USER PERCEPTION OF THE QUALITY, VALUE, AND UTILITY OF USER-GENERATED CONTENT

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ABSTRACT

User Generated Content (UGC) is a rapidly emerging growth engine of many Internet businesses and an important component of the new knowledge society. However, little research has been done on the mechanisms inherent to UGC. This research explores the relationships among the quality, value, and benefits of UGC. The main objective is to identify and evaluate the quality factors that affect UGC value, which ultimately influences the utility of UGC. We identify the three quality dimensions of UGC: content, design, and technology. We classify UGC value into three categories: functional value, emotional value, and social value. We attempt to characterize the mechanism underlying UGC value by evaluating the relationships between the quality and value of UGC and investigating what types of UGC value affect UGC utility. Our results show that all three factors of UGC quality are strongly associated with increases in the functional, emotional, and social values of UGC. Our findings also demonstrate that the functional and emotional values of UGC are critically important factors for UGC utility. Based on these findings, we discuss theoretical implications for future research and practical implications for UGC services.

Keywords: User Generated Content (UGC), UGC Quality, UGC Value, UGC Utility

1. Introduction

Web 2.0, which is characterized by openness, participation, and sharing, is bringing about dramatic changes in the way users interact with the Internet. Web 2.0 allows users to create and share their own content, rather than simply consuming the content generated by digital media companies [Lai & Turban 2008; Hendler et al. 2008; Papathanassis & Knolle 2011]. The openness and participation provided by Web 2.0 has led to a rapid increase in the production of user generated content (UGC) and a corresponding increase in users' participation in and sharing of relevant applications [Nov 2007; Karahasanovic et al. 2009; Valcke & Lenaerts 2010]. UGC has begun to gain popularity by allowing users to share text, audio, video, and images posted on content sharing sites (e.g. Youtube, Slashdot), blogs (e.g. Blogger.com, Technorati), social networking sites (e.g. MySpace, Facebook), and other media [Bernoff & Li 2008; Lai & Turban 2008; Bakshy et al. 2009; Ma et al. 2009]. The use of video is also rapidly increasing, along with the widespread inclusion of video capability in digital cameras and mobile phones [Nov 2007; Bernoff & Li 2008; Ryu et al. 2009; Kim et al. 2010].

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UGC is evolving gradually into a recreation-centered multimedia, entertainment and leisure-related environment [Wunsch-Vincent & Vickery 2007; Lai & Turban 2008; Ryu et al. 2009; Papathanassis & Knolle 2011]. UGC is characterized by sharing free information, user participation, and openness [Hendler et al. 2008; Lai & Turban 2008). UGC is changing the character of open society by enabling the production, distribution, and sales of content, rebirthing users as "prosumers" who perform active roles in content production, and creating an era of one-person-media [Hendler et al. 2008; Valcke & Lenaerts 2010; Dye 2011].

Corporations and organizations are currently employing UGC for two-way interactions with consumers, society, and the public at large [Pisani 2006; Nov 2007; Bernoff & Li 2008; Papathanassis & Knolle 2011]. A broad variety of UGC types are already being generated and exchanged by users, and posted on various UGC sites. As a result, the use of UGC produced by individuals, such as blogs, video images, pictures, and social bookmarks, is rapidly increasing [Lai & Turban 2008; Ryu et al. 2009; Ma et al. 2009; Shim & Lee 2009; Papathanassis & Knolle 2011]. UGC is playing an increasingly important role for the business model of social networking sites, and a large share of UGC is expected to be of high quality [Valcke & Lenaerts 2010]. Recently, Li and Lin [2009] argued that the value of digital content was associated principally with its content quality. Sun [2010] also showed that the qualities of information systems enhanced the value served by the systems. Gangi and Wasko [2009] maintained that users and organizations created value through UGC and that this value enhanced the benefits of UGC, influencing users' experience and interests in a positive way. We assume that UGC quality is related to its value, which would in turn affect its benefits [Li and Lin 2009; Gangi and Wasko 2009]. This leads us to raise the following question: What types of quality and value influence the benefits of UGC?

In an effort to tackle this question, we empirically examine how the perceived qualities of UGC affect UGC values, thereby influencing users' UGC benefits. Little research has been conducted previously for the relationships among UGC quality, value, and benefits [Gangi and Wasko 2009, Ghose 2009; Shim & Lee 2009; Williams et al. 2010]. In the digital age, the creation and utilization of UGC tend to be facilitated by a systemic understanding of the relationships among UGC quality, value, and benefits [Bughin 2007; Ghose 2009; Li & Lin 2009; Gangi & Wasko 2009; Williams et al. 2010]. This research attempts to enhance our understanding of UGC quality, value, and benefits by investigating the relationships among them. Our research framework is shown in Figure 1.

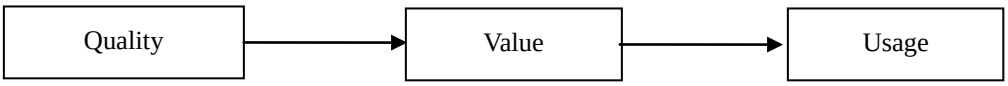

Figure 1. Research Framework

Section 2 reviews relevant literature to establish the theoretical background for the study. We introduce the theoretical research model and hypotheses in the next section. We describe our methodology, present our analysis results, and discuss the implications of the findings in the following two sections. Then we conclude with a summary of the contributions and limitations of the study and suggest possible directions for future research.

2. Literature Review

2.1. UGC Quality

UGC websites enable users to experience a variety of applications, such as online social networks (e.g., Facebook), digital content sharing (e.g., YouTube), news aggregation (e.g., Google News), and idea generation (e.g., MyStarbucksIdea) [Gangi & Wasko 2009]. UGC can be regarded as a major form of digital content [Wunsch-Vincent & Vickery 2007]. Digital content includes content, design, and technology elements [Huizingh 2000; Li & Lin 2009]. Since UGC is a type of digital content, these three factors are closely associated with UGC and may have a potentially reciprocal relationship [Jensen et al. 2009; Kim et al. 2010]. Inarguably content differs from design and technology: content refers to information and components offered, whereas design refers to the manner in which content is made available [Huizingh 2000]. This research regards these three factors as the core qualities of UGC.

UGC content is comprised of text, audio, video, and images [Jensen et al., 2009; Kim et al., 2010; Valcke & Lenaerts, 2010). For example, UGC images are generated or modified by users on UGC sites such as Ofoto and Flickr while user-generated videos may be traded over video sharing platforms such as YouTube, Google Video, and AOL Uncut [Lai & Turban 2008; Kim et al. 2010]. On YouTube, people can view videos generated by millions of users. Users are able to publish their own multimedia content, share it with one another, and interact with published content, thereby adding value to available content [Hargittai & Walejko 2008; Jensen et al. 2009]. Content quality is critical for the success of a UGC website, and companies encourage user generation of high-value content [Dye 2011].

UGC design refers to the form in which the content is made available to users [Huizingh 2000; Kim et al. 2010]. Thus, UGC design means the structure of the content itself, such as the unification and harmonization of graphics, sound, audio, and text [Huizingh 2000; Kim et al. 2010]. UGC design varies according to the characteristics of different UGC sites, e.g., text-based, graphic-based, audio-based, video-based, or mixed media [Valcke & Lenaerts 2010]. For example, Google tends to feature text-based design, whereas YouTube offers a video-oriented design. The quality of UGC is likely to be evaluated by the degree to which the structures used for UGC are harmonized and unified in a way that is most appealing to users [Huizingh 2000; Ma et al. 2009; Kim et al. 2010]. Video has become much more prominent on UGC sites because of their rapidly increasing design quality [Lai & Turban 2008; Ryu et al. 2009]. If UGC is boring or takes too long for users to comprehend, it will not become popular. One of the design criteria for video is its appropriateness for particular venues; YouTube is a salient example [Zink et al. 2009]. As UGC is increasingly accessed by various mobile devices, the design needs to change in ways that are appropriate for a mobile environment [Kim et al. 2010].

UGC technology is frequently utilized to implement various content formats and deliver content via the UGC value chain [Jensen et al. 2009; Kim et al. 2010]. UGC technologies include question-answer databases, digital video, blogging, social networking, mobile phone photography, wikis, tags, and tag clouds [Bernoff & Li 2008; Lai & Turban 2008; Kim et al. 2010]. Generally, users apply UGC technologies in a user-oriented, smooth, and stable fashion [Bauer & Scharl 2000; Wunsch-Vincent & Vickery 2007; Jensen et al, 2009]. UGC technologies allow users to upload and share their UGC with anyone with network access, and thus technical factors have a causal effect on the generation of user content [Zink et al. 2009; Kim et al. 2010]. For example, it might prove more effective to transmit short video images directly without the need for separate streaming [Lai & Turban 2008; Ryu et al. 2009]. The power of Adobe Flash rests in its ability to connect readily with a variety of UGC devices since it can create a low-capacity, high-resolution screen with relatively strong security and utilize an independent player equipped with a variety of functions [Lai & Turban 2008]. These UGC technology qualities are expected to affect UGC value [Kim et al. 2010].

2.2. UGC Value

The UGC value chain encompasses sourcing, planning, production, distribution, and consumption processes, which involve the participation of users [Wunsch-Vincent & Vickery 2007; Feijoo et al. 2009]. Previous studies of the UGC value chain have demonstrated a clear trend toward UGC "prosumers" who take charge of the production and consumption of UGC [Stoeckl et al. 2007; Hargittai & Walejko 2008]. UGC prosumers tend to share their creations with others. If UGC prosumers are provided with more specific knowledge regarding UGC value structures, they will enjoy more valuable opportunities, allowing them to share their time and knowledge freely with others [Nov 2007; Jensen et al. 2009]. However, the value of UGC will not rest on the sheer volume of content but rather on the quality of the content generated [Stoeckl et al. 2007; Ye et al. 2012].

According to consumption value theory, value can be generally divided into functional, conditional, social, emotional, and categorical values [Sheth et al. 1991]. Because epistemic and conditional values can be considered as specific cases of other types of value, we do not include them in the study. Instead, this study focuses on three categories: functional value, emotional value, and social value.

Functional value means that users satisfy desires characterized by practical objectives and needs [Sheth et al. 1991]. Generally, in order to create functional value, UGC providers attempt to improve the quality of their products or services or develop convenience functions for them. Thus, in order to fulfill the specific user goals, UGC providers need to increase the functional value of the UGC [Wunsch-Vincent & Vickery 2007; Nov 2007; Jensen et al. 2009]. For example, UGC providers would be wise to ensure functional factors such as convenience, availability, and ease of use to support customized services [Jensen et al. 2009; Harrison 2010].

Emotional value is the emotional satisfaction or level of pleasure people experience from the consumption of goods or services [Sheth et al. 1991]. Because people generally do not experience negative feelings when they purchase goods or services, emotional value generally refers to positive feelings, including pleasure, satisfaction, and happiness [Wunsch-Vincent & Vickery 2007; Karahasanovic et al. 2009]. Therefore, we assert that the pleasure or positive feelings experienced by users when they use UGC correspond to the emotional value of UGC [Ryu et al. 2009; Karahasanovic et al. 2009].

Social value refers to the positive contribution to one's social image experienced when one acts in a manner consistent with social norms or with others' expectations [Sheth et al. 1991; Lai & Turban 2008; Nov & Ye 2009]. Because people are social beings, many types of desire are generated by the virtue of relationships with or the social perceptions of other people [Nov 2007; Lindic 2009]. People spend time on social networking sites in order to acquire the social value that comes with the use of UGC [Valcke & Lenaerts 2010]. For example, anti-drug campaign videos, which are popular on YouTube, clearly illustrate this [Lai & Turban 2008]. Therefore, the

increasing use of UGC in individual, corporate, and social arenas can be explained by the social value of UGC, not just by users' viewing and enjoying Web content [Lai & Turban 2008; Jensen et al. 2009; Nov & Ye 2009].

2.3. Media Utility: Different Uses and Different Gratifications

The theory that new communication media will create new uses is an adequate reason to evaluate the benefits of UGC [Liang et al. 2007; Leung 2009]. For example, video images are posted on individual blogs and distributed to other users through portal sites; thus, it appears that UGC value is clearly related to UGC use and gratification [Liang et al. 2007; Leung 2009]. Use and gratification theory (UGT) has been recognized as a useful approach for characterizing the utility of the media driven from the gratification of users toward new communication technologies [Flanagin & Metzger 2001; Liang et al. 2007; Leung 2009]. The theory has been used by researchers from various disciplines, and the importance of this approach has been repeatedly confirmed [Dimmick et al. 2000; Papacharissi & Rubin 2000; Flanagin & Metzger 2001; Stoeckl et al. 2007; Liang et al. 2007; Leung 2009]. The use and gratification approach provides useful insights into the reasons why people select a specific medium over alternative interactive technologies [Flanagin & Metzger 2001; Leung 2009]. The theory assumes that audiences are active and goal-oriented such that they purposely seek media to satisfy their communication needs [Couraris et al. 2010; Chen 2011]. Hence individual's selections of media use are based on what value the media can deliver to them, that is, their motivations [Trammell 2006].

One of the recent applications of UGT is about the use of social network services. Liu et el. [2010] revealed that people use Twitter for sharing information, connecting with acquaintances, passing time, self-documentation or expression, entertainment, and media appeal and convenience. These motivations to use SNS were categorized into four types of gratifications; content, social, process, and technology gratification. There are some interesting issues to address, specifically the question of whether the aforementioned values or motivations foreseeably affect the utility of UGC in different media. Today most of social network site accommodate the exchange and delivery of UGCs. But UGCs are also available on traditional websites as well. Comments on the bulletin board and user reviews about a product or a service on online shopping sites are also a kind of UGC. It can be reasonable to expect a fundamental assumption of this research is partly overlapping but partly includes new motivational aspects. Use and gratification theory has been applied to a variety of communications technologies, and the approach has also proven useful in evaluating the behavior of UGC users [Leung 2009]. Since UGC has continued to evolve, and has garnered considerable popularity, use and gratifications theory is being increasingly applied in UGC research fields [Liang et al. 2007; Stoeckl et al. 2007; Leung 2009]. This theoretical approach can be a reasonable method of exploring people's perceptions regarding the utility of UGC [Leung 2009]. Another question worth to be explored is how individual appreciates motivations or values of the media and adopt the media for different uses. Shao [2009] suggested that there are three ways for an individual to use UGC media, consuming, participating and producing. He further argued that these different uses are initiated by different motivations. Simple consumers of UGC seek for information and entertainment, participants use UGC media for sociability and community development, and content producers are driven by self-expression and self-actualization. Accordingly satisfying different uses of UGC requires distinctive relationships among those preceding factors leading to UGC usage. For instance, people seeking information are more interested in accumulating knowledge about the surrounded world and concerned about how efficiently acquiring relevant information, which suggest they may be selective in contents of the media and technology aspects of UGC site [Shao 2009; Wei et al. 2011]. Likewise for those who use UGC as a source of entertainment may pursue emotional relaxation and be able to control prevailing mood state by consuming the entertainment media [Bryant & Davies 2006]. Participating UGC site requires more active involvement in not only providing and consuming these contents but also maintenance and formation of these sites. These activities are mostly motivated by a desire of social interaction with people who share the same interests through which participants may gain a sense of communion [McMillan & Chavis 1986] and echo their voice or opinions to the public [Tossberg 2000]. People of this participant type tend to value social and emotional aspects of UCG media features more. Therefore it would be another question for this study to explore which qualities and values of UCG media would be significant depending on three different usages.

3. **Research Model and Hypotheses**

3.1. Research Model

Based on a review of previous literature on UGC quality, UGC value, and UGC utility, we propose the following research model for this study (Figure 2). We identify the quality factors of UGC as content, design, and technology. It appears that UGC value encompasses functional, emotional, and social values.

3.2. Research Hypotheses

The issue of quality is important for UGC sites, and thus UGC service providers must add creativity and explicit value to their content [Hargittai & Walejko 2008; Feijoo et al. 2009]. The results of a recent study show that high

quality UGC tends to attract high user participation, thus rendering a particular website more popular [Ghosh & McAfee 2011]. For example, Wiki supports web content management, such as collaborative editing, to increase the functional value of Wiki's UGC. The better content generated in Wiki, the more functional value it has [Trattner et al. 2010]. Moreover, better pictures increase the impact on emotion, thereby increasing the emotional value of UGC [Ryu et al. 2009]. Similarly, audio is a critical component of content quality, since sound effects and background music can support or enhance the emotional value of UGC by eliciting psychological or physiological reactions from users. Furthermore, users tend to prefer to access high quality UGC, which draws many network members and enhances the social value of UGC via connections with various users [Trosow et al. 2010]. In this regard, it appears that content quality affects UGC values [Wunsch-Vincent & Vickery 2007; Trosow et al. 2010; Ghosh & McAfee 2011]. Therefore, we propose the following hypotheses:

H1a: Content quality has a positive influence on the functional value of UGC.
H1b: Content quality has a positive influence on the emotional value of UGC.
H1c: Content quality has a positive influence on the social value of UGC.

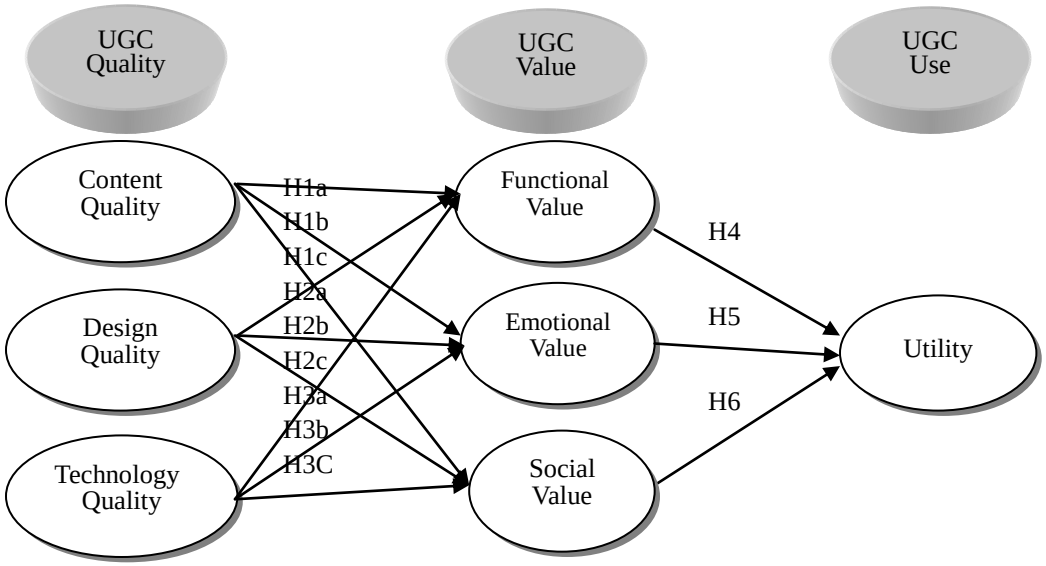

Figure 2: Research Model

While the typical UGC website is a cluster of content, the quality of a site is closely related to its design [Ghosh & McAfee 2010]. UGC exists in many forms: blogs (e.g. Blogger), wikis (e.g. Wikipedia), multimedia sharing services for photographs (e.g. Flickr), videos (e.g. YouTube), podcasts (e.g. Odeo), and social networking sites (e.g. Facebook) [Lai & Turban 2008; Bakshy et al. 2009; Ma et al. 2009; Valcke & Lenaerts 2010]. Design refers to the harmonized and unified structure of content itself, including graphics, audios, and texts [Huizingh 2000; Wunsch-Vincent & Vickery 2007]. The UGC design process tends to differ from previous design genres owing primarily to the dramatic new possibilities created by new digital technologies [Huizingh 2000; Williams et al. 2008]. The method by which UGC content is designed is quite important because it can enhance the functional, emotional, and social values of UGC [Kim et al. 2010; Parra-Lopez et al. 2011]. For instance, a tag is a user-generated descriptor. Thus a tag-based UGC design facilitates users' UGC browsing within a mobile UGC service, thereby increasing the functional value of UCG [Kim et al. 2010]. Moreover, people use tags to sort and display other users' photos placed in multiple groups, which influences a user's social value when he or she interacts with other users. The structure of UGC is likely to improve emotional value through web traffic, web experience, and web browsing [Kim et al. 2010; Parra-Lopez et al. 2011]. UGC design can be evaluated in terms of the degree of unification of its overall content and balance, that is, whether all the elements of UGC are harmonized [Wunsch-Vincent & Vickery 2007; Ma et al. 2009]. Thus, UGC value is likely to be influenced by the quality of UGC design in terms of its harmonization and unification of graphics, sounds, interfaces, and texts. This theoretical speculation leads us to the following hypotheses:

H2a: Design quality has a positive influence on the functional value of UGC.
H2b: Design quality has a positive influence on the emotional value of UGC.
H2c: Design quality has a positive influence on the social value of UGC.

Recently, the designers of UGC have become more interested in technological considerations than in business considerations [Williams et al. 2008]. Smith [1997] proposes some technological characteristics of content, specifically, user-friendly access, connectivity, and ease of use. He argues that content values tend to increase by the degree of user-friendliness, content access, and convenience. For example, two major UGC technologies, tag and tag cloud, enhance the browsing functions of mobile UGC services [Kim et al. 2010]. According to Valcke & Lenaerts [2010], UGC technology impacts social value by the degree to which it influences psychological effects. For example, social interactions on UGC websites such as Facebook tend to be facilitated by the technical applications of UGC [Gangi & Wasko 2009]. Additionally, UGC containing video images affects emotional value because of the subjectivity of materials and topics as well as vivid expressions produced by general netizens [Nov 2007; Lai & Turban 2008; Ryu et al. 2009]. Therefore, technological quality will affect the functional, emotional, and social values of UGC. This leads us to the following hypotheses:

H3a: Technology quality has a positive influence on the functional value of UGC.

H3b: Technology quality has a positive influence on the emotional value of UGC.

H3c: Technology quality has a positive influence on the social value of UGC.

The use and gratification approach is a useful method for determining how individuals employ new interactive technologies such as UGC [Flanagin & Metzger 2001; Leung 2009]. Since it is goal-directed and utility-driven [Leung 2009], the use and gratification approach allows us to explore people's perceptions associated with the utility of UGC. For example, whereas traditional interactive technologies, such as EDI, enable only a limited transmission of content from one computer to another, UGC provides a broad range of content and greater utility for users. Perceived utility includes services for establishing one's own personal identity, being exposed to others' viewpoints, freely expressing oneself, and generating ideas [Papacharissi & Rubin 2000; Flanagin & Metzger 2001; Leung 2009]. As a result, it is expected that the functional, emotional, and social values of UGC will exert profound effects on users' perceived utility. For instance, YouTube's functionality boosts user's utility by providing link functions such as comment links, community member links, and video image links [Lai & Turban 2008; Ryu et al. 2009]. Additionally, the emotions perceived through online reviews tend to play a dominant role in affecting users' utility on UGC [Papathanassis & Knolle 2011]. The social interactions supported by social sites such as Facebook also affect users' perceptions regarding their utility on UGC [Gangi & Wasko 2009]. Therefore, we propose the following hypotheses:

H4: The functional value of UGC has a positive influence on users' utility.

H5: The emotional value of UGC has a positive influence on users' utility.

H6: The social value of UGC has a positive influence on users' utility.

4. Research Methods

4.1. Scale Development

We develop a questionnaire by revising the measurement items employed in previous studies. A multiple-item method is used for this study, in which each item is measured on a five-point Likert scale ranging from "strongly disagree" to "strongly agree." A draft version of the questionnaire is pretested via in-depth interviews conducted with UGC users, developers, and operators, through which the intelligibility of the survey questions are repeatedly assessed, and appropriate adjustments are made to the questionnaire items. These instrument development steps ensure a significant degree of refinement and restructuring of the survey instrument as well as the establishment of the initial face validity and internal validity of the measures [Nunnally 1978]. The measurement items employed in this study are provided in Table 1.

4.2. Survey Administration

The questionnaire includes general information, as well as UGC use status and research variables. The final survey questionnaire was distributed by the visit to middle and high schools, universities, companies, research institutes, and public servants. It also was sent out via messengers or e-mail for approximately eight weeks, from August 17, 2009 to October 15, 2009. The survey was formulated to reach people who had been using UGC. A total of 1,750 questionnaires were distributed, out of which 322 questionnaires were returned, corresponding to an 18.4% response rate. The survey questionnaire asks what survey participants think about their experience for UGC at specific UGC sites, such as Yelp, Blogger, YouTube, or MySpace. We exclude questionnaires containing missing data or invalid responses, as well as those answered by people with no experience in UGC use. A total sample of 259 questionnaires is used for our analysis.

4.3. Analysis Methods

We provide descriptive statistics to determine the demographic characteristics of the sample. Factor analysis is employed to evaluate the validity and reliability of the constructs. Amos 5.0 is used to test the hypotheses, based on

the measurement constructs with reliability and validity. The analysis technique using Amos 5.0 may prove useful for the confirmation of the cause and effect relationship between variables.

5. Empirical Results

5.1. Demographics

The demographic characteristics of the sample are provided in Table 2. The sample population is 56.0% male and 44.0% female. Most respondents belong to the age groups of 20-25, 26-30, and 31-40 (86.4%) The largest occupation group is company employees (41.3%), followed by students (39.0%), business owners (4.6%), and professionals (4.2%). Fifty-six percent of the population earns an annual income in excess of $10,000.

Table 1: Measurement Items

Factor	Measurement Items	References
Content Quality	The content in the UGC is easy to understand.	Teo et al. [1999], Ryu et al. [2009], Lindic [2009], Valcke & Lenaerts [2010], Lopez et al. [2011]
	The content in the UGC is new.	
	The content in the UGC is refreshing.	
	The content in the UGC is popular.	
	The content in the UGC is relevant for users.	
Design Quality	The design of the UGC is well organized.	Lai & Turban [2008], Ryu et al. [2009], Ma et al. [2009], Kim et al. [2010], Valcke & Lenaerts [2010], Parra-Lopez et al. [2011]
	The content, such as texts, graphics and sounds, are well unified in the UGC structure.	
	The content of videos, graphics and audios is appropriately assembled in the structure of the UGC.	
	Components of the UGC are well harmonized.	
Technology Quality	The UGC provides a user-friendly access to users.	Wunsch-Vincent & Vickery [2007], Lai & Turban [2008], Ryu et al. [2009], Zink et al. [2009], Kim et al. [2010]
	The interface of the UGC is user-oriented.	
	The UGC is uploaded and can be shared by anyone.	
	The interaction with the UGC is fast.	
Functional Value	The UGC provides convenient functions.	Wunsch-Vincent & Vickery [2007], Nov [2007], Jensen et al. [2009], Ryu et al. [2009], Harrison[2010])
	The UGC properly satisfies users' needs.	
	The availability of the UGC is high.	
	The UGC provides ease of use.	
Emotional Value	I enjoy using the UGC.	Wunsch-Vincent & Vickery [2007], Ryu et al. [2009], Karahasanovic et al. [2009], Papathanassis & Knolle [2011]
	I feel good when I use the UGC.	
	I have some expectations from the UGC.	
	The UGC is interesting.	
Social Value	The use of the UGC affects me socially.	Nov [2007], Lai & Turban [2008], Bernoff & Li [2008], Nov & Ye [2009], Lindic [2009]
	I become close to other people by using the UGC.	
	The UGC encourages my social connections.	
	I feel at one with people who use the UGC.	
Utility	I use the UGC for my personal satisfaction.	Papacharissi and Rubin [2000], Flanagin and Metzger [2001], Leung [2009], Papathanassis & Knolle [2011]
	I use the UGC to get more viewpoints.	
	I use the UGC to exchange useful information freely.	
	I use the UGC to generate ideas.	

Table 2: Sample Demographics

Division		Frequency	Percentage	Division		Frequency	Percentage
Gender	Male	145	56.0	Age	Less than 19	26	10.0
	Female	114	44.0		Age of 20-25	107	41.3
	Total	259	100		Age of 26-30	76	29.3
Education	Under High School	25	9.7		Age of 31-40	41	15.8
	High School Graduate	7	2.7		Age over 41	9	3.5
	University Student	74	28.6		Total	259	100
	University Graduate	109	42.1	Occupation	Student	101	39.0
	Graduate School Student	29	11.2		Salaried Employee	107	41.3
	Over Graduate School Education	15	5.8		Public Servant	8	3.1
	Total	259	100		Business Owner	12	4.6
Income ($)	Less than 10,000	114	44.0		Housewife	2	0.8
	10,000-30,000	116	44.8		Professional	11	4.2
	30,000-50,000	24	9.3		etc.	18	6.9
					Total	259	100
	Over 50,000	5	1.9	Status of Usage	Less than twice a week	137	52.9
	Total	259	100		2-3 times a week	74	28.6
Purpose of Use	Community Participating	47	18.1		4-5 times a week	25	9.7
	Hobby Club/Café Activity	49	18.9		Over 6 times a week	23	8.9
	Information Sharing	90	34.7		Total	259	100
	Pleasure Improvement	136	52.5	Period of Use	Less than 1 month	73	28.2
	Expression Expansion	26	10.0		Less than 6 months	47	18.1
	Social Friendship	18	6.9		Less than 1 year	51	19.7
	Intellectual Capability	20	7.7		Less than 2 years	27	10.4
	Etc.	13	5.0		Over 2 years	61	23.6
	Total	399	NA*		Total	259	100

* The respondents were asked to select more than one item for "purpose of use" Thus, the total percentage does not equal to 100.

With regard to the frequency of UGC use, the largest group utilizes UGC more than twice a week (47.2%). The users' UGC experience levels are also relatively high with 53.7% of the total users having more than 6 months of experience with UGC use. The users' objectives in using UGC are listed in order: pleasure improvement (52.5%), information sharing (34.7%), hobby clubs and café activity (18.9%), community participation (18.1%), etc. Another inclusion of the present study is an examination of varying relationships of the preceding factors according to types

of use as identified Shao [2009]. In his study she categorized UGC uses in to three distinctive purposes. They are consumption of contents, participating of UGC media, and producing or generating contents. In line with this classification, we sorted and collapsed eight objectives into three categories; Consumption includes 'pleasure improvement' and 'intellectual capability'. Participation includes 'community participating', 'hobby or club/café activity', and 'social friendship'. Producing comprises 'information sharing', 'expression expansion', and 'etcetera'. We ended up with 156 responses for consumption use, 118 for participation use, and 129 producing use.

5.2. Reliability and Validity Tests

The reliability and validity tests are conducted in order to evaluate the measurement items. The results are shown in Table 3. The majority of the items has Cronbach's α greater than 0.7, thereby providing evidence of a good reliability. Additionally, a factor analysis with varimax rotation is conducted to validate the measurement construct. A total of seven factors with an eigenvalue greater than 1.0 are identified. The seven factors account for approximately 60.6% of the total variance. The measurement constructs are appropriate for further analysis, as evidenced by the reliability and validity tests of these measures.

Table 3: Analysis of Reliability and Validity

Items	1	2	3	4	5	6	7	Cronbach's α
CQ2	.792	.103	.062	.139	.150	.034	.137	.793
CQ 3	.778	.067	.158	.018	.101	-.030	.035	
CQ 1	.735	-.082	-.007	-.070	.086	.219	.028	
CQ 4	.719	.165	.148	.012	-.143	.029	.194	
CQ 5	.346	.218	.287	.175	.057	-.238	.131	
UU4	.128	.771	.136	.031	.080	.123	.003	.841
UU 1	.140	.724	.157	.080	.167	.159	.191	
UU 2	-.045	.688	.142	.198	.153	.184	.062	
UU 3	.087	.687	.115	.169	.168	-.002	.097	
EV2	.041	.124	.712	.268	.033	.073	.177	.796
EV 3	.187	.147	.708	.079	.228	.179	.084	
EV 4	.247	.125	.666	.061	.168	.214	.097	
EV 1	.053	.325	.554	.185	.080	.010	.271	
DQ3	.110	.069	.086	.765	.067	.143	.120	.742
DQ 2	-.049	.111	.118	.762	.126	-.012	.020	
DQ 1	-.008	.153	.107	.563	.094	.006	.288	
DQ 4	.116	.100	.222	.507	.119	.299	.049	
SV1	.090	.166	.155	.089	.745	.117	.075	.759
SV 4	.004	.140	-.020	.100	.705	.007	.167	
SV 2	.159	.123	.206	.099	.636	.097	.111	
SV 3	-.038	.062	.186	.186	.541	.168	-.161	
TQ4	.000	.141	.057	-.036	.096	.718	.092	.701
TQ 3	.055	.219	.207	.136	-.053	.703	.107	
TQ 2	.159	-.003	.039	.144	.194	.667	.105	
TQ 1	.005	.041	.125	.163	.085	.578	.141	
FV4	.164	-.031	.116	.175	.050	.211	.736	.739
FV 2	.255	.339	.137	.086	.112	.145	.663	
FV 3	.005	.055	.216	.165	.151	.011	.600	
FV 1	.297	.179	.153	-.043	.111	.196	.507	
Eigen Value	2.955	1.876	1.639	1.530	1.373	1.170	1.143	
Accumulative Distribution (%)	36.373	41.585	46.137	50.386	54.199	57.449	60.622	

Note: CQ= Content Quality, DQ= Design Quality, TQ= Technology Quality, FV= Functional Value, EV= Emotional Value, SV= Social Value, UU= UGC Utility

5.3. Hypothesis Test

To test the research model, the covariance structure modeling analysis is conducted using Amos 5.0. The assessment results of the overall model fit are shown in Table 4. The *p* value of ^{2} is 0.000, which does not satisfy the standard model fit (primarily due to its large sample size). Therefore, we evaluate the model fit with NC (Normal Chi-square), RMR (Root Mean Square Residual), GFI (Goodness of Fit Index), NFI (Normal Fit Index), CFI (Comparative Fit Index), TLI (Turker-Lewis Index), and RMSEA (Root Mean Square Error of Approximation) (Bagozzi and Yi 1988). All the test statistics demonstrate that the model fits the data very well (NS = 1.102, RMR = 0.037, GFI = 0.895, NFI = 0.860, CFI = 0.985, TLI = 0.982 and RMSEA = 0.021).

Table 4: Measures of Model Fitness

Chi-square	DF	P-Value	CMIN/DF	RMR	GFI	NFI	CFI	TLI	RMSEA
423.116	384	.000	1.102	.037	.895	.860	.985	.982	.021

The results of the hypothesis tests are shown in Figure 3. Our results show that the content quality of UGC affects the functional, emotional, and social values of UGC. Therefore, H1a, H1b, and H1c are all supported. The results indicate that clear (easy to understand), new, and refreshing content can enhance user convenience and ease of use, and also improve the value of emotional and social interactions. The design quality of UGC improves the functional, emotional, and social values of UGC. Thus, H2a, H2b, and H2c are all supported. The results indicate that when UGC is well organized in terms of audio, video, graphics, and interfaces, users' experience relatively high functional, emotional, and social UGC values. The technological quality of UGC also affects the functional, emotional, and social value of UGC. Thus, H3a, H3b, and H3c are all supported. The results suggest that technological quality is a crucial factor for UGC value. In summary, it appears that efficient, user-oriented, and user-friendly interfaces tend to improve the value of UGC through functional, emotional, and social interactions.

Our results suggest that UGC quality can be viewed in terms of content, design, and technology qualities and that the functional, emotional and social values of UGC are increased by these three quality factors: fresh content, systematic design, and usable technology enhance UGC value when users employ UGC. Additionally, perceived utility is affected by the functional and emotional values of UGC. Our results demonstrate that among the three UGC values, functional and emotional values are more important for perceived utility than social value. They are more likely to provide users with greater UGC utility. The summary of the hypothesis tests is provided in Table 5.

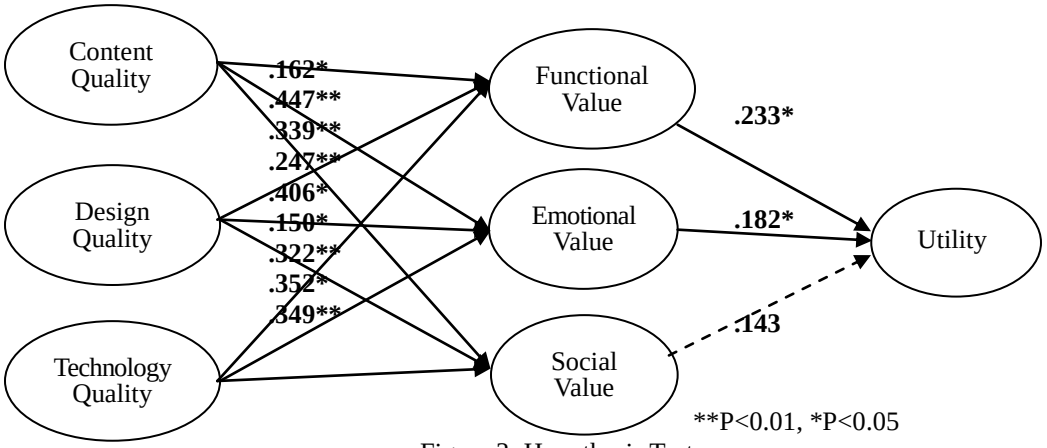

Figure 3: Hypothesis Test

5.4. Analysis on the Usage Type

Another question raised in this study is which preceding factors are significantly lead to the usage of the UGC based on three different uses; consumption, participation, and production. To answer this question, we utilized the questionnaire item of purpose of UGC use as appeared in Table 2. We then classified those eight purposes of use into three distinctive uses of UGC as proposed by Shao's framework [2009], that is, consuming, participating, and producing. Instead of comparing all three uses simultaneously, we took each type of use and examined what differences can be observed between a type of use and none of this type. In other words, we closely compared the path loadings of the suggested model between consuming use and non-consuming use of UGC, and moved on to

participating vs. non-participating use and producing vs. non-producing use. One of the reasons of having individual comparison is that this measurement item allowed multiple selections. A respondent could choose more than one purpose of using the media, which might be a source of confounding in the comparison analysis. A summary of the comparison is presented in Table 6 one use type by the other in which the values of path loadings are given with statistical significance at a .05 level. As the result of overall data indicated, social value was found least significant construct. The path from content quality to social value in both consumption and participation types of use was found insignificant, and the path from social value to utility for both participation and production uses was not significant either. Among those case and non-case comparisons, participation posed the greatest distinction between the use type and non-use type. Nevertheless we were unable to find a compelling evidence to support that different types of use exclusively induce distinctive UGC qualities or UGC values leading to utilization.

Table 5: Summary of Hypothesis Test

Path		Estimate	S.E.	C.R.	P-Value	Results
Content Quality	→Functional Value	.162	.082	1.972	.049	Support 1a
	→Emotional Value	.447	.132	3.380	.000	Support 1b
	→Social Value	.339	.110	3.075	.002	Support 1c
Design Quality	→Functional Value	.247	.062	3.997	.000	Support 2a
	→Emotional Value	.406	.096	4.241	.000	Support 2b
	→Social Value	.150	.075	1.989	.047	Support 2c
Technology Quality	→Functional Value	.322	.084	3.820	.000	Support 3a
	→Emotional Value	.352	.117	2.996	.003	Support 3b
	→Social Value	.349	.103	3.381	.000	Support 3c
Functional Value	→ Utility	.233	.102	2.290	.022	Support 4b
Emotional Value	→ Utility	.182	.065	2.800	.005	Support 5b
Social Value	→ Utility	.143	.127	1.126	.260	Not Supported 6b

Table 6: Case, Non-case Comparison of Path Loadings in Three Types of Uses

		Path loadings					
		Consuming		Participating		Producing	
Path		No	Yes	No	Yes	No	Yes
Content Quality	→Functional Value	**.280**	**.320**	**.330**	**.257**	**.247**	**.402**
	→Emotional Value	**.223**	**.244**	**.288**	.139	**.250**	**.202**
	→Social Value	**.225**	.113	**.166**	.083	.008	**.226**
Design Quality	→Functional Value	**.252**	**.274**	**.234**	**.294**	**.243**	**.247**
	→Emotional Value	**.202**	**.404**	**.300**	**.310**	**.292**	**.270**
	→Social Value	.191	**.339**	**.351**	.123	**.181**	**.417**
Technology Quality	→Functional Value	**.347**	**.242**	**.233**	**.372**	**.290**	**.304**
	→Emotional Value	**.288**	**.196**	**.181**	**.343**	**.241**	**.304**
	→Social Value	**.310**	**.245**	**.194**	**.425**	**.342**	**.150**
Functional Value	→ Utility	**.291**	**.145**	**.180**	**.254**	**.223**	**.214**
Emotional Value	→ Utility	**.337**	**.334**	**.322**	**.352**	**.235**	**.449**
Social Value	→ Utility	**.205**	**.248**	**.273**	.161	**.270**	.169

Boldface represents statistical significance at a .05 level

6. Conclusions

With advancements in information technology, UGC is rapidly becoming available to people all over the globe. UGC is employed in various media in a broad range of forms. Particularly, UGC has become a crucial component of social media in the Web 2.0 environment and may continue to be a critically important future-oriented service with significant effects on both individuals and societies primarily due to its profound global distribution. Research on the effects of quality factors on functional, emotional, and social values of UGC is expected to generate meaningful and important results. Our findings provide evidence that UGC quality involves content, design, and technology factors, and that these three quality factors affect the functional, emotional, and social values of UGC. Moreover, it was found that the perceived utility of UGC is affected by the functional and emotional values of UGC. Based on our findings, we can depict the mechanism of UGC quality, value, and benefit as shown in Figure 4. The study also investigated whether different purpose of UGC use will exclusively highlight a unique quality and a value of UGC toward UGC utility. However, it was found that there is no evident support for conspicuous variation of the model's relationship even though minor differences were observed.

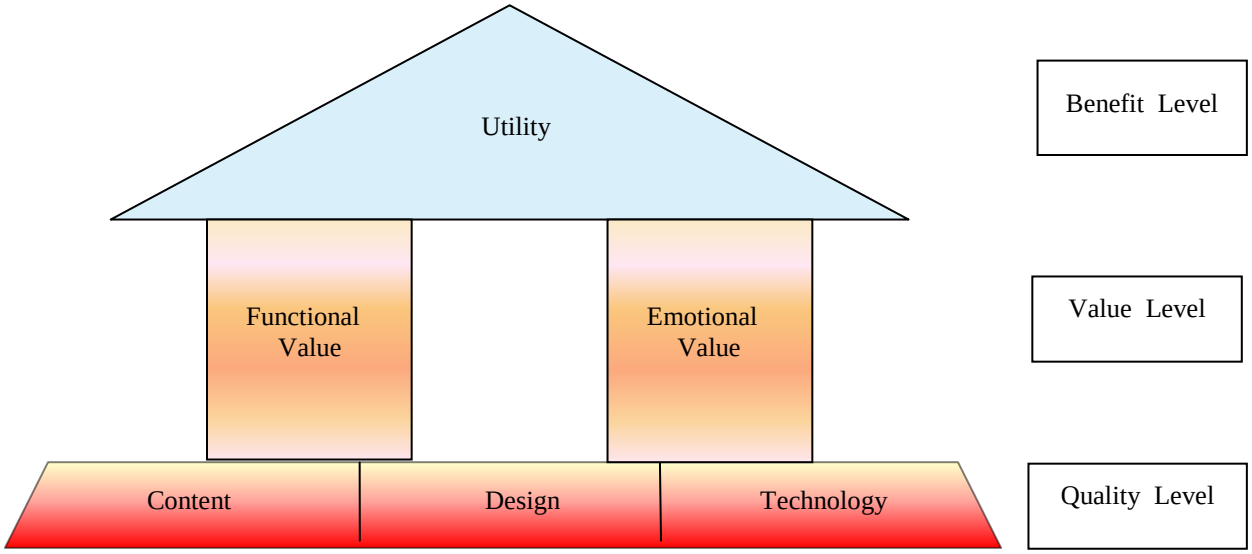

Figure 4: Quality, Value and Benefit Mechanism of UGC

6.1. Implications for Academics

Despite increased interest in value creation from UGC, little comprehensive research on the issue has been conducted. While previous research focused only on the application of UGC [Bughin 2007; Jensen et al. 2009; Shim & Lee 2009; Harrison 2010], this study proposes a research model focusing on the relationships among the quality, value, and benefits of UGC. The model also elucidates the mechanism of UGC quality, value, and benefits with a reasonable degree of accuracy (Figure 4).

Additionally, this study provides empirical support for relationships among UGC quality, value and utility, as proposed by Li and Lin [2009], Gangi and Wasko [2009], and Williams et al. [2010]. According to our results, UGC appears to have a dynamic and interactive mechanism consisting of quality, value, and utility. This research shows the importance of content, design, and technology quality factors for UGC value, which consists of functional, emotional, and social elements. Additionally, our findings demonstrate that UGC value exerts a prominent effect on users' utility: perceived utility is increased by both the functional and emotional values of UGC. The results reflect the characteristics of UGC users, including a general willingness to be involved with others via interactive communication technologies, UGC, and also the informative and interactive capabilities of UGC. Our findings lend credence and support for the speculation that the perceived utility is successfully engendered or improved by valuable UGC.

In conclusion, the mechanism underlying UGC quality, value, and benefit can be used as a framework to improve our understanding of how quality affects value, which ultimately transforms into utility, and provide key theoretical underpinnings useful for further research.

6.2. Implications for Practice

Our findings provide several implications for practice. First, our findings provide insights for the development and operation of future UGC outlets. It appears that when developing a UGC outlet, detailed planning of content, design, and technology factors will be crucial for the creation of well-organized UGC services.

Second, since UGC is receiving attention increasingly from business communities, this research provides guidance with regard to critical factors for the successful adoption and utilization of UGC services. For example, in order to make UGC services beneficial for users, UGC value must be increased through extensive investments in content, design, and technology.

Third, our findings imply that if users perceive UGC to be interesting, they tend to reuse or view it repeatedly after downloading it from the Internet; however, they may discontinue the use of UGC if they find it uninteresting. This is particularly true with regard to the emotional value of UGC, which is related to fun and entertainment.

Fourth, in order to reduce the inherent risks and uncertainty and increase the quality and value of UGC services, it is necessary for UGC providers to understand the value chain of UGC, which is composed of the three dimensions of quality, value, and benefits. As shown in Figure 3, quality level is a type of UGC infrastructure consisting of content, design, and technology. These three factors are closely related to one another, and constitute the core elements of UGC quality. UGC value functions as an intermediate level between the quality and benefit. The benefit level comprises users' perceived utility. Although UGC service models might differ across various UGC applications, the mechanism of UGC quality, value, and benefit could be a cornerstone for UGC services.

6.3. Limitations and Further Research

This study is not free from limitations. The model proposed and tested in this research calls for future research for confirmation. Future research can develop a more detailed elucidation of the factors relevant to the UGC value chain. Further research on the relationship between the value and utility of UGC may also be of considerable significance. This study makes a meaningful contribution by providing a theoretical background for future research as well as practical implications for UGC providers with regard to the mechanism underlying UGC quality, value, and benefit.

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