, which disrupts their migration habits, regardless of whether you are a tourist or a local"
	[d8]: [D] presents innovative and/or improved products and services	Technology: improved websites and interactive experiences Accessibility: products for handicapped	"The new IMAX theater at the National Space Museum shows a 3-D scuba diving movie!"
Environment	[d9]: [D] has a high eco-awareness	Accommodations: green building, certifications Public figures/government: endorse new	"The heat in the building is provided by rooftop solar panels"
	[d10]: [D] has a favourable weather	Favorable weather conditions	"Summer is the best season to visit the destination: no rain and cold"
	[d11]: [D] offers a safe environment	Weather: shelter from inclement conditions; Accommodations: security Events: security News: reports of crime	"Women should not walk alone at night in this city"
Performance	[d12]: [D] presents an accurate image	News: dispelling or confirming rumors Accommodation: text, images or videos that maintain or prove inconsistent the official site's portrayal	"The Sherbourne website's photos may look nice, but see how dirty we found our room"
	[d13]: [D] meets my expectations	Accommodations: surprise or disappointment about quality before and after trip Events: surprise or disappointment about quality before and after trip	"I was disappointed at how crowded the park was after seeing such lovely photographs in books"
	[d14]: [D] offers a satisfying tourism experience	Accommodation + Restaurant + Touring: Destination as a holistic experience. (TBD) use of star ratings for packaged deals.	"The trip was amazing in every way. I'm so glad we chose New York for our vacation"

Table. 3.15 (continued) Guidelines for online contents interpretation specific to tourism destination-related online conversations.

3.4. *Phase A3.* Classification system refinement via users' perceptions

Phase A3 presents the results of a survey carried out to validate eTDR (Tourism Destination Reputation in Online Media framework). The survey addressed the destination demand side, namely prospective tourists (people who travel for leisure), and was performed in order to collect their perception on how the elements of the proposed model can influence the perception of reputation regarding a tourism destination.

The study was performed in two Italian airports (airport might nowadays be recognized as one of the most important transport nodes for tourism). Two airports of Milan (Italy), Malpensa and Linate, were chosen as they are responsible for transporting international and domestic visitors to national and international tourism destinations attractions.

According to Assaeroporti (Italian Airports Association), Malpensa and Linate were respectively the second and third most important airports in Italy during the year 2009 in terms of passengers (almost 26 million passengers, preceded only by the airport of Fiumicino, Rome). Passengers were interviewed at the airport gates or in the surrounding area prior their flight departure. Since the two airports have both national and international flights, it has been possible to interview tourists of different nationalities.

A total of 502 surveys were collected in eleven days (six days in Linate and five days in Malpensa); of all the surveys collected, 485 were considered usable. The analysis has been carried out from the 6th August to the 23rd August 2010.

Objectives of the Phase A3 were:

 (i) to asses eTDR relevance on the demand side, directly interviewing prospective tourists in order to (ii) test which kind of destination topics are more relevant on the decision-making process; (iii) understand, among the tourists who trust online conversations more, what are the key drivers destination influencing the decision making process.

The questionnaire was divided in two parts: i) ranking of the eTDR drivers in order to explored which kind of topics are more relevant during the decision-making process, ii) a set of questions to collect data on demographics, use of Internet and tourism habits. This second part of the survey has to be considered as essential to explored the link between trust and inclination to be influenced by online conversations. Finally, the questionnaire also collected data on information sources used in holiday decision making; and age, gender, and place of residence (see Appendix 1).

Profile of Respondents

There were slightly more female (53.5%) than male (46.5%) respondents to the survey, and the majority of the respondents belonged to the age range 18-29 (58,5%); 39% to the age range 30-49, while only the 2,5% were more than 50 years old. 84.3% of respondents are Italian, while the other 15.7% were spread among other 25 countries, such as UK (3.3%), Australia (1.9%), France, and US (both 1.4%).

Analysis of tourists' use of online conversations

The respondents recognize the importance of tourists' comments, reviews and suggestions that can be found online, thus social media websites might be considered as one important component of the information gathering. Results indeed showed that 92.1% of people that use other tourists' contents, either voluntary or coming across when searching for information. Only 2.7% of the respondents were not able to distinguish tourists' generated resources from the whole contents provided by the web, while 5.3% did not use online conversations at all. Consumer reviews websites such as TripAdvisor or Booking were the most used social media online travel sources (69.3%), followed by wikis (e.g. wikitravel.org) with 28.9%, social networks like Facebook (15.3%), media sharing websites (e.g. YouTube or Flickr, 12.2%), blogs (9.3%) and other types of sources such as virtual communities (5.2%).

Respondents were influenced by online conversations produced by other tourists: 61.7% of the interviewees stated that online conversations have an average or high influence on their decision-making process for the destination choice. The remaining 39.3% were low influenced or not influenced at all.

Analysis of tourists' trust towards online conversations

Respondents considered the contents produced by other tourists as trustworthy: when asked to rate their trust towards online conversations, only 19.2% of interviewees declared to have low or very low trust; more than 26% of respondents have high or very high trust towards online conversations. Interviewees were asked to express the importance they give to the following motivations of being trustful regarding an online conversation:

- High number of replies (3.32 mean)
- Comments and/or replies up to date (3.48 mean)
- Author of the comment profile (2.65 mean)
- Other users' approval (3.22 mean)

Since the question was structured as a Likert scale one (where the value 1 is 'not important at all' and 5 is 'very important'), the higher is the mean the more important is the motivation for the respondents. According to these results, it is possible to state that for interviewees the availability of updated comments (or replies) is the most important motivation in order to consider online conversations trustworthy (mean 3.48). Thus having a high number of replies and the approval of other users is considered quite important for an online conversation (mean respectively 3.32 and 3.22), while the profile of the author is seen as not so important (mean 2.65).

Relevance of destination topics on the decision-making process. Analysis of the destination reputation drivers' ranking

Respondents were asked to order from 1st position to 14th position each eTDR driver, results are presented in Table 3.16. Respondents could choose to not order drivers considered as not important.

Table 3.16. Topics which influence the reputation in online media of a tourism destination from a demand viewpoint

Dimension	Driver	Average position
Products and Services	D. offers a satisfying tourism product	5.56
	D. offers a pleasant atmosphere	8.73
	D. offers products and services that are good value for the money	4.49
	D. presents accurate information of their tourism products and services	10.14
Society	D. offers interesting local culture and traditions	8.62
	D. has hospitable residents	8.74
Governance	D. tourism industry and organizations cooperates and interacts between them	12.02
	D. presents innovative and/or improved tourism products and services	12.03
Environment	D. has an high eco-awareness	12.64
	D. has a favourable weather	7.96
	D. offers a safe environment	6.78
Performance	D. presents an accurate image as a tourism destination	9.27
	D. meets my expectations as a tourism destination	9.11
	D. offers a satisfying tourism experience	6.93

Value for money (driver listed on the Product and Services dimension) was the most influential element of the reputation in online media of a tourism destination, having reached an average position of 4.49. The other three drivers that can be considered as influencers of reputation in online media were product satisfaction (5.56), safety (6.78) and overall satisfaction (6.93).

However, among the respondents there was no general agreement about the elements shaping the reputation in online media of a tourism destination; in fact, the average position of the best driver, value for money, was 4.49: it means that the interviewees ranked this driver on average between 4th and 5th place. A general agreement could have been identified if the best driver/s was positioned on average at 3th place or above.

On the other hand, there was a general agreement about the least influential drivers: interaction between tourism industry and organizations (12.02), innovation (12.03) – both belonging to the Governance dimension – and destination's eco-awareness (12.64).

Influence of specific destination topics on the decision-making process of online conversations trustful tourists:

Through the use of the 'Independent Samples T-Test', a comparison of the means of two groups on a given variable can be achieved. Basically, the drivers and another variable (i.e., trust and influence) were crossed in order to highlight possible significant differences among different groups of the variable itself.

In table 3.17 the difference between people who have low trust towards online conversations and those who have high trust is presented. Findings shown that the two drivers Product satisfaction and Overall satisfaction were definitely more important for people who have high trust towards online conversations (respectively 4.78 vs. 7.06 and 6.16 vs. 7.83). These two drivers are very "Online conversations-oriented" (e.g. more than drivers such as safety or weather): thus this type of result could have been expected.

Table 3.17. T-Test:Trust towards online conversations

Driver	Trust rate	Mean	Sig. (2-tailed)	95% Confidence Interval of the difference	
				Lower	Upper
Product satisfaction	1-2	7.06	.001	.969	3.651
	4-5	4.78	.001	.914	3.656
Overall satisfaction	1-2	7.83	.024	.227	3.114
	4-5	6.16	.026	.226	3.135

Table 3.18. T-Test: Influence of online conversations in destination choice or vacation planning

Driver	Influence rate	Mean	Sig. (2-tailed)	95% Confidence Interval of the diff.	
				Lower	Upper
Product satisfaction	1-2	6.82	.000	1.017	3.317
	4-5	4.65	.000	1.061	3.273
Local culture	1-2	7.95	.006	-2.662	-.447
	4-5	9.50	.005	-2.638	-.471
Image	1-2	10.18	.000	.900	3.058
	4-5	8.20	.000	.922	3.037
Meeting of expectations	1-2	9.87	.000	.998	3.233
	4-5	7.75	.000	1.012	3.220
Overall satisfaction	1-2	7.96	.006	.492	2.914
	4-5	6.25	.005	.516	2.889

Table 3.18 shows that together with Product satisfaction and Overall satisfaction, the drivers Image and Meeting of expectations were more important for people that are highly influenced by online conversations when choosing a destination or planning a vacation. Surprisingly, the driver Local culture and traditions was more important for the "low-influenced" (7.95 vs. 9.50).

3.5. *Phase A4.* Coding Test with untrained users

In order to understand the agreement on coding among users regarding topics and feelings expressed on social media pages, a user test has been performed before moving forward to the next chapter (Phase B) of this research.

The main contribution of this user test was to assess the presence of a common recognition of the main topic on a page which helped define the stimuli materials foreseen during Phase B of this study.

Success in online promotion and communication is a key factor for successful destination marketing. The way destination marketers project the image of their tourism destination in a digital context is reflected in message cues presented on web pages, such as sentences/words with positive or negative statements, title position on a page, choice of images and their position within pages, etc.

This online communication effort can be perceived by many potential visitors because of the global nature of the internet access. In this context, a special attention is given by prospective travelers in particular to social media pages, where online conversations can be easily placed by other web users, and are perceived as more credible than official sources, and in turn, might affect the decision to visit a destination (Xiang and Gretzel, 2010). However, little research has been done in order to analyze the appearance and recognition of contextual elements on tourism social media websites, in order to understand which kinds of pages characteristics are perceived as prominent by web users (Kim and Fesenmaier 2008; Dickinger, 2011; Gefen et al., 2008; Yoo and Gretzel, 2011).

Thus, this study evaluates users' agreements on recognizing the dominant topic, and the dominant feeling expressed on social media pages, responding also to a tourism industry need to better understand how to perform effective online communication between tourism players and prospective travelers. Indeed, Destination Management Organizations (DMOs) need to create online communications that can persuade travelers to visit their destination, and to satisfy information needs. But tourism managers should pay attention to other players in the web arena, such as the contents produced by social media users, which are concurring on co-creating imaginaries and tourism narratives about the same destination (Go and Govers, 2005; 2009). Thus, the identification of the message cues that particularly affect the attention among web users might help to have a more comprehensive picture of how a destination is portrayed in the digital context. This might enable destination-marketing organizations to design more effective web strategies to attract prospective travelers and promote the value of a territory.

Cues Affecting the Recognition of the Dominant Topic and Sentiment Expressed on Social Media Pages

In the online environment, users might form their idea about a future vacation and/or about a destination from the contents presented online, which are based on relatively impersonal textual resources provided by other users (Brown et al., 2007).

Online pages evaluation measures have been proposed in various contexts and fields as they are crucial for the understanding of the performance of online communication (Fogg, 2003). This is particularly relevant in the hospitality and tourism field, where the massive use of internet by prospective travelers who need to search for information, inspiration and purchase for their next holidays, has open to research the communication spread via web and the perceptions by users. Park and Gretzel (2007) analyzed the main critical factors for the development of successful tourism web sites. Nine factors are actually the main research topics in this field: (1) information quality; (2) ease of use; (3) responsiveness; (4) security/privacy; (5) visual appearance; (6) trust; (7) interactivity; (8) personalization; and (9) fulfillment. Scholars argue that website evaluation (and consequent quality) can provide benefits such as customer retention, positive return on investment, and leadership within the competition (Park and Gretzel, 2007). Even if the main focus of these studies is the content of the websites, and the overall evaluation of the browsing experience (Gretzel et al., 2006; Kim and Fesenmaier, 2008), an increasing attention is devoted to the contextual elements present in tourism websites. Studies on destination websites' persuasiveness (Loda et al., 2009) underline the importance of message credibility, which can impact on the decision to visit a destination. Scholars underline how the first impression that a user has about a webpage is crucial in order to proceed or not with the reading of the contents (Li et al., 2009). As in Kim and Fesenmaier (2008, p. 1), the perception of credibility of contextual elements can influence the decision to continue (or not) to visit a website, and "this decision is based primarily on visitors' overall impression toward the website, and on their perception of the site inspirational value, and these factors are closely followed in importance by involvement, and by destination knowledge".

Design of the user test

The test presented here consisted of a content evaluation of thirteen online pages gathered from popular websites about thirteen destinations representing a variety of tourism international sites. Twenty-eight international graduate students (female: 16; male: 12; age range: from 22 to 46) from an European university were selected to participate in a user test, which was conducted in May, 2012.

A room equipped with PCs was used, and the researcher was present in the room during the user test in order to ensure that the instructions were delivered clearly to all participants. Participants received an account to login to a given PC and were asked to

browse 13 pre-selected online pages from tourism websites and to provide their opinions using an online questionnaire. The test took around 30 minutes to complete. Data were analyzed at the aggregate level using the software SPSS. Qualtrics (www.qualtrics.com), a professional online survey tool, was used for the development of the online questionnaire used during the user test.

The user test was performed within the following parameters:

i) selection of the social media pages as stimuli materials: four pages from Facebook.com, five pages from TripAdvisor.com, and four blog pages (mainly from TravBuddy.com) were selected, as those websites represented the main social media platforms used in the tourism online domain (Xiang and Gretzel, 2010).

ii) Original comments about destinations were left on each page.

iii) Users were asked to indicate the dominant opinion expressed on each presented page, classifying the dominant topic according to the following categories that emerged from phase A of this study:

- Products and services at the destination
- Society: culture, residents and traditions of the place
- Governance: tourism industry, institutions, and organizations
- Environment: weather, safety
- Overall image of the destination

Users were asked to indicate the dominant judgments rendered about the destination on each page. The scale used was a 5-point Likert scale (1 = positive value judgments expressed; 5 = negative value judgments expressed; with the additional point 6 = the contents do not express any value judgment). Users were not given specific guidelines for their content analysis coding, leaving them free to evaluate all the cues presented on the pages.

iv) The Qualtrics online survey platform allowed for a heat map analysis, asking respondents to pick a spot on a page, which helped to underline how pages' features captured respondents' attention. Thus, participants were asked to select the area of the pages that communicated the most dominant opinion about the destination (e.g. main topic with positive or negative opinions presented within the page) by moving the cursor on the most interesting area and clicking on it. If users saw many topics within the page, they were asked to indicate the one that captured their attention the most.

User test findings

Results of the user test show that in an untrained coding context, a majority of users agreed on the recognition of a prominent feeling expressed. In particular, TripAdvisor pages resulted in generation of more agreement (Figure 3.3); then came blogs (Figure 3.4), and, lastly, Facebook pages (Figure 3.5).

This result suggests that Facebook and blog pages are characterized by a wide variety of comment types, as divergent posts and comments are allowed on these pages. Conversely, TripAdvisor tends to have more consistent comments on each page, as it allows users to create specific topic discussions. Regarding the coding results for the topic recognition task: seven out of 13 pages clearly communicated an identical message (> 50%) regarding a specific topic (Figure 3.6). In particular, pages from TripAdvisor seemed to generate more consistent perceptions of a common topic recognition.
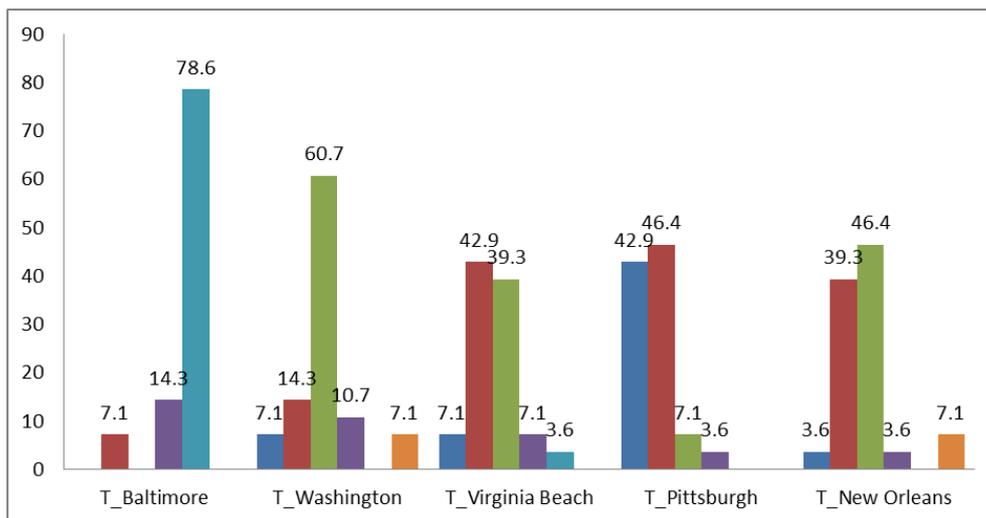
Figure 3.3. Agreement on the prominent feeling expressed about the TripAdvisor pages (see the scale details in figure 3.5)
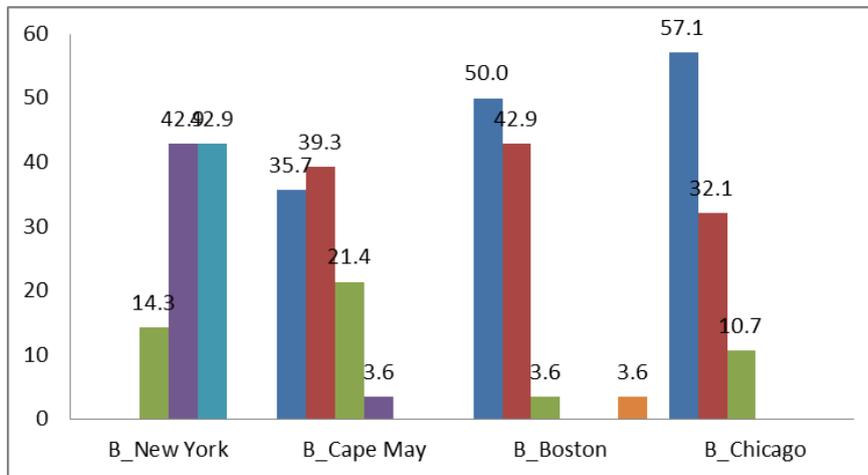
Figure 3.4. Agreement on the prominent feeling expressed about the Blog pages(see the scale details in figure 3.5)
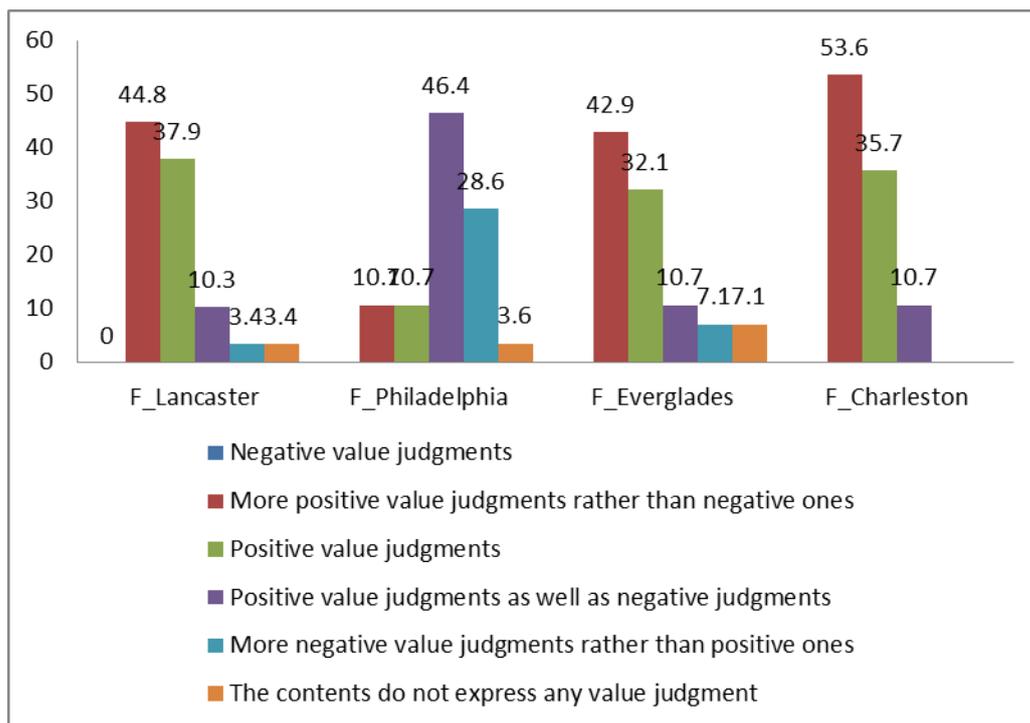
Figure 3.5. Agreement on the prominent feeling expressed about the Facebook pages
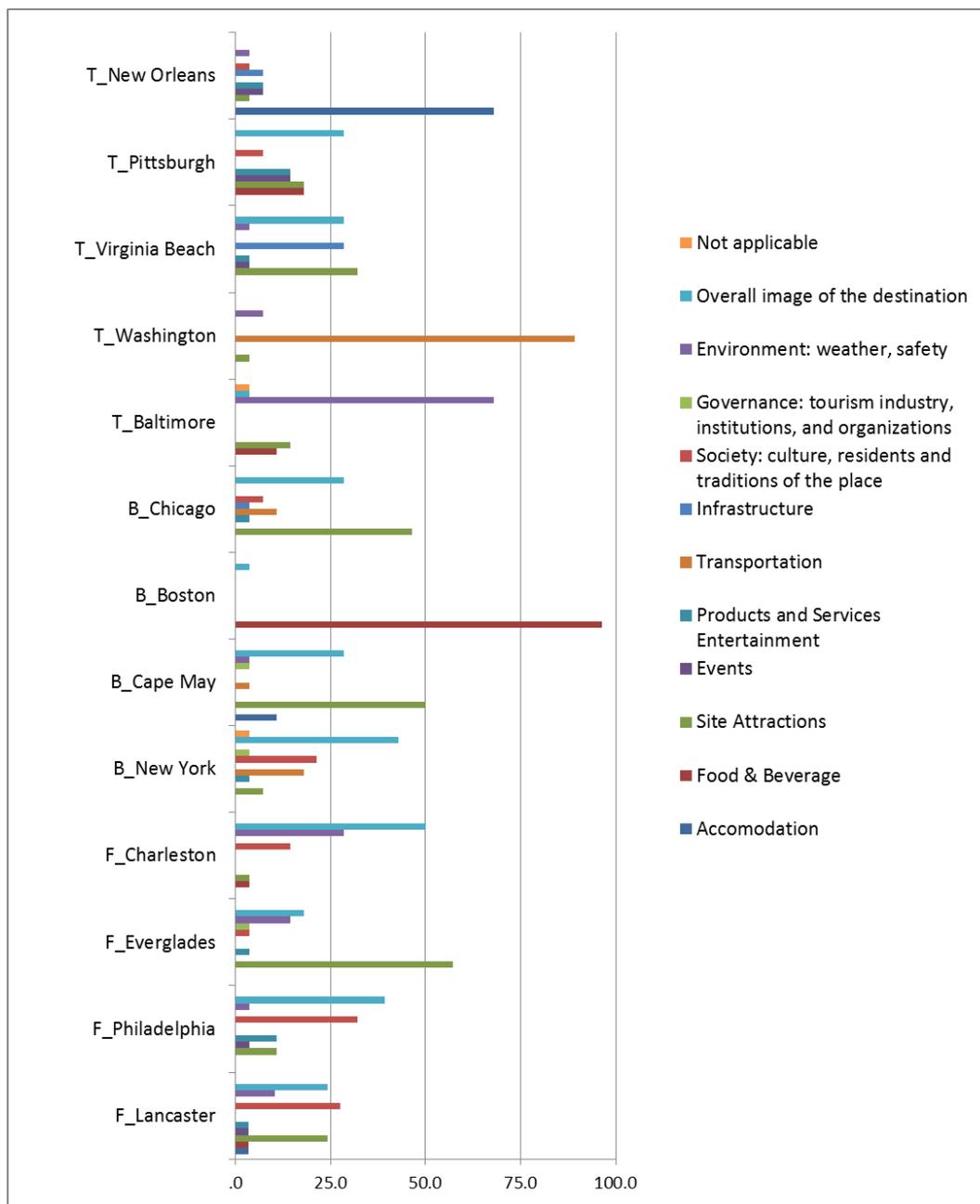
Figure 3.6. Agreement on the topic recognition

It was decided to report in this study the findings from a tentative secondary investigation performed during the user test, as the results obtained appear to encourage future research in this direction. This is a first step towards the investigation of the cues/features from social media pages which might affect perceived dominant opinion.

The Qualtrics online survey platform allowed for a heat map analysis, asking respondents to pick a spot on an image, which helped to underline how pages' features capture the respondents' attention. Users were asked to select the area of the page that communicated the most dominant opinion about the destination (e.g. main topic with positive or negative opinions presented within the page) by moving the cursor on the most interesting area and clicking on it. If users saw many topics within the page, they were asked to indicate the one that captured their attention the most.

Figures 3.7, 3.8, and 3.9 show the graphical representations of the respondents' selections, which are represented as colors in the matrix (red indicates that the majority of users selected that area). As the figures show, titles, pictures, presence of a rank, and negative expressions seemed to capture users' attention the most vividly. However, as this secondary experiment did not consider principles from technology persuasion studies (Fogg, 2003), the tendency of the users to look at prominent signals on the page like titles, ranks, or attention on the right corner of the screen, or attention of the first part of the page, the outcome of the study is limited in terms of further interpretation. However, it is possible to glimpse practical implications for designers and managers who want to actively manipulate online messages.
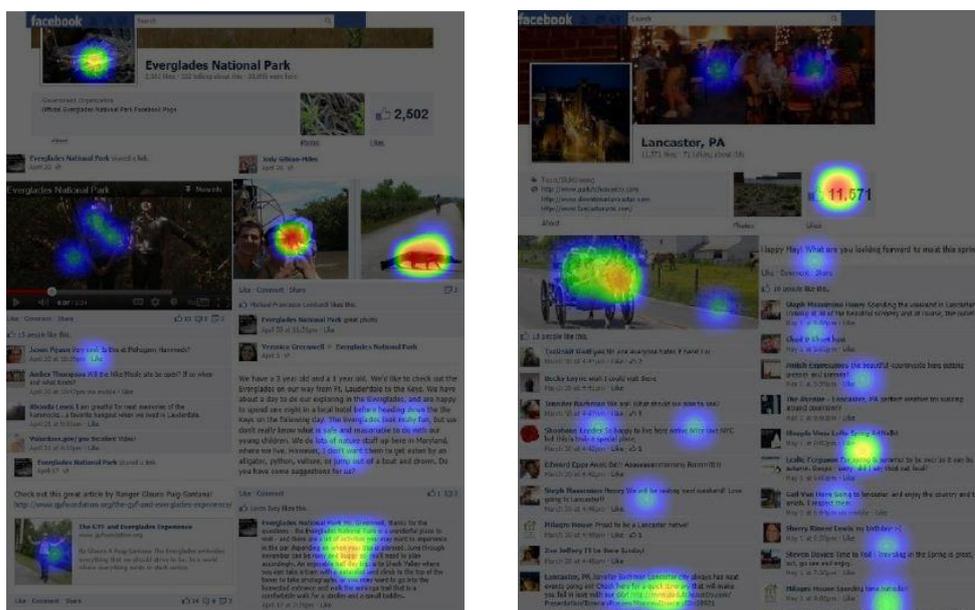
Figure 3.7. Two examples of heatmaps for Facebook pages
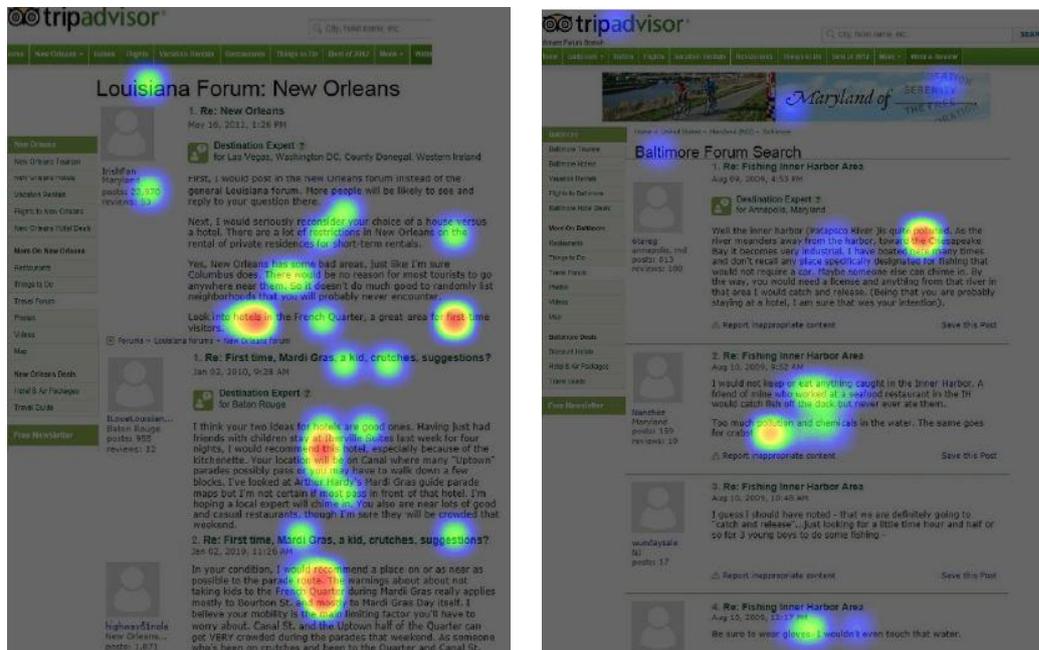
Figure 3.8. Two examples of heatmaps for TripAdvisor pages
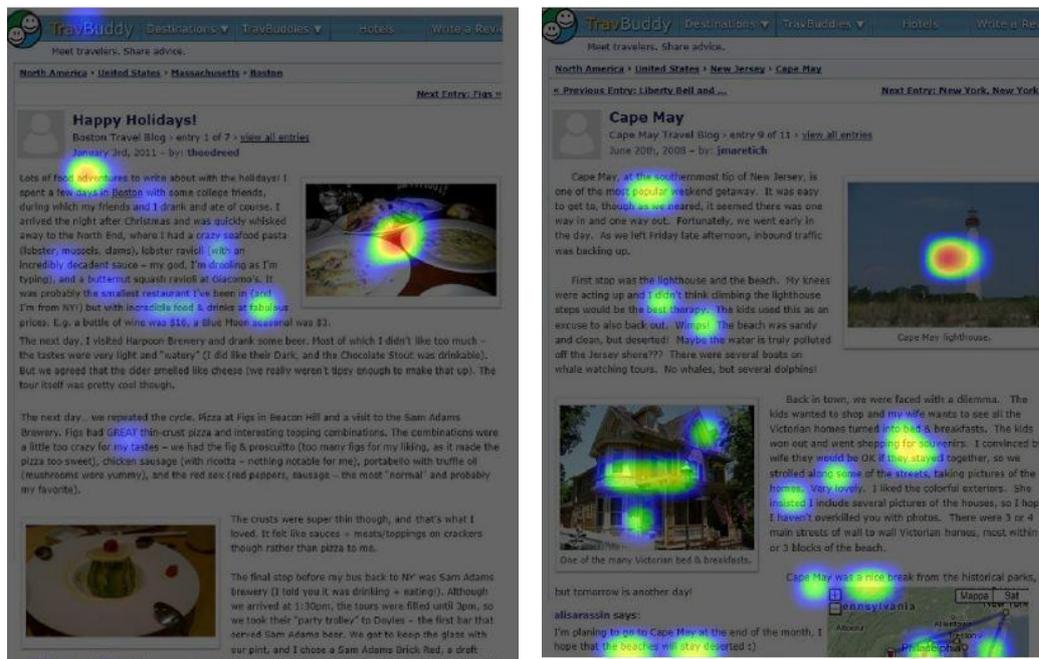
Figure 3.9. Two examples of heatmaps for Blog pages

3.6. Discussion

The application of the five-reputation components to the online environment, and specifically to tourism destinations has been proposed in this chapter. This theoretical investigation resulted in 11 indicators, which can be analyzed and considered for the reputation analysis of a tourism destination in online media.

In particular, an in-depth investigation on the relevant object (tourism destination) was addressed, and the outcome of the online conversations about tourism destinations was analyzed using the content classification framework (eTDR). This framework contributes to the content analysis studies in tourism by introducing a top-down deductive perspective. That is, a definition of pre-established topic categories about the reputation dimensions, which allow for a systematic content classification and a comparison among similar objects, such as tourism destinations.

Case studies presented in this study demonstrated that the eTDR content classification framework is able to capture the majority of the topics expressed online. The refinement of eTDR, through an investigation of user perceptions at Italian airports, contributed to the research on trust attitudes toward social media in the tourism domain. Results confirm the tendency of users to perceive themselves as affected by the online messages in their decision making. This study highlights that travelers are aware of the existence of online content produced by other tourists, and they assumed that they were influenced by them in their decision-making process. In particular, five main topic dimensions emerged as the most relevant topics in the tourist information seeking process. These are online content information regarding: the tourism destination products and services that are good value for money; the local cultures and traditions at the destination; the tourism experience at the destination; the safety of the environment at the destination; and the weather at the destination.

Furthermore, results of this user test assess the presence of a common recognition of the dominant topic on a web page, and provide different strategies for information processing across individuals in the eTourism domain. The results obtained encourage future research in the direction to investigate the cues/features from social media pages which might affect the perceived dominant topic and feeling expressed within a page, which in turn might affect the decision making towards a destination. Indeed, the ability to evaluate what prospective customers are looking at in the online context represents a new way to enhance the promotion of a destination, and glimpse practical implications for designers and managers who want to better design online messages.

Chapter 4: Perceived dominant opinion in Online Media

Overview: This chapter focuses on destination reputation and how online conversations have changed the nature of destination marketing. Structural Equation Modeling (SEM) has been used to identify the importance of various cues within social media to define the online reputation of a destination. Message characteristics and the attitude of users toward being reputation seekers were found to have a significant impact on opinions expressed about a destination in social media. Other positive correlations were found between reputation seekers and the perception of the message characteristics, in particular the message sidedness, consistency, and the overall argument strength. A much weaker effect was found between the perception of a dominant opinion and trust in online conversations. It is concluded that these results provide a preliminary foundation for understanding user comments and, therefore, managing social media within a destination marketing program.

An earlier version of this chapter should appear as:

Marchiori, E., Cantoni, L., Fesenmaier, D. (2013). *What did they say about us? Message Cues and Destination Reputation in Social Media*. Information and Communication Technologies in Tourism 2013. Proceedings of the International Conference in Innsbruck, Austria, January 22-25, 2013. *Forthcoming*

4.1. Introduction

As explained in chapter 2 of this study, reputation can be seen within a causal framework composed by reputation antecedents and consequences (Money & Hillenbrand, 2006). The focus of this chapter is on reputation consequences level (see Table 4.1), in particular the role of public opinion expressed online in the confirmation/disconfirmation of prior belief, which in turn might influence supportive behavior, such as the intention to visit a destination. Table 4.1 positions the focus of this chapter within the research, illustrated with a dashed line.

Table 4.1. The proposed causal framework on tourism destination reputation in online media. Elaboration from Yang et al.,2008

	Antecedents	**(Tourism Destination) Reputation** *in online media*	**Consequences**
Perception level	Focus on second-hand experiences (online reported experiences)	*Classification of the public opinions expressed online.* - Thematic dimensions - Attitudinal variables *Perception of the public opinions expressed online by users.*	Confirmation/ disconfirmation of prior belief

We suggest that a supportive intention, such as the intention to visit a tourism destination, might be influenced by the exposure to online contents (Yoo et al. 2009; Dickinger, 2011). An issue that seems worthy of investigation is the understanding by online users about the existence of a general recognition of online public opinion about a tourism destination. Indeed, public opinion can persuade the user in their future intention/behavior toward the destination.

Research phase B, focused on message components, as the main research objective is the recognition of a public opinion expressed online.

The hypothesis here was that the online message elaboration by a web user may be influenced by categories used by a dual-process theory, which represents a valuable foundation for the investigation of the perception of online public opinion. Thus, three message components will be investigated as independent variables and will be presented later.

The two types of information gathered in the media coverage analysis (the thematic dimensions and the general feeling expressed online) obtained using the eTDR contents classification framework are described in Phase A. These allowed for the creation of the stimuli materials, which have been used by real users during the experiment process via an online survey, and the investigation on prior belief and after exposure to stimuli belief. The connection between the information and normative determinants will provide guidelines for tourism marketers in the management of their online presence and, hopefully, help them understand how the strong and weak areas of a destination may contribute to the valorization of a territory.

4.2. Model Specification

The following paragraph presents the definition of the construct components included in the study model. As shown in Figure 4.1, the constructs proposed in this study are connected according to standard reputation causal framework (Money & Hillenbrand, 2006) in which the antecedents and its consequences of reputation are investigated.

In this study, the reputation antecedents are considered to be prior belief about a destination, the overall attitude toward being a reputation seeker, and the overall trust in online content. The reputation consequences are considered to be the change in prior belief after exposure to online public opinion. Figure 4.1 depicts the causal relationships hypothesized in this research. These were generated from the theoretical investigation that was conducted in previous research phases and the theoretical assumptions about the factors affecting the perceived reputation of tourism destinations in online media.

Online Reputation
Antecedents

Online Public Opinions facets:
exposure to online contents

After   exposure
knowledge

Online Reputation
Consequences

Belief T1

Argument
strength

Message
sidedness

Message
consistency

Attitude of being
an online
reputation seeker

Trust attitude
towards social
media

Perceived
reputation in
social media

Belief T2

Perceived Belief
Change

H3a

H3b

H3c

H4a

H1

H2a

H2b

H2c

H4b

H5c

H5a

H5b

H5d
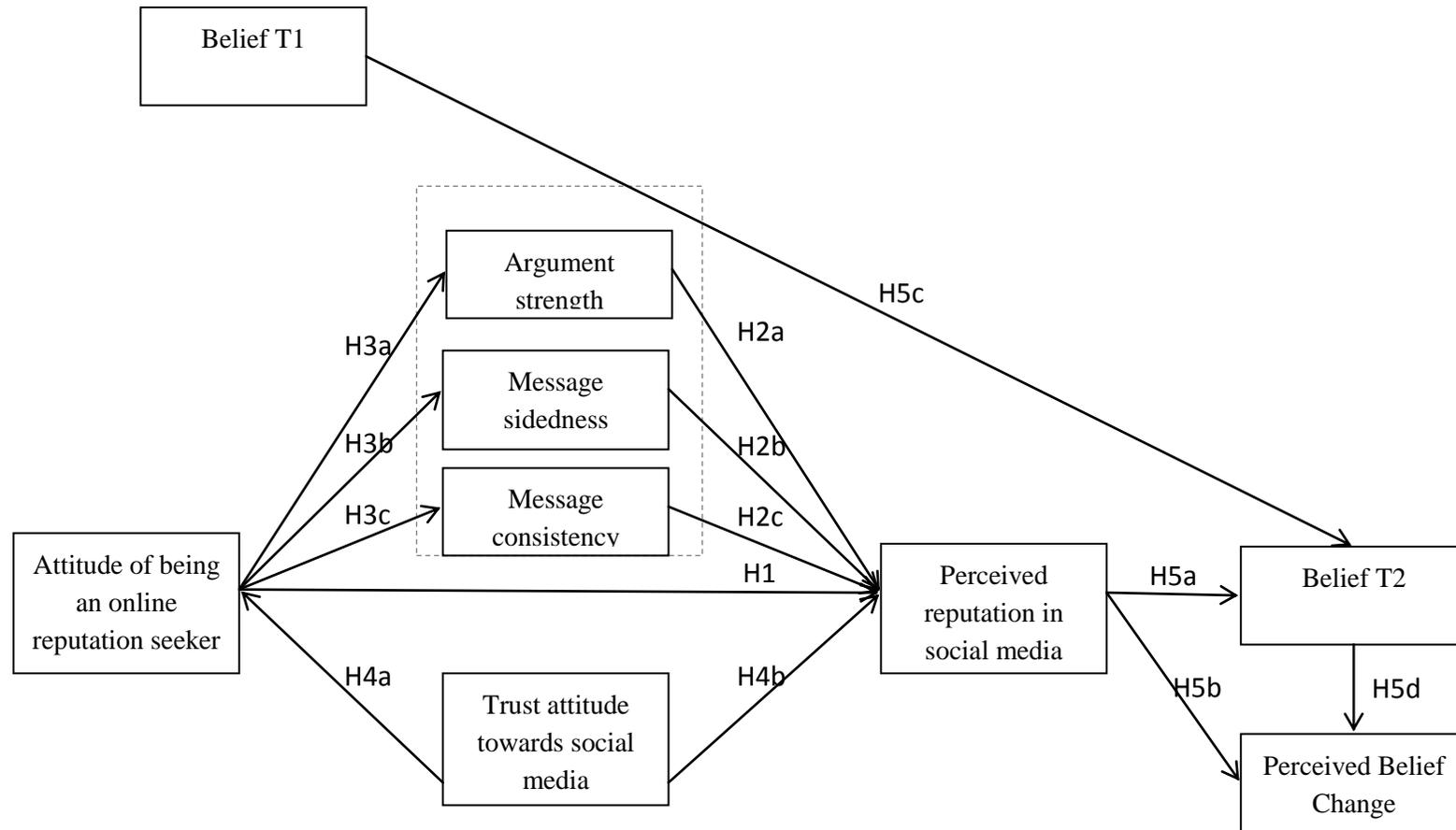
Figure 4.1. Research Model

Four theoretical dimensions were explored within which several constructs were defined with the related research hypotheses.

Perceived Reputation in Online Media

As seen previously, reputation is a complex construct; it reflects the dynamics of modern society and is used by consumers to simplify information processing (Bergler, 1948). In tourism, the reputation of a destination is important as prospective travelers who do not have previous experience with a destination encounter several risks/limitations during their decision making and, therefore, use the reputation of the place to guide their travel decisions. Recently, several researchers have noted that the role of recommendations from several second-hand sources, which act as reputation mediators, is crucial in this decision-making process (Gretzel et al., 2006; Passow et al., 2005; Yang et al., 2008; Tussyadiah et al., 2008).

In the online domain in particular, word-of-mouth comments are generally found on social media websites and can be considered to be proxies of readers (perceived reputation) and of a dominant public opinion (reputation). Tussyadiah et al. (2008), in their study, "Assessing the Effectiveness of Consumer Narratives for Destination Marketing," found that the narrative reasoning people possess and with which they can retrieve information is more effectively presented through stories, particularly if users can identify themselves with the story's characters. Thus, a strict connection between the online messages (where narratives/opinions are expressed) and the concept of reputation is underlined by the fact that the perception of stories in a place may be due to the act of mentally summarizing what has been learned from online content exposure. The outcome of the process of participation in the reputation creation (either by contributing to the word of mouth or even viewing the comments) represents the verbalization of the opinions of a group of people and eventually influences their prior beliefs, as there is now an exposure to knowledge. Media effect studies underline how exposure to a message can affect knowledge about an object. Thus, the effect of a belief about a destination at Time 1 on the belief about a destination at Time 2 is added in the model as an autoregressive effect, which allows for controlling for pre-test scores.

However, from media effects we know that differences exist in the perceived change and the actual change of psychological and social mechanisms. Thus, a construct named "perceived belief change" has been added in this research.

Therefore, from this research (and shown in Fig. 4.1), it is hypothesized that:

Hypothesis 1: The extent of involvement in online media about a destination positively correlates with the online reputation of that destination.

Online Message Components and Perceived Online Reputation

Recent tourism research indicates that intention to visit a destination can be influenced by exposure to online content (Yoo et al. 2009; Dickinger, 2011) and that the analysis of user generated content is an efficient way to measure travelers' attitudes, beliefs, and values about that destination (Dickinger et al., 2011). Moreover, Marchiori and Cantoni (2012) have argued that online users generally recognize dominant online public opinion about a tourism destination. Dual-process theory (Deutsch & Gerard, 1955), a psychological theory designed for the analysis of the persuasiveness of received messages, provides a foundation with which to assess the basic cues for seeing and interpreting online messages, arguing that these messages must be noticed and interpreted as relevant and credible in order to generate an attitude/behavior change (Chaiken and Trope, 1999). More recently, Cheung et al. (2009) evaluated the message components of dual-process theory within the context of perceived credibility in eWOM. The results of their study demonstrate that several message components are critical drivers in the mental elaboration of online conversations.

Three information-based determinants (related to the messages displayed online) were used in this study:

Argument strength (Cacioppo et al, 1983). Argument strength is related to the message, in particular how it is seen by the receiver in terms of being valid in supporting its position. Basically, if the received information is perceived to have valid arguments, the receiver will develop a positive attitude toward the information and consider it credible information; conversely, if the received information appears to have invalid arguments, the receiver will adopt a negative attitude toward the information and be inclined to treat it as not credible.

Message sidedness (Hastak and Park, 1990). Recommendation sidedness is related to the presence of a positive or negative polarity (Hastak and Park, 1990).

Message consistency (congruence with others' opinions) (Cheung et al., 2009). Message consistency is concerned with congruence with others' opinions of the product discussed. It is also part of the normative cues that could exert an important effect in evaluating eWoM communication.

Following from this research, it is posited that the elaboration of the messages present in online conversations affect perceptions of an online expressed reputation about a destination as well argument strength, message sidedness, and message consistency. Moreover, it is hypothesized that attitudes toward being a reputation seeker affect a users' perception of the message characteristics expressed online.

Thus, the following hypotheses were developed:

Hypothesis 2a: The message component "argument strength" has a positive effect on the perception of the online reputation of a tourism destination.

Hypothesis 2b: The message component "message sidedness" (polarity of the message expressed online) has a positive effect on the perception of the online reputation of a tourism destination.

Hypothesis 2c: Online conversation consistency has a positive effect on the perception of an online reputation of a tourism destination.

Attitude of Being a Reputation Seeker

As discussed early in this study, having access to complete information is one of the key issues for ensuring a secure decision is made. The concept of information asymmetry, characteristic of the online domain and the tourism domain itself (the only way to be sure that a place is worth to be visited is visiting the place), postulated that people have a tendency to use reputation as an aid to solve information asymmetry and avoid risks. From the signaling theory, it is also argued in this study that people are "active signals seekers." The online messages contain signals about the quality of an object, that is, in the case of tourism destination; if the majority of people agree that a destination is worth to be visited, this information should be true. With attitude, an individual should more keenly recognize the argument strength of the online messages, the presence of a polarity (negative or positive message sidedness) and an overall message consistency among the opinions shared online.

Thus, the following hypotheses were developed:

Hypothesis 3a: Attitude of being a reputation seeker in online media has a positive effect on perceived argument strength.

Hypothesis 3b: Attitude of being a reputation seeker toward reputation in online media has a positive effect on perceived message sidedness.

Hypothesis 3c: Attitude of being a reputation seeker toward reputation in online media has a positive effect on perceived message consistency.

The Role of Trust in Social Media

Individuals are potentially free to express their opinion about an online conversation, but an online conversation can hold opinions that are not the exact belief of the author (writer of the comment) and/or can be fake. However, those who read these online conversations (reader) may or may not interpret the online statements in the same manner as was intended by the writer. The feeling of trust in the author of the comment, and/or in the website in which the comment is written, is a variable that needs to be taken into account when online reputation analysis is performed.

A number of studies have examined the role of trustworthiness (defined by the trustee's ability, integrity, and benevolence) in determining attitudes toward online messages (Dickinger, 2011; Gefen et al., 2008; Yoo et al., 2011). The results of these studies indicate that online conversations are generally considered to be highly trustworthy in that the information provider accepts the rules of conduct is considered to be honest and keeps promises (Dickinger, 2011). Yoo et al. (2011) found that trust in travel-online conversations increases its benefit to travelers in the course of planning pleasure trips. Therefore, in this study we posit that the trust attitude toward social media will affect the attitude toward being a reputation seeker, suggesting that people search for online dominant opinion because they generally rely on online conversations. Moreover, it is hypothesized that this nature of the attitude toward trust in online conversations will positively influence users' perception of reputation in terms of online expressed dominant opinion. More formally, it is hypothesized that:

Hypothesis 4a: An attitude of trust toward social media has a positive effect on being a reputation seeker.

Hypothesis 4b: An attitude of trust toward social media has a positive effect on the perception of the online reputation of a tourism destination.

Confirmation/Disconfirmation of Prior Belief

According to Cheung et al. (2009, p: 17), users can "detect the level of confirmation/ disconfirmation between the received information and their prior beliefs relating to the reviewed product/service through various direct or indirect experiences." The authors underlined how, in the eWoM context, the message receiver is more keen to rely on information that confirms his or her prior beliefs but perceives this as a belief change and vice versa.

From a social psychology viewpoint, as anticipated by McGarty et al. (2002), with the concept of "illusory correction paradigm," people tend to associate other meanings than those contained in the data (hence, create a sense of illusion). This situation commonly results in a lack a direct experience of an object, and those inferences/associations/

stereotypes allow them to make sense of the world by explaining the past, controlling the present, and predicting the future (Crocker and Weber, 1983).

Moreover, an association with a mental category might be guided by personal background and knowledge. Therefore, out of the actual belief, change is measured by repeating the same questions before and after exposure to the stimulus. To this end, an ad hoc question devoted to the investigation of the self-perceived change was added to the study.

Hypothesis 5a: The perceived reputation in online media (presence of a dominant opinion) has a positive effect on the actual knowledge of a destination after exposure to the stimulus.

Hypothesis 5b: The perceived reputation in online media (presence of a dominant opinion) has a positive effect on the perceived belief change after exposure to the stimulus.

Hypothesis 5c: There is positive relationship between prior belief about a destination and the belief after exposure to the stimulus.

Hypothesis 5d: The belief measured after exposure to the stimulus has a positive relationship with the perceived belief change. The more there was an actual change, the more it should be perceived.

The Effect of Prior Experience with a Destination

Experience with the destination has been considered in this study as a moderating factor that needs to be taken into account. Indeed, as in Bagozzi (1981), prior experience can be an important determinant of behavior and can shape intention toward the object.

In the tourism domain, Kerstettera and Chob (2004) noticed that prior knowledge might influence the individual's information search behavior and affect the credibility of sources used for information search processes.

To detect differences between groups (group of people who visited the destinations and those who have not visited the destinations), a multi-group analysis was carried out.

4.2.2. Operationalization of the constructs

The items used to operationalize the constructs of each investigated variable were mainly adopted from relevant previous research.

Table 4.2 presents the constructs, items and sources used in the questionnaire and the final questionnaire is in Appendix 2. All study items were measured using a 5-point Likert scales ranging from 1=Strongly Disagree to 5=Strongly Agree.

Constructs regarding argument strength, message sidedness, and message consistency were adopted from Cheung et al. (2009), Cacioppo et al (1983), and Hastak and Park, (1990).

To measure the attitude towards reputation, and perceived reputation in online media, items from Deephouse (2000), and Marchiori and Cantoni (2012) were elaborated.

Finally, the construct related to trust towards online conversations was adopted from Gefen et al. (2008), Yoo et al. (2011), and Dickinger (2011).

Experience with the destination has been measured with a nominal scale: yes = visited the destination; not = not visited the destination.

Regarding the items used for the investigation of the prior and after belief about a destination, the five main reputation drivers emerged from Phase A of this study were used. In order to ensure the balance and randomness in the questionnaire, the items were randomly sequenced to reduce potential floor effects, which includes repetitive answers to the measures of a particular construct.

Table 4.2. Constructs, items and sources used in the questionnaire

Evidence from literature	Constructs	Items	Instruments
Deutsch and Gerard, 1955; Cacioppo, Petty, Morris, 1983; Cheung et al., 2009	**Argument strength**	4	The contents are convincing. The contents are persuasive. The contents are strong. The contents are good.
Deutsch and Gerard, 1955; Faison, 1961; Park and Lee, 2007; Cheung et al., 2009	**Messages sidedness**	4	The contents stress positive implications about the destination. The contents stress favorable opinions of the destination. The contents include both pros and cons of the destination. The contents include only one-sided comments (positive or negative).
Deutsch and Gerard, 1955; Cheung et al., 2009	**Messages consistency**	4	Opinions posted in descriptions are consistent with each other. Opinions posted in descriptions are similar to each other. Authors of the descriptions had similar opinions about the destination. Authors of the descriptions had similar experiences at the destination.
Agenda setting theories; Signaling theory; Marchiori and Cantoni, 2012	**Attitude towards reputation**	6	I try to understand the reputation of the destination presented online. I try to understand which aspects of the destination have a bad reputation online. I try to understand if the people online have a similar opinion about the destination. I try to understand if the people online posted travel experiences similar to travel experiences I would like to have. I try to recognize the main opinion posted in the social media. I try to recognize the contents which differ from the main opinion posted in the social media.
Marchiori and Cantoni, 2012; Passow et al., 2005; Yang et al., 2008	**Perceived Online Reputation**	3	Now I have an idea on what other people online think about the destination. I think that the people online have a common opinion about the destination. I think that the people online have a common opinion about the destination only for specific aspects.
Cheung et al. 2009; McGarty et al. 2002; Crocker and Weber, 1983	**Perceived Belief Change**	3	Information from the descriptions I read contradicted what I had known before reading it. The descriptions supported my impression about the destination. The descriptions reinforced information I had previously known about the destination.

Table 4.2 (continued) Constructs, items and sources used in the questionnaire

Evidence from literature	Constructs	Items	Instruments
Gefen et al. 2008; Yoo et al. 2011; Dickinger, 2011	**Trust towards social media**	5	In general, I trust comments/materials posted by other travelers. I feel confident that the comments/materials provided by other travelers are posted with the best intentions in mind. The comments/materials posted by other travelers are a reliable source of travel information. I trust reviews, ratings, and comments by other travelers more than evaluations provided in formal and official travel articles, guidebooks, etc. I feel more comfortable basing my pleasure trip decisions on 1 review from someone I know and trust rather than on 100 reviews from people I do not know.
Results from Phase A of this study (use of eTDR framework)	**Belief T1***	5	Pre test (Prior Belief): The tourism destination offers products and services that are good value for the money. Pre test (Prior Belief): The tourism destination offers interesting local cultures and traditions. Pre test (Prior Belief): The tourism destination offers a satisfying tourism experience. Pre test (Prior Belief): The tourism destination offers a safe environment. Pre test (Prior Belief): The tourism destination offers a favorable weather.
Results from Phase A of this study (use of eTDR framework)	**Belief T2****	5	Post test (Belief after exposure): The tourism destination offers products and services that are good value for the money. Post test (Belief after exposure): The tourism destination offers interesting local cultures and traditions. Post test (Belief after exposure): The tourism destination offers a satisfying tourism experience. Post test (Belief after exposure): The tourism destination offers a safe environment. Post test (Belief after exposure): The tourism destination offers a favorable weather.

* Belief T1 = Belief at time one, pre test, prior belief about a destination;

** Belief T2 = Belief at time two, post test, belief after stimuli materials exposure about a destination.

4.3. Data collection

4.3.1. Sample

The research model was tested using the online survey method of people who currently use the Internet and travel. In particular, a panel of 120,000 American adults (18 years and older) who requested travel information about U.S. travel destinations from the travel website VacationFun.com was used as the sample frame for this study.

In order to ensure variability in traveler perception, eight different U.S. tourism destinations were selected with the aim to represent the main American tourism destinations. A pre-screening of destinations in three main geographic American segments (East Coast, West Coast and Central) was conducted and a final set of eight destinations were selected on the basis of the population of a destination needed to be equal or greater than 200,000 inhabitants, half of the destinations needed to be popular destination in the U.S., and the online content analysis pre-screening needed to have resulted in a negative polarity in at least one topic dimension. Tables 4.3 depicts the details regarding the criterion used for the selection of the destinations.

Two destinations were selected that had the extreme polarities (mainly positive or mainly negative): San Francisco was selected as the destination that was found to be positive in all the topic dimensions, and Detroit for being the destination that was found to be negative in the majority of the topic dimensions. The other six destinations (i.e., Kansas City, Las Vegas, New Orleans, Orlando, Phoenix, and Seattle) differed in terms of popularity and character.

As such, the study adopted a quasi-experimental design whereby eight separate but almost identical surveys were developed. The data collection effort focused on the reputation (i.e., perception of a dominant opinion) about a tourism destination prior to and after exposure to "authentic" online conversations (i.e., stimulus materials) about a tourism destination.

Table 4.3. Criteria used for the selection of tourism destinations

Destination	Inhabitants[a]	Geographic segment	Popular destination[b]
Detroit, Michigan	706,585	Central	-
Kansas City, Missouri	450,375	Central	-
Las Vegas, Nevada	583,756	Central (towards West Coast)	yes
New Orleans, Louisiana	343,829	Central (towards East Coast)	yes
Orlando, Florida	238,300	East Coast	yes
Phoenix, Arizona	1,445,632	Central	-
San Francisco, California	805,235	West Coast	yes
Seattle, Washington	620,778	West Coast	yes

[a] Annual Estimates of the Resident Population for Incorporated Places over 50,000, Ranked by July 1, 2011 Population: April 1, 2010 to July 1, 2011. United States Census Bureau. Source: http://www.census.gov/popest/data/cities/totals/2011/tables/SUB-EST2011-01.csv

[b] The following ranks have been used as criterion to define a destination as popular:

- Forbes, the leading source for business news and financial information, representing the business perspective. "Cities were judged on the number of foreign arrivals as reported by the Department of Commerce; occupancy rates as determined by Smith Travel Research; and the U.S. Travel Association's information on tourism's economic impact. The list was then narrowed by the total number of 2009 visitors, as provided by the cities' individual visitors and convention bureaus". Source: "America's Most-Visited Cities in 2010" http://www.forbes.com/2010/04/28/tourism-new-york-lifestyle-travel-las-vegas-cities.html

- TripAdvisor, the popular consumer reviews site, representing the tourists perspective. Source: "Popular destinations in United States" based on Travelers' Choice® 2012 Winners http://www.tripadvisor.com/Tourism-g191-United_States-Vacations.html

4.3.2. The Online Questionnaire

Qualtrics (www.qualtrics.com), a professional online survey tool, was used for the development of the online questionnaire. A consent form was present at the beginning of the survey, and only those subjects who agreed to the consent form were able to participate in the survey. Indeed, the online survey link was not active unless the consent form was signed.

The survey included four sections:

- In Section 1 the subjects were exposed to the name of a tourism destination and were asked to indicate if they had visited it in the last 5 years.

- In Section 2 subjects were exposed to a list of 20 links that, if selected, opened screenshots (stimuli materials) of original online conversations related to the given tourism destination. Subjects were asked to select and view at least one link in order to proceed with the questionnaire. In order to ensure the balance and randomness in the stimuli materials exposure, the stimuli were randomly sequenced to reduce potential floor effects.

- In Section 3, after the user had navigated among the stimuli materials, follow-up questions were asked, designed to cover the study constructs.

- Finally, Section 4 included demographic questions, which were asked in order to better understand the profiles of respondents.

4.3.3. Creation of Stimuli materials

The creation of the stimuli materials for each destination followed a three-step process. The first two steps related to the contents analysis were the same used in the research Phase A of this study.

Step 1. Query selection and links (URLs) collection:

Search topics covered the five main tourism-related thematic reputation thematic dimensions that had emerged from the Phase A of this study (Marchiori et al., 2010; Marchiori and Cantoni, 2012). Thus, five search activities based on five topic-related keywords (one keyword-combination per topic search), were performed using Google (considering the first 3 pages of results) in order to gather the tourism destination's online representation. A total of 1,200 URLs (= 150 URLs x 8 destinations) were analyzed:

• Good value for money. Keywords used: name of the destination + costs + accommodation + tips;

• Culture. Keywords used: name of the destination + culture + tips;

• Overall image. Keywords used: name of the destination + trip + experience + tips;

• Weather. Keywords used: name of the destination + trip + weather + tips; and,

• Safety. Keywords used: name of the destination + safety + tips.

Step 2. URL coding procedure: Two coders were asked to identify the links containing user generated contents /online conversations (Xiang and Gretzel, 2009), and per each page to define the main value of expressed judgments (sentiment polarity) for each page,

using a 5-point Likert scale ranging from 1 (=contents in the page express mainly negative value judgments) to 5 (=contents in the page express mainly positive value judgments), and the additional point N.A. (Not Applicable = The item does not express any value judgment).

Among the 150 URLs gathered per each destination, an average of 25% presented online conversations. Inter-coder reliability has been calculated using ReCal2 (Freelon, 2010), obtaining a Krippendorff's alpha value greater than .90, resulting a high level of inter-coder agreement (Lombard et al., 2010). Table 4.4 shows the results of the online content analysis, presenting per each destination the distribution of the frequencies of positive and negative judgments expressed per topic dimension.

Table 4.4. The sentiment represented in the online content by destination.

	Money	Culture	Image	Weather	Safety
Detroit	L	H	L	L	L
Kansas	H	H	L	H	L
Las Vegas	L	H	H	L	L
New Orleans	H	H	H	L	L
Orlando	H	H	H	L	H
Phoenix	H	L	H	H	H
San Francisco	H	H	H	H	H
Seattle	H	H	H	L	H

L= Low: majority of sentiment expressed on the URLs is negative
H= High: majority of sentiment expressed on the URLs is positive

Step 3. Creation of the stimuli materials: from the URLs analysis, the four highest ranked URLs per for each of the five topic dimensions, were selected to be used as stimuli materials in the form of a screenshot of the page. The four highest ranked URLs per for each of the five topic dimensions included mainly TripAdvisor and blogs pages, as in those social media pages the recognition by web users of a dominant sentiment and a dominant topic expressed is more clear as resulted from the user test investigation performed during the phase A4 (section 3.5) of this study.

Figure 4.2 shows an example of the social media pages of the highest ranked URLs for the dimension "safety" as it describes New Orleans. Stimuli materials have been displayed randomly in order to ensure variability among the responses.

Figure 4.2. Example of treatment: A mashup social media pages for New Orleans

4.4. Empirical test: Sample Structure

4.4.1. Response rate

Pre-test

A pilot study was first conducted with 10,000 American Internet users in order to test the reliability and validity of the constructs: 310 responses were obtained and based upon this effort, minor adjustments were made.

Response rate

A final panel of 120,000 American travelers was divided into 15,000 contacts per each destination and were contacted on three separate occasions between July 23, 2012 to August 20, 2012. Respondents that completed the questionnaire were entered into a lottery drawing of a $100 gift card.

Based upon the process, 4,115 responses were obtained, of which 2,519 were fully completed; this represents a response rate of 3.4%, with an average of 313 completed responses per destination.

Out of the 2,519 completed surveys, 14 cases were deleted as they gave the same answer throughout the questionnaire. Thus, finally 2505 cases remained in the data set for further analysis (see Tab. 4.5).

Table 4.5. Cases remained in the data set divided by destination

Destination	Responses
Detroit	311
Kansas	302
LasVegas	295
NewOrleans	331
Orlando	340
Phoenix	331
SanFrancisco	294
Seattle	301
Total	2505

4.4.2. Sample Demographic

As shown in Table 4.6, the majority of respondents were female (68%), and 40+ years old. The majority of respondents declared to have completed a college (34.7%) and have a yearly income of more than $50,000. Almost 62% of them declared to be advanced Internet users or experts. Lastly, the majority of respondents had previously read (or looked at) user-generated contents (e.g. photos and video) posted online about a destination.

Table 4.6. Demographic characteristics of the respondents

Male	32%	Less than $20,000	4.30%
Female	68%	$20,000-$29,999	6.00%
		$30,000-$39,999	6.20%
20 years and below	0.50%	$40,000-$49,999	9.40%
21-25	1.70%	$50,000-$74,999	18.90%
26-30	3.90%	$75,000-$99,999	16.00%
31-40	11.70%	$100,000-$149,999	14.00%
41-50	22.20%	$150,000-$199,999	4.30%
51 – 60	32.70%	$200,000 or more	3.00%
61 years and older	27.20%	Do not wish to comment	18.00%
Less than high school	0.50%	Novice	3.50%
High school	9.20%	Intermediate User	34.60%
Some college, not completed	24.80%	Advanced User	43.60%
Completed college	34.70%	Expert	18.30%
Post graduate work	29.60%	Use of Social Media	79.60%
Do not wish to comment	1.30%	Not use of Social Media	20.04%

Among the eight tourism destinations, the ones most visited were (see Tab. 4.7): Las Vegas (30.8% of the respondents had visited the destination), followed by Orlando (30.3%), New Orleans (19.9%), Phoenix (18.4%), and San Francisco (17.3%). The least visited destinations were: Detroit (8.7% of the respondents had vised the destination), Seattle (13.3%), and Kansas City (14.2%).

Table 4.7. Cross-tabulation between Destination and Visit the destination

			No, I have NOT visited	Yes, I have visited	Total
	Detroit	Count	284	27	311
		% within DEST	91.3%	8.7%	100.0%
	Kansas	Count	259	43	302
		% within DEST	85.8%	14.2%	100.0%
	Las Vegas	Count	204	91	295
		% within DEST	69.2%	30.8%	100.0%
	New Orleans	Count	265	66	331
		% within DEST	80.1%	19.9%	100.0%
	Orlando	Count	237	103	340
		% within DEST	69.7%	30.3%	100.0%
	Phoenix	Count	270	61	331
		% within DEST	81.6%	18.4%	100.0%
	San Francisco	Count	243	51	294
		% within DEST	82.7%	17.3%	100.0%
	Seattle	Count	261	40	301
		% within DEST	86.7%	13.3%	100.0%
Total		Count	2023	482	2505
		% within DEST	80.8%	19.2%	100.0%

Table 4.8, shows the details of the time spent on completing the online survey. The majority of the respondents took between 6 and 20 minutes to complete the survey (75.3%).

Table 4.8. Time spent on completing the online survey

Time Spent on completing the online survey	%
0 to 5 minutes	7
6 to 10 minutes	36.2
11 to 20 minutes	39.1
21 to 30 minutes	8.5
31 to 1 hour	4.7
1.01 hour and plus	4.5

Out of the 20 stimuli materials proposed per each destination, respondents in average viewed 4.54 stimuli. In particular, the 72.3% of the respondents viewed between 1 to 5 stimulus, the 22.4% viewed between 6 to 10 stimulus, and the 5.3% viewed more than 11 stimulus (see Tab. 4.9).

These results do not change when analyzed by destination (see Tab. 4.10).

Table 4.9. Stimuli viewed by respondents

Stimuli viewed by respondents	%
1 stimuli viewed	22.1
2 – 5	49.4
6 – 10	23.0
> 10	5.5

Table 4.10. Cross-tabulation between destinations and stimuli viewed

		1 stimuli	2 - 5	6 - 10	> 10	Total
Detroit	Count	66	154	77	14	311
	% within DEST	21.2%	49.5%	24.8%	4.5%	100.0%
Kansas	Count	77	155	53	17	302
	% within DEST	25.5%	51.3%	17.5%	5.6%	100.0%
LasVegas	Count	76	143	59	17	295
	% within DEST	25.8%	48.5%	20.0%	5.8%	100.0%
NewOrleans	Count	57	167	88	19	331
	% within DEST	17.2%	50.5%	26.6%	5.7%	100.0%
Orlando	Count	91	154	78	17	340
	% within DEST	26.8%	45.3%	22.9%	5.0%	100.0%
Phoenix	Count	63	172	78	18	331
	% within DEST	19.0%	52.0%	23.6%	5.4%	100.0%
SanFrancisco	Count	64	134	70	26	294
	% within DEST	21.8%	45.6%	23.8%	8.8%	100.0%
Seattle	Count	60	158	73	10	301
	% within DEST	19.9%	52.5%	24.3%	3.3%	100.0%
Total	Count	554	1237	576	138	2505
	% within DEST	22.1%	49.4%	23.0%	5.5%	100.0%

The main topic viewed by the respondents was the "overall image", followed by online contents related to the value for money at the destination, then culture-tradition, safety, and lastly contents about the weather. The graphics below (Figure 4.3) show the topic of stimuli viewed per each destination, divided by not visited and visited the destination.
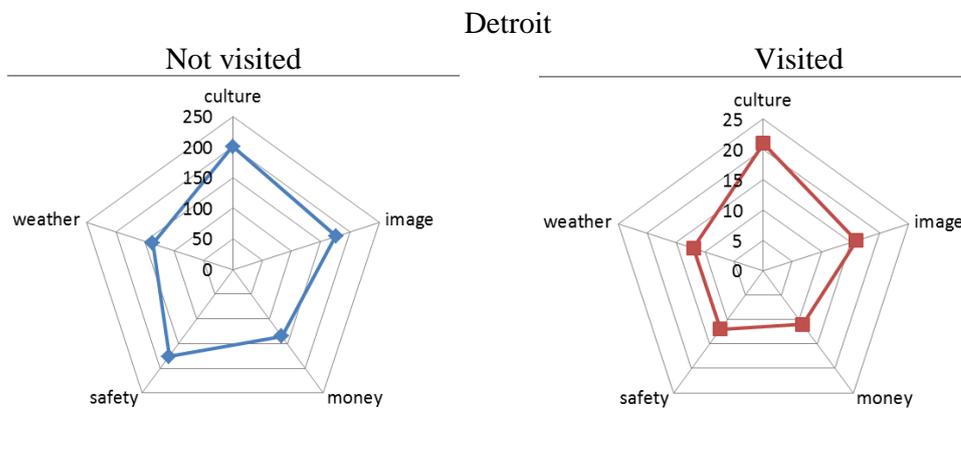
Detroit

Kansas
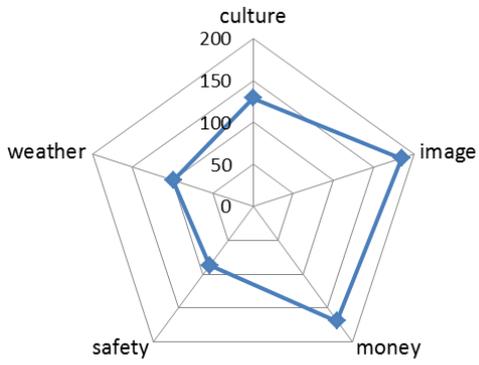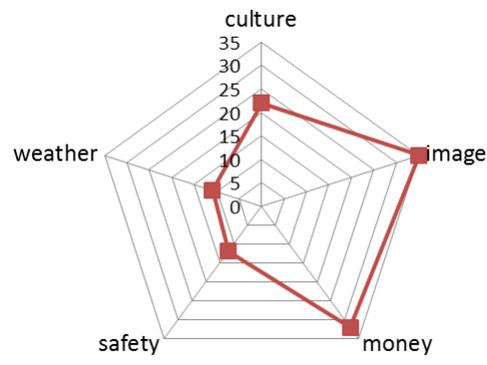
Las Vegas
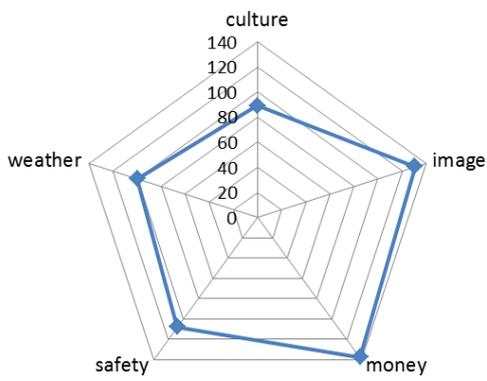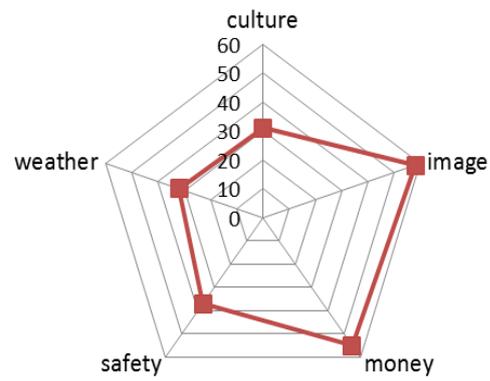
New Orleans
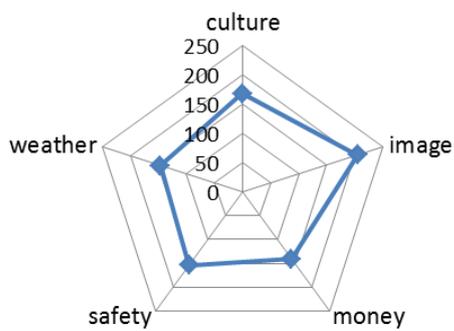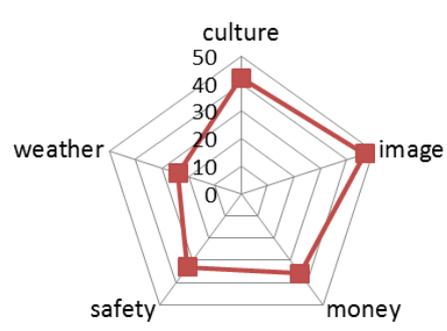
Orlando
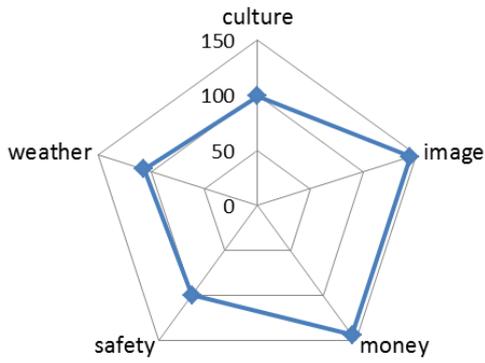
Not visited

Visited
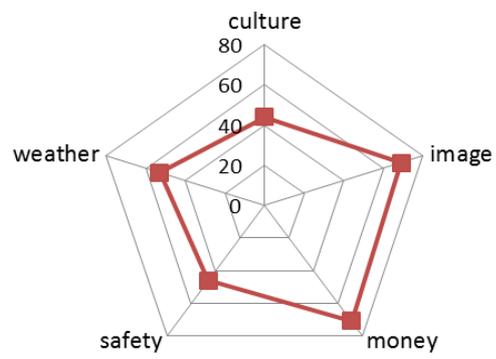
Phoenix

Not visited
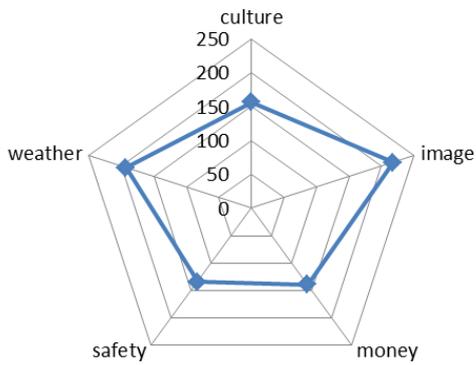
Visited
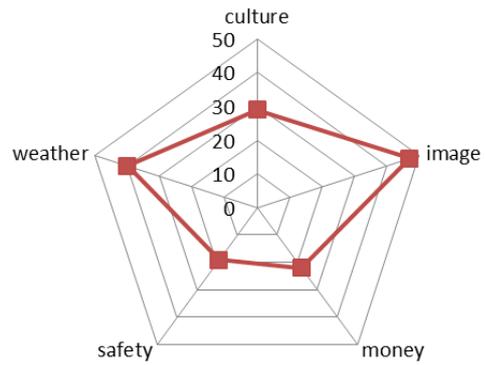
San Francisco

Not visited
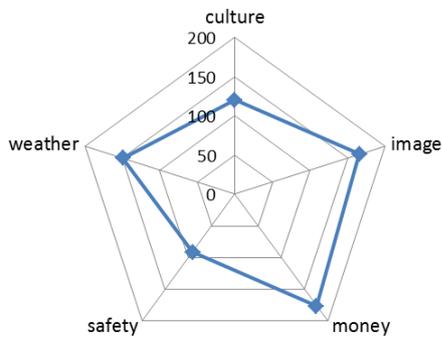
Visited
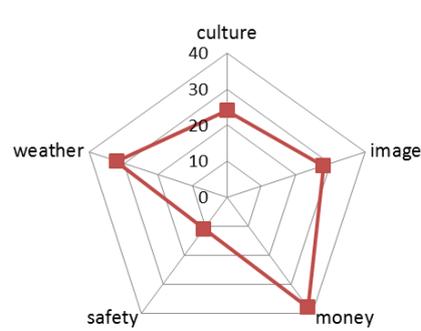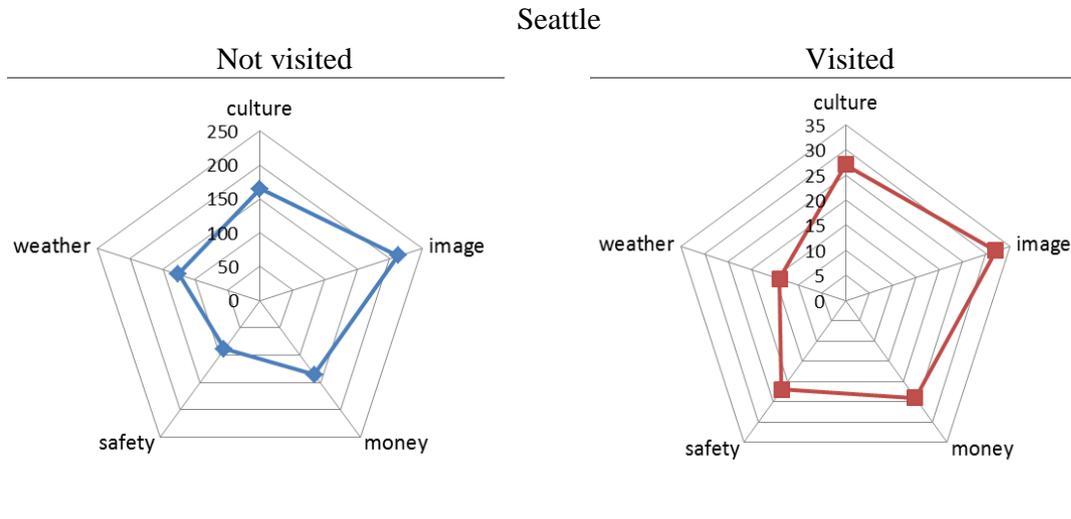
Figure 4.3. Topics of stimuli materials viewed per each destination

4.4.3. Data structure

Missing Data: there is no missing data as skipping a question was not permitted in the questionnaire, and therefore no imputation techniques were necessary. However, there were small amounts of missing data due to dropouts between the pre and post-test of individuals as they did not complete the questions related to the reputation constructs, thus their values are missing on all variables.

Outliers: each continuous variable was evaluated for outliers by examining its frequency distribution at the univariate level to identify scenarios where extreme scores occurred

for a small number of respondents. Based on inspection of frequency distributions, few outliers were identified and excluded.

Non-normality: variables in the model were not normally distributed as assessed by the Kolmogorov-Smirnov test, as the p-values were less than .05 for all the variables. This result has been also assumed since a 5-points Likert scale might not yield normally-distributed data.

Statistical Power: in terms of covariance matrix stability and asymptotic theory, simulation studies tend to suggest that sample sizes of 100 to 125 or larger often yield adequate results given that reasonably reliable measures are used (i.e., reliabilities greater than .65) and with a reasonable number of indicators (i.e., three or more) per latent variable (Jackson, 2003). The sample size of this study conforms to both these standards. A sample size of 2505 was used and any latent variable has at least three indicators with reliabilities greater than .65. The following section presents the measurement model details.

4.5. Test Results

4.5.1. Evaluation Measures of Component Fit

The causal modeling technique is selected for data analysis as it will allow (Fornell, 1982):

- simultaneously examine theory and measures;

- the explicit inclusion of measurement error, and

- an ability to incorporate abstract and unobservable constructs.

The table 4.11 summarizes the goodness-of-fit values that would count for a good fit for both overall and component fit indices, and serves as a guideline to include fit measures of the structural model into account. For a model to be declared as a good fitting model, it had to satisfy all of the criteria simultaneously (Bollen & Long, 1993).

Table 4.11. Goodness-of-fit values

Goodness-of-fit Measures - Overall Fit	Levels of Acceptable Fit
Comparative Fit Index (CFI)	> 0.90
Root mean square error of approximation (RMSEA)	$\leq 0.05 / \leq 0.08$
p close	> 0.05
Standardized Root Mean Square Residuals (SRMR)	$\leq .08$
Weighted Root Mean Square Residual (WRMR)	$\leq .09$ or close to 1
Modification Indices	None > 4
Std. Residual values	None > 2

4.5.2. Test of the Measurement Model

Data were analyzed as an aggregate of all collected responses. Structural equation modeling (using the tool M-Plus) was used to evaluate the hypothesized causal relationships between the respective constructs.

A factor analysis has been performed in order to screen variables for the subsequent analysis, and to identify the number of factors that explain most of the variance observed in the proposed variables. To conduct a Factor Analysis in SPSS, the function Analyze > Data Reduction > Factor has been used.

Table 4.12 presents the Rotated Component Matrix, which shows the factor loadings for each variable. The factor that each variable loaded most strongly on have been highlighted, and were consistent with our propositions.

Table 4.12. Rotated Component Matrix, and the factor loadings for each variable

	Rotated Component Matrix[a]						
	Component						
	1	2	3	4	5	6	7
P_REP_1	.320	.581	.185	.115	-.080	.049	-.017
P_REP_2	.156	.443	.525	.124	-.070	-.016	-.012
P_REP_3	.237	.367	.236	.006	.036	.000	-.103
CHANG_1	-.039	.125	-.025	.050	.722	.010	-.012
CHANG_2	-.117	-.265	-.188	-.068	.804	-.094	.006
CHANG_3	-.125	-.267	-.157	-.059	.789	-.072	-.007
ARG_1c	.130	.794	.160	.189	-.104	.126	.108
ARG_2p	.104	.801	.157	.141	-.095	.116	.100
ARG_3s	.143	.754	.178	.138	-.082	.090	.046
ARG_4g	.097	.679	.222	.180	-.103	.362	.106
SIDED_1	.111	.252	.170	.090	-.054	.889	.011
SIDED_2	.139	.254	.161	.062	-.075	.884	.006
SIDED_3	.277	.524	-.076	.099	-.003	.179	-.092
SIDED_4	.069	.031	.015	-.073	.004	-.029	.784
CONS_1	.153	.253	.745	.161	-.110	.138	.050
CONS_2	.136	.093	.813	.112	-.102	.081	.030
CONS_3	.136	.126	.849	.118	-.112	.104	.033
CONS_4	.143	.149	.819	.130	-.059	.095	.024
AT_REP1	.747	.192	.128	.157	-.089	.090	.065
AT_REP2	.760	.166	.071	.082	-.062	.022	.029
AT_REP3	.739	.147	.180	.166	-.009	.053	.044
AT_REP4	.705	.138	.077	.236	-.085	.133	.063
AT_REP5	.730	.168	.153	.148	-.056	.030	.055
AT_REP6	.770	.121	.107	.103	-.057	.032	.032
TRUST_1	.192	.180	.128	.755	-.027	.064	.180
TRUST_2	.195	.192	.126	.711	-.062	.086	-.033
TRUST_3	.207	.157	.140	.797	-.040	.042	-.012
TRUST_4	.153	.091	.123	.701	.056	.008	.057
TRUST_5	.090	.046	.051	.224	-.014	.049	.650

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

In particular, two items resulted to not belong to the constructs proposed: Item "Sided 4" (i.e., the contents include only one-sided comments -positive or negative-), and "Trust_5" (i.e., I feel more comfortable basing my pleasure trip decisions on 1 review from someone I know and trust rather than on 100 reviews from people I do not know).

Indeed, as confirmed by a pre-reliability of scale, these two items generated a Cronbach's alpha coefficient less than the required threshold value for the construct message sidedness and trust, thus it has been decided to remove these two items as they do not seem to belong to the hypothesized constructs, and at least three items remained in the related constructs. Items related to the construct perceived reputation seem to weakly generate a factor, and this result is confirmed by the following reliability analysis.

Table 4.13 presents the descriptive and reliability statistics for the constructs in the research model in order to evaluate the extent to which each measurement item was internally consistent. As the table shows, the values for Cronbach's alpha coefficient for most of the constructs substantially exceeded the required threshold value, with the only exception of perceived reputation having a Coefficient alpha of 0.664, which is only marginally acceptable.

In order to further investigate differences in the perceived reputation between the analyzed tourism destinations, Table 4.14 present the descriptive and reliability statistics of the respective constructs for each destination. As can be seen, the values did not vary greatly depending on destination, confirming the stability of overall construct measurement. However, the values of Cronbach's alpha coefficient for the construct "perceived reputation" was less that than the required threshold value for seven destinations out of eight (Seattle is the only one resulted with a greater alpha value); additionally, the values of Coefficient alpha for the construct "message sidedness" was less than the required threshold for Orlando.

Last, the construct "perceived belief change" was less that than the required threshold value for Las Vegas, Phoenix and Seattle. Further post hoc analysis was conducted to identify the most robust composition of the respective constructs; the results indicate that the initial constructs components were the most reliable, and as such, were used in the following analyses.

Table 4.13. Descriptive and reliability statistics for constructs in the research model

	Mean	Std. Dev.	Coefficient Alpha	Item
P_REP_1	3.88	.722	0.664	I have an idea on what other people online think about the destination.
P_REP_2	3.61	.814		I think that the people online have a common opinion about the destination.
P_REP_3	3.64	.785		I think that the people online have a common opinion about the destination only for specific aspects
P_CHANGE1	2.71	1.051	0.702	Information from the descriptions I read contradicted what I had known before reading it.
P_CHANGE2r	2.24	.834		(reversed) The descriptions supported my impression about the destination.
P_CHANGE3r	2.22	.844		(reversed) The descriptions reinforced information I had previously known about the destination.
ARG_1	3.79	.791	0.891	The contents are convincing.
ARG_2	3.66	.838		The contents are persuasive.
ARG_3	3.65	.841		The contents are strong.
ARG_4	3.83	.821		The contents are good.
SIDED_1	3.77	.922	0.727	The contents stress positive implications about the destination.
SIDED_2	3.78	.900		The contents stress favourable opinions of the destination.
SIDED_3	3.75	.873		The contents include both pros and cons of the destination.
CONS_1	3.6	.778	0.891	Opinions posted in descriptions are consistent with each other.
CONS_2	3.63	.775		Opinions posted in descriptions are similar to each other.
CONS_3	3.66	.770		Authors of the descriptions had similar opinions about the destination.
CONS_4	3.60	.780		Authors of the descriptions had similar experiences at the destination.
AT_REP1	4.08	.721	0.878	I try to understand the reputation of the destination presented online.
AT_REP2	4.02	.782		I try to understand which aspects of the destination have a bad reputation online.
AT_REP3	3.96	.765		I try to understand if the people online have a similar opinion about the destination.
AT_REP4	4.12	.766		I try to understand if the people online posted travel experiences similar to travel experiences I would like to have.
AT_REP5	3.98	.771		I try to recognize the main opinion posted in the social media.
AT_REP6	3.94	.771		I try to recognize the contents which differ from the main opinion posted in the social media.

(Table 4.13 continued) Descriptive and reliability statistics for constructs in the research model

	Mean	Std. Dev.	Coefficient Alpha	Item
TRUST_1	3.68	.779	0.808	In general, I trust comments/materials posted by other travelers.
TRUST_2	3.73	.832		I feel confident that the comments/materials provided by other travelers are posted with the best intentions in mind.
TRUST_3	3.60	.820		The comments/materials posted by other travelers are a reliable source of travel information.
TRUST_4	3.59	.942		I trust reviews, ratings, and comments by other travelers more than evaluations provided in formal and official travel articles, etc.
BT1_MONEY	3.26	.881	0.794	Pre test (Prior Belief): The tourism destination offers products and services that are good value for the money.
BT1_CULTURE	3.74	1.100		Pre test (Prior Belief): The tourism destination offers interesting local cultures and traditions.
BT1_IMAGE	3.22	1.078		Pre test (Prior Belief): The tourism destination offers a satisfying tourism experience.
BT1_SATEFY	3.32	1.104		Pre test (Prior Belief): The tourism destination offers a safe environment.
BT1_WEATHER	3.55	1.054		Pre test (Prior Belief): The tourism destination offers a favorable weather.
BT2_MONEY	3.51	.955	0.842	Post test (Belief after exposure): The tourism destination offers products and services that are good value for the money.
BT2_CULTURE	3.84	1.071		Post test (Belief after exposure): The tourism destination offers interesting local cultures and traditions.
BT2_IMAGE	3.31	1.090		Post test (Belief after exposure): The tourism destination offers a satisfying tourism experience.
BT2_SATEFY	3.49	1.115		Post test (Belief after exposure): The tourism destination offers a safe environment.
BT2_WEATHER	3.82	1.053		Post test (Belief after exposure): The tourism destination offers a favorable weather.

Table 4.14. Descriptive statistics and Cronbach's Coefficient alpha for each destination

DEST		P_REP	P_CHANGE	ARG	SIDED	CONS	AT_REP	TRUST	BT1	BT2
Detroit	Item Means	3.740	2.361	3.788	3.756	3.696	3.998	3.659	2.699	2.943
	Item Variances	.611	.865	.657	.833	.602	.587	.686	.949	1.129
	Coeff. alpha	.675	.701	.901	.732	.894	.877	.793	.842	.870
Kansas	Item Means	3.695	2.343	3.683	3.781	3.689	3.981	3.683	3.397	3.577
	Item Variances	.553	.753	.716	.845	.540	.535	.676	.617	.839
	Coeff. alpha	.663	.730	.890	.746	.907	.859	.795	.882	.891
Las Vegas	Item Means	3.743	2.424	3.736	3.712	3.686	4.012	3.677	3.383	3.595
	Item Variances	.608	.892	.666	.898	.614	.621	.722	1.179	1.143
	Coeff. alpha	.642	.627	.886	.756	.890	.905	.806	.755	.823
New Orleans	Item Means	3.639	2.423	3.734	3.723	3.584	4.046	3.654	3.598	3.714
	Item Variances	.611	.866	.632	.791	.658	.590	.737	.874	.945
	Coeff. alpha	.636	.764	.888	.703	.866	.883	.816	.759	.820
Orlando	Item Means	3.737	2.365	3.732	3.810	3.668	4.043	3.652	3.576	3.726
	Item Variances	.577	.917	.689	.754	.551	.590	.696	1.079	1.066
	Coeff. alpha	.648	.700	.886	.630	.888	.883	.801	.801	.830
Phoenix	Item Means	3.739	2.443	3.726	3.804	3.611	4.030	3.622	3.592	3.803
	Item Variances	.571	.788	.692	.732	.636	.609	.764	.887	.943
	Coeff. alpha	.687	.652	.888	.766	.901	.871	.843	.814	.852
San Francisco	Item Means	3.670	2.359	3.700	3.742	3.585	4.006	3.574	3.610	3.771
	Item Variances	.618	.786	.648	.772	.581	.562	.747	.951	.976
	Coeff. alpha	.610	.749	.896	.725	.889	.856	.801	.806	.835
Seattle	Item Means	3.728	2.397	3.753	3.804	3.617	4.005	3.671	3.456	3.609
	Item Variances	.658	.817	.720	.843	.622	.562	.686	.843	.953
	Coeff. alpha	.732	.680	.893	.751	.896	.884	.807	.813	.859

P_REP = perceived reputation; ARG = argument strength; SIDED = message sidedness; CONS= message consistency; AT_REP = attitude towards online reputation; TRUST = trust attitude towards social media; P_CHANGE = perceived belief change; BT1= belief at time1; BT2= belief at time2

4.5.3. Test of the Hypothesized Model: A model of drivers influencing the perception of reputation in online media

The test of the hypothesized model has been performed using M-Plus (see Appendix 3 for the input and output for MPlus).

Figure 4.4 summarizes the hypothesized model and measurement model. All depicted coefficients are standardized.

The overall goodness-of-fit measures were found to be within acceptable cutoff measures (CFI=0.912, TLI=0.900, $\chi^2/df \leq 2.5$, RMSEA=0.067, SRMR=0.097); additionally, all of the regression coefficients were significant at $\alpha = 0.05$. In summary, there is a satisfying model fit.

The results support most of the hypothesized relationships, and out of the 13 hypotheses one was insignificant.

As can be seen in Figure 4.4, the three constructs related to the message characteristics have a positive and significant effect on the perceived reputation of a destination in online media (argument strength = .457; message sidedness = .068; message consistency = .330). Also, the strength of one's attitude toward being a reputation seeker has significant and positive effect on the perception constructs related to the message characteristics (argument strength = .527; message sidedness = .365; message consistency = .470), and on the perceived dominant opinion expressed in social media (path estimate .220).

Regarding the trust attitude towards online conversations, it was found to have a significant positive effect on the perceived reputation in online media (path estimate .055); moreover, the trust attitude towards online conversations is a significant driver for being a reputation seeker in online media (path estimate .581).

The autoregressive effects of prior belief-after belied and the perceived belief changes after stimuli exposure are both significant (path estimates .726 and .044 respectively), indicating that the initial prior belief about a destination and the belief at the post-test scores holding constant any effect due to the stimuli intervention.

As predicted by the social media exposure effect, belief about a destination at post-test slightly significantly predicts a perceived change at post-test.

Finally, the effect of a perceived reputation in social media and the actual belief change after exposure resulted as not significant. However, the effect of a perceived reputation in social media it was found to have a significant negative effect on the perceived belief change (path estimate - .502).
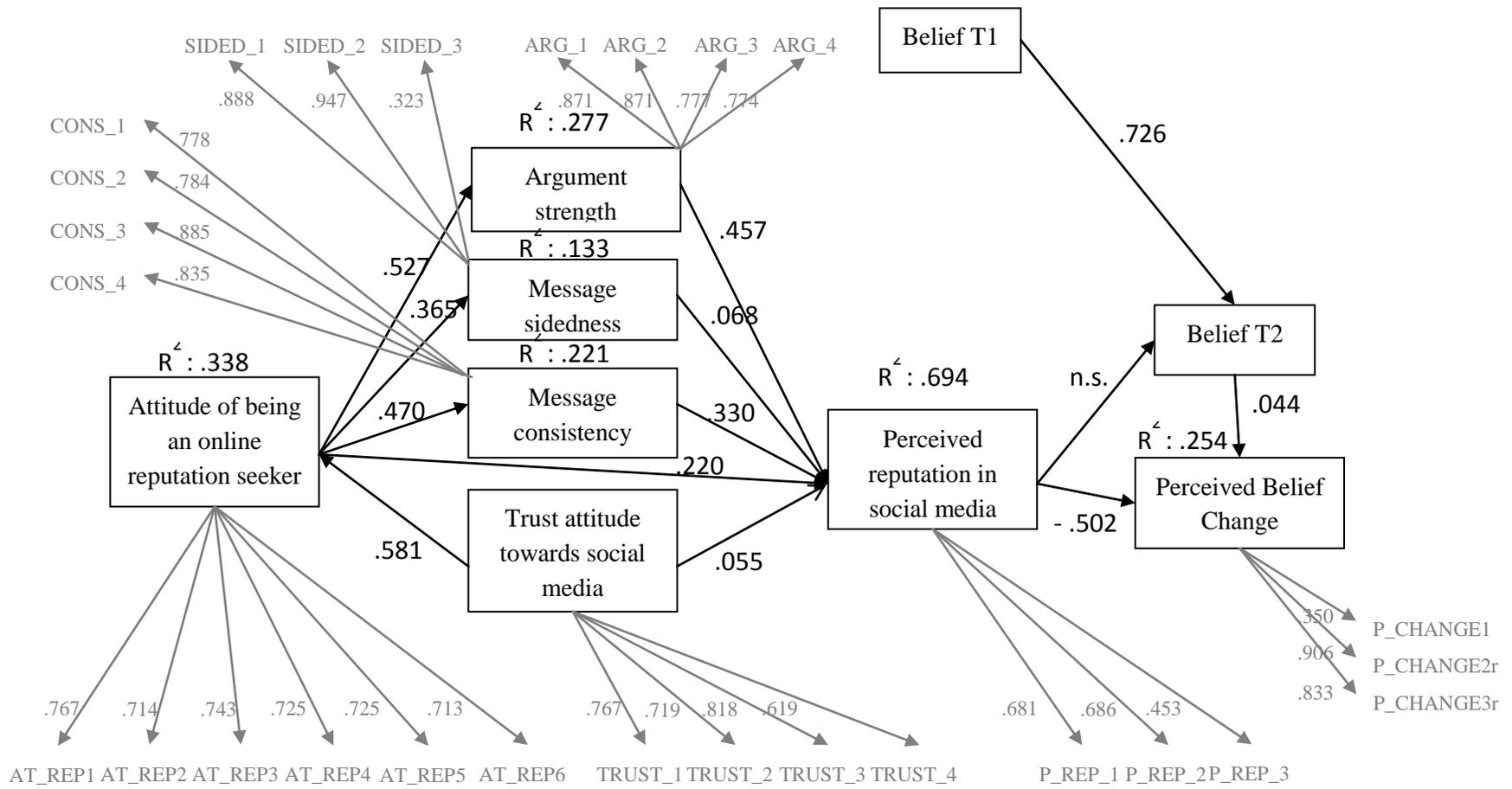
Figure 4.4. Full Research Model

Thus, the majority of the respective hypotheses are confirmed. The following table 4.15 shows the significance of the constructs calculated in Mplus, providing the critical ratio, and gives evidence if the hypothesis was supported or not.

Table 4.15. Significance of the constructs

Hypotheses	Path Coefficient	Critical Ratio*	Hypotheses Supported
H1 P_REP →AT_REP	.220	7.839	YES
H2a P_REP →ARG	.457	18.483	YES
H2b P_REP → SIDED	.068	3.110	YES
H2c P_REP → CONS	.330	13.437	YES
H3a ARG → AT_REP	.527	30.719	YES
H3b SIDED → AT_REP	.365	18.358	YES
H3c CONS → AT_REP	.470	25.745	YES
H4a AT_REP →TRUST	.581	34.441	YES
H4b P_REP → TRUST	.055	2.080	YES
H5a BT2 → BT1	.726	76.836	YES
H5b P_CHANGE → BT2	.044	2.237	YES
H5c BT2 → P_REP	-0.010	-0.694	NO
H5d BT2 → P_CHANGE	-.502	-26.607	YES

*Critical Ration: the non-standardized coefficient divided by the standard error, and it shows the variance explained by an item. It should not be between 1.69 and -1.69 the values higher and lower are significant at p=.05.

The results of this study clearly identify the role various message cues have on the perception of an online reputation—in particular, argument's strength and message consistency. This result suggests that the main drivers to online destination reputation are message persuasiveness and strength and whether those messages are congruent with the opinions of others. However, message sidedness, that is, the perception of a polarity or the presence of a majority of negative or positive comments, is weakly significant, suggesting that sentiment polarity among online conversations is not a main issue in the perception of destinations. Interestingly, the results also show that the ability to recognize a dominant opinion is driven by an attitude of being a "reputation seeker" (i.e., the attitude toward reputation in online media), suggesting an overall tendency of the respondents to be familiar with the concept of reputation and an overall attitude to search online for the opinion of other users regarding a destination.

Another interesting finding is the importance trust plays in online conversations and, therefore, destination reputation. In particular, trust appears to lead to an attitude of

being a reputation seeker, suggesting that the more people rely on online conversations, the more they search for the dominant opinion expressed. Additionally, when analyzing the perception of a dominant opinion, the issue of trust proved to be weak.

This result suggests that the role of those who post online is not one of the main issues affecting the process of understanding a dominant opinion. Regarding the relationship between perceived reputation in social media and the actual belief change, results show the relationship is not significant, suggesting that the quasi-experiment was not powerful in the demonstration of an actual consequence of the reputation construct.

However, when looking at the relationship between the perceived reputation and the perceived belief change, the situation drastically changes, showing a negative significant value. Results show how the perceived recognition of an online dominant opinion tends to reinforce prior belief. A positive weak significant relationship has been also detected between the actual belief change and perceived change, suggesting that the more the social media generated an effect, the more it should be perceived.

4.5.4. Alternatives Models

Considering the results of the model presented in the previous paragraph, an alternative model has been tested. The perceived change was considered to be relevant for research in perceived reputation and, therefore, remains in the model. The weak roles of trust, message sidedness, and belief after exposure to a stimulus have been not considered due to a lack of explanatory power. Figure 4.5 depicts alternative model 1 (see Appendix 4). The improvements lead to a better model fit, and the paths are all significant (CFI: .940; TLI: .933; RMSEA: .051; SRMR: .068). Overall, this is a satisfying model with the exception of a direct effect on the perceived reputation with the actual belief change.
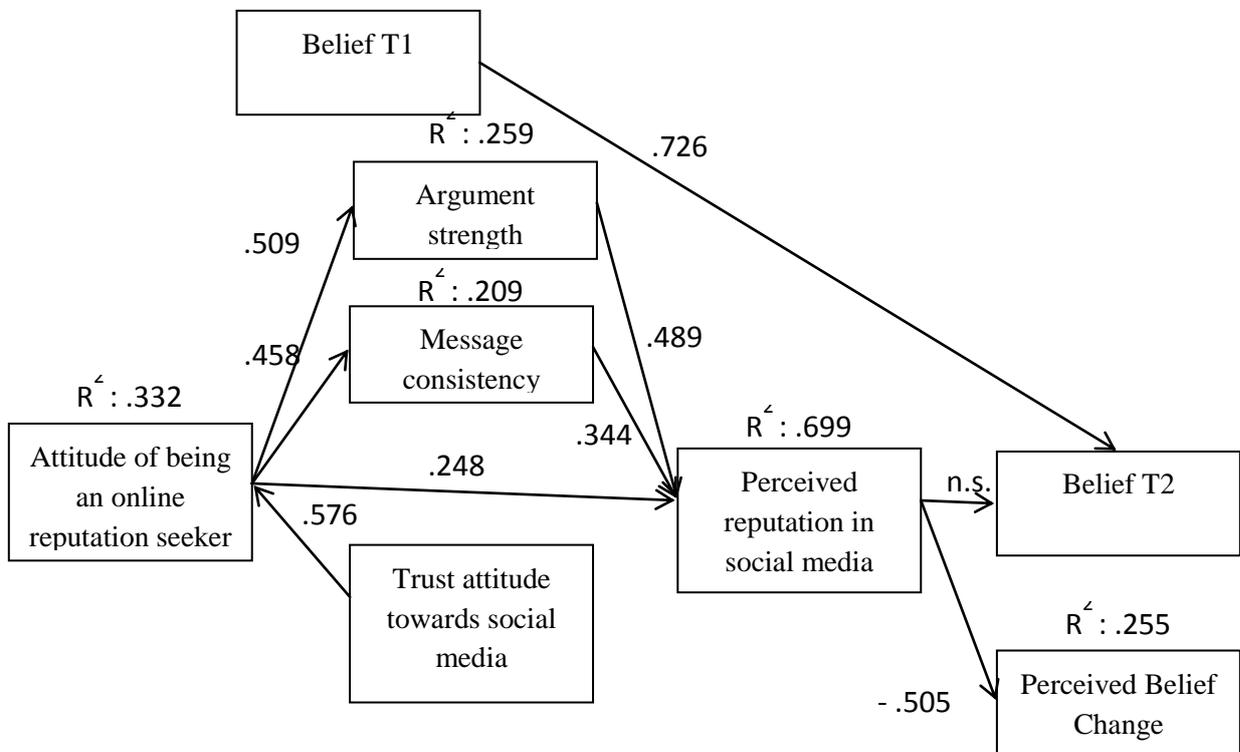
Figure 4.5. Alternative Model 1

The other alternative model focused on the role of trust toward social media (see Appendix 5). Causal relationships with the trust construct have been reconsidered, and it was hypothesized that a confirmation/ disconfirmation might lead to the credibility of the message. Figure 4.6 depicts alternative model number 2.

In this alternative model, the improvements lead to a better model fit (CFI: .945; TLI: .938; RMSEA: .049; SRMR: .061). Overall, this resulted as a satisfying model with the exception of a direct effect on the perceived reputation with the actual belief change. Findings from this model suggested how a perceived reputation in online media strongly leads to trust in online comments. Discussion and implications of those findings are addressed in the next chapter.
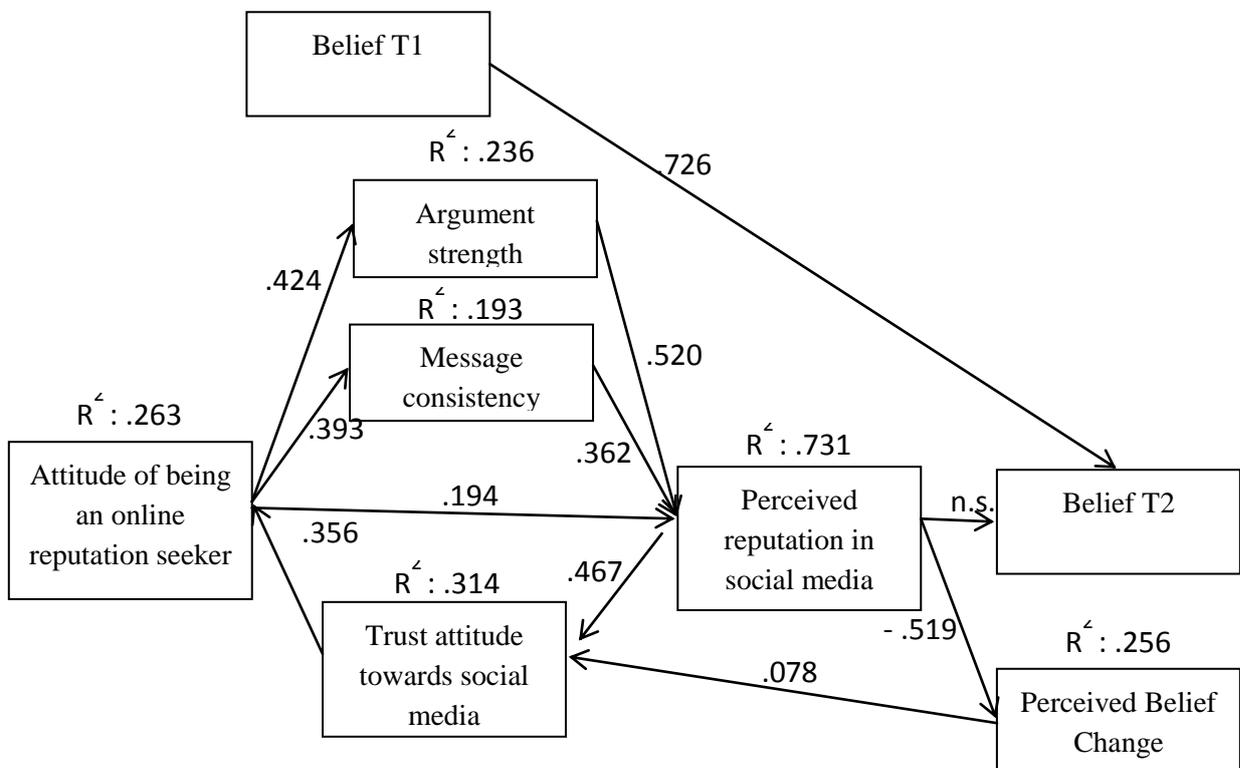
Figure 4.6. Alternative Model 2

4.5.5. Multi-group analysis

It was possible to perform a multi-group analysis in MPlus as the grouping option allowed us identify the variable in the data set that contains the information about group belonging. The change in fit indices such as RMSEA, TLI, and CFI were observed, and allowed us to infer the effect of groups on the model paths. The original model was used, as the overall model fit was good and the majority of the path coefficients proved to be significant. Two moderation effects could be tested within the model.

The first pertains to the moderation of the individual's experience with destinations (i.e., whether respondents had already visited the destination), and the second to the moderation of the peculiarities of the destinations (i.e., popular destinations vs. less popular destinations).

Given that the main focus of the model is on perceived reputation, a preliminary analysis was conducted using a standard pair-samples test to check for eventual moderations in the aforementioned variables. This kind of preliminary check assured that relevant effects were not lost in the final model run and that the model was kept as parsimonious as possible.

Preliminary Test objective: tourism destinations belief assessment Before and After stimuli materials exposure between the group that have visited the proposed destinations and the one that have not visited the destinations.

In order to compare the two sets of scores (prior belief an after belief), the Wilcoxon Signed-Rank Test was used, as it is the nonparametric test equivalent to the dependent t-test (called the Paired-Samples T Test in SPSS). As the Wilcoxon Signed-Ranks Test does not assume normality in the data, it can be used when the assumption of normality is violated in the dataset. The Wilcoxon signed-rank test was used to assess the effect of experience with the destination (if users have visited the destination or not) on their favorable perception about the five-topic dimensions prior and after exposure to each destination has been performed.

In SPSS the dataset has been split: Data > split file > compare group (destinations).

The Wilcoxon Signed-Ranks Test was then performed for the group "not visited the destination" (in SPSS: Select cases > if condition is satisfied: not visited the destination), and for the group "visited the destination" (in SPSS: Select cases > if condition is satisfied: visited the destination).

The test statistic detects differences in the distribution of the two related variables per each topic dimension (e.g., overall destination belief of each destination per value for money dimension, culture and tradition dimension, weather, safety, and overall image dimension before and after stimuli exposure).

Regarding the group of web users who declared to have not visited the destination, findings indicated that belief significantly increased (at $p < .05$) (see Table 4.16). The majority of the five topic dimensions pre- and post-stimuli exposure assessments showed increased ratings. On average, for every destination, the belief after exposure slightly increased without following the predicted indication of the materials of the stimuli. Only these destinations did not change: Kansas (safety and weather dimensions); New Orleans (weather dimension); Seattle (safety dimension).

Table 4.16. Wilcoxon signed-rank test statistic with the group "Not Visited the destination"

		ABEL_1m - PBEL_1m	ABEL_2c - PBEL_2c	ABEL_3s - PBEL_3s	ABEL_4w - PBEL_4w	ABEL_5e - PBEL_5i
		Test Statistics[a]				
Detroit	Z	-3.649[b]	-5.424[b]	-2.485[b]	-5.837[b]	-4.159[b]
	Asymp. Sig.(2-tailed)	.000	.000	.013	.000	.000
Kansas	Z	-6.275[b]	-6.096[b]	-1.201[b]	-.434[b]	-5.148[b]
	Asymp. Sig. (2-tailed)	.000	.000	.230	.665	.000
Las Vegas	Z	-4.299[b]	-4.887[b]	-6.126[b]	-.417[c]	-.050[b]
	Asymp. Sig. (2-tailed)	.000	.000	.000	.677	.960
New Orleans	Z	-5.273[b]	-1.057[b]	-2.903[b]	-1.467[b]	-2.492[b]
	Asymp. Sig. (2-tailed)	.000	.291	.004	.142	.013
Orlando	Z	-.605[b]	-4.246[c]	-3.685[c]	-8.377[b]	-10.034[b]
	Asymp. Sig. (2-tailed)	.545	.000	.000	.000	.000
Phoenix	Z	-7.333[b]	-3.299[b]	-4.895[b]	-2.601[b]	-4.355[b]
	Asymp. Sig. (2-tailed)	.000	.001	.000	.009	.000
San Francisco	Z	-8.177[b]	-1.971[b]	-3.165[b]	-2.667[c]	-2.408[b]
	Asymp. Sig. (2-tailed)	.000	.049	.002	.008	.016
Seattle	Z	-6.763[b]	-2.938[b]	-.007[c]	-2.588[b]	-4.760[b]
	Asymp. Sig. (2-tailed)	.000	.003	.995	.010	.000

a. Wilcoxon Signed Ranks Test
b. Based on negative ranks.
c. Based on positive ranks.

Table 4.17. Wilcoxon signed-rank test statistic with the group "Visited the destination"

		ABEL_1m - PBEL_1m	ABEL_2c - PBEL_2c	ABEL_3s - PBEL_3s	ABEL_4w - PBEL_4w	ABEL_5e - PBEL_5i
				Test Statistics[a]		
Detroit	Z	-.034[b]	-1.265[b]	-2.138[b]	-2.673[b]	-1.890[b]
	Asymp. Sig. (2-tailed)	.973	.206	.033	.008	.059
Kansas	Z	-1.000[b]	-2.000[b]	-.054[b]	-1.291[c]	-1.265[b]
	Asymp. Sig. (2-tailed)	.317	.046	.957	.197	.206
Las Vegas	Z	-2.451[b]	-3.239[b]	-3.954[b]	-.522[c]	-1.000[b]
	Asymp. Sig. (2-tailed)	.014	.001	.000	.602	.317
New Orleans	Z	-.804[b]	-.486[c]	-1.040[c]	-.568[c]	.000[d]
	Asymp. Sig. (2-tailed)	.421	.627	.298	.570	1.000
Orlando	Z	-3.181[c]	-6.593[c]	-3.992[c]	-5.062[b]	-5.663[b]
	Asymp. Sig. (2-tailed)	.001	.000	.000	.000	.000
Phoenix	Z	-3.043[b]	-1.408[b]	-.176[c]	-1.665[b]	-1.191[b]
	Asymp. Sig. (2-tailed)	.002	.159	.860	.096	.234
San Francisco	Z	-2.553[b]	-.380[c]	-.762[b]	-.870[b]	-1.667[b]
	Asymp. Sig. (2-tailed)	.011	.704	.446	.384	.096
Seattle	Z	-.535[b]	-1.941[c]	-.552[c]	-.030[b]	-1.414[c]
	Asymp. Sig. (2-tailed)	.593	.052	.581	.976	.157

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.

d. The sum of negative ranks equals the sum of positive ranks.

Regarding the group of web users who declared to have visited the destinations, findings shown a smaller change on prior belied as reported in Table 4.17. The topic dimensions "value for money" and "safety" resulted as the topics most sensitive to change.

Considering the results obtained from the prescreening analysis (dependent t-test), a first grouping analysis between participants who have visited the destination and who have not has been performed, in order to further investigate potential differences among groups based on their experience with the destinations.

The grouping analysis resulted in a good model fit: CFI: 0.912; TLI: 0.907. RMSEA (Estimate: 0.058); SRMR (Value: 0.089). Table 4.18 summaries the results between the groups (visited the destination vs. not visited), showing that the web users who have not visited the destination, their perception of a dominant opinion, and the actual change on prior belief are consistent. Looking at the differences between the grouping model and the overall model (reported in the last column in Table 4.18), the effect of trust on perceived reputation appeared to be not significant compared to the overall model where the effect is weakly significant.

Table 4.18. Grouping analysis between participants who have visited the destination and those who have not.

Hypothesis	Group	Path Estimate	Differences between groups YES/NO	Differences between grouping model and overall model YES/NO
H1 P_REP →AT_REP	1 2	0.233 0.155**		
H2a P_REP →ARG	1 2	0.471 0.397		
H2b P_REP → SIDED	1 2	0.057** 0.117**		
H2c P_REP → CONS	1 2	0.322 0.382		
H3a ARG → AT_REP	1 2	0.514 0.575		
H3b SIDED → AT_REP	1 2	0.347 0.429		
H3c CONS → AT_REP	1 2	0.458 0.516		
H4a AT_REP →TRUST	1 2	0.586 0.557		
H4b P_REP → TRUST	1 2	(0.043) (0.107)		YES
H5a BT2 → BT1	1 2	0.718 0.759		
H5b P_CHANGE → BT2	1 2	0.064** (-0.035)	YES	YES
H6a BT2 → P_REP	1 2	(-0.020) (0.028)		
H6b P_CHANGE → P_REP	1 2	-0.508 -0.480		

Grouping variable visited the destination vs not visited; 1 = group not visited; 2 = group visited; * = significant > 001; ** = significant > 05; values between parenthesis = not significant

Considering the results obtained from the prescreening analysis (dependent t-test), another grouping analysis has been performed only with the respondents who have not visited the destination. Respondents about popular destinations and less popular ones have been compared in order to further investigate potential differences among groups based on the distinctive characteristics of the destinations.

The grouping analysis was performed by comparing popular destinations to less popular destinations using the classification presented in paragraph 4.3.2 (see Table 4.3). Thus, the eight destinations have been divided as follows:

- Popular destinations: Las Vegas; New Orleans; Orlando; San Francesco; Seattle

- Less popular destinations: Detroit; Kansas; Phoenix

Tests of model fit resulted in good model fit: Chi-Square Test of Model Fit (value: 3340.997; Degrees of Freedom: 770). CFI: 0.913; TLI: 0.908. RMSEA (Estimate: 0.057); SRMR (Value: 0.090). Table 4.19 summaries the results between the groups (popular vs. less popular destination), showing that the web users who have not visited the destination when they evaluated contents about less popular destinations they were more keen to trust social media in their recognition of a dominant opinion about a destination.

Looking at the differences between the grouping model and overall model (reported in the last column in Table 4.19), the consistency among the perceived change and the actual change on prior belief resulted as not significant for those who were exposed to less popular destinations.

Finally, an interesting result is given by the role of message siddedness in this grouping analysis: web users who have not visited the destinations seemed to not consider the polarity of the messages expressed online in their perception of a dominant opinion. Indeed, the relationship between message siddedness and perceived dominant opinion resulted as not significant for both groups, meaning the group that has been exposed to popular destinations and the group that has been exposed to less popular ones.

Table 4.19. Grouping among popular vs. not popular destination (filter: only the group who have not visited the destinations)

Hypothesis	Group	Path Estimate	Differences YES/NO	Differences between grouping model and overall model YES/NO
H1	1	0.283		
P_REP →AT_REP	2	0.167		
H2a	1	0.439		
P_REP →ARG	2	0.506		
H2b	1	(0.046)		YES
P_REP → SIDED	2	(0.074)		
H2c	1	0.335		
P_REP → CONS	2	0.305		
H3a	1	0.516		
ARG → AT_REP	2	0.511		
H3b	1	0.331		
SIDED → AT_REP	2	0.376		
H3c	1	0.450		
CONS → AT_REP	2	0.472		
H4a	1	0.588		
AT_REP →TRUST	2	0.584		
H4b	1	(0.001)	YES	YES
P_REP → TRUST	2	0.109**		
H5a	1	0.709		
BT2 → BT1	2	0.732		
H5b	1	0.073**	YES	
P_CHANGE → BT2	2	(0.053)		YES
H6a	1	(-0.003)		
BT2 → P_REP	2	(-0.042)		
H6b	1	-0.497		
P_CHANGE → P_REP	2	-0.524		

Grouping variable: only with the group who have not visited a destination; 1 = popular destinations; 2 = not popular destinations); * = significant > 001; ** = significant > 05; values between parenthesis = not significant

4.6. Discussion

This work extends previous research by applying the dual-process theory in a tourism online context. In particular, the analysis of the information and normative determinants presented on the online contents provides insights about which kind of elements are more likely to be perceived as relevant (i.e., argument strength and message consistency) by prospective travelers when they are evaluating user generated contents.

Findings regarding the consequences of a perceived reputation in online media revealed an overall tendency of the respondents to find confirmation of their prior belief in the online messages. This result has to be interpreted by considering several sources of theoretical evidence. An association with a mental category might be guided by personal background and knowledge (the illusory correlation paradigm) (McGarty et al., 2002). Another valid interpretation of this finding is given by the media effects studies. The overwhelming stream of information available online might activate shortcuts in message perception and distort the representation of an object activating the so-called Spiral of Silence Theory (Noelle-Neumann, 1974), that is, survey respondents might have perceived homogenous opinions from the stimulus material and conformed to the same view. Social Information Processing Theory (Walther, 1992) helps to further interpret this finding as it underlines the temporal dimension as a crucial element for effective computer mediated communication (CMC). CMC requires more time for impression development, as it contains less information than a face-to-face exchange. Indeed, this work is based on an average of 20–30 minutes of web navigation through stimuli materials, and this short navigation can reduce in-depth reading and knowledge acquisition from the proposed online information sources. Furthermore, customer search literature often relies on "time on web page" as an important metric.

Findings about the role of trust in online conversations suggest how a positive attitude toward eWoM acts as an antecedent to the attitude of being a reputation seeker. This result indicates that the more people rely on online conversations, the more they search for a dominant opinion expressed online.

When it comes to analyzing the perception of a dominant opinion, the issue of trust proved to be weak. This result suggests that the role of those who post online is not one of the main issues affecting the process of understanding a dominant opinion. However, alternative model results show how the perceived dominant opinion may lead to trust towards social media, suggesting that the more people notice consistency among the online messages, the more they rely on online conversations.

Nevertheless, the role of the experience added a specification to the interpretation of this result. Findings suggest that more experience with a destination correlates to lower trust

of social media contents about it, and less experience with a destination is combined to a greater trust of social media.

Finally, insights from the Signaling Theory suggest the relevance of message signal investigation to define the quality of an object. Indeed, findings from the user test (the test devoted to investigating the overall agreement on a topic and sentiment recognition within a set of social media pages) suggest how specific features (titles, pictures, rank, negative statements) act as signals that activate users' attention. These results, combined with the relevance of message cues such as argument strength and consistency, make an important contribution to place branding. Findings suggest a need for tourism operators to promote consistent communication across different web sources, as they cannot completely rely on the promotional power of their single website or digital marketing campaign if their content differs from the online dominant opinion about their destination.

Chapter 5: Conclusion and final remarks

5.1. Discussion of the Results

The main outcome of this research is the operationalization of the reputation construct comprising three elements representing the individual level of reputation (PUTO), which are: opinion (the contents belonging to a specific semiotic code); stakeholder (who expresses an opinion formed through different sources); relevant object (the object that holds the stakeholder's opinion). Two other components emerged from the theoretical investigation of the reputation construct representing the RE level (reiteration of the PUTO level), which are a social dimension (the same opinion, or similar opinions, has to be shared by many stakeholders, and refers also to shared values within a community), and a long-term component (that is, opinions shared in a community that are quite stable and evolve over time as a result of the evaluation of an object by a group of stakeholders).

The definition of the online contents classification framework (eTDR), research Phase A of this study, turned out to be apt for the analysis of online conversations, contributing to the field of content analysis in tourism by introducing a top-down deductive approach — that is, a definition of a pre-established content classification framework, which allows for the systematic analysis of destination reputation dimensions in online media, and also allows for further comparison among similar objects, such as tourism destinations.

Findings from research phase A, demonstrate how the eTDR was able to capture and map opinions published online, in particular the ones that express feelings, using five main reputation drivers: the tourism destination offers products and services that are good value for the money; the tourism destination offers interesting local cultures and traditions; the tourism destination offers a satisfying tourism experience; the tourism destination offers a safe environment; and the tourism destination offers favorable weather. As well, a common ability among untrained web users to recognize the topic and the sentiment expressed on various social media pages set the stage for the next research phase, with a projected extensive quasi-experiment with web users.

The contribution of this research is twofold, as it focused on the two main dimensions considered within the agenda-setting domain. The first contribution refers to the analysis of the (online) media salience, i.e., the prominence of a topic or the selective public attention on a specific object. In particular, eTDR contributes to the development of topic dimensions for tourism destination analysis, allowing future research to adopt and refine the topic components for exhaustive media coverage analysis. The second contribution in the agenda setting studies refers to the analysis of the tone, which is the favorability expressed in online opinions or the attitude/evaluation of the object. In particular, eTDR contributes to the development of a content analysis protocol that takes into account the positive or negative feelings expressed online, which are associated with one of the topic dimensions proposed.

The second research phase of this study (Phase B), focused on the social dimension of the reputation construct, namely the opinions shared by many stakeholders in the online domain, i.e., the RE level (the reiteration of the PUTO level) within the proposed operationalization of the reputation construct. The opinion shared among a group of stakeholders was easily perceived by web users.

Results from Phase B confirmed the ability of people to recognize the dominant opinion presented online, and to investigate the message cues that affected the perception and possible confirmation/disconfirmation of prior beliefs.

Finally, results obtained from the model test, confirmed users' familiarity with a recognition of a dominant online opinion and an overall ability to identify online messages that present arguments strength and consistency. This finding encourages research on reputation analysis in online media within the tourism domain, particularly on defining the role of the online messages in the formation of destination reputation.

5.1.1. Limitations

The definition of the online contents classification framework (eTDR), first research phase of this work, suffers from the following limitations:

(1) Case studies are related to few destinations—one popular destination (London), and three specific destinations. Therefore, we cannot posit that the content analysis research has been extensively tested on many destinations. However, during the time that was dedicated to this research, several content analyses were performed with other destinations, and demonstrated a consistency with the outcome obtained in the case studies reported here.

(2) The five main reputation drivers emerged from an investigation of users' perception at Italian airports are based on an European perspective, as the majority of the respondents were from Europe. This outcome has been then used for the subsequent content analysis and the creation of stimulus material for a quasi-experiment design with American respondents not considering the cultural issue. Data about American respondents gathered from airport investigation was compared with European responses, confirming that there were no differences in the definition of the relevant topic dimensions. However, the number of American respondents was low, so cultural issues should be reconsidered in future research.

(3) The proposed content analysis process generated a general classification of the topics expressed online. Peculiarities of a destination could not emerge from this kind of analytical approach, as each content was associated with a main topic dimension and, therefore, may have lost relevant characteristics of a place.

(4) Coding with user tests has limitations too. The test did not consider principles from technology persuasion studies, e.g., the tendency of users to look at prominent signals on the page like titles, ranks, or to pay attention to the right corner of the screen or the first part of the page, etc.

Regarding the research Phase B of this work, the investigation of a perceived dominant opinion expressed online about tourism destinations suffers from the following limitations:

(1) Quasi-world simulation. This experiment was based on a set of pre-defined stimuli materials (i.e., 20 pages per destination), thus, this work cannot extensively cover the online representation of each destination. Moreover, insights from real navigation were not considered, as respondents were obliged to navigate the stimuli within the online questionnaire.

(2) Sample. This work is based on a sample that considers only American respondents. Thus, it cannot be extrapolated to the entire Internet population. Moreover, the response rate of 3.4 percent cannot ensure an accurate representation of the overall American population.

(3) Construct refinement. Some items did not provide adequate reliability (i.e., perceived reputation, message sidedness, trust of social media), and these results suggest room for improvement.

(4) The overall reputation assessment of each destination is inferred from the ranks given by the respondents per each reputation dimension proposed. Thus, there is a lack of a specific unique question regarding the perceived reputation of a destination before and after stimuli exposure.

(5) Online domain limited to the social media context. This work is based on an experiment performed only with social media-related stimuli materials.

5.2. Implications for Future Research

This work contributes to the classification of online discourses by ranking the most relevant topics that might influence the decision-making process of prospective travelers. It further confirms the familiarity of web users with the concept of reputation in online media and their ability to grasp dominant public opinion.

Three main directions for future research have been identified.

The first direction concerns the research model improvement of drivers influencing the perceived reputation in online media, and the improvement of the experiment design in order to ensure the enhancement of its predictive and explanatory power.

The second direction concerns the theoretical and practical introduction of the concept of monitoring of place branding activities. Thanks to the contributions of studies in reputation, it has been identified an upcoming shift from a general needs of online sentiment measures to measures for specific online activities (e.g. what to monitor; where to participate; how to interact). Thus, a definition of indicators and tools to enable management processes to improve the promotion of a place is foreseen for future research. Moreover, , a sociological analysis of the dynamics within virtual communities will help in the analysis of the type messages processes by third parties.

The third direction concerns the study of the reputation process formation in different communication channels such as the use of mobile devices. Another context is represented by the study of offline dynamics typical of tourism players compared to their

online presence. In particular, a promising research would be an investigation of the offline reputation owned by different stakeholders within a destination and whose reflection in the online environment. Results of this kind of research might help better understand the critical issue of cooperation and shared responsibility in the promotion and management of the territory among tourism players.

Model improvement of drivers effecting the perceived reputation of tourism destination in online media.

Refinement of constructs and use of real web navigation. Results from the descriptive and reliability statistics of the respective constructs within the model about reputation perception in online media suggest that there is room for improvement in the creation of stimuli materials and in the quantity of stimuli used in a quasi-experiment research design. In particular, a further investigation of the items that define the perceived reputation construct in online media should be addressed. It has been noticed during this study that the average web navigation through the stimuli proposed was 20–30 minutes, and the average number of stimuli viewed by respondents was 5–10 minutes. Thus, in order to trigger change from the prior belief formed by reading online conversations, future researches should consider real navigation without a time limit by web users with explicit tourism related motivation in order to check for other potential moderation variables.

Sample size. In order to ensure a generalizable outcome, online content analysis and investigation of the perceived reputation in online media should be performed with other types destinations. This could lead to the discovery of other topic dimensions relevant to tourism destinations in online conversations.

Online tourism domain and definition of keywords. In this work, the data for the online content analysis were defined based on an interrogation of selected websites (e.g., social media platform such as Facebook, TripAdvisor, etc.) and/or search engine results from tourism-related keywords. Online tourism domain is defined by the keywords used, therefore, future research should consider increasing the number of keywords used to query search engines to ensure that the limited presence of some drivers are related to the search engine queries or to the actual online reputation market around a destination.

From reputation measurement to reputation and brand monitoring.

To help a business manage its online reputation, the quintessential requirement is to monitor and track your brand. The new challenges require systems management that focuses on monitoring and managing the corpuses to both, better understand how consumers discuss your brand online and how it changes in time. Monitoring allows anticipating or responding to the latent needs.

The brand isn't simply a descriptor for consumer goods: it includes products, services, places and experiences, and how they're marketed to audience groups to create familiarity and favorability. Brands are also a collection of perceptions.

A brand that is well managed creates efficiencies in capital and resources. When aligned with a strategic vision, it can help maximize the impact of competitive communications.

Therefore, an investigation of the role of online conversations in managing destination reputation in online media is needed. Thus, future research should take the research further by incorporating technological capacities. As underlined by Pan et al. (2007), content analysis of texts requires human coding, which involves tedious and potentially biased operations. The use of automatic tools for semantic analysis and keywords frequency analysis might not reflect the semantic network of the contents; disambiguation is needed. In this sense, content analysis with human coding is superior. However, this research provides several indicators (topic dimensions about tourism destinations) that can be used for the development of ad-hoc semi-automatic tools for the analysis of reputation in online media.

Moreover, an investigation of the messages communicated by official websites vs. social media platforms should be considered in order to compare online dialogues and content provided by institutional websites or by websites of destination management organizations. This research could help access guidelines and measures for the management of online conversations (eWOM) within the promotion of destination place brands and will contribute to studies about signaling and co-creation. Moreover, future research should focus on the role of reputation in online media on decision making (i.e., the estimation of the influence of online conversations on intension/behavior changes, such as the willingness to visit a place).

A suggestion on how this monitoring issue should be approached foreseen a further investigation on the assessment of reputation indicators about tourism destination in online media. In particular, an evaluation assessment of each of the five reputation components should be followed as future research. As this research focused on the

assessment of the opinions and relevant objects only (two out of five reputation components), future research should consider:

- the role of the stakeholder. In particular, the field of persuasive technologies can contribute by providing weight to stakeholder online features (e.g., authority of the commentator).

- a clear definition of the group of stakeholders within which the reputation is shaped, and their influence in the perception of a dominant opinion expressed online, and

- the long-term analyzed. In particular, the long-term reputation element (longitudinal analysis) has not yet been investigated in detail. It is, however, a key element in the current professional tools used for reputation analysis. The reputation performances (trend of contents and sentiments expressed online) are tracked and monitored over time and among competitors. Thus, the integration of these approaches into tourism research should be considered in the future. On the web, this long-term analysis is reflected in the monitoring of the topics and related feelings expressed over time (longitudinal studies).

The identification of those indicators should validated considering the perspective about how people process online information for decision making regarding tourism destinations.

An eye-tracking approach can help to investigate the use of different strategies for decision making across individuals, such as individuals who have visited the destination vs. individuals who have not. With the advent of detailed technologies such as eye-tracking, it is possible to track contingent responses and pupil dilation. This approach represents a valid alternative to studies on decision making. Indeed, the ability to evaluate what prospective customers are looking at in online context represents a new way to enhance the promotion of a destination.

Application of the reputation in online media analysis in different contexts

This research focused on the role of online conversation from a web navigation perspective. Although, the Internet can be accessed via mobile, web navigation represents a huge trend in the information seeking experience. Thus, future research on reputation in online media should consider online message reception via smartphones in order to investigate the effect of the use of new technologies on dominant opinion perception.

Finally, an investigation of the reputation as a power asset within organizations is proposed. Another stream of research that sees reputation as an object of analysis in the tourism domain is related to the issue of power and is found in management literature. Within this stream of literature, it is possible to identify two approaches.

The first one argues that destination-marketing organizations are able to shape tourist behavior through the destination brand with the objective of generating revenue for the destination (Marzano & Scott, 2009). Marzano and Scott (2009) found that persuasion, reputation, and authority are forms of power most used by tourism managers for brand strategy. Indeed, persuasion in the form of propaganda, advertising, and rhetoric represents an instrument by which one subject aims to achieve an intended effect on a person's behavior. The situation that Marzano and Scott (2009) found recurrent in the tourism domain was that asymmetry in the distribution and availability of information allows actor A (tourism managers) to use persuasion as an intervening variable in the decision making of actor B (tourists).

The second approach to analysis of power in tourism is related to power asymmetries (Ford, Wang, & Vestal, 2011; Beritelli & Laesser, 2011). In this approach, tourism is considered to be an organization comprising several actors at different levels of power. Strategic contingencies theory perspective (Hickson et al., 1971) is used as a theoretical background in tourism organization studies (Ford et al., 2011) to analyze power asymmetries in tourism distribution networks exchanging critical resources. The assumption is that when an organizational actor is dependent on another actor, the latter gains the ability to exercise power over the former in the organization. This situation is likely to realize less value from the partnership for less powerful members. According to Hickson et al. (1971), this situation creates a sort of dilemma, where dependent organizations obtain great benefit from partnerships with other organizations, as they provide access to capital, resources, markets, and information. On the other hand, partnerships with more powerful organizations leave the less powerful organizations unable to negotiate preferred allocations of the total value from the relationship. In this context Ford et al., (2011) found reputation to be a strategy that can balance power asymmetries in the tourism domain. The authors used findings from Pfeffer (1992) and noted that since reputations are formed early in relationships, actions taken early must be successful. Thus, organizations should seek to establish a reputation for being powerful and successful and for being able to achieve outcomes perceived as difficult; this must be done early in the organization's existence. Ford et al. (2011) used the example of the convention and meetings industry to confirm this tendency in the tourism domain. They found that a strategy for influencing power asymmetries in the network was to offer value that the for-profit intermediaries did not or could not offer because they did not have decision-making control over hotel inventory or have direct contact with the attractions at a destination. According to the authors, a reputation strategy could include hotels either by themselves or in concert with their local destination management organizations. These offer an unconditional guarantee for performance of key features for the organization. Beritelli and Laesser (2011) analyzed the issue of reputation as an indicator of power in tourism communities. They considered reputation as a collective judgment that acts in a social context in which actors are defined by individual or group

attributions in addition to their overall network position. Their studies focused on authority, one of the forms of power discussed by Wrong (1979) who defined authority as "the institutional code within which the use of power as [a] medium is organized and legitimized." Results show that the reputation is a construct related to an attribution by others rather than the perception of others. In this approach, influence is used as an identifier for an actor or stakeholder group type of power, and the influence reputation serves as an indicator of power in network research studies, particularly for community power analysis.

Considering this recent promising research area, which sees the reputation connected with the issue of power, several research propositions related to the role of the web can be formulated. From this perspective, the main assumption is that reputations are formed early in relationships and actions taken must be successful from the beginning of the relationship. Several research questions for future research include:

• What is the influence of online contents in community power dynamics?

• What is the role of the web in studies of power asymmetries among tourism organizations?

• Does online reputation reshape the power asymmetries within tourism organization networks?

5.3. Implications for Industry

As mentioned early in this study, the web has opened a challenge for the tourism domain, both for the organizations working in the tourism industry, and also for the tourists. This research underlined how the contents published online, whether from official or unofficial sources, can become an object of analysis in order to better investigate:

(i) implications for tourism industry:

At the time of writing this dissertation, research on online conversations and reputation of tourism destinations is rapidly evolving, and several media agencies have proposed methods and automatic tools for the analysis of the problem.

From a practical point of view, this study is appropriate for tourism organizations that are defining their online place branding communication strategies. The proposed content analysis framework allows for content classification using pre-defined topic dimensions based on what consumers said online and what they expect from a destination. Moreover, destination managers can use the framework to better understand the overall

sentiment expressed within the online message about the destinations for which they are responsible.

Besides, an in-depth knowledge of tourists' perception of the online representation of a tourism destination is crucial to avoid possible misleading situations between what the destination wants to communicate and what is actually perceived online. Indeed, by knowing the message cues related to topic components of a specific destination presented online, DMOs can increase their competitive advantage over competitors, present updated information about topics that are requested more often, and be sensible in terms of reputation risk management.

Thus, a content analysis of the online conversations can help identify the strengths and weaknesses of a destination. According to Signaling Theory, this information can lead to a better communication of the quality of the offers at the destination. The more negative the online messages regarding the offers at a destination, the more they might generate a bad reputation and reduce selling advantage. A digital marketing strategy can balance the communication and the promotion of a territory, allowing small attractions or weak aspects of a place to emerge in online conversations.

As the data gathered in this research implies, a tourism destination is considered to be a complex organization that acts as a hub with respect to other players and stakeholders within the destination itself. Each single player and stakeholder can influence the reputation of the entire tourism destination (e.g., actors working in the products and services sector, such as restaurants and hotels; residents at the destination; public administration; infrastructure; etc.). In order to have consistent communication between channels, cooperation among the actors involved in the destination reputation management is needed (Morgan & Pritchard, 2012). Indeed, a destination's reputation reflects the perception of others, and its management moves the destination toward what the actors involved in the tourism domain want. According to Sigala and Marinidis (2010), DMOs should use social media opportunities for collaborative destination management and involve the experience and efforts of the destination's community members. eLearning platforms devoted to the training and education of tourism operators should consider investing in training programs that consider the analysis of reputation in online media a key asset for knowing potential customer expectations, which are formed from online sources, to increase its selling point.

Finally, a reflection on the future of the promotion/communication of the value of a destination should consider decision-making scenarios that include the impact on the development of the tourism industry of financial and economic crises, terrorism, natural disaster, political instability, etc. It is unknown how tourism destinations will respond to the global changes that are underway.

Moreover, unpredicted and unplanned events (commonly referred to as "Black Swan" events) might occur, and might transform the reputation of a destination, for example a tourism destination popular for its eco-friendliness, acting in respect of its environment, in particular trying to reduce pollution with waste disposal. The same tourism destination at a certain point in time is discovered to not dispose of the waste, scattering the waste in the territory. This performance is holder of a negative value. This situation can affect the reputation of a tourism destination about its relationship with the environment, while not touching its positive reputation regarding the good value for money at the destination.

Thus, an investigation of the role played by the different reputation components of a tourism destination in these Black Swan events seems worthwhile. Indeed, quick and effective solutions to recover from social and natural instability and crises appear to be crucial in modern society, in order to ensure continuity of the business at the destination, and to ensure the attractiveness of the destination for prospective travelers.

The reputation analysis can contribute in the efforts needed for the preparation of responses to unpredictable events. Several procedure and protocols in reputational risk management have been already developed (e.g. institution of the Crisis Action Team by the World Tourism Organization, or the Authoritative Guide for Managing Crises and Disasters report by APEC – International Centre for Sustainable Tourism), suggesting the crucial role of preparing protocols to response to crises using effective communication strategies.

Moreover, in the professional report "Responding to a Black Swan" (Ernst & Young, anno?), several benefits in approaching protocols to guide a response to Black Swans have been addressed, such as: protection of human life, health, and well-being; faster return to core business operations, and protection or even improved reputation.

However, the role of the web represents an actual concern for tourism destination managers. In particular, where and how to actively communicate online, is still an open issue.

Therefore, the identification of protocols for online communication in tourism-related reputational crises is a domain that deserves investigation by both industry professionals and academics. This could lead to the constant provision of balanced information to tourists and prospective tourists, and to a promotion of the natural/cultural heritage offered by destinations.

(ii) **implications for tourists**

Online conversations are presenting an opportunity for prospective tourists to know what they are going to choose as an investment for their future trip, what to expect from a destination, getting ideas, forming their opinions about the place.

The way people learn about a destination from overwhelming online messages is an actual social concern. Identification of message elaboration patterns might show the existence of a distorted perception of a promotion of a place and/or bad management of the cultural heritage at a destination. Thus, knowing the reputation of a tourism destination in online media provides an opportunity to measure the diligence of people who are responsible for managing the accessibility of a place as a tourism destination. Ultimately, this provides an opportunity for everyone to contribute to ensuring the constant monitoring of the reputation of the destination, and web designers, governments, and tourism players should encourage people in this direction.

Chapter 6: References

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APPENDIX

Appendix 1: Questionnaire used for the users' perceptions investigation: the study was performed in two Italian airports.

Appendix 2: Questionnaire used for the users' perceptions investigation: the study was performed via an online survey with Americans respondents.

Appendix 3: MPlus output for the proposed model.

Appendix 4: MPlus output for the proposed alternative model n°1.

Appendix 5: MPlus output for the proposed alternative model n°2.

Appendix 1: Questionnaire used for the users' perceptions investigation: the study was performed in two Italian airports

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webatelier.net

Online reputation of tourism destinations survey

This survey regards your perception about the online contents that are relevant for you when planning your holiday. This survey will take 8-10 minutes of your time and it is fully anonymous.

Please consider this situation:

You are surfing the web, searching for information on a possible destination for your next holiday. There is the possibility that you can find contents produced by other tourists who commented their past experiences (e.g. a hotel review in TripAdvisor or other consumer reviews websites). Among these comments, what are those that mostly influence your decision of choosing a specific destination?

Please read the following comments and rank them from the most important (the one that mostly influence your decision to visit the chosen destination) to the least important.

#	Rank these types of comments from 1 to 14
	Satisfaction (about a specific product): "Charming hotel with great service" / "The food was terrible"
	Value for money: "Great experience at a cheaper price" / "I paid 15€ just for one coffee!"
	Atmosphere: "Walking in the city centre seems like be in a romantic movie" / "The tourists' crowd ruined the view"
	Information about products or services: "Points of interest are [...], and the US dollar is the main currency"
	Local culture and traditions: "The pumpkin festival is an annual favourite amongst locals and tourists alike" / "The local habit to spit on the street hurt me"
	Residents' hospitality: "When the locals saw we were lost, they helped us" / "No one tried to speak English with us"
	Interaction among tourism industry and organizations: "The online official tourist platform helped us to book museum tickets" / "The info provided by our guide and those we found on the city signals were completely different"
	Innovation or improvement of products and services: "The travel experience has not improved since I was here in 1990" / "It is always a pleasure to come back because every time the destination offers new events"
	Destination's eco-awareness: "The heat in several buildings is provided by rooftop solar panels" / "It was a shame to see the lake so polluted by residents and tourists without control"
	Weather: "The mild climate of the destination makes it attractive all-year round"/ "In winter, you can find yourself stuck in snow, hail and rain"
	Safety: "Despite the size of the city, we feel completely safe walking at night" / "There are possibilities of hurricanes and earthquakes"
	Image of the destination: "Perfect for families and couples" / "This destination offers just pubs and prostitution"
	Meeting of expectations: "I was able to reach all the points of interest of my vacation wish list" / "I was disappointed at how crowded the park was after seeing such lovely photographs in books"
	Satisfaction (overall experience): "The trip was amazing in every way. I would love to come back" / "It was such a disappointing holiday and I have a list of complaints to do"

Do you think there are some more elements that can influence your decision? If yes, please insert your comment here

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Online reputation of tourism destinations survey

Please answer to the following questions

Please specify your demographic characteristics
Age [18-30] [30-45] [45-60] [+60]
Sex [M] [F]
Country of origin _____
Are you travelling for business or for leisure? [Business] [Leisure]

How often do you go on vacation (visit a destination) for leisure? *Choose one option*
❑ More than three times per year
❑ From one to three times per year
❑ Never

When you are searching information online, do you ever use other tourists' comments as information source?
Choose one option
❑ Yes, I do on a regular basis
❑ Yes, occasionally if they are provided by the search engine
❑ I don't know, in general I'm not able to distinguish contents generated by other tourists among the whole contents provided by the web
❑ No, [provide a motivation] _____

What are the most important motivations that let you consider the contents produced by other tourists trustworthy? Please choose a value between 1 (not important at all) to 5 (very important) for the following motivations:
• High number of replies [1] [2] [3] [4] [5]
• Presence of fresh comments [1] [2] [3] [4] [5]
• Author of the comment profile (country of origin, language, etc.) [1] [2] [3] [4] [5]
• Other users' approval (average vote, number of thumbs up/down) [1] [2] [3] [4] [5]
• *If there are other motivations that you consider important, please write them down*
_____

Can these contents produced by other tourists change your decision in choosing a destination? *Choose one option*
❑ Yes, other tourists' comments can influence my decision
If you answered yes, please explain why _____
❑ No, I am not influenced at all
❑ I don't know

Among the following online travel sources, what are those you use the most? *Choose more than one if necessary*
❑ Consumer reviews (examples: tripadvisor.com, venere.com)
❑ Wikis (example: wikitravel.org)
❑ Blogs and microblogging (examples: Twitter, travelpod.com)
❑ Social Networks (example: Facebook)
❑ Media Sharing (examples: YouTube – video sharing, Flickr – photo sharing)
❑ Other_____
❑ I don't use this kind of sources to gather information

The answers are strictly confidential.
On behalf webatelier lab (Faculty of Communication, University of Lugano – Switzerland),
we would like to thank you for your kind cooperation!

Appendix 2: Questionnaire used for the users' perceptions investigation: the study was performed via an online survey with Americans respondents.

Clean copy of the questionnaire.
Questionnaire (tourism destination example: Orlando, Florida)

Thank you for taking a moment to participate in our survey. Your response is crucial to the success of the study in helping us understand the perceived online public opinion about a tourism destination.

Principal Investigator: Daniel R. Fesenmaier, School of Tourism & Hospitality Management, Temple University

Co-investigator: Elena Marchiori, School of Tourism and Hospitality Management , Temple University

The purpose of the research is: to investigate the nature and relationships among perceptions of public opinion expressed in online conversations about tourism destinations and the overall reputation of the destination.

What you should know about this research study:
- Someone will explain this research study to you.
- You volunteer to be in a research study.
- Whether you take part is up to you.
- You can choose not to take part in the research study.
- You can agree to take part now and later change your mind.
- Whatever you decide, it will not be held against you.
- Feel free to ask all the questions you want before and after you decide.

The estimated duration of your study participation is: a maximum 15 minutes of your time.

The study procedures consist of: reading some online conversations gathered from public online pages about a tourism destination and you are asked to provide your opinion regarding this material. To navigate through the survey, please use the >> button.

There are no reasonably foreseeable risks or discomforts.

The benefit you will obtain from the research is knowing that you have contributed to the understanding of this topic, and that you can participate in a drawing of those persons

completing the survey to win a $100 Amazon gift card. The drawing will be held and winner will be contacted via email within two weeks of the completion of the survey effort.

The alternative to participating is to choose not to participate.

Please contact the research team with questions, concerns, or complaints about the research and any research-related injuries by calling (215) 204 5611 or e-mailingdrfez@temple.edu.

This research has been reviewed and approved by the Temple University Institutional Review Board. Please contact them at (215) 707-3390 or e-mail them at: irb@temple.edu for any of the following: questions, concerns, or complaints about the research; questions about your rights; to obtain information; or to offer input.

Confidentiality: Efforts will be made to limit the disclosure of your personal information including research study records to people who have a need to review this information. However, the study team cannot promise complete secrecy. For example, although the study team has put in place a number of safeguards to protect your information, there is always a potential risk of loss of confidentiality.

Institutional Review Board Coordinator Temple University Research Administration Student Faculty Conference Center 3340 North Broad Street – Suite 304 Philadelphia, PA 19140
❍ I agree to continue
❍ I do not agree and wish to terminate the survey

Have you used the Internet during the past 12 months? Please check one answer.
❍ Yes
❍ No

Have you taken a travel pleasure trip in the past 12 months? Please check one answer.
❍ Yes
❍ No

Have you read (or looked at) comments or materials (e.g. photos and video) about a destination posted online by other travelers in the course of planning a pleasure trip in the past 12 months?
❍ Yes
❍ No

We would like to know your opinion, in particular, about the tourism destination Orlando, Florida. Please, indicate if you have visited the destination Orlando, Florida in the last 3 years.
❍ Yes, I have visited Orlando in the last 3 years
❍ No, I have NOT visited Orlando in the last 3 years

In your opinion, what is the destination Orlando, Florida, is known for? Please write a sentence using the space below:

……………………………………………………………………….

To what extent do you agree or disagree with the following statements about Orlando, Florida? Please select one for each statement. Orlando, as a tourism destination, offers..

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
... products and services that are good value for the money.	○	○	○	○	○
... interesting local cultures and traditions.	○	○	○	○	○
... a safe environment.	○	○	○	○	○
... a favorable weather.	○	○	○	○	○
... a satisfying tourism experience.	○	○	○	○	○

Now, imagine that you are planning a pleasure trip to Orlando, Florida, for a close friend.

The following table includes up-to-date online conversations descriptions about Orlando, Florida.

These descriptions are organized by topic.

In order to view them and learn about Orlando as a tourism destination, please follow this procedure:

1. Drag an item (for example "Orlando events") into the box on the right;

2. Once an item has been dragged into the box, click on the item and read the contents presented on the page;

3. In order to view another item just move your mouse to select the item and drag it into the box;

4. Leave into the box all the items you dragged and viewed;

5. When you think you have collected enough information about the destination, please proceed with the questionnaire by clicking on the button ">>"

6. You need to drag at least one item into the box on the right in order to proceed with the questionnaire.

Drag the items here to see the pages
_____ var isDragging = false; function hideAll() { for(var i=1;i
_____ isDragging = 0; Orlando warnings or dangers
_____ isDragging = 0; Orlando safety tips
_____ isDragging = 0; Travel advice
_____ isDragging = 0; Weather advice
_____ isDragging = 0; Weather in Orlando
_____ isDragging = 0; When to go, fall and winter
_____ isDragging = 0; When to go, spring and summer
_____ isDragging = 0; Weather tips
_____ isDragging = 0; Local traditions in Orlando
_____ isDragging = 0; Local traditions tips

_____ isDragging = 0; Orlando culture

_____ isDragging = 0; Orlando events

_____ isDragging = 0; Orlando trip advices

_____ isDragging = 0; Things to do

_____ isDragging = 0; Thrifty vacation to Orlando

_____ isDragging = 0; Planning a trip

_____ isDragging = 0; Accommodation advice

_____ isDragging = 0; Planning a cheap trip

_____ isDragging = 0; Rentals tips in Orlando

Now, we would like to ask for your impression of the descriptions about Orlando, Florida, viewed. Please, summarize in the space provided below what you have learned about Orlando.

……………………………………………………………………………

Considering the descriptions you just read, to what extent do you agree with the following statements about Orlando, Florida? Please select one for each statement. Orlando, as a tourism destination, offers..

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
... products and services that are good value for the money.	◯	◯	◯	◯	◯
... interesting local cultures and traditions.	◯	◯	◯	◯	◯
... a safe environment.	◯	◯	◯	◯	◯
... a favorable weather.	◯	◯	◯	◯	◯
... a satisfying tourism experience.	◯	◯	◯	◯	◯

Considering the descriptions you just read, please indicate the level of your agreement/disagreement with the following statements. Please select one for each statement.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I have now an idea on what other people think about the destination.	○	○	○	○	○
I think that the authors of the contents have a common opinion about the destination.	○	○	○	○	○
I think that the authors of the contents have a common opinion about the destination only for specific aspects.	○	○	○	○	○

Again, considering the online conversations you just read, please indicate the level of your agreement/disagreement with the following statements. Please select one for each statement.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Information from online conversations contradicted what I had known before reading it.	○	○	○	○	○
Online conversations supported my impression about the destination.	○	○	○	○	○
Online conversations reinforced information I had previously known about the destination.	○	○	○	○	○

Please indicate to what extent you agree with the following statements regarding the descriptions presented in the contents you just read. Please select one for each statement.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
The descriptions are convincing.	○	○	○	○	○
The descriptions are persuasive.	○	○	○	○	○
The descriptions are strong.	○	○	○	○	○
The descriptions are good	○	○	○	○	○
Overall, the descriptions stress positive implications about the destination.	○	○	○	○	○
Overall, the descriptions stress favorable appraisal of discussed destination.	○	○	○	○	○
The descriptions include both pros and cons of e-discussed destination.	○	○	○	○	○
The descriptions include only one-sided comments (positive or negative).	○	○	○	○	○

Again, please indicate to what extent you agree with the following statements regarding the arguments presented in the contents you just read. Please select one for each statement.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Comments in descriptions are consistent with other comments.	○	○	○	○	○
Comments in descriptions are similar to other comments.	○	○	○	○	○
Authors of the descriptions had a similar opinion about the destination	○	○	○	○	○
Authors of the descriptions had a similar experience at the destination	○	○	○	○	○

This new section is about your attitude towards the online conversations. How would you rate your agreement with the following statements? Please select one for each statement. While browsing online conversations about a tourism destination...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
... I understand the general reputation of the destination.	○	○	○	○	○
... I understand which aspects of the destination had a bad reputation.	○	○	○	○	○
...I understand if users have a similar opinion about the destination.	○	○	○	○	○
... I understand if the authors of the contents had travel experiences similar to one I would like to have.	○	○	○	○	○
... it is easier to recognize the main opinion shared among the authors of the online contents.	○	○	○	○	○
... it is easier to recognize the contents which differ from the main opinion expressed on online conversations.	○	○	○	○	○

How would you rate your agreement with the following statements? Please select one for each statement. What is your opinion of traveler provided comments and materials?

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
In general, I trust comments/materials posted by other travelers.	○	○	○	○	○
I feel confident that the comments/materials provided by other travelers are posted with the best intentions in mind.	○	○	○	○	○
The comments/materials posted by other travelers are a reliable source of travel information.	○	○	○	○	○
I trust reviews, ratings, and comments by other travelers more than evaluations provided in formal and official travel articles, guidebooks, etc.	○	○	○	○	○
I feel more comfortable basing my pleasure trip decisions on 1 review from someone I know and trust rather than on 100 reviews from strangers.	○	○	○	○	○

You are almost done! The following are a few questions about you. How would you describe yourself in terms of your knowledge and familiarity with the Internet? Please check one answer.

❍ Novice
❍ Intermediate User
❍ Advanced User
❍ Expert

You are... Please check one answer.

❍ Male
❍ Female

Please select your age category. Please check one answer.

❍ 20 years and below
❍ 21-25
❍ 26-30
❍ 31-40
❍ 41-50
❍ 51 - 60
❍ 61 years and older

What is the highest level of education you completed?

❍ Less than high school
❍ Completed high school
❍ Some college, not completed
❍ Completed college
❍ Post graduate work started or completed
❍ Do not wish to comment

Which of the following statements best describes your total annual household income (from all sources) before taxes?

❍ Less than $20,000
❍ $20,000-$29,999
❍ $30,000-$39,999
❍ $40,000-$49,999
❍ $50,000-$74,999
❍ $75,000-$99,999
❍ $100,000-$149,999
❍ $150,000-$199,999
❍ $200,000 or more
❍ Do not wish to comment

What is your ethnic origin?
❍ White/Caucasian
❍ Black/African American
❍ Spanish or Hispanic
❍ Asian or Pacific Islander
❍ Native American or Aleutian Eskimo
❍ Do not wish to comment
❍ Other (please specify) _____

Thank you very much for participating in our survey. If you have any questions please contact Elena Marchiori at elena.marchiori@temple.edu Please click on the SUBMIT button to save your responses.

APPENDIX 3
MPlus output for the proposed model.

Mplus VERSION 5.1
MUTHEN & MUTHEN
11/10/2012   6:39 PM

INPUT INSTRUCTIONS
   TITLE: GFF Path Analysis with Latent Variables;
        DATA: FILE IS "C:\Users\user\Desktop\analysis\TEST1\final.csv";

        VARIABLE: NAMES ARE P_REP_1
                          P_REP_2 P_REP_3
                          CHANG_1 CHANG_2 CHANG_3
                          ARG_1c ARG_2p ARG_3s ARG_4g
                          SIDED_1 SIDED_2 SIDED_3
                          CONS_1 CONS_2 CONS_3
                          CONS_4 AT_REP1 AT_REP2 AT_REP3
                          AT_REP4 AT_REP5 AT_REP6 TRUST_1
                          TRUST_2 TRUST_3 TRUST_4
                          BT1_AV BT2_AV;

              USEVARIABLES ARE P_REP_1
                          P_REP_2 P_REP_3
                          CHANG_1 CHANG_2 CHANG_3
                          ARG_1c ARG_2p ARG_3s ARG_4g
                          SIDED_1 SIDED_2 SIDED_3
                          CONS_1 CONS_2 CONS_3 CONS_4
                          AT_REP1 AT_REP2 AT_REP3
                          AT_REP4 AT_REP5 AT_REP6
                          TRUST_1 TRUST_2 TRUST_3 TRUST_4
                          BT1_AV BT2_AV;

                  MISSING ARE ALL(99);

        MODEL: ARG BY ARG_1c ARG_2p ARG_3s ARG_4g;
                  SIDED BY SIDED_1 SIDED_2 SIDED_3;
                  CONS BY CONS_1 CONS_2 CONS_3 CONS_4;
                  AT_REP BY AT_REP1 AT_REP2 AT_REP3 AT_REP4 AT_REP5 AT_REP6;
                  P_REP BY P_REP_1 P_REP_2 P_REP_3;
                  TRUST BY TRUST_1 TRUST_2 TRUST_3 TRUST_4;
                  CHANGE BY CHANG_1 CHANG_2 CHANG_3;

                  P_REP ON ARG SIDED CONS AT_REP TRUST;
                  BT2_AV ON BT1_AV P_REP;
                  AT_REP ON TRUST;
                  ARG ON AT_REP;
                  SIDED ON AT_REP;
                  CONS ON AT_REP;

```
                  CHANGE ON BT2_AV P_REP;




    OUTPUT:     residual standardized;
                sampstat stdyx mod;
                res;
```

INPUT READING TERMINATED NORMALLY

GFF Path Analysis with Latent Variables;

SUMMARY OF ANALYSIS

```
Number of groups                                             1
Number of observations                                    2505

Number of dependent variables                               28
Number of independent variables                              1
Number of continuous latent variables                        7
```

Observed dependent variables

```
  Continuous
   P_REP_1     P_REP_2     P_REP_3     CHANG_1     CHANG_2     CHANG_3
   ARG_1C      ARG_2P      ARG_3S      ARG_4G      SIDED_1     SIDED_2
   SIDED_3     CONS_1      CONS_2      CONS_3      CONS_4      AT_REP1
   AT_REP2     AT_REP3     AT_REP4     AT_REP5     AT_REP6     TRUST_1
   TRUST_2     TRUST_3     TRUST_4     BT2_AV
```

Observed independent variables
```
   BT1_AV
```

Continuous latent variables
```
   ARG         SIDED       CONS        AT_REP      P_REP       TRUST
   CHANGE
```

```
Estimator                                                   ML
Information matrix                                     OBSERVED
Maximum number of iterations                              1000
Convergence criterion                                0.500D-04
Maximum number of steepest descent iterations               20
Maximum number of iterations for H1                       2000
Convergence criterion for H1                         0.100D-03
```

```
Input data file(s)
  C:\Users\user\Desktop\analysis\TEST1\final.csv
```

Input data format   FREE

THE MODEL ESTIMATION TERMINATED NORMALLY

TESTS OF MODEL FIT

Chi-Square Test of Model Fit

```
          Value                          3433.598
          Degrees of Freedom                  365
          P-Value                          0.0000
```

Chi-Square Test of Model Fit for the Baseline Model

                Value   36956.817
                Degrees of Freedom   406
                P-Value   0.0000

CFI/TLI

                CFI   0.916
                TLI   0.907

Loglikelihood

                H0 Value   -71040.644
                H1 Value   -69323.845

Information Criteria

                Number of Free Parameters   97
                Akaike (AIC)   142275.288
                Bayesian (BIC)   142840.414
                Sample-Size Adjusted BIC   142532.221
                  (n* = (n + 2) / 24)

RMSEA (Root Mean Square Error Of Approximation)

                Estimate   0.058
                90 Percent C.I.   0.056   0.060
                Probability RMSEA <= .05   0.000

SRMR (Standardized Root Mean Square Residual)

                Value   0.087

STANDARDIZED MODEL RESULTS

STDYX Standardization

                                                    Two-Tailed
                        Estimate   S.E.   Est./S.E.   P-Value

 ARG   BY
    ARG_1C   0.871   0.007   131.802   0.000
    ARG_2P   0.871   0.007   131.663   0.000
    ARG_3S   0.777   0.009   82.482   0.000
    ARG_4G   0.774   0.010   81.267   0.000

 SIDED   BY
    SIDED_1   0.888   0.010   84.662   0.000
    SIDED_2   0.947   0.011   89.784   0.000
    SIDED_3   0.323   0.019   16.710   0.000

 CONS   BY
    CONS_1   0.778   0.010   81.492   0.000
    CONS_2   0.784   0.009   84.065   0.000
    CONS_3   0.885   0.006   136.396   0.000
    CONS_4   0.835   0.008   108.669   0.000

 AT_REP   BY
    AT_REP1   0.767   0.010   77.350   0.000
    AT_REP2   0.714   0.011   62.438   0.000
    AT_REP3   0.743   0.011   70.571   0.000
    AT_REP4   0.725   0.011   65.799   0.000
    AT_REP5   0.725   0.011   64.933   0.000

AT_REP6	0.713	0.011	62.459	0.000

P_REP   BY

P_REP_1	0.681	0.014	47.171	0.000
P_REP_2	0.686	0.014	48.623	0.000
P_REP_3	0.453	0.018	24.938	0.000

TRUST   BY

TRUST_1	0.767	0.011	68.979	0.000
TRUST_2	0.719	0.012	58.974	0.000
TRUST_3	0.818	0.010	81.357	0.000
TRUST_4	0.619	0.015	42.008	0.000

CHANGE   BY

CHANG_1	0.350	0.019	18.200	0.000
CHANG_2	0.906	0.014	66.190	0.000
CHANG_3	0.833	0.014	60.943	0.000

P_REP   ON

ARG	0.457	0.025	18.483	0.000
SIDED	0.068	0.022	3.110	0.002
CONS	0.330	0.025	13.437	0.000
AT_REP	0.220	0.028	7.839	0.000
TRUST	0.055	0.026	2.080	0.038

AT_REP   ON

TRUST	0.581	0.017	34.441	0.000

ARG   ON

AT_REP	0.527	0.017	30.719	0.000

SIDED   ON

AT_REP	0.365	0.020	18.358	0.000

CONS   ON

AT_REP	0.470	0.018	25.745	0.000

CHANGE   ON

P_REP	-0.502	0.019	-26.607	0.000

CHANGE   ON

BT2_AV	0.044	0.020	2.237	0.025

BT2_AV   ON

P_REP	-0.010	0.015	-0.694	0.487

BT2_AV   ON

BT1_AV	0.726	0.009	76.836	0.000

BT1_AV   WITH

TRUST	0.028	0.022	1.299	0.194

Intercepts

P_REP_1	5.410	0.078	68.927	0.000
P_REP_2	4.469	0.066	67.968	0.000
P_REP_3	4.648	0.068	67.948	0.000
CHANG_1	2.467	0.052	47.710	0.000
CHANG_2	2.506	0.089	28.062	0.000
CHANG_3	2.463	0.084	29.453	0.000
ARG_1C	4.645	0.069	67.000	0.000
ARG_2P	4.250	0.064	66.280	0.000
ARG_3S	4.261	0.064	66.132	0.000
ARG_4G	4.562	0.068	66.659	0.000
SIDED_1	3.988	0.060	66.020	0.000
SIDED_2	4.082	0.062	66.309	0.000
SIDED_3	4.248	0.064	66.340	0.000
CONS_1	4.675	0.069	67.268	0.000
CONS_2	4.620	0.069	67.239	0.000

```
      CONS_3            4.680      0.069     67.422      0.000
      CONS_4            4.564      0.068     67.144      0.000
      AT_REP1           5.558      0.081     68.289      0.000
      AT_REP2           5.054      0.075     67.775      0.000
      AT_REP3           5.109      0.075     67.916      0.000
      AT_REP4           5.305      0.078     68.114      0.000
      AT_REP5           5.122      0.076     67.774      0.000
      AT_REP6           5.060      0.075     67.897      0.000
      TRUST_1           4.529      0.068     66.619      0.000
      TRUST_2           4.330      0.065     66.820      0.000
      TRUST_3           4.270      0.065     65.981      0.000
      TRUST_4           3.756      0.058     64.823      0.000
      BT2_AV            1.162      0.075     15.598      0.000

 Variances
      TRUST             1.000      0.000    999.000    999.000

 Residual Variances
      P_REP_1           0.536      0.020     27.218      0.000
      P_REP_2           0.529      0.019     27.354      0.000
      P_REP_3           0.795      0.016     48.214      0.000
      CHANG_1           0.878      0.013     65.322      0.000
      CHANG_2           0.180      0.025      7.241      0.000
      CHANG_3           0.306      0.023     13.452      0.000
      ARG_1C            0.241      0.012     20.888      0.000
      ARG_2P            0.242      0.012     21.004      0.000
      ARG_3S            0.396      0.015     27.083      0.000
      ARG_4G            0.402      0.015     27.270      0.000
      SIDED_1           0.211      0.019     11.333      0.000
      SIDED_2           0.103      0.020      5.131      0.000
      SIDED_3           0.895      0.013     71.481      0.000
      CONS_1            0.394      0.015     26.513      0.000
      CONS_2            0.386      0.015     26.392      0.000
      CONS_3            0.217      0.011     18.899      0.000
      CONS_4            0.302      0.013     23.557      0.000
      AT_REP1           0.412      0.015     27.109      0.000
      AT_REP2           0.491      0.016     30.060      0.000
      AT_REP3           0.448      0.016     28.686      0.000
      AT_REP4           0.475      0.016     29.778      0.000
      AT_REP5           0.475      0.016     29.385      0.000
      AT_REP6           0.491      0.016     30.178      0.000
      TRUST_1           0.412      0.017     24.141      0.000
      TRUST_2           0.483      0.018     27.569      0.000
      TRUST_3           0.330      0.016     20.062      0.000
      TRUST_4           0.617      0.018     33.880      0.000
      BT2_AV            0.473      0.014     34.469      0.000
      ARG               0.723      0.018     40.035      0.000
      SIDED             0.867      0.015     59.780      0.000
      CONS              0.779      0.017     45.457      0.000
      AT_REP            0.662      0.020     33.769      0.000
      P_REP             0.306      0.021     14.666      0.000
      CHANGE            0.746      0.019     39.447      0.000


 R-SQUARE

    Observed                                    Two-Tailed
    Variable        Estimate       S.E.   Est./S.E.    P-Value

    P_REP_1           0.464      0.020     23.585      0.000
    P_REP_2           0.471      0.019     24.311      0.000
    P_REP_3           0.205      0.016     12.469      0.000
    CHANG_1           0.122      0.013      9.100      0.000
    CHANG_2           0.820      0.025     33.095      0.000
    CHANG_3           0.694      0.023     30.472      0.000
    ARG_1C            0.759      0.012     65.901      0.000
    ARG_2P            0.758      0.012     65.832      0.000
    ARG_3S            0.604      0.015     41.241      0.000
```

```
       ARG_4G            0.598      0.015     40.633      0.000
       SIDED_1           0.789      0.019     42.331      0.000
       SIDED_2           0.897      0.020     44.892      0.000
       SIDED_3           0.105      0.013      8.355      0.000
       CONS_1            0.606      0.015     40.746      0.000
       CONS_2            0.614      0.015     42.032      0.000
       CONS_3            0.783      0.011     68.198      0.000
       CONS_4            0.698      0.013     54.334      0.000
       AT_REP1           0.588      0.015     38.675      0.000
       AT_REP2           0.509      0.016     31.219      0.000
       AT_REP3           0.552      0.016     35.286      0.000
       AT_REP4           0.525      0.016     32.899      0.000
       AT_REP5           0.525      0.016     32.466      0.000
       AT_REP6           0.509      0.016     31.229      0.000
       TRUST_1           0.588      0.017     34.490      0.000
       TRUST_2           0.517      0.018     29.487      0.000
       TRUST_3           0.670      0.016     40.679      0.000
       TRUST_4           0.383      0.018     21.004      0.000
       BT2_AV            0.527      0.014     38.416      0.000

     Latent                                   Two-Tailed
     Variable         Estimate      S.E.   Est./S.E.   P-Value

     ARG               0.277      0.018     15.359      0.000
     SIDED             0.133      0.015      9.179      0.000
     CONS              0.221      0.017     12.873      0.000
     AT_REP            0.338      0.020     17.221      0.000
     P_REP             0.694      0.021     33.275      0.000
     CHANGE            0.254      0.019     13.399      0.000
```

QUALITY OF NUMERICAL RESULTS

```
     Condition Number for the Information Matrix              0.144E-03
        (ratio of smallest to largest eigenvalue)
```

RESIDUAL OUTPUT

ESTIMATED MODEL AND RESIDUALS (OBSERVED - ESTIMATED)

```
       Model Estimated Means/Intercepts/Thresholds
         P_REP_1         P_REP_2         P_REP_3         CHANG_1         CHANG_2
         _____        _____        _____        _____        _____
   1       3.876           3.598           3.636           2.708           2.243


       Model Estimated Means/Intercepts/Thresholds
         CHANG_3         ARG_1C          ARG_2P          ARG_3S          ARG_4G
         _____        _____        _____        _____        _____
   1       2.219           3.763           3.631           3.633           3.810


       Model Estimated Means/Intercepts/Thresholds
         SIDED_1         SIDED_2         SIDED_3         CONS_1          CONS_2
         _____        _____        _____        _____        _____
   1       3.760           3.765           3.739           3.668           3.619


       Model Estimated Means/Intercepts/Thresholds
         CONS_3          CONS_4          AT_REP1         AT_REP2         AT_REP3
         _____        _____        _____        _____        _____
   1       3.650           3.588           4.066           4.003           3.949


       Model Estimated Means/Intercepts/Thresholds
```

	AT_REP4	AT_REP5	AT_REP6	TRUST_1	TRUST_2
1	4.107	3.979	3.935	3.637	3.689

Model Estimated Means/Intercepts/Thresholds

	TRUST_3	TRUST_4	BT2_AV	BT1_AV
1	3.566	3.570	3.601	3.420

Residuals for Means/Intercepts/Thresholds

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
1	-0.001	-0.002	0.000	0.003	0.000

Residuals for Means/Intercepts/Thresholds

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
1	0.000	-0.003	-0.002	-0.001	-0.004

Residuals for Means/Intercepts/Thresholds

	SIDED_1	SIDED_2	SIDED_3	CONS_1	CONS_2
1	-0.004	-0.003	-0.001	-0.002	-0.001

Residuals for Means/Intercepts/Thresholds

	CONS_3	CONS_4	AT_REP1	AT_REP2	AT_REP3
1	-0.001	-0.001	0.000	0.000	0.000

Residuals for Means/Intercepts/Thresholds

	AT_REP4	AT_REP5	AT_REP6	TRUST_1	TRUST_2
1	0.000	0.001	0.001	-0.001	-0.001

Residuals for Means/Intercepts/Thresholds

	TRUST_3	TRUST_4	BT2_AV	BT1_AV
1	0.000	-0.001	0.000	0.000

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
1	-0.497	-0.641	-0.200	3.371	0.098

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
1	0.080	-2.825	-2.150	999.000	-14.658

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	SIDED_1	SIDED_2	SIDED_3	CONS_1	CONS_2
1	-2.565	-3.020	999.000	-2.720	-1.634

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	CONS_3	CONS_4	AT_REP1	AT_REP2	AT_REP3

1	-1.936	-1.637	-0.691	-2.993	999.000

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	AT_REP4	AT_REP5	AT_REP6	TRUST_1	TRUST_2
1	999.000	999.000	999.000	-1.168	-1.916

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	TRUST_3	TRUST_4	BT2_AV	BT1_AV
1	-0.186	-1.462	0.000	0.000

Normalized Residuals for Means/Intercepts/Thresholds

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
1	-0.100	-0.131	-0.027	0.120	0.013

Normalized Residuals for Means/Intercepts/Thresholds

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
1	0.010	-0.159	-0.121	-0.071	-0.241

Normalized Residuals for Means/Intercepts/Thresholds

	SIDED_1	SIDED_2	SIDED_3	CONS_1	CONS_2
1	-0.184	-0.136	-0.044	-0.136	-0.046

Normalized Residuals for Means/Intercepts/Thresholds

	CONS_3	CONS_4	AT_REP1	AT_REP2	AT_REP3
1	-0.075	-0.073	-0.031	-0.028	0.004

Normalized Residuals for Means/Intercepts/Thresholds

	AT_REP4	AT_REP5	AT_REP6	TRUST_1	TRUST_2
1	0.013	0.038	0.070	-0.035	-0.035

Normalized Residuals for Means/Intercepts/Thresholds

	TRUST_3	TRUST_4	BT2_AV	BT1_AV
1	-0.008	-0.036	0.000	0.000

Model Estimated Covariances/Correlations/Residual Correlations

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
P_REP_1	0.513				
P_REP_2	0.270	0.648			
P_REP_3	0.173	0.196	0.612		
CHANG_1	-0.092	-0.104	-0.066	1.142	
CHANG_2	-0.186	-0.210	-0.135	0.283	0.701
CHANG_3	-0.173	-0.195	-0.125	0.263	0.534
ARG_1C	0.236	0.267	0.171	-0.091	-0.184
ARG_2P	0.249	0.281	0.180	-0.095	-0.194
ARG_3S	0.221	0.250	0.161	-0.085	-0.172
ARG_4G	0.216	0.244	0.157	-0.083	-0.168
SIDED_1	0.124	0.141	0.090	-0.048	-0.097
SIDED_2	0.130	0.147	0.094	-0.050	-0.101
SIDED_3	0.042	0.048	0.031	-0.016	-0.033
CONS_1	0.171	0.193	0.124	-0.066	-0.133

CONS_2	0.172	0.194	0.125	-0.066	-0.134
CONS_3	0.193	0.218	0.140	-0.074	-0.150
CONS_4	0.184	0.208	0.133	-0.071	-0.143
AT_REP1	0.184	0.208	0.134	-0.071	-0.143
AT_REP2	0.186	0.210	0.135	-0.071	-0.144
AT_REP3	0.188	0.213	0.137	-0.072	-0.147
AT_REP4	0.184	0.208	0.134	-0.071	-0.143
AT_REP5	0.185	0.209	0.134	-0.071	-0.144
AT_REP6	0.182	0.206	0.132	-0.070	-0.142
TRUST_1	0.128	0.145	0.093	-0.049	-0.100
TRUST_2	0.128	0.144	0.093	-0.049	-0.099
TRUST_3	0.143	0.161	0.104	-0.055	-0.111
TRUST_4	0.123	0.139	0.089	-0.047	-0.095
BT2_AV	-0.001	-0.001	0.000	0.014	0.028
BT1_AV	0.005	0.005	0.003	0.007	0.015

Model Estimated Covariances/Correlations/Residual Correlations

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
CHANG_3	0.716				
ARG_1C	-0.171	0.656			
ARG_2P	-0.180	0.525	0.730		
ARG_3S	-0.160	0.468	0.493	0.727	
ARG_4G	-0.156	0.456	0.481	0.428	0.698
SIDED_1	-0.090	0.114	0.120	0.107	0.104
SIDED_2	-0.094	0.118	0.125	0.111	0.108
SIDED_3	-0.031	0.039	0.041	0.036	0.035
CONS_1	-0.124	0.107	0.112	0.100	0.098
CONS_2	-0.124	0.107	0.113	0.101	0.098
CONS_3	-0.140	0.121	0.127	0.113	0.110
CONS_4	-0.133	0.115	0.121	0.108	0.105
AT_REP1	-0.133	0.209	0.220	0.196	0.191
AT_REP2	-0.134	0.210	0.221	0.197	0.192
AT_REP3	-0.136	0.213	0.225	0.200	0.195
AT_REP4	-0.133	0.209	0.220	0.196	0.191
AT_REP5	-0.134	0.209	0.220	0.196	0.191
AT_REP6	-0.132	0.206	0.217	0.193	0.189
TRUST_1	-0.093	0.133	0.140	0.125	0.122
TRUST_2	-0.092	0.132	0.139	0.124	0.121
TRUST_3	-0.103	0.148	0.156	0.139	0.135
TRUST_4	-0.088	0.127	0.134	0.119	0.116
BT2_AV	0.026	0.000	0.000	0.000	0.000
BT1_AV	0.014	0.005	0.005	0.004	0.004

Model Estimated Covariances/Correlations/Residual Correlations

	SIDED_1	SIDED_2	SIDED_3	CONS_1	CONS_2
SIDED_1	0.889				
SIDED_2	0.732	0.851			
SIDED_3	0.238	0.249	0.775		
CONS_1	0.088	0.091	0.030	0.616	
CONS_2	0.088	0.092	0.030	0.375	0.614
CONS_3	0.099	0.103	0.034	0.422	0.424
CONS_4	0.094	0.098	0.032	0.401	0.403
AT_REP1	0.171	0.179	0.058	0.161	0.162
AT_REP2	0.173	0.180	0.059	0.162	0.163
AT_REP3	0.175	0.183	0.060	0.165	0.166
AT_REP4	0.171	0.179	0.058	0.161	0.162
AT_REP5	0.172	0.179	0.058	0.161	0.162
AT_REP6	0.169	0.177	0.058	0.159	0.160
TRUST_1	0.109	0.114	0.037	0.103	0.103
TRUST_2	0.109	0.113	0.037	0.102	0.103
TRUST_3	0.121	0.127	0.041	0.114	0.115
TRUST_4	0.104	0.109	0.036	0.098	0.099
BT2_AV	0.001	0.001	0.000	0.000	0.000
BT1_AV	0.004	0.004	0.001	0.004	0.004

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          Model Estimated Covariances/Correlations/Residual Correlations
              CONS_3          CONS_4          AT_REP1         AT_REP2         AT_REP3
             _____        _____        _____        _____        _____
 CONS_3        0.608
 CONS_4        0.453           0.618
 AT_REP1       0.182           0.173           0.535
 AT_REP2       0.183           0.174           0.317           0.627
 AT_REP3       0.186           0.177           0.322           0.325           0.598
 AT_REP4       0.182           0.173           0.315           0.317           0.322
 AT_REP5       0.182           0.174           0.316           0.318           0.323
 AT_REP6       0.180           0.171           0.311           0.314           0.318
 TRUST_1       0.116           0.110           0.201           0.202           0.205
 TRUST_2       0.115           0.110           0.200           0.201           0.204
 TRUST_3       0.129           0.123           0.223           0.225           0.228
 TRUST_4       0.111           0.105           0.192           0.193           0.196
 BT2_AV        0.000           0.000           0.002           0.002           0.002
 BT1_AV        0.004           0.004           0.007           0.007           0.007


          Model Estimated Covariances/Correlations/Residual Correlations
              AT_REP4         AT_REP5         AT_REP6         TRUST_1         TRUST_2
             _____        _____        _____        _____        _____
 AT_REP4       0.600
 AT_REP5       0.316           0.603
 AT_REP6       0.311           0.312           0.605
 TRUST_1       0.201           0.201           0.198           0.645
 TRUST_2       0.200           0.200           0.197           0.377           0.726
 TRUST_3       0.223           0.224           0.220           0.421           0.419
 TRUST_4       0.192           0.192           0.190           0.362           0.360
 BT2_AV        0.002           0.002           0.002           0.008           0.008
 BT1_AV        0.007           0.007           0.007           0.013           0.013


          Model Estimated Covariances/Correlations/Residual Correlations
              TRUST_3         TRUST_4         BT2_AV          BT1_AV
             _____        _____        _____        _____
 TRUST_3       0.698
 TRUST_4       0.402           0.903
 BT2_AV        0.009           0.008           0.679
 BT1_AV        0.015           0.013           0.463           0.599


          Residuals for Covariances/Correlations/Residual Correlations
              P_REP_1         P_REP_2         P_REP_3         CHANG_1         CHANG_2
             _____        _____        _____        _____        _____
 P_REP_1       0.022
 P_REP_2       0.027           0.029
 P_REP_3       0.039           0.038           0.012
 CHANG_1       0.098           0.104           0.120           0.002
 CHANG_2       0.005          -0.005           0.010           0.020           0.014
 CHANG_3      -0.013          -0.004          -0.007           0.008           0.011
 ARG_1C        0.063           0.015          -0.007           0.071          -0.048
 ARG_2P        0.049           0.003          -0.013           0.094          -0.041
 ARG_3S        0.051           0.019           0.021           0.073          -0.051
 ARG_4G        0.066           0.037           0.009           0.053          -0.069
 SIDED_1       0.084           0.058           0.052           0.059          -0.093
 SIDED_2       0.075           0.057           0.050           0.048          -0.093
 SIDED_3       0.199           0.125           0.127           0.073          -0.121
 CONS_1        0.026           0.134           0.024           0.003          -0.085
 CONS_2       -0.023           0.076           0.015           0.027          -0.055
 CONS_3       -0.019           0.094           0.002           0.002          -0.037
 CONS_4       -0.022           0.098           0.006           0.043          -0.041
 AT_REP1       0.010          -0.037           0.012           0.030          -0.014
 AT_REP2       0.007          -0.067          -0.008           0.032           0.006
 AT_REP3       0.014          -0.021           0.012           0.067           0.018
 AT_REP4       0.012          -0.047           0.003           0.033           0.001
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AT_REP5	0.009	-0.029	0.002	0.048	0.007
AT_REP6	-0.002	-0.055	0.010	0.034	0.016
TRUST_1	0.047	0.049	0.015	0.077	-0.013
TRUST_2	0.067	0.066	0.019	0.059	-0.039
TRUST_3	0.034	0.035	0.014	0.078	-0.021
TRUST_4	0.041	0.047	0.024	0.123	0.006
BT2_AV	-0.005	-0.007	-0.007	0.035	0.002
BT1_AV	-0.008	-0.012	0.010	0.039	0.010

           Residuals for Covariances/Correlations/Residual Correlations

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
CHANG_3	0.011				
ARG_1C	-0.053	0.003			
ARG_2P	-0.054	0.013	0.003		
ARG_3S	-0.061	-0.023	0.011	0.000	
ARG_4G	-0.076	0.006	-0.019	0.022	0.002
SIDED_1	-0.089	0.187	0.179	0.145	0.317
SIDED_2	-0.102	0.156	0.153	0.135	0.276
SIDED_3	-0.125	0.241	0.222	0.220	0.237
CONS_1	-0.072	0.163	0.162	0.165	0.193
CONS_2	-0.043	0.078	0.085	0.091	0.121
CONS_3	-0.037	0.090	0.093	0.108	0.122
CONS_4	-0.032	0.095	0.106	0.116	0.142
AT_REP1	-0.022	-0.010	-0.022	0.003	-0.006
AT_REP2	-0.011	-0.028	-0.045	-0.008	-0.042
AT_REP3	0.003	-0.025	-0.034	-0.001	-0.016
AT_REP4	-0.011	-0.008	-0.023	-0.012	-0.004
AT_REP5	-0.003	-0.017	-0.021	0.005	-0.005
AT_REP6	0.006	-0.040	-0.052	-0.022	-0.029
TRUST_1	-0.014	0.100	0.081	0.083	0.100
TRUST_2	-0.044	0.105	0.092	0.097	0.130
TRUST_3	-0.034	0.072	0.065	0.082	0.080
TRUST_4	0.001	0.060	0.048	0.057	0.076
BT2_AV	-0.001	-0.014	0.000	-0.019	-0.011
BT1_AV	-0.003	-0.017	-0.007	-0.021	-0.020

           Residuals for Covariances/Correlations/Residual Correlations

	SIDED_1	SIDED_2	SIDED_3	CONS_1	CONS_2
SIDED_1	0.006				
SIDED_2	0.005	0.003			
SIDED_3	-0.021	-0.008	-0.001		
CONS_1	0.162	0.148	0.097	0.002	
CONS_2	0.082	0.084	0.040	0.043	0.001
CONS_3	0.107	0.103	0.037	-0.012	-0.009
CONS_4	0.113	0.101	0.063	-0.021	-0.014
AT_REP1	-0.019	-0.019	0.125	0.024	-0.015
AT_REP2	-0.063	-0.056	0.125	-0.013	-0.032
AT_REP3	-0.034	-0.037	0.113	0.018	-0.003
AT_REP4	0.008	0.005	0.122	0.014	-0.019
AT_REP5	-0.039	-0.037	0.116	0.016	-0.004
AT_REP6	-0.033	-0.038	0.105	-0.003	-0.020
TRUST_1	0.048	0.036	0.116	0.098	0.059
TRUST_2	0.073	0.068	0.142	0.102	0.070
TRUST_3	0.044	0.040	0.127	0.101	0.052
TRUST_4	0.039	0.015	0.088	0.072	0.056
BT2_AV	0.002	-0.004	-0.038	0.013	0.011
BT1_AV	-0.009	-0.014	-0.039	0.012	0.011

           Residuals for Covariances/Correlations/Residual Correlations

	CONS_3	CONS_4	AT_REP1	AT_REP2	AT_REP3
CONS_3	0.001				
CONS_4	0.021	0.001			

AT_REP1	-0.025	-0.025	0.001		
AT_REP2	-0.047	-0.036	0.058	0.000	
AT_REP3	0.002	0.000	0.006	0.032	0.000
AT_REP4	-0.036	-0.030	-0.013	-0.018	0.013
AT_REP5	-0.030	-0.013	-0.016	-0.029	-0.023
AT_REP6	-0.043	-0.027	-0.014	-0.004	-0.014
TRUST_1	0.048	0.058	0.001	-0.031	-0.001
TRUST_2	0.067	0.073	0.005	-0.025	0.015
TRUST_3	0.045	0.064	-0.021	-0.046	-0.009
TRUST_4	0.050	0.069	-0.018	-0.011	0.009
BT2_AV	0.007	0.010	-0.020	-0.025	-0.010
BT1_AV	0.009	0.018	-0.010	-0.013	-0.011

Residuals for Covariances/Correlations/Residual Correlations

	AT_REP4	AT_REP5	AT_REP6	TRUST_1	TRUST_2
AT_REP4	0.000				
AT_REP5	0.016	-0.001			
AT_REP6	0.008	0.082	-0.001		
TRUST_1	0.024	-0.009	-0.042	0.000	
TRUST_2	0.019	0.001	-0.028	0.001	0.000
TRUST_3	0.005	-0.026	-0.046	0.002	-0.001
TRUST_4	0.019	-0.015	-0.021	-0.009	-0.014
BT2_AV	-0.002	0.010	0.001	0.009	0.006
BT1_AV	-0.007	0.014	0.011	-0.005	0.000

Residuals for Covariances/Correlations/Residual Correlations

	TRUST_3	TRUST_4	BT2_AV	BT1_AV
TRUST_3	0.001			
TRUST_4	0.014	0.000		
BT2_AV	0.013	0.034	0.000	
BT1_AV	-0.001	0.017	0.000	0.000

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
P_REP_1	4.215				
P_REP_2	4.406	4.299			
P_REP_3	5.405	4.691	2.596		
CHANG_1	6.947	6.557	7.410	0.744	
CHANG_2	0.656	-0.587	0.906	4.597	2.682
CHANG_3	-1.578	-0.454	-0.685	0.939	2.289
ARG_1C	9.847	2.060	-0.757	4.462	-5.079
ARG_2P	7.563	0.382	-1.379	5.579	-4.081
ARG_3S	6.708	2.134	2.044	4.239	-4.705
ARG_4G	8.547	4.117	0.887	3.157	-6.322
SIDED_1	8.786	5.429	4.090	2.957	-6.743
SIDED_2	8.589	5.847	4.118	2.520	-7.002
SIDED_3	15.175	8.866	9.078	3.848	-8.102
CONS_1	3.247	14.220	2.387	0.181	-7.756
CONS_2	-2.970	8.882	1.500	1.663	-5.150
CONS_3	-2.857	12.235	0.233	0.142	-3.752
CONS_4	-3.062	11.637	0.665	2.709	-3.951
AT_REP1	1.537	-5.083	1.386	2.022	-1.509
AT_REP2	0.948	-8.045	-0.800	1.976	0.538
AT_REP3	1.989	-2.584	1.289	4.337	1.881
AT_REP4	1.585	-5.846	0.328	2.085	0.108
AT_REP5	1.154	-3.525	0.175	3.091	0.649
AT_REP6	-0.225	-6.705	0.991	2.192	1.528
TRUST_1	5.380	4.982	1.343	4.579	-1.144
TRUST_2	6.905	6.089	1.634	3.339	-3.064
TRUST_3	4.059	3.706	1.239	4.495	-1.787
TRUST_4	3.535	3.597	1.781	6.087	0.398
BT2_AV	-0.521	-0.608	-0.585	2.096	0.356

BT1_AV	-0.766	-0.950	0.824	2.440	0.984

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
CHANG_3	2.382				
ARG_1C	-5.469	1.296			
ARG_2P	-5.166	4.531	1.182		
ARG_3S	-5.472	-13.059	3.257	0.360	
ARG_4G	-6.759	1.895	-7.944	4.263	1.252
SIDED_1	-6.247	13.256	12.127	9.725	19.553
SIDED_2	-7.388	11.574	10.845	9.354	17.918
SIDED_3	-8.258	16.003	14.229	14.052	15.308
CONS_1	-6.438	13.643	12.941	12.955	15.105
CONS_2	-3.920	6.976	7.188	7.473	9.973
CONS_3	-3.629	8.277	8.163	9.070	10.371
CONS_4	-3.035	8.534	8.931	9.499	11.643
AT_REP1	-2.336	-1.553	-3.091	0.402	-0.813
AT_REP2	-1.018	-3.509	-5.458	-0.817	-4.683
AT_REP3	0.330	-3.496	-4.398	-0.168	-1.809
AT_REP4	-1.042	-1.093	-2.836	-1.363	-0.502
AT_REP5	-0.289	-2.290	-2.575	0.596	-0.535
AT_REP6	0.526	-5.238	-6.561	-2.401	-3.287
TRUST_1	-1.178	8.870	6.868	6.811	8.284
TRUST_2	-3.381	8.607	7.204	7.377	9.934
TRUST_3	-2.753	6.375	5.470	6.643	6.568
TRUST_4	0.080	4.313	3.330	3.845	5.186
BT2_AV	-0.097	-1.163	0.020	-1.516	-0.900
BT1_AV	-0.248	-1.388	-0.555	-1.618	-1.561

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	SIDED_1	SIDED_2	SIDED_3	CONS_1	CONS_2
SIDED_1	1.646				
SIDED_2	1.748	1.055			
SIDED_3	-4.480	-5.539	999.000		
CONS_1	11.510	10.900	6.999	1.181	
CONS_2	6.041	6.363	2.929	9.224	0.608
CONS_3	8.067	8.072	2.751	-6.748	-4.979
CONS_4	8.335	7.726	4.615	-9.320	-5.588
AT_REP1	-2.447	-2.522	10.056	3.013	-1.957
AT_REP2	-6.782	-6.379	9.265	-1.446	-3.705
AT_REP3	-3.946	-4.528	8.666	2.114	-0.382
AT_REP4	0.838	0.518	9.248	1.564	-2.320
AT_REP5	-4.350	-4.333	8.799	1.822	-0.508
AT_REP6	-3.599	-4.395	7.954	-0.310	-2.329
TRUST_1	3.623	2.844	8.217	8.581	5.268
TRUST_2	5.075	4.951	9.363	8.314	5.831
TRUST_3	3.264	3.053	8.634	8.627	4.552
TRUST_4	2.358	0.921	5.244	5.159	4.092
BT2_AV	0.114	-0.239	-2.629	1.085	0.945
BT1_AV	-0.641	-0.981	-2.835	0.988	0.918

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	CONS_3	CONS_4	AT_REP1	AT_REP2	AT_REP3
CONS_3	0.770				
CONS_4	8.974	0.918			
AT_REP1	-3.949	-3.563	0.847		
AT_REP2	-6.260	-4.433	10.732	999.000	
AT_REP3	0.266	0.051	1.454	5.981	999.000
AT_REP4	-4.957	-3.777	-3.456	-3.957	2.674
AT_REP5	-4.131	-1.606	-4.256	-6.756	-5.803
AT_REP6	-5.905	-3.413	-3.784	-0.773	-3.126
TRUST_1	4.480	5.245	0.179	-3.798	-0.067

TRUST_2	5.807	6.158	0.596	-2.809	1.647
TRUST_3	4.156	5.681	-3.047	-5.755	-1.126
TRUST_4	3.723	5.030	-1.846	-0.980	0.793
BT2_AV	0.567	0.872	-1.968	-2.199	-0.918
BT1_AV	0.796	1.566	-0.990	-1.209	-1.086

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	AT_REP4	AT_REP5	AT_REP6	TRUST_1	TRUST_2
AT_REP4	999.000				
AT_REP5	3.222	999.000			
AT_REP6	1.721	12.959	999.000		
TRUST_1	2.950	-1.108	-5.382	0.469	
TRUST_2	2.049	0.136	-3.139	0.293	999.000
TRUST_3	0.650	-3.336	-5.994	0.928	-0.423
TRUST_4	1.690	-1.332	-1.878	-1.497	-2.010
BT2_AV	-0.201	0.871	0.066	0.858	0.514
BT1_AV	-0.619	1.321	1.004	-0.754	0.038

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	TRUST_3	TRUST_4	BT2_AV	BT1_AV
TRUST_3	0.701			
TRUST_4	2.872	0.324		
BT2_AV	1.334	2.494	0.373	
BT1_AV	-0.087	1.584	999.000	0.000

Normalized Residuals for Covariances/Correlations/Residual Correlations

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
P_REP_1	1.454				
P_REP_2	1.980	1.489			
P_REP_3	3.125	2.742	0.656		
CHANG_1	6.188	5.839	6.984	0.061	
CHANG_2	0.397	-0.358	0.691	1.051	0.681
CHANG_3	-0.982	-0.284	-0.536	0.389	0.584
ARG_1C	4.648	1.033	-0.488	4.043	-3.275
ARG_2P	3.507	0.190	-0.889	5.058	-2.635
ARG_3S	3.707	1.247	1.464	3.917	-3.347
ARG_4G	4.833	2.463	0.636	2.919	-4.545
SIDED_1	5.744	3.559	3.385	2.856	-5.594
SIDED_2	5.227	3.586	3.325	2.424	-5.674
SIDED_3	14.315	8.330	8.803	3.825	-7.853
CONS_1	2.155	9.155	1.848	0.171	-6.024
CONS_2	-1.914	5.414	1.156	1.567	-3.956
CONS_3	-1.603	6.500	0.166	0.131	-2.655
CONS_4	-1.850	6.761	0.493	2.533	-2.917
AT_REP1	0.880	-2.962	1.009	1.877	-1.094
AT_REP2	0.588	-4.972	-0.605	1.853	0.406
AT_REP3	1.187	-1.572	0.956	4.042	1.379
AT_REP4	0.965	-3.589	0.246	1.950	0.081
AT_REP5	0.702	-2.185	0.131	2.890	0.485
AT_REP6	-0.138	-4.166	0.751	2.054	1.151
TRUST_1	3.759	3.496	1.118	4.412	-0.956
TRUST_2	5.068	4.464	1.390	3.230	-2.615
TRUST_3	2.665	2.447	1.008	4.311	-1.460
TRUST_4	2.797	2.849	1.580	5.939	0.352
BT2_AV	-0.440	-0.512	-0.546	1.953	0.138
BT1_AV	-0.728	-0.903	0.806	2.354	0.732

Normalized Residuals for Covariances/Correlations/Residual Correlations

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
CHANG_3	0.552				

ARG_1C	−3.632	0.141			
ARG_2P	−3.449	0.725	0.123		
ARG_3S	−3.995	−1.406	0.633	0.008	
ARG_4G	−4.973	0.366	−1.100	1.283	0.088
SIDED_1	−5.303	11.190	10.214	8.439	17.387
SIDED_2	−6.158	9.608	8.997	8.026	15.722
SIDED_3	−8.036	15.499	13.768	13.682	14.916
CONS_1	−5.101	11.657	11.049	11.384	13.353
CONS_2	−3.080	5.860	6.046	6.494	8.713
CONS_3	−2.653	6.664	6.579	7.633	8.770
CONS_4	−2.300	7.042	7.384	8.148	10.048
AT_REP1	−1.733	−0.832	−1.651	0.250	−0.505
AT_REP2	−0.786	−2.043	−3.157	−0.540	−3.062
AT_REP3	0.248	−1.929	−2.434	−0.108	−1.155
AT_REP4	−0.797	−0.628	−1.625	−0.884	−0.329
AT_REP5	−0.221	−1.311	−1.477	0.390	−0.350
AT_REP6	0.405	−3.017	−3.775	−1.575	−2.161
TRUST_1	−1.001	7.158	5.521	5.699	6.966
TRUST_2	−2.935	7.098	5.927	6.294	8.526
TRUST_3	−2.299	4.987	4.271	5.448	5.392
TRUST_4	0.072	3.692	2.848	3.388	4.578
BT2_AV	−0.051	−1.021	0.017	−1.370	−0.814
BT1_AV	−0.195	−1.329	−0.532	−1.563	−1.509

           Normalized Residuals for Covariances/Correlations/Residual Correlations

	SIDED_1	SIDED_2	SIDED_3	CONS_1	CONS_2
SIDED_1	0.234				
SIDED_2	0.224	0.109			
SIDED_3	−1.205	−0.461	−0.061		
CONS_1	10.235	9.594	6.832	0.112	
CONS_2	5.324	5.556	2.857	2.878	0.034
CONS_3	6.894	6.812	2.666	−0.780	−0.575
CONS_4	7.253	6.642	4.489	−1.441	−0.945
AT_REP1	−1.361	−1.338	9.216	1.966	−1.246
AT_REP2	−4.153	−3.767	8.580	−0.987	−2.498
AT_REP3	−2.290	−2.508	7.970	1.404	−0.251
AT_REP4	0.511	0.305	8.543	1.063	−1.548
AT_REP5	−2.613	−2.503	8.126	1.237	−0.340
AT_REP6	−2.214	−2.595	7.361	−0.211	−1.576
TRUST_1	3.044	2.356	7.950	7.342	4.472
TRUST_2	4.355	4.197	9.095	7.224	5.040
TRUST_3	2.683	2.471	8.320	7.255	3.786
TRUST_4	2.099	0.811	5.127	4.621	3.657
BT2_AV	0.111	−0.231	−2.618	1.010	0.878
BT1_AV	−0.628	−0.958	−2.827	0.962	0.893

           Normalized Residuals for Covariances/Correlations/Residual Correlations

	CONS_3	CONS_4	AT_REP1	AT_REP2	AT_REP3
CONS_3	0.057				
CONS_4	1.324	0.075			
AT_REP1	−2.138	−2.099	0.060		
AT_REP2	−3.702	−2.819	4.200	0.003	
AT_REP3	0.153	0.031	0.434	2.231	−0.016
AT_REP4	−2.877	−2.365	−0.996	−1.330	0.937
AT_REP5	−2.401	−1.013	−1.215	−2.139	−1.711
AT_REP6	−3.482	−2.176	−1.112	−0.280	−1.004
TRUST_1	3.642	4.364	0.105	−2.338	−0.040
TRUST_2	4.840	5.232	0.368	−1.818	1.047
TRUST_3	3.297	4.633	−1.613	−3.297	−0.628
TRUST_4	3.233	4.438	−1.268	−0.712	0.562
BT2_AV	0.516	0.802	−1.688	−1.930	−0.796
BT1_AV	0.768	1.518	−0.866	−1.079	−0.959

Normalized Residuals for Covariances/Correlations/Residual Correlations

	AT_REP4	AT_REP5	AT_REP6	TRUST_1	TRUST_2
AT_REP4	-0.011				
AT_REP5	1.151	-0.043			
AT_REP6	0.621	5.667	-0.033		
TRUST_1	1.834	-0.676	-3.273	0.018	
TRUST_2	1.330	0.088	-2.030	0.074	0.001
TRUST_3	0.379	-1.891	-3.416	0.143	-0.080
TRUST_4	1.219	-0.952	-1.352	-0.511	-0.794
BT2_AV	-0.176	0.760	0.058	0.653	0.408
BT1_AV	-0.550	1.174	0.896	-0.420	0.024

Normalized Residuals for Covariances/Correlations/Residual Correlations

	TRUST_3	TRUST_4	BT2_AV	BT1_AV
TRUST_3	0.041			
TRUST_4	0.771	0.009		
BT2_AV	0.965	2.130	0.007	
BT1_AV	-0.040	1.179	0.005	0.000

MODEL MODIFICATION INDICES

Minimum M.I. value for printing the modification index   10.000

		M.I.	E.P.C.	Std E.P.C.	StdYX E.P.C.

BY Statements

ARG	BY P_REP_1	36.210	0.201	0.142	0.198
ARG	BY P_REP_2	34.630	-0.222	-0.157	-0.195
ARG	BY P_REP_3	13.030	-0.128	-0.090	-0.116
ARG	BY CHANG_1	51.567	0.236	0.167	0.156
ARG	BY CHANG_3	12.042	-0.077	-0.054	-0.064
ARG	BY SIDED_1	41.323	0.110	0.078	0.082
ARG	BY SIDED_3	226.696	0.387	0.273	0.310
ARG	BY CONS_1	134.683	0.194	0.137	0.175
ARG	BY AT_REP2	25.237	-0.111	-0.078	-0.099
ARG	BY AT_REP3	14.270	-0.079	-0.056	-0.072
ARG	BY AT_REP6	36.675	-0.131	-0.093	-0.119
ARG	BY TRUST_1	18.861	0.083	0.059	0.073
ARG	BY TRUST_2	31.947	0.119	0.084	0.099
SIDED	BY P_REP_2	11.951	-0.070	-0.058	-0.073
SIDED	BY CHANG_1	28.484	0.137	0.115	0.107
SIDED	BY ARG_4G	241.063	0.228	0.191	0.229
SIDED	BY CONS_1	62.733	0.108	0.091	0.115
SIDED	BY AT_REP2	36.790	-0.099	-0.083	-0.105
SIDED	BY AT_REP3	15.015	-0.060	-0.050	-0.065
SIDED	BY AT_REP5	14.428	-0.060	-0.050	-0.065
SIDED	BY AT_REP6	13.118	-0.058	-0.048	-0.062
SIDED	BY TRUST_2	17.834	0.071	0.060	0.070
CONS	BY P_REP_1	123.074	-0.348	-0.213	-0.297
CONS	BY P_REP_2	117.469	0.383	0.234	0.291
CONS	BY ARG_3S	14.665	0.081	0.049	0.058
CONS	BY ARG_4G	56.448	0.156	0.095	0.114
CONS	BY SIDED_1	10.018	0.061	0.037	0.040
CONS	BY AT_REP2	31.906	-0.137	-0.084	-0.106
CONS	BY AT_REP4	14.779	-0.090	-0.055	-0.071
CONS	BY AT_REP6	20.238	-0.107	-0.065	-0.084
CONS	BY TRUST_2	15.889	0.095	0.058	0.068
AT_REP	BY P_REP_1	28.454	0.230	0.129	0.180
AT_REP	BY P_REP_2	55.153	-0.361	-0.202	-0.251
AT_REP	BY CHANG_1	22.153	0.196	0.110	0.103
AT_REP	BY ARG_2P	12.953	-0.089	-0.050	-0.059
AT_REP	BY SIDED_2	13.164	-0.117	-0.066	-0.071
AT_REP	BY SIDED_3	202.584	0.496	0.278	0.316

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AT_REP    BY CONS_1          45.550     0.163     0.092     0.117
AT_REP    BY CONS_3          17.785    -0.090    -0.050    -0.065
AT_REP    BY TRUST_3         10.460    -0.109    -0.061    -0.073
P_REP     BY CHANG_1         88.383     0.538     0.262     0.246
P_REP     BY CHANG_3         16.780    -0.209    -0.102    -0.121
P_REP     BY ARG_4G          54.210     0.311     0.152     0.182
P_REP     BY SIDED_1         17.092     0.130     0.063     0.067
P_REP     BY SIDED_3        232.944     0.628     0.307     0.348
P_REP     BY CONS_1         134.184     0.380     0.186     0.237
P_REP     BY AT_REP2         52.586    -0.318    -0.155    -0.196
P_REP     BY AT_REP4         12.038    -0.147    -0.072    -0.093
P_REP     BY AT_REP6         47.600    -0.297    -0.145    -0.187
P_REP     BY TRUST_2         37.758     0.220     0.108     0.126
TRUST     BY CHANG_1         43.942     0.246     0.151     0.142
TRUST     BY ARG_4G          19.803     0.097     0.060     0.072
TRUST     BY SIDED_3        112.295     0.325     0.200     0.228
TRUST     BY CONS_1          55.935     0.150     0.093     0.118
TRUST     BY AT_REP2         30.013    -0.155    -0.095    -0.120
TRUST     BY AT_REP6         41.345    -0.178    -0.110    -0.141
CHANGE    BY ARG_4G          19.765    -0.160    -0.060    -0.072
CHANGE    BY SIDED_3         57.210    -0.371    -0.139    -0.158
CHANGE    BY CONS_1          43.937    -0.217    -0.081    -0.103
CHANGE    BY TRUST_2         10.609    -0.127    -0.047    -0.056

ON/BY Statements

ARG       ON SIDED    /
SIDED     BY ARG            295.755     0.309     0.366     0.366
ARG       ON CONS     /
CONS      BY ARG            219.210     0.395     0.341     0.341
ARG       ON P_REP    /
P_REP     BY ARG            392.940     1.959     1.354     1.354
ARG       ON TRUST    /
TRUST     BY ARG            127.625     0.349     0.305     0.305
ARG       ON CHANGE   /
CHANGE    BY ARG             40.520    -0.334    -0.177    -0.177
SIDED     ON ARG      /
ARG       BY SIDED          295.751     0.521     0.439     0.439
SIDED     ON CONS     /
CONS      BY SIDED          109.752     0.349     0.255     0.255
SIDED     ON P_REP    /
P_REP     BY SIDED          435.783     1.627     0.949     0.949
SIDED     ON TRUST    /
TRUST     BY SIDED           23.585     0.188     0.138     0.138
SIDED     ON CHANGE   /
CHANGE    BY SIDED           74.507    -0.497    -0.222    -0.222
CONS      ON ARG      /
ARG       BY CONS           219.209     0.319     0.368     0.368
CONS      ON SIDED    /
SIDED     BY CONS           109.754     0.167     0.229     0.229
CONS      ON P_REP    /
P_REP     BY CONS           302.530     1.173     0.937     0.937
CONS      ON TRUST    /
TRUST     BY CONS            81.222     0.247     0.249     0.249
CONS      ON CHANGE   /
CHANGE    BY CONS            35.916    -0.262    -0.160    -0.160
AT_REP    ON ARG      /
ARG       BY AT_REP         127.622    -0.382    -0.481    -0.481
AT_REP    ON SIDED    /
SIDED     BY AT_REP          23.588    -0.122    -0.181    -0.181
AT_REP    ON CONS     /
CONS      BY AT_REP          81.222    -0.335    -0.365    -0.365
AT_REP    ON P_REP    /
P_REP     BY AT_REP         235.292    -1.327    -1.155    -1.155
P_REP     ON CHANGE   /
CHANGE    BY P_REP           38.101     0.238     0.182     0.182
TRUST     ON ARG      /
ARG       BY TRUST          129.146     0.370     0.424     0.424
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TRUST      ON SIDED    /
SIDED      BY TRUST           24.086     0.118     0.161     0.161
TRUST      ON CONS     /
CONS       BY TRUST           80.329     0.321     0.318     0.318
TRUST      ON P_REP    /
P_REP      BY TRUST          236.388     1.278     1.013     1.013
CHANGE     ON ARG      /
ARG        BY CHANGE          11.155    -0.061    -0.114    -0.114


WITH Statements

P_REP_3  WITH P_REP_1          14.061     0.034     0.034     0.092
CHANG_1  WITH P_REP_3          23.598     0.071     0.071     0.102
CHANG_2  WITH CHANG_1          16.310     0.061     0.061     0.171
CHANG_3  WITH CHANG_2          83.298    -0.540    -0.540    -3.254
ARG_2P   WITH ARG_1C           44.854     0.051     0.051     0.307
ARG_3S   WITH ARG_1C           81.743    -0.063    -0.063    -0.295
ARG_3S   WITH ARG_2P           12.697     0.026     0.026     0.116
ARG_4G   WITH ARG_2P           51.221    -0.051    -0.051    -0.231
ARG_4G   WITH ARG_3S           22.445     0.035     0.035     0.122
SIDED_1  WITH ARG_4G           54.015     0.043     0.043     0.188
SIDED_2  WITH SIDED_1         230.839     1.761     1.761    13.757
SIDED_3  WITH P_REP_1          68.858     0.081     0.081     0.185
SIDED_3  WITH CHANG_1          35.497     0.102     0.102     0.122
SIDED_3  WITH ARG_1C           14.252     0.030     0.030     0.091
SIDED_3  WITH SIDED_1          12.117    -0.041    -0.041    -0.112
CONS_1   WITH SIDED_1          11.914     0.019     0.019     0.089
CONS_2   WITH CONS_1          126.055     0.072     0.072     0.299
CONS_3   WITH CHANG_1          14.250    -0.035    -0.035    -0.095
CONS_3   WITH SIDED_3          25.854    -0.039    -0.039    -0.128
CONS_3   WITH CONS_1           43.248    -0.043    -0.043    -0.240
CONS_3   WITH CONS_2           22.072    -0.031    -0.031    -0.174
CONS_4   WITH P_REP_1          12.557    -0.020    -0.020    -0.090
CONS_4   WITH CONS_1           57.283    -0.048    -0.048    -0.227
CONS_4   WITH CONS_2           28.239    -0.034    -0.034    -0.162
CONS_4   WITH CONS_3          185.375     0.096     0.096     0.610
AT_REP2  WITH P_REP_2          14.334    -0.029    -0.029    -0.090
AT_REP2  WITH ARG_4G           22.265    -0.032    -0.032    -0.109
AT_REP2  WITH SIDED_1          11.019    -0.020    -0.020    -0.084
AT_REP2  WITH AT_REP1         181.292     0.088     0.088     0.337
AT_REP3  WITH CONS_3           10.904     0.017     0.017     0.088
AT_REP3  WITH AT_REP2          43.764     0.046     0.046     0.162
AT_REP4  WITH AT_REP2          12.327    -0.025    -0.025    -0.085
AT_REP5  WITH AT_REP1          12.231    -0.022    -0.022    -0.088
AT_REP5  WITH AT_REP2          32.287    -0.041    -0.041    -0.137
AT_REP5  WITH AT_REP3          24.894    -0.034    -0.034    -0.123
AT_REP5  WITH AT_REP4          12.141     0.024     0.024     0.085
AT_REP6  WITH AT_REP1          10.500    -0.021    -0.021    -0.081
AT_REP6  WITH AT_REP5         277.047     0.117     0.117     0.400
TRUST_1  WITH ARG_1C           11.263     0.019     0.019     0.092
TRUST_1  WITH AT_REP6          13.444    -0.025    -0.025    -0.089
TRUST_2  WITH ARG_4G           16.667     0.031     0.031     0.097
TRUST_4  WITH CHANG_1          12.183     0.056     0.056     0.075
SIDED    WITH ARG             295.755     0.188     0.401     0.401
CONS     WITH ARG             219.209     0.115     0.355     0.355
CONS     WITH SIDED           109.754     0.102     0.242     0.242
AT_REP   WITH ARG             127.622    -0.138    -0.502    -0.502
AT_REP   WITH SIDED            23.588    -0.074    -0.208    -0.208
AT_REP   WITH CONS             81.223    -0.097    -0.396    -0.396
TRUST    WITH ARG             128.969     0.133     0.360     0.360
TRUST    WITH SIDED            24.026     0.072     0.150     0.150
TRUST    WITH CONS             80.196     0.093     0.281     0.281
CHANGE   WITH P_REP            38.782     0.025     0.287     0.287



        Beginning Time:   18:39:36
           Ending Time:   18:40:19
          Elapsed Time:   00:00:43
```

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APPENDIX 4
MPlus output for the proposed alternative model n°1.

Mplus VERSION 5.1
MUTHEN & MUTHEN
11/13/2012   4:14 PM

INPUT INSTRUCTIONS
  TITLE: GFF Path Analysis with Latent Variables;
       DATA: FILE IS "C:\Users\user\Desktop\analysis\TEST1\final.csv";

       VARIABLE: NAMES ARE P_REP_1
                           P_REP_2 P_REP_3
                           CHANG_1 CHANG_2 CHANG_3
                           ARG_1c ARG_2p ARG_3s ARG_4g
                           SIDED_1 SIDED_2 SIDED_3
                           CONS_1 CONS_2 CONS_3
                           CONS_4 AT_REP1 AT_REP2 AT_REP3
                           AT_REP4 AT_REP5 AT_REP6 TRUST_1
                           TRUST_2 TRUST_3 TRUST_4
                           BT1_AV BT2_AV;

           USEVARIABLES ARE P_REP_1
                           P_REP_2 P_REP_3
                           CHANG_1 CHANG_2 CHANG_3
                           ARG_1c ARG_2p ARG_3s ARG_4g
                           CONS_1 CONS_2 CONS_3 CONS_4
                           AT_REP1 AT_REP2 AT_REP3
                           AT_REP4 AT_REP5 AT_REP6
                           TRUST_1 TRUST_2 TRUST_3 TRUST_4
                           BT1_AV BT2_AV;

                MISSING ARE ALL(99);

       MODEL: ARG BY ARG_1c ARG_2p ARG_3s ARG_4g;
                    CONS BY CONS_1 CONS_2 CONS_3 CONS_4;
                    AT_REP BY AT_REP1 AT_REP2 AT_REP3 AT_REP4 AT_REP5 AT_REP6;
                    P_REP BY P_REP_1 P_REP_2 P_REP_3;
                    TRUST BY TRUST_1 TRUST_2 TRUST_3 TRUST_4;
                    CHANGE BY CHANG_1 CHANG_2 CHANG_3;

                    P_REP ON ARG CONS AT_REP;
                    BT2_AV ON BT1_AV P_REP;
                    AT_REP ON TRUST;
                    ARG ON AT_REP;
                    CONS ON AT_REP;
                    CHANGE ON P_REP;

       OUTPUT: residual standardized;
                  sampstat stdyx mod;
                  res;

INPUT READING TERMINATED NORMALLY

GFF Path Analysis with Latent Variables;

SUMMARY OF ANALYSIS

Number of groups   1
Number of observations   2505

Number of dependent variables   25
Number of independent variables   1
Number of continuous latent variables   6

Observed dependent variables

  Continuous
   P_REP_1   P_REP_2   P_REP_3   CHANG_1   CHANG_2   CHANG_3
   ARG_1C   ARG_2P   ARG_3S   ARG_4G   CONS_1   CONS_2
   CONS_3   CONS_4   AT_REP1   AT_REP2   AT_REP3   AT_REP4
   AT_REP5   AT_REP6   TRUST_1   TRUST_2   TRUST_3   TRUST_4
   BT2_AV

Observed independent variables
   BT1_AV

Continuous latent variables
   ARG   CONS   AT_REP   P_REP   TRUST   CHANGE

Estimator   ML
Information matrix   OBSERVED
Maximum number of iterations   1000
Convergence criterion   0.500D-04
Maximum number of steepest descent iterations   20
Maximum number of iterations for H1   2000
Convergence criterion for H1   0.100D-03

Input data file(s)
  C:\Users\user\Desktop\analysis\TEST1\final.csv

Input data format FREE

     MAXIMUM LOG-LIKELIHOOD VALUE FOR THE UNRESTRICTED (H1) MODEL IS -61898.235

THE MODEL ESTIMATION TERMINATED NORMALLY

TESTS OF MODEL FIT

Chi-Square Test of Model Fit

          Value   2201.878
          Degrees of Freedom   290
          P-Value   0.0000

Chi-Square Test of Model Fit for the Baseline Model

          Value   32181.323
          Degrees of Freedom   325
          P-Value   0.0000

CFI/TLI

          CFI   0.940

```
        TLI                         0.933
```

Loglikelihood

```
        H0 Value                  -62999.174
        H1 Value                  -61898.235
```

Information Criteria

```
        Number of Free Parameters        85
        Akaike (AIC)              126168.348
        Bayesian (BIC)            126663.562
        Sample-Size Adjusted BIC  126393.495
          (n* = (n + 2) / 24)
```

RMSEA (Root Mean Square Error Of Approximation)

```
        Estimate                    0.051
        90 Percent C.I.             0.049  0.053
        Probability RMSEA <= .05    0.140
```

SRMR (Standardized Root Mean Square Residual)

```
        Value                       0.068
```

STANDARDIZED MODEL RESULTS

STDYX Standardization

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
ARG BY				
ARG_1C	0.872	0.007	132.047	0.000
ARG_2P	0.870	0.007	131.609	0.000
ARG_3S	0.777	0.009	82.440	0.000
ARG_4G	0.774	0.009	81.517	0.000
CONS BY				
CONS_1	0.778	0.010	81.442	0.000
CONS_2	0.784	0.009	84.047	0.000
CONS_3	0.885	0.006	136.508	0.000
CONS_4	0.835	0.008	108.707	0.000
AT_REP BY				
AT_REP1	0.769	0.010	77.789	0.000
AT_REP2	0.719	0.011	63.632	0.000
AT_REP3	0.746	0.010	71.267	0.000
AT_REP4	0.723	0.011	65.403	0.000
AT_REP5	0.727	0.011	65.382	0.000
AT_REP6	0.716	0.011	63.055	0.000
P_REP BY				
P_REP_1	0.684	0.014	47.547	0.000
P_REP_2	0.691	0.014	49.570	0.000
P_REP_3	0.457	0.018	25.083	0.000
TRUST BY				
TRUST_1	0.767	0.011	68.912	0.000
TRUST_2	0.718	0.012	58.772	0.000
TRUST_3	0.819	0.010	81.306	0.000
TRUST_4	0.619	0.015	42.003	0.000
CHANGE BY				
CHANG_1	0.351	0.019	18.227	0.000
CHANG_2	0.906	0.014	66.106	0.000
CHANG_3	0.834	0.014	60.900	0.000

```
 P_REP     ON
    ARG                  0.489        0.023       21.133        0.000
    CONS                 0.344        0.024       14.223        0.000
    AT_REP               0.248        0.024       10.367        0.000

 AT_REP    ON
    TRUST                0.576        0.017       33.940        0.000

 ARG       ON
    AT_REP               0.509        0.017       29.155        0.000

 CONS      ON
    AT_REP               0.458        0.018       24.798        0.000

 CHANGE    ON
    P_REP               -0.505        0.019      -26.735        0.000

 BT2_AV    ON
    P_REP               -0.012        0.015       -0.831        0.406

 BT2_AV    ON
    BT1_AV               0.726        0.009       76.680        0.000

 BT2_AV    WITH
    CHANGE               0.025        0.023        1.098        0.272

 BT1_AV    WITH
    TRUST                0.028        0.022        1.311        0.190

 Intercepts
    P_REP_1              5.385        0.078       68.966        0.000
    P_REP_2              4.450        0.065       68.017        0.000
    P_REP_3              4.639        0.068       67.826        0.000
    CHANG_1              2.533        0.041       61.514        0.000
    CHANG_2              2.674        0.043       62.582        0.000
    CHANG_3              2.618        0.042       62.045        0.000
    ARG_1C               4.645        0.069       66.996        0.000
    ARG_2P               4.250        0.064       66.275        0.000
    ARG_3S               4.260        0.064       66.125        0.000
    ARG_4G               4.562        0.068       66.653        0.000
    CONS_1               4.675        0.069       67.272        0.000
    CONS_2               4.620        0.069       67.243        0.000
    CONS_3               4.680        0.069       67.427        0.000
    CONS_4               4.565        0.068       67.149        0.000
    AT_REP1              5.558        0.081       68.295        0.000
    AT_REP2              5.054        0.075       67.783        0.000
    AT_REP3              5.109        0.075       67.924        0.000
    AT_REP4              5.306        0.078       68.126        0.000
    AT_REP5              5.122        0.076       67.779        0.000
    AT_REP6              5.060        0.075       67.903        0.000
    TRUST_1              4.529        0.068       66.621        0.000
    TRUST_2              4.330        0.065       66.818        0.000
    TRUST_3              4.270        0.065       65.977        0.000
    TRUST_4              3.755        0.058       64.818        0.000
    BT2_AV               1.166        0.075       15.625        0.000

 Variances
    TRUST                1.000        0.000      999.000      999.000

 Residual Variances
    P_REP_1              0.532        0.020       27.022        0.000
    P_REP_2              0.523        0.019       27.121        0.000
    P_REP_3              0.791        0.017       47.582        0.000
    CHANG_1              0.877        0.014       64.959        0.000
    CHANG_2              0.180        0.025        7.242        0.000
    CHANG_3              0.304        0.023       13.318        0.000
    ARG_1C               0.240        0.012       20.895        0.000
    ARG_2P               0.242        0.012       21.055        0.000
```

```
ARG_3S        0.397    0.015    27.106    0.000
ARG_4G        0.401    0.015    27.261    0.000
CONS_1        0.394    0.015    26.530    0.000
CONS_2        0.386    0.015    26.396    0.000
CONS_3        0.217    0.011    18.888    0.000
CONS_4        0.302    0.013    23.562    0.000
AT_REP1       0.409    0.015    26.925    0.000
AT_REP2       0.483    0.016    29.718    0.000
AT_REP3       0.444    0.016    28.456    0.000
AT_REP4       0.477    0.016    29.797    0.000
AT_REP5       0.471    0.016    29.149    0.000
AT_REP6       0.487    0.016    29.939    0.000
TRUST_1       0.412    0.017    24.093    0.000
TRUST_2       0.484    0.018    27.605    0.000
TRUST_3       0.329    0.016    19.976    0.000
TRUST_4       0.617    0.018    33.849    0.000
BT2_AV        0.473    0.014    34.457    0.000
ARG           0.741    0.018    41.709    0.000
CONS          0.791    0.017    46.802    0.000
AT_REP        0.668    0.020    34.150    0.000
P_REP         0.301    0.021    14.635    0.000
CHANGE        0.745    0.019    39.100    0.000
```

R-SQUARE

Observed Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
P_REP_1	0.468	0.020	23.774	0.000
P_REP_2	0.477	0.019	24.785	0.000
P_REP_3	0.209	0.017	12.541	0.000
CHANG_1	0.123	0.014	9.113	0.000
CHANG_2	0.820	0.025	33.053	0.000
CHANG_3	0.696	0.023	30.450	0.000
ARG_1C	0.760	0.012	66.024	0.000
ARG_2P	0.758	0.012	65.805	0.000
ARG_3S	0.603	0.015	41.220	0.000
ARG_4G	0.599	0.015	40.759	0.000
CONS_1	0.606	0.015	40.721	0.000
CONS_2	0.614	0.015	42.024	0.000
CONS_3	0.783	0.011	68.254	0.000
CONS_4	0.698	0.013	54.354	0.000
AT_REP1	0.591	0.015	38.894	0.000
AT_REP2	0.517	0.016	31.816	0.000
AT_REP3	0.556	0.016	35.633	0.000
AT_REP4	0.523	0.016	32.701	0.000
AT_REP5	0.529	0.016	32.691	0.000
AT_REP6	0.513	0.016	31.528	0.000
TRUST_1	0.588	0.017	34.456	0.000
TRUST_2	0.516	0.018	29.386	0.000
TRUST_3	0.671	0.016	40.653	0.000
TRUST_4	0.383	0.018	21.002	0.000
BT2_AV	0.527	0.014	38.341	0.000

Latent Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
ARG	0.259	0.018	14.578	0.000
CONS	0.209	0.017	12.399	0.000
AT_REP	0.332	0.020	16.970	0.000
P_REP	0.699	0.021	33.976	0.000
CHANGE	0.255	0.019	13.368	0.000

QUALITY OF NUMERICAL RESULTS

```
    Condition Number for the Information Matrix        0.363E-03
```

(ratio of smallest to largest eigenvalue)

RESIDUAL OUTPUT

ESTIMATED MODEL AND RESIDUALS (OBSERVED - ESTIMATED)

Model Estimated Means/Intercepts/Thresholds

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
1	3.876	3.599	3.636	2.708	2.243

Model Estimated Means/Intercepts/Thresholds

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
1	2.219	3.763	3.631	3.633	3.810

Model Estimated Means/Intercepts/Thresholds

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
1	3.668	3.619	3.650	3.588	4.066

Model Estimated Means/Intercepts/Thresholds

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
1	4.003	3.949	4.108	3.979	3.935

Model Estimated Means/Intercepts/Thresholds

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
1	3.637	3.689	3.566	3.570	3.601

Model Estimated Means/Intercepts/Thresholds

	BT1_AV
1	3.420

Residuals for Means/Intercepts/Thresholds

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
1	-0.001	-0.002	0.000	0.002	0.000

Residuals for Means/Intercepts/Thresholds

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
1	0.000	-0.002	-0.001	-0.001	-0.001

Residuals for Means/Intercepts/Thresholds

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
1	-0.002	0.000	0.000	-0.001	0.000

Residuals for Means/Intercepts/Thresholds

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
1	0.000	0.000	0.000	0.001	0.001

Residuals for Means/Intercepts/Thresholds

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
1	-0.001	-0.001	0.000	0.000	0.000

Residuals for Means/Intercepts/Thresholds

	BT1_AV
1	0.000

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
1	-0.406	-0.697	-0.161	3.713	-0.006

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
1	-0.169	-2.006	-1.182	999.000	-2.888

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
1	-2.430	-0.934	-1.921	-1.227	-0.758

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
1	-1.678	999.000	999.000	999.000	999.000

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
1	-1.195	-2.386	-0.244	-1.782	0.000

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	BT1_AV
1	0.000

Normalized Residuals for Means/Intercepts/Thresholds

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
1	-0.072	-0.126	-0.019	0.096	-0.001

Normalized Residuals for Means/Intercepts/Thresholds

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
1	-0.018	-0.093	-0.057	-0.033	-0.068

Normalized Residuals for Means/Intercepts/Thresholds

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
1	-0.102	-0.011	-0.029	-0.043	-0.032

Normalized Residuals for Means/Intercepts/Thresholds

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
1	-0.030	-0.002	0.015	0.040	0.072

Normalized Residuals for Means/Intercepts/Thresholds

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
1	-0.039	-0.042	-0.010	-0.016	0.000

Normalized Residuals for Means/Intercepts/Thresholds

	BT1_AV
1	0.000

Model Estimated Covariances/Correlations/Residual Correlations

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
P_REP_1	0.518				
P_REP_2	0.275	0.654			
P_REP_3	0.176	0.200	0.614		
CHANG_1	-0.093	-0.106	-0.068	1.143	
CHANG_2	-0.189	-0.214	-0.137	0.285	0.704
CHANG_3	-0.176	-0.199	-0.128	0.265	0.537
ARG_1C	0.242	0.274	0.176	-0.093	-0.188
ARG_2P	0.255	0.289	0.185	-0.098	-0.198
ARG_3S	0.227	0.257	0.165	-0.087	-0.177
ARG_4G	0.221	0.251	0.161	-0.085	-0.172
CONS_1	0.172	0.195	0.125	-0.066	-0.134
CONS_2	0.173	0.196	0.126	-0.066	-0.135
CONS_3	0.194	0.220	0.141	-0.075	-0.151
CONS_4	0.185	0.210	0.134	-0.071	-0.144
AT_REP1	0.181	0.206	0.132	-0.070	-0.141
AT_REP2	0.183	0.208	0.133	-0.071	-0.143
AT_REP3	0.186	0.211	0.135	-0.071	-0.145
AT_REP4	0.180	0.205	0.131	-0.069	-0.140
AT_REP5	0.182	0.206	0.132	-0.070	-0.142
AT_REP6	0.179	0.204	0.130	-0.069	-0.140
TRUST_1	0.114	0.130	0.083	-0.044	-0.089
TRUST_2	0.114	0.129	0.083	-0.044	-0.088
TRUST_3	0.127	0.144	0.092	-0.049	-0.099
TRUST_4	0.109	0.124	0.079	-0.042	-0.085
BT2_AV	-0.002	-0.002	-0.001	0.005	0.011
BT1_AV	0.004	0.005	0.003	-0.002	-0.003

Model Estimated Covariances/Correlations/Residual Correlations

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
CHANG_3	0.718				
ARG_1C	-0.175	0.656			
ARG_2P	-0.185	0.525	0.730		
ARG_3S	-0.164	0.468	0.493	0.727	
ARG_4G	-0.160	0.457	0.481	0.428	0.698
CONS_1	-0.124	0.100	0.106	0.094	0.092
CONS_2	-0.125	0.101	0.106	0.095	0.092
CONS_3	-0.141	0.113	0.120	0.106	0.104
CONS_4	-0.134	0.108	0.114	0.101	0.099
AT_REP1	-0.131	0.202	0.213	0.190	0.185
AT_REP2	-0.133	0.205	0.216	0.192	0.187
AT_REP3	-0.135	0.207	0.218	0.194	0.190
AT_REP4	-0.131	0.201	0.212	0.189	0.184
AT_REP5	-0.132	0.203	0.214	0.190	0.186
AT_REP6	-0.130	0.200	0.211	0.188	0.183
TRUST_1	-0.083	0.128	0.134	0.120	0.117
TRUST_2	-0.082	0.127	0.133	0.119	0.116

TRUST_3	-0.092	0.142	0.149	0.133	0.130
TRUST_4	-0.079	0.122	0.128	0.114	0.112
BT2_AV	0.010	-0.001	-0.002	-0.001	-0.001
BT1_AV	-0.003	0.005	0.005	0.004	0.004

Model Estimated Covariances/Correlations/Residual Correlations

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
CONS_1	0.616				
CONS_2	0.375	0.614			
CONS_3	0.421	0.424	0.608		
CONS_4	0.401	0.403	0.453	0.618	
AT_REP1	0.157	0.158	0.178	0.169	0.535
AT_REP2	0.159	0.160	0.180	0.171	0.320
AT_REP3	0.161	0.162	0.182	0.173	0.324
AT_REP4	0.156	0.157	0.177	0.168	0.315
AT_REP5	0.158	0.159	0.178	0.170	0.318
AT_REP6	0.156	0.156	0.176	0.167	0.313
TRUST_1	0.099	0.100	0.112	0.107	0.200
TRUST_2	0.099	0.099	0.111	0.106	0.198
TRUST_3	0.110	0.111	0.124	0.118	0.222
TRUST_4	0.095	0.095	0.107	0.102	0.191
BT2_AV	-0.001	-0.001	-0.001	-0.001	0.002
BT1_AV	0.004	0.004	0.004	0.004	0.007

Model Estimated Covariances/Correlations/Residual Correlations

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
AT_REP2	0.627				
AT_REP3	0.328	0.597			
AT_REP4	0.319	0.323	0.599		
AT_REP5	0.322	0.325	0.316	0.603	
AT_REP6	0.317	0.321	0.312	0.315	0.605
TRUST_1	0.202	0.205	0.199	0.200	0.198
TRUST_2	0.201	0.203	0.197	0.199	0.196
TRUST_3	0.224	0.227	0.221	0.223	0.219
TRUST_4	0.193	0.195	0.190	0.191	0.189
BT2_AV	0.002	0.002	0.002	0.002	0.002
BT1_AV	0.007	0.007	0.007	0.007	0.007

Model Estimated Covariances/Correlations/Residual Correlations

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
TRUST_1	0.645				
TRUST_2	0.377	0.726			
TRUST_3	0.421	0.418	0.698		
TRUST_4	0.362	0.360	0.402	0.904	
BT2_AV	0.008	0.008	0.009	0.008	0.678
BT1_AV	0.014	0.013	0.015	0.013	0.462

Model Estimated Covariances/Correlations/Residual Correlations

	BT1_AV
BT1_AV	0.599

Residuals for Covariances/Correlations/Residual Correlations

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
P_REP_1	0.017				
P_REP_2	0.021	0.023			
P_REP_3	0.036	0.034	0.009		
CHANG_1	0.099	0.105	0.120	0.001	
CHANG_2	0.009	-0.001	0.012	0.020	0.011

CHANG_3	-0.010	0.000	-0.005	0.007	0.008
ARG_1C	0.056	0.007	-0.011	0.072	-0.043
ARG_2P	0.042	-0.005	-0.017	0.095	-0.035
ARG_3S	0.045	0.012	0.016	0.073	-0.046
ARG_4G	0.060	0.031	0.005	0.051	-0.065
CONS_1	0.025	0.132	0.023	0.002	-0.084
CONS_2	-0.024	0.074	0.014	0.026	-0.054
CONS_3	-0.021	0.091	0.001	0.001	-0.035
CONS_4	-0.024	0.095	0.005	0.042	-0.039
AT_REP1	0.013	-0.035	0.014	0.028	-0.016
AT_REP2	0.009	-0.065	-0.006	0.031	0.004
AT_REP3	0.017	-0.019	0.014	0.066	0.017
AT_REP4	0.015	-0.044	0.006	0.031	-0.001
AT_REP5	0.011	-0.027	0.004	0.047	0.005
AT_REP6	0.001	-0.053	0.011	0.033	0.014
TRUST_1	0.061	0.064	0.024	0.071	-0.024
TRUST_2	0.081	0.082	0.029	0.054	-0.049
TRUST_3	0.050	0.053	0.025	0.072	-0.033
TRUST_4	0.054	0.061	0.034	0.118	-0.004
BT2_AV	-0.004	-0.005	-0.006	0.043	0.019
BT1_AV	-0.008	-0.011	0.010	0.048	0.028

Residuals for Covariances/Correlations/Residual Correlations

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
CHANG_3	0.009				
ARG_1C	-0.048	0.002			
ARG_2P	-0.048	0.012	0.002		
ARG_3S	-0.057	-0.024	0.011	0.000	
ARG_4G	-0.072	0.006	-0.019	0.022	0.001
CONS_1	-0.071	0.169	0.168	0.171	0.199
CONS_2	-0.042	0.084	0.092	0.097	0.127
CONS_3	-0.035	0.096	0.100	0.114	0.129
CONS_4	-0.031	0.102	0.113	0.122	0.149
AT_REP1	-0.024	-0.004	-0.015	0.009	0.000
AT_REP2	-0.012	-0.022	-0.039	-0.003	-0.037
AT_REP3	0.002	-0.019	-0.027	0.004	-0.010
AT_REP4	-0.013	-0.002	-0.015	-0.006	0.001
AT_REP5	-0.005	-0.011	-0.014	0.012	0.001
AT_REP6	0.004	-0.033	-0.046	-0.016	-0.024
TRUST_1	-0.024	0.106	0.087	0.088	0.106
TRUST_2	-0.053	0.111	0.098	0.102	0.136
TRUST_3	-0.044	0.078	0.071	0.088	0.086
TRUST_4	-0.008	0.065	0.053	0.062	0.081
BT2_AV	0.015	-0.013	0.001	-0.019	-0.011
BT1_AV	0.014	-0.016	-0.007	-0.020	-0.019

Residuals for Covariances/Correlations/Residual Correlations

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
CONS_1	0.002				
CONS_2	0.043	0.000			
CONS_3	-0.012	-0.009	0.000		
CONS_4	-0.022	-0.014	0.020	0.001	
AT_REP1	0.027	-0.012	-0.022	-0.022	0.001
AT_REP2	-0.010	-0.029	-0.044	-0.033	0.055
AT_REP3	0.021	0.000	0.005	0.004	0.004
AT_REP4	0.017	-0.016	-0.032	-0.026	-0.013
AT_REP5	0.019	-0.001	-0.027	-0.009	-0.018
AT_REP6	0.000	-0.017	-0.040	-0.024	-0.016
TRUST_1	0.102	0.062	0.051	0.061	0.002
TRUST_2	0.105	0.074	0.071	0.077	0.006
TRUST_3	0.105	0.055	0.049	0.068	-0.020
TRUST_4	0.075	0.060	0.053	0.073	-0.018
BT2_AV	0.014	0.012	0.007	0.011	-0.020
BT1_AV	0.012	0.011	0.009	0.019	-0.010

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              Residuals for Covariances/Correlations/Residual Correlations
                 AT_REP2        AT_REP3        AT_REP4        AT_REP5        AT_REP6
                _____       _____       _____       _____       _____
 AT_REP2          0.000
 AT_REP3          0.028          0.000
 AT_REP4         -0.020          0.012          0.000
 AT_REP5         -0.033         -0.026          0.015         -0.001
 AT_REP6         -0.008         -0.016          0.008          0.079          0.000
 TRUST_1         -0.031          0.000          0.026         -0.008         -0.042
 TRUST_2         -0.025          0.016          0.021          0.002         -0.027
 TRUST_3         -0.046         -0.008          0.007         -0.025         -0.045
 TRUST_4         -0.011          0.009          0.021         -0.014         -0.020
 BT2_AV          -0.025         -0.010         -0.002          0.010          0.001
 BT1_AV          -0.013         -0.012         -0.007          0.014          0.011


              Residuals for Covariances/Correlations/Residual Correlations
                 TRUST_1        TRUST_2        TRUST_3        TRUST_4        BT2_AV
                _____       _____       _____       _____       _____
 TRUST_1          0.000
 TRUST_2          0.002          0.000
 TRUST_3          0.002         -0.001          0.001
 TRUST_4         -0.009         -0.014          0.013          0.000
 BT2_AV           0.009          0.006          0.013          0.034          0.001
 BT1_AV          -0.005          0.000         -0.001          0.017          0.001


              Residuals for Covariances/Correlations/Residual Correlations
                 BT1_AV
                _____
 BT1_AV           0.000


              Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr
                 P_REP_1        P_REP_2        P_REP_3        CHANG_1        CHANG_2
                _____       _____       _____       _____       _____
 P_REP_1          3.514
 P_REP_2          3.573          3.626
 P_REP_3          5.064          4.250          2.235
 CHANG_1          7.041          6.657          7.448          0.564
 CHANG_2          1.120         -0.076          1.183          4.876          2.290
 CHANG_3         -1.202          0.035         -0.447          0.833          1.856
 ARG_1C           8.808          0.977         -1.341          4.531         -4.616
 ARG_2P           6.521         -0.674         -1.937          5.637         -3.609
 ARG_3S           5.935          1.315          1.616          4.284         -4.317
 ARG_4G           7.797          3.369          0.517          3.052         -6.066
 CONS_1           3.101         14.064          2.299          0.118         -7.685
 CONS_2          -3.151          8.673          1.401          1.621         -5.049
 CONS_3          -3.049         11.979          0.112          0.088         -3.629
 CONS_4          -3.215         11.415          0.542          2.670         -3.836
 AT_REP1          1.964         -4.744          1.635          1.919         -1.696
 AT_REP2          1.221         -7.880         -0.637          1.906          0.419
 AT_REP3          2.347         -2.327          1.497          4.245          1.714
 AT_REP4          2.041         -5.434          0.593          1.970         -0.106
 AT_REP5          1.535         -3.256          0.377          3.008          0.485
 AT_REP6          0.116         -6.453          1.185          2.102          1.367
 TRUST_1          5.976          5.593          2.119          4.207         -1.919
 TRUST_2          7.339          6.580          2.370          3.002         -3.690
 TRUST_3          4.888          4.521          2.094          4.094         -2.552
 TRUST_4          4.275          4.297          2.378          5.796         -0.252
 BT2_AV          -0.410         -0.479         -0.511          2.517          1.820
 BT1_AV          -0.714         -0.895          0.858          2.902          2.159


              Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr
                 CHANG_3        ARG_1C         ARG_2P         ARG_3S         ARG_4G
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CHANG_3	2.019				
ARG_1C	-5.040	1.065			
ARG_2P	-4.749	4.645	1.011		
ARG_3S	-5.127	-15.545	3.334	999.000	
ARG_4G	-6.501	1.779	-8.754	4.311	0.925
CONS_1	-6.349	14.012	13.317	13.300	15.433
CONS_2	-3.816	7.427	7.637	7.875	10.339
CONS_3	-3.496	8.781	8.658	9.517	10.844
CONS_4	-2.918	9.023	9.403	9.908	12.055
AT_REP1	-2.495	-0.630	-2.124	1.115	-0.057
AT_REP2	-1.114	-2.839	-4.731	-0.305	-4.124
AT_REP3	0.193	-2.640	-3.499	0.469	-1.180
AT_REP4	-1.220	-0.200	-1.886	-0.612	0.151
AT_REP5	-0.439	-1.404	-1.695	1.259	0.152
AT_REP6	0.390	-4.363	-5.661	-1.750	-2.724
TRUST_1	-1.872	9.245	7.283	7.165	8.659
TRUST_2	-3.924	8.983	7.609	7.733	10.265
TRUST_3	-3.384	6.825	5.944	7.041	6.981
TRUST_4	-0.494	4.638	3.662	4.131	5.499
BT2_AV	1.363	-1.090	0.104	-1.455	-0.853
BT1_AV	1.104	-1.361	-0.525	-1.589	-1.508

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
CONS_1	1.075				
CONS_2	9.302	0.370			
CONS_3	-8.484	-6.260	0.294		
CONS_4	-10.348	-6.097	9.530	0.750	
AT_REP1	3.417	-1.536	-3.382	-3.053	0.820
AT_REP2	-1.125	-3.405	-5.867	-4.100	10.423
AT_REP3	2.475	-0.015	0.737	0.464	0.936
AT_REP4	2.002	-1.846	-4.304	-3.208	-3.588
AT_REP5	2.190	-0.125	-3.621	-1.169	-4.946
AT_REP6	0.051	-1.959	-5.418	-2.990	-4.476
TRUST_1	8.823	5.526	4.793	5.538	0.326
TRUST_2	8.564	6.095	6.093	6.444	0.762
TRUST_3	8.887	4.841	4.498	5.993	-2.876
TRUST_4	5.341	4.302	3.972	5.268	-1.770
BT2_AV	1.140	1.007	0.640	0.943	-1.915
BT1_AV	0.998	0.931	0.807	1.582	-0.995

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
AT_REP2	0.627				
AT_REP3	5.443	999.000			
AT_REP4	-4.434	2.535	999.000		
AT_REP5	-7.894	-6.665	3.111	999.000	
AT_REP6	-1.563	-3.849	1.552	12.813	999.000
TRUST_1	-3.801	0.049	3.170	-1.007	-5.294
TRUST_2	-2.768	1.779	2.264	0.271	-3.009
TRUST_3	-5.777	-1.005	0.912	-3.214	-5.893
TRUST_4	-0.999	0.843	1.825	-1.265	-1.824
BT2_AV	-2.142	-0.868	-0.151	0.914	0.109
BT1_AV	-1.212	-1.092	-0.617	1.311	0.994

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
TRUST_1	0.587				
TRUST_2	0.403	999.000			
TRUST_3	0.804	-0.368	0.639		
TRUST_4	-1.582	-2.025	2.771	999.000	

BT2_AV	0.858	0.520	1.326	2.473	0.781
BT1_AV	-0.776	0.025	-0.117	1.564	1.026

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	BT1_AV
	_____
BT1_AV	0.000

Normalized Residuals for Covariances/Correlations/Residual Correlations

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
	_____	_____	_____	_____	_____
P_REP_1	1.129				
P_REP_2	1.554	1.176			
P_REP_3	2.853	2.417	0.511		
CHANG_1	6.246	5.900	7.005	0.036	
CHANG_2	0.661	-0.045	0.893	1.007	0.520
CHANG_3	-0.730	0.021	-0.346	0.335	0.421
ARG_1C	4.143	0.497	-0.854	4.091	-2.940
ARG_2P	3.014	-0.340	-1.234	5.093	-2.302
ARG_3S	3.267	0.773	1.148	3.948	-3.045
ARG_4G	4.396	2.029	0.368	2.814	-4.325
CONS_1	2.065	9.037	1.778	0.111	-5.968
CONS_2	-2.037	5.274	1.079	1.526	-3.878
CONS_3	-1.719	6.340	0.080	0.081	-2.566
CONS_4	-1.951	6.614	0.401	2.495	-2.832
AT_REP1	1.128	-2.764	1.197	1.785	-1.237
AT_REP2	0.757	-4.851	-0.483	1.788	0.316
AT_REP3	1.404	-1.414	1.114	3.962	1.263
AT_REP4	1.253	-3.354	0.448	1.846	-0.080
AT_REP5	0.936	-2.017	0.283	2.816	0.364
AT_REP6	0.071	-4.007	0.901	1.972	1.035
TRUST_1	4.875	4.601	1.883	4.095	-1.707
TRUST_2	6.134	5.528	2.134	2.930	-3.328
TRUST_3	3.882	3.628	1.835	3.972	-2.241
TRUST_4	3.707	3.741	2.195	5.693	-0.233
BT2_AV	-0.347	-0.403	-0.477	2.429	1.353
BT1_AV	-0.687	-0.860	0.843	2.894	2.122

Normalized Residuals for Covariances/Correlations/Residual Correlations

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
	_____	_____	_____	_____	_____
CHANG_3	0.414				
ARG_1C	-3.299	0.095			
ARG_2P	-3.127	0.687	0.088		
ARG_3S	-3.706	-1.432	0.629	-0.009	
ARG_4G	-4.738	0.332	-1.128	1.284	0.058
CONS_1	-5.027	12.110	11.503	11.800	13.767
CONS_2	-2.996	6.318	6.505	6.914	9.122
CONS_3	-2.552	7.181	7.089	8.110	9.282
CONS_4	-2.209	7.549	7.883	8.596	10.515
AT_REP1	-1.862	-0.343	-1.155	0.702	-0.036
AT_REP2	-0.862	-1.668	-2.764	-0.203	-2.721
AT_REP3	0.146	-1.479	-1.967	0.304	-0.763
AT_REP4	-0.940	-0.117	-1.105	-0.404	0.101
AT_REP5	-0.337	-0.815	-0.987	0.835	0.101
AT_REP6	0.302	-2.548	-3.305	-1.161	-1.812
TRUST_1	-1.681	7.547	5.924	6.054	7.353
TRUST_2	-3.569	7.490	6.331	6.659	8.889
TRUST_3	-3.005	5.409	4.702	5.837	5.794
TRUST_4	-0.459	4.003	3.159	3.665	4.888
BT2_AV	1.073	-0.951	0.091	-1.310	-0.768
BT1_AV	1.088	-1.308	-0.505	-1.540	-1.462

Normalized Residuals for Covariances/Correlations/Residual Correlations

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
CONS_1	0.086				
CONS_2	2.871	0.011			
CONS_3	-0.829	-0.623	0.010		
CONS_4	-1.487	-0.981	1.278	0.047	
AT_REP1	2.244	-0.984	-1.843	-1.810	0.054
AT_REP2	-0.770	-2.300	-3.471	-2.611	3.972
AT_REP3	1.653	-0.010	0.427	0.288	0.270
AT_REP4	1.374	-1.244	-2.530	-2.032	-1.025
AT_REP5	1.495	-0.084	-2.116	-0.741	-1.369
AT_REP6	0.035	-1.332	-3.210	-1.915	-1.278
TRUST_1	7.598	4.722	3.929	4.642	0.190
TRUST_2	7.487	5.301	5.117	5.513	0.471
TRUST_3	7.526	4.056	3.599	4.926	-1.523
TRUST_4	4.806	3.861	3.468	4.671	-1.217
BT2_AV	1.061	0.936	0.582	0.867	-1.648
BT1_AV	0.973	0.907	0.780	1.536	-0.872

       Normalized Residuals for Covariances/Correlations/Residual Correlations

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
AT_REP2	0.010				
AT_REP3	1.966	-0.013			
AT_REP4	-1.464	0.879	-0.010		
AT_REP5	-2.402	-1.896	1.099	-0.046	
AT_REP6	-0.549	-1.200	0.555	5.497	-0.028
TRUST_1	-2.332	0.029	1.983	-0.614	-3.219
TRUST_2	-1.789	1.132	1.480	0.176	-1.949
TRUST_3	-3.294	-0.560	0.535	-1.820	-3.355
TRUST_4	-0.724	0.598	1.322	-0.904	-1.313
BT2_AV	-1.882	-0.753	-0.132	0.800	0.096
BT1_AV	-1.083	-0.965	-0.550	1.167	0.888

       Normalized Residuals for Covariances/Correlations/Residual Correlations

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
TRUST_1	0.027				
TRUST_2	0.101	0.002			
TRUST_3	0.123	-0.069	0.034		
TRUST_4	-0.538	-0.799	0.733	-0.009	
BT2_AV	0.660	0.416	0.970	2.122	0.041
BT1_AV	-0.432	0.016	-0.054	1.163	0.032

       Normalized Residuals for Covariances/Correlations/Residual Correlations

	BT1_AV
BT1_AV	0.000

MODEL MODIFICATION INDICES

Minimum M.I. value for printing the modification index   10.000

		M.I.	E.P.C.	Std E.P.C.	StdYX E.P.C.

BY Statements

ARG	BY P_REP_1	39.461	0.215	0.152	0.211
ARG	BY P_REP_2	38.364	-0.239	-0.169	-0.209
ARG	BY P_REP_3	13.430	-0.133	-0.094	-0.120
ARG	BY CHANG_1	52.262	0.239	0.168	0.158
ARG	BY CHANG_3	12.298	-0.078	-0.055	-0.065
ARG	BY CONS_1	136.304	0.194	0.137	0.175
ARG	BY AT_REP2	17.799	-0.091	-0.064	-0.081

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ARG       BY AT_REP6        26.128   -0.109   -0.077   -0.099
ARG       BY TRUST_1        20.479    0.086    0.061    0.076
ARG       BY TRUST_2        34.084    0.122    0.086    0.101
CONS      BY P_REP_1       120.604   -0.343   -0.209   -0.291
CONS      BY P_REP_2       115.284    0.378    0.231    0.285
CONS      BY ARG_3S         15.132    0.082    0.050    0.058
CONS      BY ARG_4G         57.211    0.156    0.095    0.114
CONS      BY AT_REP2        27.035   -0.124   -0.076   -0.096
CONS      BY AT_REP6        15.471   -0.093   -0.057   -0.073
CONS      BY TRUST_2        16.960    0.098    0.060    0.070
AT_REP    BY P_REP_1        26.891    0.211    0.119    0.165
AT_REP    BY P_REP_2        50.412   -0.326   -0.183   -0.227
AT_REP    BY CHANG_1        20.095    0.185    0.104    0.098
AT_REP    BY ARG_2P         11.003   -0.081   -0.045   -0.053
AT_REP    BY CONS_1         41.516    0.154    0.087    0.111
AT_REP    BY CONS_3         16.927   -0.087   -0.049   -0.062
AT_REP    BY TRUST_3        10.263   -0.106   -0.060   -0.072
P_REP     BY CHANG_1        82.209    0.515    0.253    0.237
P_REP     BY CHANG_3        15.522   -0.202   -0.099   -0.117
P_REP     BY ARG_3S         10.027    0.137    0.068    0.079
P_REP     BY ARG_4G         36.874    0.259    0.127    0.152
P_REP     BY CONS_1        123.607    0.360    0.177    0.226
P_REP     BY AT_REP2        34.934   -0.244   -0.120   -0.152
P_REP     BY AT_REP6        30.639   -0.225   -0.111   -0.142
P_REP     BY TRUST_1        12.192    0.108    0.053    0.066
P_REP     BY TRUST_2        39.084    0.213    0.105    0.123
TRUST     BY CHANG_1        42.157    0.239    0.147    0.138
TRUST     BY ARG_4G         18.136    0.092    0.057    0.068
TRUST     BY CONS_1         54.159    0.147    0.091    0.116
TRUST     BY AT_REP2        29.955   -0.153   -0.094   -0.119
TRUST     BY AT_REP6        39.576   -0.172   -0.106   -0.137
CHANGE    BY ARG_4G         18.522   -0.155   -0.058   -0.069
CHANGE    BY CONS_1         43.655   -0.215   -0.081   -0.103
CHANGE    BY TRUST_2        12.256   -0.135   -0.050   -0.059

ON/BY Statements

ARG       ON CONS      /
CONS      BY ARG           235.955    0.410    0.354    0.354
ARG       ON P_REP     /
P_REP     BY ARG           235.949    1.477    1.030    1.030
ARG       ON TRUST     /
TRUST     BY ARG           144.683    0.373    0.325    0.325
ARG       ON CHANGE    /
CHANGE    BY ARG            33.022   -0.310   -0.165   -0.165
CONS      ON ARG       /
ARG       BY CONS          235.956    0.327    0.378    0.378
CONS      ON P_REP     /
P_REP     BY CONS          235.979    0.958    0.773    0.773
CONS      ON TRUST     /
TRUST     BY CONS           91.193    0.262    0.264    0.264
CONS      ON CHANGE    /
CHANGE    BY CONS           34.836   -0.259   -0.159   -0.159
AT_REP    ON ARG       /
ARG       BY AT_REP         144.686   -0.405   -0.509   -0.509
AT_REP    ON CONS      /
CONS      BY AT_REP         91.192   -0.357   -0.387   -0.387
AT_REP    ON P_REP     /
P_REP     BY AT_REP         184.361   -0.871   -0.762   -0.762
P_REP     ON CHANGE    /
CHANGE    BY P_REP          37.457    0.236    0.180    0.180
TRUST     ON ARG       /
ARG       BY TRUST          146.309    0.385    0.441    0.441
TRUST     ON CONS      /
CONS      BY TRUST          90.259    0.335    0.332    0.332
TRUST     ON P_REP     /
P_REP     BY TRUST          185.571    0.824    0.659    0.659
TRUST     ON CHANGE    /
```

```
CHANGE     BY TRUST         13.299    -0.177    -0.107    -0.107
CHANGE     ON ARG      /
ARG        BY CHANGE        12.156    -0.065    -0.122    -0.122


WITH Statements

P_REP_3    WITH P_REP_1     14.401     0.034     0.034     0.093
CHANG_1    WITH P_REP_1     10.295     0.038     0.038     0.072
CHANG_1    WITH P_REP_3     24.459     0.072     0.072     0.103
CHANG_2    WITH CHANG_1     16.243     0.061     0.061     0.170
CHANG_3    WITH CHANG_2     81.358    -0.532    -0.532    -3.201
ARG_2P     WITH ARG_1C      45.315     0.051     0.051     0.307
ARG_3S     WITH ARG_1C      80.881    -0.062    -0.062    -0.293
ARG_3S     WITH ARG_2P      13.359     0.027     0.027     0.118
ARG_4G     WITH ARG_2P      51.590    -0.051    -0.051    -0.231
ARG_4G     WITH ARG_3S      22.168     0.034     0.034     0.121
CONS_2     WITH CONS_1     126.474     0.072     0.072     0.299
CONS_3     WITH CHANG_1     14.363    -0.035    -0.035    -0.095
CONS_3     WITH CONS_1      43.070    -0.043    -0.043    -0.240
CONS_3     WITH CONS_2      22.342    -0.031    -0.031    -0.176
CONS_4     WITH P_REP_1     12.402    -0.020    -0.020    -0.089
CONS_4     WITH CONS_1      56.763    -0.048    -0.048    -0.226
CONS_4     WITH CONS_2      28.191    -0.034    -0.034    -0.161
CONS_4     WITH CONS_3     184.378     0.096     0.096     0.609
AT_REP2    WITH P_REP_2     16.939    -0.032    -0.032    -0.098
AT_REP2    WITH ARG_4G      16.068    -0.027    -0.027    -0.093
AT_REP2    WITH AT_REP1    168.673     0.084     0.084     0.328
AT_REP3    WITH CONS_3      11.836     0.017     0.017     0.092
AT_REP3    WITH AT_REP2     35.713     0.042     0.042     0.147
AT_REP4    WITH AT_REP1     10.558    -0.021    -0.021    -0.082
AT_REP4    WITH AT_REP2     15.413    -0.028    -0.028    -0.095
AT_REP5    WITH AT_REP1     16.379    -0.026    -0.026    -0.103
AT_REP5    WITH AT_REP2     42.331    -0.046    -0.046    -0.158
AT_REP5    WITH AT_REP3     31.425    -0.038    -0.038    -0.139
AT_REP5    WITH AT_REP4     11.310     0.023     0.023     0.082
AT_REP6    WITH AT_REP1     14.668    -0.024    -0.024    -0.096
AT_REP6    WITH AT_REP3     11.476    -0.023    -0.023    -0.083
AT_REP6    WITH AT_REP5    268.223     0.115     0.115     0.396
TRUST_1    WITH ARG_1C      11.051     0.019     0.019     0.091
TRUST_1    WITH AT_REP6     13.399    -0.025    -0.025    -0.089
TRUST_2    WITH ARG_4G      17.217     0.031     0.031     0.099
TRUST_4    WITH CHANG_1     12.524     0.057     0.057     0.076
CONS       WITH ARG        235.956     0.121     0.366     0.366
AT_REP     WITH ARG        144.687    -0.150    -0.536    -0.536
AT_REP     WITH CONS        91.192    -0.105    -0.421    -0.421
TRUST      WITH ARG        146.148     0.142     0.380     0.380
TRUST      WITH CONS        90.135     0.099     0.295     0.295
CHANGE     WITH P_REP       37.527     0.025     0.283     0.283



        Beginning Time:  16:14:16
           Ending Time:  16:14:39
          Elapsed Time:  00:00:23
```

APPENDIX 5
MPlus output for the proposed alternative model n°2.

Mplus VERSION 5.1
MUTHEN & MUTHEN
11/21/2012   3:50 PM

INPUT INSTRUCTIONS
  TITLE: GFF Path Analysis with Latent Variables;
      DATA: FILE IS "C:\Users\user\Desktop\analysis\TEST1\final.csv";

      VARIABLE: NAMES ARE P_REP_1
                          P_REP_2 P_REP_3
                          CHANG_1 CHANG_2 CHANG_3
                          ARG_1c ARG_2p ARG_3s ARG_4g
                          SIDED_1 SIDED_2 SIDED_3
                          CONS_1 CONS_2 CONS_3
                          CONS_4 AT_REP1 AT_REP2 AT_REP3
                          AT_REP4 AT_REP5 AT_REP6 TRUST_1
                          TRUST_2 TRUST_3 TRUST_4
                          BT1_AV BT2_AV;

          USEVARIABLES ARE P_REP_1
                          P_REP_2 P_REP_3
                          CHANG_1 CHANG_2 CHANG_3
                          ARG_1c ARG_2p ARG_3s ARG_4g
                          CONS_1 CONS_2 CONS_3 CONS_4
                          AT_REP1 AT_REP2 AT_REP3
                          AT_REP4 AT_REP5 AT_REP6
                          TRUST_1 TRUST_2 TRUST_3 TRUST_4
                          BT1_AV BT2_AV;

               MISSING ARE ALL(99);

      MODEL: ARG BY ARG_1c ARG_2p ARG_3s ARG_4g;
                    CONS BY CONS_1 CONS_2 CONS_3 CONS_4;
                    AT_REP BY AT_REP1 AT_REP2 AT_REP3 AT_REP4 AT_REP5 AT_REP6;
                    P_REP BY P_REP_1 P_REP_2 P_REP_3;
                    TRUST BY TRUST_1 TRUST_2 TRUST_3 TRUST_4;
                    CHANGE BY CHANG_1 CHANG_2 CHANG_3;

                    P_REP ON ARG CONS AT_REP;
                    AT_REP ON TRUST;
                    BT2_AV ON BT1_AV P_REP;
                    ARG ON AT_REP;
                    CONS ON AT_REP;
                    CHANGE ON P_REP;
                    TRUST ON CHANGE P_REP;

```
     OUTPUT:    residual standardized;
                sampstat stdyx mod;
                res;
```

INPUT READING TERMINATED NORMALLY

GFF Path Analysis with Latent Variables;

SUMMARY OF ANALYSIS

```
Number of groups                                          1
Number of observations                                 2505

Number of dependent variables                            25
Number of independent variables                           1
Number of continuous latent variables                     6
```

Observed dependent variables

```
  Continuous
   P_REP_1      P_REP_2      P_REP_3      CHANG_1      CHANG_2      CHANG_3
   ARG_1C       ARG_2P       ARG_3S       ARG_4G       CONS_1       CONS_2
   CONS_3       CONS_4       AT_REP1      AT_REP2      AT_REP3      AT_REP4
   AT_REP5      AT_REP6      TRUST_1      TRUST_2      TRUST_3      TRUST_4
   BT2_AV
```

Observed independent variables
```
   BT1_AV
```

Continuous latent variables
```
   ARG          CONS         AT_REP       P_REP        TRUST        CHANGE
```

```
Estimator                                                ML
Information matrix                                  OBSERVED
Maximum number of iterations                           1000
Convergence criterion                             0.500D-04
Maximum number of steepest descent iterations            20
Maximum number of iterations for H1                    2000
Convergence criterion for H1                      0.100D-03
```

```
Input data file(s)
  C:\Users\user\Desktop\analysis\TEST1\final.csv
```

Input data format FREE

THE MODEL ESTIMATION TERMINATED NORMALLY

TESTS OF MODEL FIT

Chi-Square Test of Model Fit

```
          Value                          2041.410
          Degrees of Freedom                  290
          P-Value                          0.0000
```

Chi-Square Test of Model Fit for the Baseline Model

```
            Value                        32181.323
            Degrees of Freedom                 325
            P-Value                         0.0000
```

CFI/TLI

```
            CFI                              0.945
            TLI                              0.938
```

Loglikelihood

```
            H0 Value                     -62918.940
            H1 Value                     -61898.235
```

Information Criteria

```
            Number of Free Parameters           85
            Akaike (AIC)                 126007.880
            Bayesian (BIC)               126503.094
            Sample-Size Adjusted BIC     126233.027
              (n* = (n + 2) / 24)
```

RMSEA (Root Mean Square Error Of Approximation)

```
            Estimate                         0.049
            90 Percent C.I.                  0.047  0.051
            Probability RMSEA <= .05         0.766
```

SRMR (Standardized Root Mean Square Residual)

```
            Value                            0.061
```


STANDARDIZED MODEL RESULTS

STDYX Standardization

		Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
ARG	BY				
ARG_1C		0.872	0.007	132.562	0.000
ARG_2P		0.870	0.007	131.407	0.000
ARG_3S		0.776	0.009	82.409	0.000
ARG_4G		0.775	0.009	81.764	0.000
CONS	BY				
CONS_1		0.778	0.010	81.506	0.000
CONS_2		0.784	0.009	84.134	0.000
CONS_3		0.885	0.006	136.305	0.000
CONS_4		0.835	0.008	108.711	0.000
AT_REP	BY				
AT_REP1		0.771	0.010	78.012	0.000
AT_REP2		0.724	0.011	64.548	0.000
AT_REP3		0.746	0.010	71.074	0.000
AT_REP4		0.723	0.011	65.053	0.000
AT_REP5		0.729	0.011	65.535	0.000
AT_REP6		0.721	0.011	63.978	0.000
P_REP	BY				
P_REP_1		0.669	0.014	46.604	0.000
P_REP_2		0.678	0.014	48.304	0.000
P_REP_3		0.441	0.018	24.212	0.000
TRUST	BY				
TRUST_1		0.766	0.011	69.419	0.000

TRUST_2	0.720	0.012	59.635	0.000
TRUST_3	0.813	0.010	80.444	0.000
TRUST_4	0.615	0.015	41.741	0.000

CHANGE   BY

CHANG_1	0.350	0.019	18.222	0.000
CHANG_2	0.906	0.014	66.413	0.000
CHANG_3	0.833	0.014	61.061	0.000

P_REP   ON

ARG	0.520	0.022	23.252	0.000
CONS	0.362	0.023	15.453	0.000
AT_REP	0.194	0.025	7.714	0.000

AT_REP   ON

TRUST	0.356	0.029	12.392	0.000

ARG   ON

AT_REP	0.424	0.020	21.405	0.000

CONS   ON

AT_REP	0.393	0.020	19.562	0.000

CHANGE   ON

P_REP	-0.519	0.020	-26.192	0.000

TRUST   ON

CHANGE	0.078	0.028	2.841	0.004
P_REP	0.467	0.032	14.477	0.000

BT2_AV   ON

P_REP	-0.011	0.014	-0.752	0.452

BT2_AV   ON

BT1_AV	0.726	0.009	76.829	0.000

Intercepts

P_REP_1	5.398	0.078	69.195	0.000
P_REP_2	4.460	0.065	68.230	0.000
P_REP_3	4.644	0.068	67.936	0.000
CHANG_1	2.534	0.041	61.545	0.000
CHANG_2	2.679	0.043	62.754	0.000
CHANG_3	2.623	0.042	62.186	0.000
ARG_1C	4.644	0.069	66.996	0.000
ARG_2P	4.249	0.064	66.270	0.000
ARG_3S	4.260	0.064	66.117	0.000
ARG_4G	4.561	0.068	66.646	0.000
CONS_1	4.675	0.069	67.285	0.000
CONS_2	4.620	0.069	67.258	0.000
CONS_3	4.681	0.069	67.445	0.000
CONS_4	4.565	0.068	67.167	0.000
AT_REP1	5.562	0.081	68.367	0.000
AT_REP2	5.057	0.075	67.843	0.000
AT_REP3	5.112	0.075	67.989	0.000
AT_REP4	5.309	0.078	68.188	0.000
AT_REP5	5.126	0.076	67.845	0.000
AT_REP6	5.063	0.074	67.971	0.000
TRUST_1	4.548	0.068	67.039	0.000
TRUST_2	4.346	0.065	67.204	0.000
TRUST_3	4.291	0.065	66.437	0.000
TRUST_4	3.767	0.058	65.123	0.000
BT2_AV	1.162	0.075	15.599	0.000

Residual Variances

P_REP_1	0.552	0.019	28.756	0.000
P_REP_2	0.540	0.019	28.314	0.000
P_REP_3	0.805	0.016	50.097	0.000
CHANG_1	0.878	0.013	65.287	0.000

CHANG_2	0.179	0.025	7.217	0.000
CHANG_3	0.307	0.023	13.519	0.000
ARG_1C	0.240	0.011	20.893	0.000
ARG_2P	0.243	0.012	21.140	0.000
ARG_3S	0.397	0.015	27.138	0.000
ARG_4G	0.400	0.015	27.245	0.000
CONS_1	0.394	0.015	26.528	0.000
CONS_2	0.386	0.015	26.393	0.000
CONS_3	0.217	0.011	18.933	0.000
CONS_4	0.302	0.013	23.562	0.000
AT_REP1	0.406	0.015	26.656	0.000
AT_REP2	0.476	0.016	29.322	0.000
AT_REP3	0.443	0.016	28.314	0.000
AT_REP4	0.477	0.016	29.724	0.000
AT_REP5	0.469	0.016	28.885	0.000
AT_REP6	0.480	0.016	29.515	0.000
TRUST_1	0.413	0.017	24.376	0.000
TRUST_2	0.482	0.017	27.702	0.000
TRUST_3	0.339	0.016	20.667	0.000
TRUST_4	0.622	0.018	34.394	0.000
BT2_AV	0.473	0.014	34.467	0.000
ARG	0.764	0.018	43.271	0.000
CONS	0.807	0.017	48.472	0.000
AT_REP	0.737	0.022	33.073	0.000
P_REP	0.269	0.021	12.812	0.000
TRUST	0.686	0.024	29.146	0.000
CHANGE	0.744	0.019	39.225	0.000

R-SQUARE

Observed Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
P_REP_1	0.448	0.019	23.302	0.000
P_REP_2	0.460	0.019	24.152	0.000
P_REP_3	0.195	0.016	12.106	0.000
CHANG_1	0.122	0.013	9.111	0.000
CHANG_2	0.821	0.025	33.207	0.000
CHANG_3	0.693	0.023	30.531	0.000
ARG_1C	0.760	0.011	66.281	0.000
ARG_2P	0.757	0.012	65.704	0.000
ARG_3S	0.603	0.015	41.204	0.000
ARG_4G	0.600	0.015	40.882	0.000
CONS_1	0.606	0.015	40.753	0.000
CONS_2	0.614	0.015	42.067	0.000
CONS_3	0.783	0.011	68.153	0.000
CONS_4	0.698	0.013	54.355	0.000
AT_REP1	0.594	0.015	39.006	0.000
AT_REP2	0.524	0.016	32.274	0.000
AT_REP3	0.557	0.016	35.537	0.000
AT_REP4	0.523	0.016	32.526	0.000
AT_REP5	0.531	0.016	32.767	0.000
AT_REP6	0.520	0.016	31.989	0.000
TRUST_1	0.587	0.017	34.710	0.000
TRUST_2	0.518	0.017	29.817	0.000
TRUST_3	0.661	0.016	40.222	0.000
TRUST_4	0.378	0.018	20.870	0.000
BT2_AV	0.527	0.014	38.428	0.000

Latent Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
ARG	0.236	0.018	13.374	0.000
CONS	0.193	0.017	11.582	0.000
AT_REP	0.263	0.022	11.806	0.000
P_REP	0.731	0.021	34.799	0.000
TRUST	0.314	0.024	13.361	0.000

| CHANGE | 0.256 | 0.019 | 13.481 | 0.000 |

QUALITY OF NUMERICAL RESULTS

    Condition Number for the Information Matrix   0.362E-03
      (ratio of smallest to largest eigenvalue)

RESIDUAL OUTPUT

    ESTIMATED MODEL AND RESIDUALS (OBSERVED - ESTIMATED)

        Model Estimated Means/Intercepts/Thresholds

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
1	3.876	3.598	3.636	2.708	2.243

        Model Estimated Means/Intercepts/Thresholds

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
1	2.219	3.762	3.630	3.633	3.810

        Model Estimated Means/Intercepts/Thresholds

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
1	3.668	3.619	3.650	3.588	4.067

        Model Estimated Means/Intercepts/Thresholds

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
1	4.003	3.949	4.108	3.979	3.935

        Model Estimated Means/Intercepts/Thresholds

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
1	3.636	3.688	3.566	3.570	3.601

        Model Estimated Means/Intercepts/Thresholds

	BT1_AV
1	3.420

        Residuals for Means/Intercepts/Thresholds

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
1	-0.001	-0.002	0.000	0.002	0.000

        Residuals for Means/Intercepts/Thresholds

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
1	0.000	-0.001	-0.001	0.000	-0.001

        Residuals for Means/Intercepts/Thresholds

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
1	-0.002	0.000	0.000	-0.001	-0.001

Residuals for Means/Intercepts/Thresholds

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
1	-0.001	0.000	0.000	0.000	0.001

Residuals for Means/Intercepts/Thresholds

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
1	0.000	0.000	0.000	0.000	0.000

Residuals for Means/Intercepts/Thresholds

	BT1_AV
1	0.000

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
1	-0.323	-0.522	-0.193	2.706	-0.030

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
1	-0.170	-1.550	-0.712	999.000	-2.291

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
1	-2.346	-0.599	-1.308	-1.161	-0.783

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
1	-0.967	-0.291	0.331	999.000	3.056

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
1	-0.249	-0.193	0.000	-0.212	0.000

Standardized Residuals (z-scores) for Means/Intercepts/Thresholds

	BT1_AV
1	0.000

Normalized Residuals for Means/Intercepts/Thresholds

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
1	-0.061	-0.101	-0.025	0.096	-0.004

Normalized Residuals for Means/Intercepts/Thresholds

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
1	-0.020	-0.073	-0.034	-0.012	-0.048

Normalized Residuals for Means/Intercepts/Thresholds

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
1	-0.104	-0.011	-0.029	-0.045	-0.042

Normalized Residuals for Means/Intercepts/Thresholds

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
1	-0.033	-0.008	0.009	0.031	0.066

Normalized Residuals for Means/Intercepts/Thresholds

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
1	-0.024	-0.017	0.000	-0.016	0.000

Normalized Residuals for Means/Intercepts/Thresholds

	BT1_AV
1	0.000

Model Estimated Covariances/Correlations/Residual Correlations

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
P_REP_1	0.516				
P_REP_2	0.263	0.651			
P_REP_3	0.166	0.189	0.613		
CHANG_1	-0.091	-0.104	-0.065	1.142	
CHANG_2	-0.184	-0.210	-0.133	0.284	0.701
CHANG_3	-0.171	-0.195	-0.123	0.263	0.535
ARG_1C	0.242	0.275	0.174	-0.095	-0.193
ARG_2P	0.254	0.290	0.183	-0.100	-0.203
ARG_3S	0.226	0.258	0.163	-0.089	-0.181
ARG_4G	0.221	0.252	0.159	-0.087	-0.176
CONS_1	0.169	0.193	0.122	-0.066	-0.134
CONS_2	0.170	0.194	0.122	-0.067	-0.135
CONS_3	0.191	0.218	0.137	-0.075	-0.152
CONS_4	0.182	0.207	0.131	-0.071	-0.144
AT_REP1	0.177	0.202	0.127	-0.067	-0.135
AT_REP2	0.180	0.205	0.129	-0.068	-0.138
AT_REP3	0.181	0.206	0.130	-0.068	-0.138
AT_REP4	0.176	0.200	0.126	-0.066	-0.134
AT_REP5	0.178	0.203	0.128	-0.067	-0.136
AT_REP6	0.176	0.201	0.127	-0.066	-0.135
TRUST_1	0.170	0.193	0.122	-0.054	-0.109
TRUST_2	0.169	0.193	0.122	-0.054	-0.109
TRUST_3	0.187	0.213	0.134	-0.059	-0.121
TRUST_4	0.161	0.184	0.116	-0.051	-0.104
BT2_AV	-0.004	-0.005	-0.003	0.002	0.003
BT1_AV	0.000	0.000	0.000	0.000	0.000

Model Estimated Covariances/Correlations/Residual Correlations

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
CHANG_3	0.716				
ARG_1C	-0.179	0.656			
ARG_2P	-0.188	0.525	0.730		
ARG_3S	-0.168	0.468	0.492	0.727	
ARG_4G	-0.164	0.457	0.481	0.429	0.698
CONS_1	-0.125	0.092	0.097	0.086	0.084
CONS_2	-0.125	0.093	0.097	0.087	0.085
CONS_3	-0.141	0.104	0.109	0.098	0.095
CONS_4	-0.134	0.099	0.104	0.093	0.091
AT_REP1	-0.126	0.195	0.205	0.183	0.179
AT_REP2	-0.128	0.198	0.209	0.186	0.182

AT_REP3	-0.129	0.200	0.210	0.187	0.183
AT_REP4	-0.125	0.194	0.204	0.182	0.177
AT_REP5	-0.126	0.196	0.206	0.184	0.180
AT_REP6	-0.125	0.194	0.204	0.182	0.178
TRUST_1	-0.102	0.181	0.190	0.169	0.166
TRUST_2	-0.101	0.180	0.190	0.169	0.165
TRUST_3	-0.112	0.199	0.210	0.187	0.183
TRUST_4	-0.097	0.172	0.181	0.161	0.157
BT2_AV	0.003	-0.005	-0.005	-0.004	-0.004
BT1_AV	0.000	0.000	0.000	0.000	0.000

Model Estimated Covariances/Correlations/Residual Correlations

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
CONS_1	0.616				
CONS_2	0.375	0.614			
CONS_3	0.421	0.424	0.608		
CONS_4	0.401	0.403	0.453	0.618	
AT_REP1	0.152	0.153	0.172	0.163	0.535
AT_REP2	0.155	0.155	0.175	0.166	0.323
AT_REP3	0.155	0.156	0.176	0.167	0.325
AT_REP4	0.151	0.152	0.170	0.162	0.315
AT_REP5	0.153	0.154	0.172	0.164	0.319
AT_REP6	0.151	0.152	0.171	0.163	0.316
TRUST_1	0.132	0.132	0.149	0.141	0.189
TRUST_2	0.131	0.132	0.148	0.141	0.189
TRUST_3	0.145	0.146	0.164	0.156	0.208
TRUST_4	0.125	0.126	0.141	0.134	0.180
BT2_AV	-0.003	-0.003	-0.004	-0.003	-0.003
BT1_AV	0.000	0.000	0.000	0.000	0.000

Model Estimated Covariances/Correlations/Residual Correlations

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
AT_REP2	0.627				
AT_REP3	0.330	0.597			
AT_REP4	0.321	0.322	0.599		
AT_REP5	0.324	0.326	0.317	0.603	
AT_REP6	0.321	0.323	0.313	0.317	0.604
TRUST_1	0.192	0.193	0.188	0.190	0.188
TRUST_2	0.192	0.193	0.187	0.189	0.188
TRUST_3	0.212	0.213	0.207	0.209	0.207
TRUST_4	0.183	0.184	0.178	0.180	0.179
BT2_AV	-0.003	-0.003	-0.003	-0.003	-0.003
BT1_AV	0.000	0.000	0.000	0.000	0.000

Model Estimated Covariances/Correlations/Residual Correlations

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
TRUST_1	0.639				
TRUST_2	0.375	0.720			
TRUST_3	0.414	0.413	0.691		
TRUST_4	0.357	0.356	0.393	0.898	
BT2_AV	-0.003	-0.003	-0.003	-0.003	0.679
BT1_AV	0.000	0.000	0.000	0.000	0.463

Model Estimated Covariances/Correlations/Residual Correlations

	BT1_AV
BT1_AV	0.599

Residuals for Covariances/Correlations/Residual Correlations

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2

P_REP_1	0.020				
P_REP_2	0.033	0.026			
P_REP_3	0.046	0.045	0.010		
CHANG_1	0.097	0.103	0.118	0.002	
CHANG_2	0.004	-0.005	0.008	0.021	0.013
CHANG_3	-0.014	-0.004	-0.009	0.008	0.010
ARG_1C	0.056	0.007	-0.009	0.074	-0.039
ARG_2P	0.043	-0.006	-0.015	0.097	-0.031
ARG_3S	0.045	0.011	0.018	0.075	-0.042
ARG_4G	0.060	0.030	0.007	0.053	-0.061
CONS_1	0.028	0.135	0.026	0.002	-0.084
CONS_2	-0.022	0.077	0.017	0.026	-0.053
CONS_3	-0.018	0.094	0.005	0.002	-0.035
CONS_4	-0.021	0.098	0.009	0.043	-0.039
AT_REP1	0.017	-0.031	0.019	0.025	-0.022
AT_REP2	0.013	-0.062	-0.002	0.028	-0.001
AT_REP3	0.022	-0.015	0.019	0.063	0.011
AT_REP4	0.020	-0.040	0.010	0.028	-0.007
AT_REP5	0.015	-0.023	0.008	0.044	-0.001
AT_REP6	0.004	-0.050	0.015	0.030	0.009
TRUST_1	0.005	0.001	-0.014	0.081	-0.003
TRUST_2	0.025	0.018	-0.010	0.064	-0.029
TRUST_3	-0.010	-0.017	-0.017	0.082	-0.011
TRUST_4	0.002	0.001	-0.003	0.127	0.015
BT2_AV	-0.002	-0.003	-0.004	0.047	0.026
BT1_AV	-0.004	-0.006	0.013	0.047	0.025

Residuals for Covariances/Correlations/Residual Correlations

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
CHANG_3	0.011				
ARG_1C	-0.045	0.002			
ARG_2P	-0.045	0.012	0.002		
ARG_3S	-0.054	-0.024	0.012	0.000	
ARG_4G	-0.069	0.005	-0.020	0.022	0.001
CONS_1	-0.071	0.177	0.177	0.179	0.207
CONS_2	-0.041	0.093	0.101	0.105	0.134
CONS_3	-0.035	0.106	0.110	0.123	0.138
CONS_4	-0.031	0.111	0.122	0.131	0.157
AT_REP1	-0.030	0.003	-0.008	0.016	0.006
AT_REP2	-0.017	-0.016	-0.032	0.003	-0.032
AT_REP3	-0.004	-0.012	-0.019	0.011	-0.004
AT_REP4	-0.019	0.006	-0.007	0.002	0.008
AT_REP5	-0.010	-0.004	-0.006	0.018	0.008
AT_REP6	-0.001	-0.027	-0.039	-0.010	-0.019
TRUST_1	-0.005	0.053	0.031	0.038	0.057
TRUST_2	-0.034	0.057	0.042	0.052	0.087
TRUST_3	-0.024	0.021	0.011	0.034	0.033
TRUST_4	0.010	0.014	0.001	0.015	0.035
BT2_AV	0.022	-0.010	0.005	-0.016	-0.008
BT1_AV	0.012	-0.012	-0.002	-0.016	-0.015

Residuals for Covariances/Correlations/Residual Correlations

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
CONS_1	0.002				
CONS_2	0.043	0.000			
CONS_3	-0.012	-0.009	0.000		
CONS_4	-0.022	-0.014	0.020	0.001	
AT_REP1	0.032	-0.007	-0.016	-0.016	0.002
AT_REP2	-0.005	-0.025	-0.039	-0.029	0.053
AT_REP3	0.027	0.005	0.012	0.010	0.003
AT_REP4	0.023	-0.010	-0.025	-0.019	-0.013
AT_REP5	0.024	0.004	-0.021	-0.004	-0.019
AT_REP6	0.005	-0.012	-0.035	-0.019	-0.019

TRUST_1	0.069	0.029	0.015	0.026	0.013
TRUST_2	0.073	0.041	0.034	0.042	0.016
TRUST_3	0.070	0.020	0.010	0.030	-0.007
TRUST_4	0.044	0.029	0.019	0.040	-0.007
BT2_AV	0.016	0.015	0.010	0.014	-0.015
BT1_AV	0.015	0.015	0.013	0.023	-0.003

Residuals for Covariances/Correlations/Residual Correlations

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
AT_REP2	0.001				
AT_REP3	0.026	0.000			
AT_REP4	-0.022	0.013	0.000		
AT_REP5	-0.035	-0.026	0.015	0.000	
AT_REP6	-0.012	-0.018	0.006	0.077	0.000
TRUST_1	-0.021	0.012	0.038	0.002	-0.032
TRUST_2	-0.016	0.026	0.031	0.012	-0.018
TRUST_3	-0.033	0.006	0.021	-0.012	-0.033
TRUST_4	-0.001	0.021	0.032	-0.003	-0.010
BT2_AV	-0.019	-0.004	0.003	0.015	0.006
BT1_AV	-0.006	-0.004	0.001	0.021	0.018

Residuals for Covariances/Correlations/Residual Correlations

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
TRUST_1	0.006				
TRUST_2	0.004	0.006			
TRUST_3	0.009	0.005	0.008		
TRUST_4	-0.004	-0.010	0.022	0.005	
BT2_AV	0.020	0.017	0.026	0.044	0.000
BT1_AV	0.008	0.014	0.014	0.030	0.000

Residuals for Covariances/Correlations/Residual Correlations

	BT1_AV
BT1_AV	0.000

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
P_REP_1	3.754				
P_REP_2	5.210	3.868			
P_REP_3	6.086	5.324	2.386		
CHANG_1	6.832	6.479	7.272	0.712	
CHANG_2	0.525	-0.532	0.722	4.616	2.577
CHANG_3	-1.689	-0.430	-0.860	1.007	2.203
ARG_1C	8.353	0.851	-1.080	4.674	-4.202
ARG_2P	6.201	-0.717	-1.645	5.775	-3.199
ARG_3S	5.770	1.234	1.812	4.402	-3.984
ARG_4G	7.567	3.238	0.706	3.173	-5.745
CONS_1	3.341	13.735	2.588	0.130	-7.596
CONS_2	-2.727	8.513	1.708	1.633	-4.968
CONS_3	-2.469	11.426	0.520	0.099	-3.539
CONS_4	-2.718	11.054	0.899	2.681	-3.753
AT_REP1	2.500	-4.118	2.100	1.715	-2.321
AT_REP2	1.627	-7.383	-0.234	1.735	-0.087
AT_REP3	2.881	-1.746	1.970	4.031	1.091
AT_REP4	2.586	-4.767	1.077	1.765	-0.712
AT_REP5	2.031	-2.734	0.826	2.813	-0.083
AT_REP6	0.550	-5.993	1.561	1.932	0.871
TRUST_1	0.627	0.078	-1.399	5.008	-0.420
TRUST_2	2.729	1.702	-0.868	3.709	-3.005
TRUST_3	-1.225	-1.761	-1.651	4.936	-1.428
TRUST_4	0.158	0.095	-0.205	6.421	1.232

BT2_AV	-0.162	-0.223	-0.360	2.653	1.980
BT1_AV	-0.327	-0.496	1.086	2.800	1.881

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
CHANG_3	2.288				
ARG_1C	-4.715	1.055			
ARG_2P	-4.437	4.631	0.973		
ARG_3S	-4.868	-15.551	3.421	999.000	
ARG_4G	-6.249	1.603	-8.772	4.271	0.877
CONS_1	-6.297	14.522	13.843	13.768	15.867
CONS_2	-3.773	8.052	8.264	8.423	10.846
CONS_3	-3.447	9.482	9.368	10.122	11.418
CONS_4	-2.876	9.669	10.048	10.467	12.574
AT_REP1	-3.078	0.367	-1.066	1.884	0.704
AT_REP2	-1.597	-2.040	-3.870	0.319	-3.474
AT_REP3	-0.397	-1.596	-2.410	1.244	-0.398
AT_REP4	-1.788	0.748	-0.872	0.171	0.888
AT_REP5	-0.978	-0.502	-0.762	1.948	0.835
AT_REP6	-0.089	-3.545	-4.795	-1.111	-2.101
TRUST_1	-0.535	5.332	3.015	3.494	5.227
TRUST_2	-3.308	5.311	3.715	4.393	7.268
TRUST_3	-2.739	2.116	1.061	3.107	3.044
TRUST_4	0.753	1.156	0.075	1.090	2.592
BT2_AV	1.626	-0.810	0.354	-1.208	-0.617
BT1_AV	0.866	-0.946	-0.144	-1.217	-1.141

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
CONS_1	1.097				
CONS_2	9.254	0.454			
CONS_3	-7.828	-5.767	0.429		
CONS_4	-10.080	-5.969	9.321	0.817	
AT_REP1	4.021	-0.855	-2.440	-2.245	1.044
AT_REP2	-0.606	-2.859	-5.134	-3.475	10.121
AT_REP3	3.095	0.651	1.585	1.209	0.769
AT_REP4	2.611	-1.167	-3.371	-2.414	-3.615
AT_REP5	2.753	0.477	-2.781	-0.474	-5.320
AT_REP6	0.556	-1.433	-4.697	-2.384	-5.282
TRUST_1	6.403	2.798	1.503	2.571	1.675
TRUST_2	6.271	3.585	3.163	3.753	1.878
TRUST_3	6.341	1.893	0.966	2.895	-0.896
TRUST_4	3.321	2.198	1.507	3.053	-0.657
BT2_AV	1.314	1.185	0.849	1.133	-1.317
BT1_AV	1.265	1.201	1.112	1.849	-0.242

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
AT_REP2	0.704				
AT_REP3	5.118	0.500			
AT_REP4	-4.809	2.597	0.511		
AT_REP5	-8.686	-6.802	3.052	999.000	
AT_REP6	-2.450	-4.375	1.235	12.611	0.331
TRUST_1	-2.499	1.403	4.310	0.289	-3.921
TRUST_2	-1.717	2.839	3.272	1.306	-1.959
TRUST_3	-3.984	0.772	2.476	-1.423	-4.096
TRUST_4	-0.097	1.836	2.756	-0.264	-0.891
BT2_AV	-1.583	-0.368	0.281	1.279	0.522
BT1_AV	-0.493	-0.353	0.043	1.764	1.475

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
TRUST_1	1.802				
TRUST_2	0.799	1.651			
TRUST_3	2.338	0.998	1.990		
TRUST_4	-0.582	-1.344	3.678	1.367	
BT2_AV	1.593	1.273	1.991	2.899	0.085
BT1_AV	0.657	1.036	1.108	2.038	0.078

Standardized Residuals (z-scores) for Covariances/Correlations/Residual Corr

	BT1_AV
BT1_AV	0.000

Normalized Residuals for Covariances/Correlations/Residual Correlations

	P_REP_1	P_REP_2	P_REP_3	CHANG_1	CHANG_2
P_REP_1	1.288				
P_REP_2	2.452	1.337			
P_REP_3	3.680	3.202	0.580		
CHANG_1	6.100	5.776	6.865	0.057	
CHANG_2	0.324	-0.328	0.555	1.063	0.654
CHANG_3	-1.071	-0.272	-0.678	0.418	0.560
ARG_1C	4.163	0.444	-0.695	4.205	-2.643
ARG_2P	3.054	-0.372	-1.061	5.201	-2.019
ARG_3S	3.298	0.737	1.298	4.047	-2.786
ARG_4G	4.409	1.976	0.505	2.917	-4.057
CONS_1	2.282	9.192	2.033	0.123	-5.926
CONS_2	-1.813	5.435	1.336	1.538	-3.835
CONS_3	-1.458	6.528	0.378	0.092	-2.525
CONS_4	-1.709	6.786	0.679	2.506	-2.788
AT_REP1	1.486	-2.458	1.561	1.599	-1.685
AT_REP2	1.033	-4.623	-0.179	1.630	-0.065
AT_REP3	1.781	-1.086	1.490	3.772	0.802
AT_REP4	1.639	-3.014	0.826	1.658	-0.537
AT_REP5	1.274	-1.729	0.630	2.640	-0.062
AT_REP6	0.345	-3.784	1.201	1.815	0.656
TRUST_1	0.422	0.053	-1.109	4.669	-0.247
TRUST_2	1.922	1.203	-0.706	3.482	-1.934
TRUST_3	-0.783	-1.140	-1.277	4.561	-0.750
TRUST_4	0.121	0.073	-0.176	6.140	0.920
BT2_AV	-0.143	-0.196	-0.342	2.632	1.872
BT1_AV	-0.327	-0.496	1.086	2.800	1.881

Normalized Residuals for Covariances/Correlations/Residual Correlations

	CHANG_3	ARG_1C	ARG_2P	ARG_3S	ARG_4G
CHANG_3	0.526				
ARG_1C	-3.052	0.095			
ARG_2P	-2.894	0.691	0.084		
ARG_3S	-3.493	-1.438	0.654	-0.013	
ARG_4G	-4.515	0.297	-1.133	1.271	0.053
CONS_1	-5.009	12.708	12.110	12.343	14.293
CONS_2	-2.977	6.945	7.138	7.480	9.672
CONS_3	-2.537	7.889	7.804	8.747	9.904
CONS_4	-2.191	8.213	8.552	9.193	11.095
AT_REP1	-2.298	0.203	-0.590	1.203	0.450
AT_REP2	-1.234	-1.211	-2.289	0.215	-2.313
AT_REP3	-0.300	-0.912	-1.383	0.819	-0.261
AT_REP4	-1.382	0.448	-0.522	0.115	0.601
AT_REP5	-0.751	-0.296	-0.452	1.308	0.560
AT_REP6	-0.069	-2.093	-2.833	-0.745	-1.409
TRUST_1	-0.347	3.751	2.111	2.621	3.951
TRUST_2	-2.299	3.865	2.698	3.396	5.670
TRUST_3	-1.649	1.420	0.711	2.268	2.220

TRUST_4	0.589	0.899	0.059	0.891	2.124
BT2_AV	1.551	-0.725	0.317	-1.108	-0.567
BT1_AV	0.866	-0.946	-0.144	-1.217	-1.141

Normalized Residuals for Covariances/Correlations/Residual Correlations

	CONS_1	CONS_2	CONS_3	CONS_4	AT_REP1
CONS_1	0.093				
CONS_2	2.866	0.019			
CONS_3	-0.815	-0.610	0.021		
CONS_4	-1.484	-0.979	1.299	0.058	
AT_REP1	2.665	-0.553	-1.348	-1.346	0.099
AT_REP2	-0.417	-1.942	-3.059	-2.226	3.783
AT_REP3	2.090	0.434	0.932	0.762	0.222
AT_REP4	1.813	-0.796	-2.014	-1.551	-1.043
AT_REP5	1.896	0.324	-1.645	-0.303	-1.470
AT_REP6	0.384	-0.979	-2.801	-1.536	-1.482
TRUST_1	5.177	2.238	1.132	2.001	1.025
TRUST_2	5.168	2.933	2.460	2.999	1.206
TRUST_3	5.027	1.478	0.707	2.203	-0.506
TRUST_4	2.858	1.885	1.243	2.575	-0.467
BT2_AV	1.243	1.120	0.789	1.062	-1.227
BT1_AV	1.265	1.201	1.112	1.849	-0.242

Normalized Residuals for Covariances/Correlations/Residual Correlations

	AT_REP2	AT_REP3	AT_REP4	AT_REP5	AT_REP6
AT_REP2	0.045				
AT_REP3	1.825	0.026			
AT_REP4	-1.578	0.909	0.028		
AT_REP5	-2.598	-1.945	1.079	-0.005	
AT_REP6	-0.837	-1.350	0.437	5.312	0.014
TRUST_1	-1.593	0.876	2.813	0.184	-2.481
TRUST_2	-1.144	1.874	2.216	0.875	-1.309
TRUST_3	-2.390	0.456	1.532	-0.852	-2.455
TRUST_4	-0.072	1.343	2.057	-0.195	-0.659
BT2_AV	-1.487	-0.344	0.264	1.200	0.491
BT1_AV	-0.493	-0.353	0.043	1.764	1.475

Normalized Residuals for Covariances/Correlations/Residual Correlations

	TRUST_1	TRUST_2	TRUST_3	TRUST_4	BT2_AV
TRUST_1	0.320				
TRUST_2	0.250	0.272			
TRUST_3	0.578	0.271	0.382		
TRUST_4	-0.224	-0.578	1.219	0.196	
BT2_AV	1.510	1.215	1.875	2.804	0.001
BT1_AV	0.657	1.036	1.108	2.038	0.001

Normalized Residuals for Covariances/Correlations/Residual Correlations

	BT1_AV
BT1_AV	0.000

MODEL MODIFICATION INDICES

Minimum M.I. value for printing the modification index   10.000

		M.I.	E.P.C.	Std E.P.C.	StdYX E.P.C.
BY Statements					
ARG	BY P_REP_1	30.235	0.186	0.131	0.183

ARG	BY	P_REP_2	45.442	-0.257	-0.181	-0.225
ARG	BY	P_REP_3	12.616	-0.131	-0.092	-0.118
ARG	BY	CHANG_1	54.047	0.243	0.172	0.161
ARG	BY	CHANG_3	11.668	-0.078	-0.055	-0.065
ARG	BY	CONS_1	138.966	0.195	0.138	0.176
ARG	BY	AT_REP2	11.350	-0.072	-0.051	-0.064
ARG	BY	AT_REP6	18.436	-0.090	-0.063	-0.081
ARG	BY	TRUST_2	16.047	0.091	0.064	0.076
CONS	BY	P_REP_1	113.467	-0.324	-0.198	-0.276
CONS	BY	P_REP_2	96.453	0.337	0.206	0.255
CONS	BY	CHANG_1	10.135	0.118	0.072	0.067
CONS	BY	ARG_3S	15.719	0.083	0.051	0.059
CONS	BY	ARG_4G	58.437	0.157	0.096	0.115
CONS	BY	AT_REP2	20.340	-0.107	-0.065	-0.082
CONS	BY	AT_REP6	10.617	-0.076	-0.046	-0.059
AT_REP	BY	P_REP_1	22.750	0.191	0.107	0.150
AT_REP	BY	P_REP_2	58.861	-0.346	-0.195	-0.242
AT_REP	BY	CHANG_1	17.438	0.172	0.097	0.090
AT_REP	BY	CONS_1	38.111	0.146	0.082	0.105
AT_REP	BY	CONS_3	15.531	-0.082	-0.046	-0.059
P_REP	BY	CHANG_1	86.223	0.534	0.257	0.240
P_REP	BY	CHANG_3	16.016	-0.204	-0.098	-0.116
P_REP	BY	ARG_3S	11.102	0.150	0.072	0.084
P_REP	BY	ARG_4G	42.506	0.288	0.138	0.166
P_REP	BY	CONS_1	134.438	0.381	0.183	0.233
P_REP	BY	AT_REP2	28.382	-0.223	-0.107	-0.135
P_REP	BY	AT_REP6	26.600	-0.212	-0.102	-0.131
P_REP	BY	TRUST_2	18.777	0.185	0.089	0.105
P_REP	BY	TRUST_3	12.178	-0.144	-0.069	-0.083
TRUST	BY	CHANG_1	48.716	0.262	0.161	0.150
TRUST	BY	ARG_4G	17.424	0.098	0.060	0.072
TRUST	BY	CONS_1	58.447	0.160	0.098	0.125
TRUST	BY	CONS_3	10.602	-0.059	-0.036	-0.046
TRUST	BY	AT_REP2	19.724	-0.121	-0.074	-0.094
TRUST	BY	AT_REP4	20.550	0.121	0.074	0.096
TRUST	BY	AT_REP6	27.211	-0.140	-0.086	-0.110
CHANGE	BY	ARG_4G	17.575	-0.152	-0.057	-0.068
CHANGE	BY	CONS_1	43.327	-0.215	-0.080	-0.103

ON/BY Statements

ARG	ON CONS	/				
CONS	BY ARG	/	262.109	0.434	0.375	0.375
ARG	ON P_REP	/				
P_REP	BY ARG	/	262.049	1.524	1.037	1.037
ARG	ON TRUST	/				
TRUST	BY ARG	/	47.652	0.320	0.278	0.278
ARG	ON CHANGE	/				
CHANGE	BY ARG	/	30.233	-0.322	-0.170	-0.170
CONS	ON ARG	/				
ARG	BY CONS	/	262.115	0.343	0.396	0.396
CONS	ON P_REP	/				
P_REP	BY CONS	/	262.144	0.969	0.762	0.762
CONS	ON TRUST	/				
TRUST	BY CONS	/	34.420	0.194	0.195	0.195
CONS	ON CHANGE	/				
CHANGE	BY CONS	/	35.371	-0.269	-0.165	-0.165
AT_REP	ON ARG	/				
ARG	BY AT_REP	/	47.667	-0.601	-0.753	-0.753
AT_REP	ON CONS	/				
CONS	BY AT_REP	/	34.409	-0.461	-0.499	-0.499
AT_REP	ON P_REP	/				
P_REP	BY AT_REP	/	261.938	-8.052	-6.864	-6.864
P_REP	ON TRUST	/				
TRUST	BY P_REP	/	27.173	-0.140	-0.179	-0.179
P_REP	ON CHANGE	/				
CHANGE	BY P_REP	/	27.854	0.203	0.158	0.158
TRUST	ON ARG	/				

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ARG        BY TRUST        10.140     0.105      0.121      0.121
TRUST      ON AT_REP   /
AT_REP     BY TRUST        63.341     3.239      2.978      2.978


WITH Statements

P_REP_3    WITH P_REP_1    23.638     0.043      0.043      0.115
P_REP_3    WITH P_REP_2    15.296     0.039      0.039      0.094
CHANG_1    WITH P_REP_3    23.816     0.072      0.072      0.102
CHANG_2    WITH CHANG_1    15.768     0.060      0.060      0.169
CHANG_3    WITH CHANG_2    80.493    -0.529     -0.529     -3.193
ARG_2P     WITH ARG_1C     45.613     0.051      0.051      0.305
ARG_3S     WITH ARG_1C     80.865    -0.062     -0.062     -0.292
ARG_3S     WITH ARG_2P     14.444     0.028      0.028      0.122
ARG_4G     WITH ARG_2P     50.951    -0.051     -0.051     -0.229
ARG_4G     WITH ARG_3S     21.836     0.034      0.034      0.120
CONS_2     WITH CONS_1    125.495     0.071      0.071      0.298
CONS_3     WITH CHANG_1    14.564    -0.035     -0.035     -0.096
CONS_3     WITH CONS_1     42.443    -0.043     -0.043     -0.237
CONS_3     WITH CONS_2     22.034    -0.031     -0.031     -0.174
CONS_4     WITH P_REP_1    12.616    -0.021     -0.021     -0.089
CONS_4     WITH CONS_1     57.367    -0.048     -0.048     -0.227
CONS_4     WITH CONS_2     28.726    -0.034     -0.034     -0.163
CONS_4     WITH CONS_3    185.357     0.096      0.096      0.608
AT_REP2    WITH P_REP_2    12.369    -0.027     -0.027     -0.083
AT_REP2    WITH ARG_4G     14.113    -0.025     -0.025     -0.088
AT_REP2    WITH AT_REP1   156.746     0.082      0.082      0.321
AT_REP3    WITH CONS_3     12.356     0.018      0.018      0.094
AT_REP3    WITH AT_REP2    30.511     0.039      0.039      0.138
AT_REP4    WITH AT_REP1    12.336    -0.022     -0.022     -0.090
AT_REP4    WITH AT_REP2    19.775    -0.032     -0.032     -0.109
AT_REP5    WITH AT_REP1    21.356    -0.029     -0.029     -0.119
AT_REP5    WITH AT_REP2    54.002    -0.052     -0.052     -0.181
AT_REP5    WITH AT_REP3    35.988    -0.041     -0.041     -0.150
AT_REP5    WITH AT_REP4    10.193     0.022      0.022      0.078
AT_REP6    WITH AT_REP1    22.746    -0.031     -0.031     -0.122
AT_REP6    WITH AT_REP3    16.584    -0.028     -0.028     -0.101
AT_REP6    WITH AT_REP5   257.715     0.112      0.112      0.393
TRUST_2    WITH ARG_4G     14.453     0.028      0.028      0.091
TRUST_4    WITH CHANG_1    10.748     0.053      0.053      0.071
TRUST_4    WITH TRUST_3    10.399     0.036      0.036      0.099
CONS       WITH ARG       262.111     0.131      0.386      0.386
AT_REP     WITH ARG        47.663    -0.229     -0.767     -0.767
AT_REP     WITH CONS       34.407    -0.139     -0.522     -0.522
P_REP      WITH AT_REP     27.178     0.100      0.833      0.833
TRUST      WITH AT_REP     63.370     0.758      3.088      3.088
TRUST      WITH P_REP      33.708    -0.041     -0.325     -0.325
CHANGE     WITH P_REP      27.854     0.021      0.262      0.262



        Beginning Time:  15:50:46
           Ending Time:  15:51:07
          Elapsed Time:  00:00:21
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