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Value Perception in Music Information Systems

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Abstract

When referring to the value that IS adds to business and provides to consumers, we often (implicitly or explicitly) pertain to monetary value. However, perspectives exist regarding the notion of value which go beyond the monetary significance and maintain a direct influence on businesses and their performance. This paper explores the concept of value, its importance in IS, and the importance of understanding of how IS stakeholders perceive value. The paper focuses on the challenge of studying value in IS -although value manifests in properties of an information system, it can only be experienced and perceived subjectively through sense perception, experience and judgement of the system stakeholders. To address this challenge, the paper suggests the existence of a clearly shifting trend in the perception of IS technology and comments on the social impacts of end-users (consumers) being absorbed into the value-creation process for an information system in the music industry.

Keywords:

Value Creation, Perception, Music, Phenomenology

INTRODUCTION

Despite a growing number of researchers exploring the value of innovative information and communication technologies (ICT), there exist only a few studies taking a philosophical perspective on the techno-organisational aspects of value, its perception and creation, and which may affect or be affected by the deployment of new technologies. Regardless of a business' nature, industry or objectives, the term 'value' often represents the economic measure of success attained by business for its employees and clients, perceived and received by these employees and clients. However, other facets of value measurement and its perception by the information system stakeholders are equally important, yet often overlooked.

The research area of value perception encompasses areas of psychology, social sciences and philosophical inquiry, which all embrace different approaches to studying and understanding human perception of values. Yet it is within IS that the perception of value is rarely examined. This is mainly due to the traditional approach to assessing performance of information technology (hardware and software), which can be readily quantifiably measured and understood. Amongst information systems research, the quantification of IS value, as evidenced in evaluation and measurement of IS success, has also received much attention (Boehm & Huang, 2003; Carlson & McNurlin, 1989; Duggan & Reichgelt, 2006; Wilcocks, 1994). Such understanding of issues and measuring instruments is not so apparent in studying the personal, organisational and socio-cultural dimensions of information systems.

Unlike the concept of value measurement, the essence of value is considerably more difficult to capture and it is grounded predominantly in the qualitative research tradition. The qualitative determination of value stems largely from the perception of value and the 'goodness' of an outcome as it affects key stakeholders (Lemos, 1995). Information systems are no exception to this rule; for example, in addition to IS economic values (ROI), Boehm (2005) also identifies many socio-organisational benefits, such as business predictability and customer satisfaction. A deeper understanding of value is therefore required to reflect complex personal, organisational and socio-cultural dimensions of information systems. As this research focuses on the understanding the social-technical perception of value in IS, we have taken a phenomenological perspective. The approach allows us to explore the IS stakeholders' subjective world, their lived experience with techno-organisational change, and their emotional responses to the introduction of information systems (Moustakas, 1994). As contemporary information systems (such as global web-based information systems) often feature a broad and rich stakeholder base (Cybulski & Sarkar, 2005), the issue of system value as subjectively perceived by these widely non-homogeneous stakeholders is critical in assuring the information systems' success.

Our study identifies and examines the perceptions of various stakeholders within the Australian music industry, ranging from artist, sound engineer, promoter, distributor to event manager. More specifically in the paper, we will provide an analysis of stakeholder perceived 'value' from an artist and a music retailer and discuss implications to IS-enabled music production and distribution. In the subsequent sections, we will refer to this application domain simply as 'music IS'.

The paper is structured as follows. The following section and 'What is value' section provide an overview of the background understandings of music IS and the concept of value and value chain. Next, we then describe our adopted research approach, i.e., phenomenology, and the research design. This will be followed by a section which presents data analysis and findings. The last section presents conclusions and future research directions.

MUSIC INFORMATION SYSTEMS

Music, as it is illuminated by Aristotle's work *Theory of Music*, is partaken "for the sake of amusement and relaxation" as it "contributes to the enjoyment of leisure and mental cultivation," (Hofstadter & Kuhns, 1964, p.131), a description which reinforces the significance of music in culture and traditions. In understanding the music industry, there is more than delivering the enjoyment of leisure from the music creator to music consumer. When looking at music as an experience, it is important to understand the nature of the music industry as it exists as a vessel and conveyer of value along the value chain and its intermediaries, in order to expose the perspectives of these intermediaries and their roles as value facilitators. We will discuss music chain in more details in the *Value in Music Information Systems* sub-section after defining fundamental concepts to understand value.

Significant changes in the music value chains were found to include direct distribution to consumers, reduction in the number of intermediating parties, global intermediary communication via the Internet and artist entrepreneurialism. The motivation behind the influx of artists adopting an entrepreneurial and online-based presence was partly due to the surge of popularity towards portable devices and the paid downloading of recorded music and video (Clarke, 2006). It is clear that as music innovation and delivery technology advanced, the industry has 'disintermediated' and parallel with this change, the options available to artists have increased. Ninan et al (2004) suggested that this trend has upset major music organisations and lowered profit margins. As Reddy and Reddy (2002) explicate that the initial focus of music innovation was on the consumer, the later advances in the use of the Internet, mobile and wireless technologies had a significant impact on music industry, its business and distribution mechanism (Hampe & Schwabe, 2003).

From the consumer's perspective, these recent techno-benefits have effectively altered the music value chain, helping consumers to listen to music in electronic forms, such as ring-tones and Mp3 files, procure it via the Internet; thus, bypassing traditional retailers and their 'bricks and mortar' distribution channels (Reddy & Reddy, 2002). In the face of these drastic changes to music and its distribution, the question arises whether or not the new IS technology has altered the traditionally held value of music as a product. Peppard and colleagues present the notion of IS facilitating the delivery of value to business and consumers, where "technology is merely a part of the value creation process" (Peppard et al., 2000, p.292). Our research examines the question of how the IS enabled-value is perceived by the music creator's (artist) and the retailer's perspectives.

WHAT IS VALUE?

Value in general terms extends to "something that is good in some respect" (Vilka, 1984, p.11). Value can be further expanded as "a measure of gratification of our sense of costliness masquerading under the name of beauty" (Hawkins & Muecke, 2003, p.29). Notably, an every day concept of value is concerned with a qualitative expression of the goodness of the value as reflected by the perception of the stakeholder. We contend that the concept of value in IS cannot be readily defined unless the context and nature of the 'value' in question is first established.

Value and multiple stakeholders

Value is a relative notion and is subjectively defined in the eye of the beholder. In competitive organisational terms, value represents "the amount buyers are willing to pay for what a firm provides them" (Porter, 1985, p.38). Congruently, from a management perspective, value "reflects the owner / buyer's desire to retain or obtain a product" (Neap & Celik, 1999, p.181) and pertains rather solely to the monetary outcome of the product. In IS, various stakeholders - including developers, IT management, business management, end-users and customers - maintain their own ideas of value regarding price, product, service and quality standards (Dodds, 2003, p.iii-iv). For example within the realms of music IS. from a business management perspective, this monetary value could be exhibited regarding the introduction of an online music network, and a resulting reduction in the monetary expense of a music experience when juxtaposed with the cost of downloading iTune songs. However, the value of the iTune songs may include not only the downloading cost but also the emotional value of supporting their favourite singer or artist, and/or the convenience of enjoying the songs anywhere on a portable device.

Therefore, when discussing and creating value, it is important to identify key stakeholders and examine value from different stakeholders' perspectives.

Multiple attributes of Value

Value is manifested through a number of attributes. For the majority of people, the financial and economic worth - while important - represents only one of many facets of products and services which they acquire and utilise. Their other value attributes arise from a "contextual understanding of human life" (Kersten & Biernatzki, 2000, p.73), which is spanning aesthetic (Adorno, 1997), biogenic (Vilkka, 1984), doctrinal / political (Kersten & Biernatzki, 2000), social and ethical (Parret, 1994) dimensions. All of these attributes underpin and impact distinctly upon the stakeholder's perception and the subjective appraisal of object's value.

To follow on from the aforementioned IS music example, non-monetary value within an IS could be exemplified by an online music network providing the accessibility of rare or international music to remote areas, where retailers are unable to make an in-store purchase of music products. This accessibility is a value to which stakeholders cannot consistently assign a quantitative or monetary equivalent of value, since this differs in each person's perception and their "account of the relationship of sense-experience to material objects" (Quinton, 1965, p.497) in accordance to their moral standing, and their understanding of a product's goodness (Vilkka, 1984). To create/add values through information systems, it is important to identify and examine different attributes of value of the systems in the context of use.

Intrinsic and Extrinsic Value

The distinction between intrinsic and extrinsic values may be understood using Lewis' (1947) theory of value. Based on this theory, intrinsic value refers to attributes of value originating in the product or object itself whereas extrinsic values refer to attributes derived from sources external to the original product or object. For example, the general intrinsic value of a particular music CD can be understood from its collection of music pieces (melody and lyrics) whereas external value of that CD may be its associated with a signature of the singer signed on it to a fan after a tour show. To appreciate value of music IS, it is important to distinguish intrinsic value as well as extrinsic value that can be created and delivered in this domain.

Value in Information Systems

In IS, the value attached to traditional software systems was believed to be created by the product sponsors, customers, users, requirements engineers, designers and programmers. Consequently, much of the value was thought to be residing in the intrinsic quality of the software product functions, its performance and documentation. Recently IS value has been recognised to be derived not only from software and hardware, but from the associated business benefits measured quantitatively (Cybulski & Sarkar, 2005). In terms of additional business profits or costs savings, these benefits can be qualitatively evaluated in terms of customer satisfaction, corporate reputation, and supply-chain controllability (Boehm & Huang, 2003). In modern IS, such as web-based music IS, value is derived directly from IS-supported business activity (Cybulski & Sarkar, 2005), such as the availability of new IS services from the electronic inter-organizational transactions and interactions (e.g. payment associated with music sales), and from the IS product and service availability to customers. Extending upon the notion of value for customers in general, Grey and Shi (2005) suggest that factors such as quality, quantity, complexity, serviceability, obsolescence, and price can impact upon the entire value chain of a business and the decision by a customer to purchase from a specific supplier (Labbi, 2005; Grey & Shi, 2005). As a result of this broadened understanding of value in IS and in business, the group of value creators in IS development and its subsequent business implementation expands to include not only direct IS project stakeholders, but also content developers and copyrighters, marketing and public relation specialists, art directors, graphic designers, multimedia and interaction developers (Cybulski & Sarkar, 2005).

Value in Music Information Systems

As the notion of traditional product value transmutes due to the evolution of physical products and services into virtual products and their online delivery - which is highly visible in the music industry - the concept of an e-value chain manifestly extends the aforementioned definitions of value and music IS to encompass 'e-Business' elements, incorporating the Internet and IT to enhance the productivity of the conventional value chain, orchestrate more streamlined business processes, and increase value chain interconnectedness (Grey & Shi, 2005, p.2). The traditional music value chain has altered as a result of the disintermediation, online distribution of music and new music technologies affecting music industry. Consequently, information systems have played an important role in the development of an e-value chain (electronic-value chain) for music products (Andersson and Rosenqvist, 2006, Dubosson-Torbay *et al.*, 2004, Hampe and Schwabe, 2003, Swatman *et al.*, 2006). A number of researchers have investigated the shifts in the music industry business model from the perspective of download pricing, supply chain integration models, sales impacts, and the adoption / application of music

technologies (Berry, 2006, Bockstedt *et al.*, 2006, Buxmann *et al.*, 2007, Lewis *et al.*, 2005, Mol *et al.*, 2005, Richards, 2007).

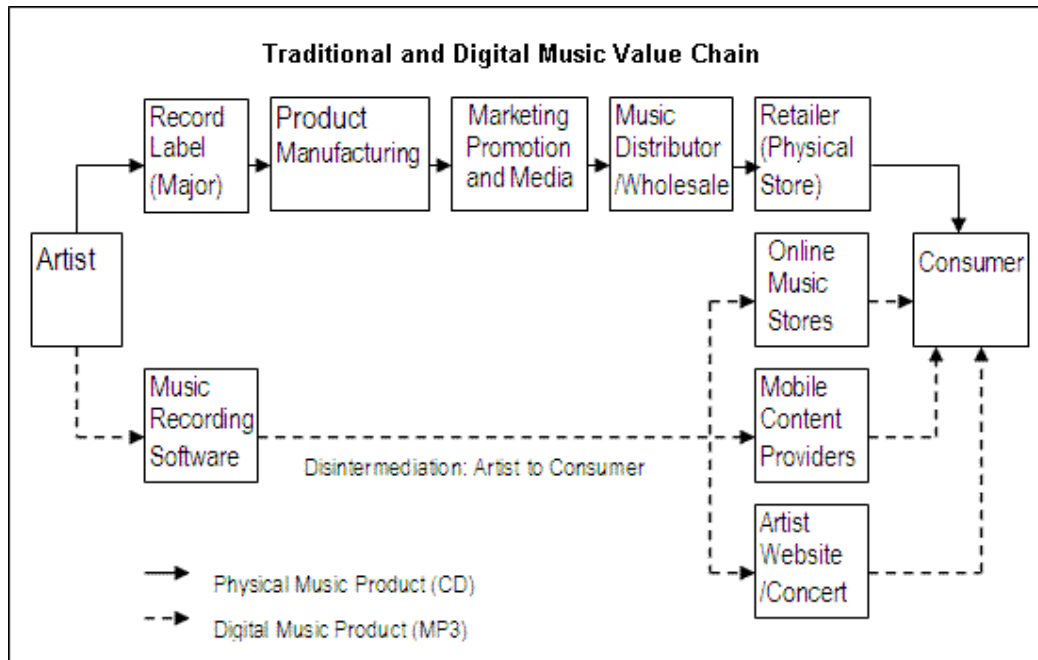


Figure 1: Current Music e-Value Chain Model

Based on these previous studies into the transformation of the music value chain in recent years, we developed a conceptual model to understand the e-value chain to study value in music IS. **Figure 5** summarises the music value chain as it has evolved from Porter's (1985) traditional value chain framework to reflect the relevant parallels and contrasts between the traditional model and new e-value chain model. Regarding the traditional music value chain, the customer's role was external and simple - to consume the music product.

Considering the e-value chain for digital music, Bockstedt *et al.* (2006) asserted that "there is no longer a physical product to manufacture. Instead the product itself is information - the digital music recording" (Bockstedt *et al.*, 2006, p.13). Further, considering music IS and its increasing shift to online distribution, it is particularly the extrinsic value of the music product that has changed in the most radical fashion. On one hand, the consumer no longer receives a physical CD and sleeve inclusive of extrinsically valuable art, marketing, and messages from the artist which are sacrificed in exchange for rapid access. On the other hand, the music delivery vehicle, in the form of the music web or WAP site, often becomes the rich source of information about the artist and music distributor, graphics and lyrics associated with music tracks are often embedded in the music files, and the new forms of previously non-existent direct communication between the music consumers and artists emerge via fan web sites and mobile chat rooms. Overall, the reduced/added value is rather subjectively experienced and perceived by different customers than determined with the intrinsic properties of the song, its melody and lyrics.

In summary, value of music information systems may not manifest only in intrinsic properties of the system itself; there are extrinsic properties attribute to the system by involved stakeholders. While the discussion thus far explains the concepts of IS-enabled value and its value chain, previous studies have not elucidated the mechanisms of value perception by different stakeholders / intermediaries along the value chain. Nor have previous studies explained what factors influence such perceptions, which in music IS may include distribution method, technology innovation, portable music devices, or Internet concert streaming. The next section describes our phenomenological approach to addressing these gaps in the literature by studying value in music IS.

RESEARCH APPROACH

A Phenomenological Approach to Studying Value in Music IS

Our study adopts a phenomenological approach to investigating the perception of value in music IS from different perspectives of artists, music production and distribution stakeholders, and consumers. Phenomenology is the branch of philosophy which studies a research subject matter (such as an event or issue) as it is perceived from the immediate social actor's perspective. Phenomenology has been found to be highly applicable to the

study of IS stakeholder perceptions (Sarkar, 2003; Boland, 1985). Phenomenology “seeks to understand human experiences... generating broad and general research questions” which are suited to research areas requiring a “descriptive, synthesized narrative of the phenomenon under study” (Smith & Davis, 2003, p.115). The main strength of phenomenology comes from its ability to deal with issues of psychological influences - such as perception, experience and judgement - on human activity in IS.

Our individual value system depends largely upon our world-view, i.e. our ideology, knowledge, beliefs and perceptions (Vilkka, 1984, p.7). Perception is the way in which we, as individuals, “form the impressions of the qualitative and quantitative aspects of external objects, of their spatial positions and movements” (sense) (Dember & Warm, 1979, p.2). From these impressions we create a “likeness of the environment in our minds” (perception) (Goldstein, 2002, p.3), which is highly subjective to each individual’s interpretation. Thus perceiving “as it occurs in people, is a process whereby stimulus information is elaborated and interpreted so as to yield organisation and meaning” (Dember & Warm, 1979, p.6) from a likeness in our mind, our judgement and often our imagination.

While many thinkers have explored the subject of knowledge and perception, it was Maurice Merleau-Ponty’s (1908-1961) phenomenological theory that provided insights into human perception from the vantage point of modern discoveries in cognitive science, psychology and sociology (Merleau-Ponty, 1962; Merleau-Ponty, 1964). Merleau-Ponty (1962) argues that the sensory perception is the basis of all experience, thought and knowledge. In contrast to the ‘scientific’ reductionist view of the world, Merleau-Ponty brings together the sensory observation with the thought and reflection on the world and the self, which is an intrinsic part of all the observable phenomena (Merleau-Ponty, 1962). Even the properties of any real object (i.e. music track, the CD or a web site), which can be explored with our senses are subject to the perceptual alterations which exist in the relationship between the physical object and the observer (Merleau-Ponty, 1962, ch 3, p 348).

According to Merleau-Ponty, the body and mind are inter-related in the psychology of perception. In this way, an object’s experiential and subjective quality (such as the music IS value) must be derived from the object’s immediate sensory data and human subjective experience with the object. And so, the object’s observed attributes cumulatively represent its (previously memorised) quality to the observer (such as *relaxing* music or an *attractive* CD cover design), the quality which is not possessed as a ‘real part’ of the perception but rather as its ‘intentional part’, and it holds some (previously experienced) significance to the perceiver (Merleau-Ponty, 1962, p 16). Merleau-Ponty (1962, p 37) also introduces ‘judgement’ as “what sensation lacks to make perception possible”. According to the author, judgement transcends both sense and experience. Judgement relies on the conscious interpretation of sensory data as well as one’s reflection upon experience to form a perception, so that it could be understood by the observer and possibly by others as well. Sensory perception, experience and judgement are three important elements of the Merleau-Ponty’s philosophy of perception. We adopt these three elements to understand and describe the notion of value in music IS.

Research Design

For the purposes of accurate data collection, study participants were selected based upon their value-adding role within the value chain of the music industry, and their experience with the studied phenomena, as required within phenomenological research endeavours. The selection of interview participants were derived from a variety of types and sizes of music industry organisations, from artists, contracting individuals and independent companies to national organisations and governing bodies. The researchers adopted a purposeful sampling method firstly to align with the phenomenological method, which suggests the use of purposeful selection based upon individuals that the researcher perceives may hold the essence of the phenomenon, or have experienced it firsthand (Creswell, 1998, Moreno, 2002, van Manen, 1998). The sample collected for this study included artists and stakeholders associated with the Australian music industry ranging from managers, A&R executives, producers, distributors, public relations/marketers, promoters, retailers, and industry bodies. Corresponding with Moustakas’ (1994) suggestion of involving fifteen (15) participants in a phenomenological inquiry, the study involved nineteen (19) interview participants.

Aligning with the phenomenological research method, the design of data capture instrumentation followed the procedures instituted when employing phenomenological techniques, which include the adoption of long interview techniques, semi-structured interview questioning, with interview data captured via audio recording. This study was undertaken in a series of progressive stages involving literature review, data collection stages, interview texts’ analysis, focus groups and synthesis stages to correspond in-line with phenomenological method and the cyclical stages of hermeneutical interpretation of data (Gadamer, 1976, Moustakas, 1994). As identified by Burns (1997) “the first step in analysis is to segment the data” (Burns, 1997, p.319) which in the instance of phenomenology, involves epoché, listing and grouping, followed by reduction and elimination then clustering thematising and imaginative variation.

The recorded interview data were analysed within a cyclical hermeneutic process in the overall study (see Figure 2). Each cycle refines findings and allows a new horizon of understanding to form. This process perpetuated the

ongoing cycle of refinement until the essence of the experience was reached (Moustakas, 1994). The reduction and elimination cycle removed superfluous statements in order to derive “meanings and essences of the phenomenon, the constituents that comprise the experience in consciousness, from a vantage point of an open self” (Moustakas, 1994, p.34). The next analysis cycle was the development of textural-structural descriptions. This cycle formed a narrative structure to tell the story of each individual participant in order to identify themes. The identified themes are synthesised from different participants’ perspectives to draw findings.

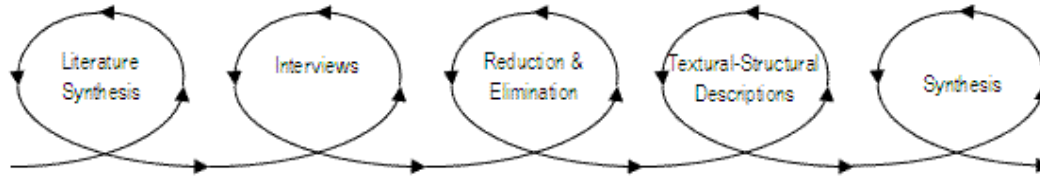


Figure 2 Hermeneutic Interpretation Cycle, adapted from Gadamer (1976), and Klein and Myers (1999)

The next section presents our analysis of value of music IS as perceived by two participants and discusses them in relation to other participants.

ANALYSIS OF MUSIC STAKEHOLDER’S PERCEPTIONS OF VALUE

Three elements of sensory perception, experience, and judgement were taken into account during data analysis. Considering that our research primarily concerns the value of music IS, its processes and its products; the relevant aspects of involved cognitive functions must necessarily involve audio-visual cues (perception of music and the associated artwork, system interfaces) and motor-sensory responses (information system interaction). The subjective value perception and the stakeholder satisfaction with the innovative music IS (functionality, speed, effectiveness) need to be grounded in the sensory aspects through interactions with music and accompanying products and their perceived quality (accessibility, usability).

For brevity, the following sections outline three themes representing the perspectives of stakeholders Gemma Wallace (GW), a tenacious and passionate musician who thrives on the live music scene in Victoria, regional Australia and a number of international venues, and Stacy Beresford (SB), a vibrant and enthusiastic music retailer whose business is situated in Melbourne, Victoria, Australia. The discussion section examines both these perspectives in relation to other participants.

Sensory Perception: Technological Impact Theme

The sensory perception of value of music IS was analysed based on the participants’ interactions with technology. The theme of technological impact emerged. Gemma viewed the introduction of digital recording as breaking down barriers for low-budget artists and their attempts at entrepreneurialism. Commenting on the recording of her album, Gemma highlighted the benefits she encountered using ProTools™ (2007) music software in a digitally equipped studio: “The best thing about digital recording is that it is accessible to everyone so a lot of people now have the opportunity to perform with a similar professional sound” (GW- Artist, St. ID 12). Gemma argued strongly for the use of online music distribution, having adopted it herself. Yet contrastingly, Stacy elicited some conflicting ideas on her opinion regarding the impact of technology, particularly the digital delivery of music, on retail trade. Stacy’s mentioned physical retail store’s persistence in making a slow online transition, which she then began to discuss: “Particularly with technology, a lot of people can lose sight of just how much talent goes into making a record, and writing songs, and playing and performing” (SB - Retailer, St ID 24). Stressing that the online distribution of music may lessen the impact of music to consumers, Stacy felt that the result may trivialise the consumer experience of purchasing or listening to music or perhaps reduce the value perceived by consumers.

Experience: Entrepreneurialism Theme

Prior to entrepreneurial trends in the music industry, Gemma had expected to merely write record and perform her songs. However, Gemma’s role traditional has since diversified, redefining the responsibilities of an artist to the point where it is difficult to generalise the extent of one artist’s control over their extrinsic function in the development of recorded and performed music. Identifying herself as one of a new breed of entrepreneurial artists, Gemma juggles a multitude of tasks including acting as a: “*manager, booking agent, tour manager, publicist, song writer and recording artist... and live performer. You have to wear a lot of different hats*” (GW - Artist, St. ID 2). In her revised role, Gemma regularly contacts venue promoters with enquiries to perform, searches for other artists to play at her concerts, organises local and international tours and the accompanying logistics, and has even established her own independent record label. Reverberating Gemma’s stance on music industry shifts towards entrepreneurialism, Stacy insisted that a number of retailers, including herself, approach

the operation of their retail stores in the same manner, stating: “I’m one of the owners of the business [my role] it’s multi-faceted” (SB - Retailer, St ID 1). While Stacy encouraged artists adopting entrepreneurialism, she noted that this practice encouraged the bypassing of many stakeholders between artist and consumer, including her role as a retailer.

Judgement: Value-adding Theme

According to Gemma, word of mouth marketing has evolved to an online context through web-based forums, reviews, online communities, and other formats, as Gemma explained: “If someone’s going to download a song of mine, and like it, they will probably tell their friends, who tell their friends, and come to a show” (GW - Artist, St. ID 16). Gemma appeared excited and motivated discussing the growing trend of artists maintaining a website presence and online community profiles, suggesting that these innovations have provided her with an unprecedented amount of attention towards her music. Pertaining to value-adding mechanisms for retailers, Stacy felt that for major retail stores, value was created via buying power and control, eliciting that major music retail companies: “control such a large chunk of the Australian market place, just because of the number of stores that they have. So that gives them an enormous amount of power. They [retailers] dictate to the record companies, rather than the other way around” (SB - Retailer, St ID 20).

Discussion

During this research, a number of particularly interesting themes emerged from each of the nineteen interviewed music industry stakeholders including technology impact, disintermediation, entrepreneurialism and perceptions of value adding and depletion. Table 1 provides a holistic snapshot of stakeholders’ perspectives of factors adding value to their role and their value contributions to the overall music value chain.

Table 1. Cross-examination of two (2) Music Artists and seventeen (17) Value-Chain Stakeholder Analysis

	<i>GW (Artist 1)</i>	<i>SB (Artist 2)</i>	<i>Analysis of all VC Stakeholders</i>
P e r c e p t i o n			
<i>Technological Impact</i>	Technology facilitating artists to develop music independently Greater accessibility to professional digital recording equipment Globalised promotion over the Internet at a reduced cost	Changes to distribution technology hindering retailers role Digital music format may cause people to ‘lose sight’ of artist’s intrinsic talent	The majority of stakeholders perceived the impacts of music technology (digital music format and recording) as adding value to music products (PS, TS, PF, DB, BS, MA, DM, JL, CO, PC, SG). Contrastingly, SB and AL (retailers) noted the devastating impact of technology on their traditional roles.
E x p e r i e n c e			
<i>Entrepreneurialism</i>	Multi-skilling requires ‘wearing a lot of different hats’ Diversified role adds to expertise and knowledge and greater creative control of music Internet marketplaces and online distribution assist self-managing	Independent retail stores adopting multi-faceted roles Degree of control exacerbated through entrepreneurial practices Outsourcing tasks to expert stakeholders is often necessary	GW, SB and others extolled the virtues of entrepreneurialism, praising its facilitation of fledgling artists and small music business owners in achieving higher degrees of control via Internet markets, greater awareness and knowledge (SP, PC, GW, CO, NS, DM, AL, TS, BC).
J u d g e m e n t			
<i>Value Adding</i>	Word-of-mouth marketing both physically and via online communities such as MySpace Wider exposure to global consumer audience now available through Internet presence via websites, MySpace.com and e-zines Greater rural and international accessibility to Australian music through online distribution	Word of mouth marketing Importance of the artist adding intrinsic value Enthusiasm, appreciation and knowledge of music Personalised customer service experience Live in-store music performances Intrinsic value of live music experience, energy and sense of community	While GW’s judgements of the accessibility and convenience of online distribution adding value, SB was opposed this judgement. GW, SB and others (BS, PF, DM, NS, CO, SG, SP, DB, AL) judged that word of mouth marketing was an effective method of adding value via online and in-person recommendations. GW, SB and CO judged live music’s intrinsic value/ energy as value adding.

The majority of comments pertaining to perceptions of various stakeholders within the music industry suggested varying perspectives of value-adding, the positive impact on the increase of independent artists, and contrasting comments on major recording labels. Experiencing the music industry changes brought about by technology was a factor highlighted by a number of co-researchers as paving the way for a new form of e-value chain, particularly beneficial to artists and stakeholders at the beginning of the value chain (e.g. music producers, sound engineers). The experience of music industry disintermediation was reflected upon with mixed perception. The majority of stakeholders explored a monetary focus notion, with many verifying their judgement of its widespread negative impact on value and creativity within artist and stakeholder roles. Contrastingly, a number of participants with a recording label role insisted that while creative and artistic in its merits, the music industry was still an 'industry' and consequently required to return a profit for investors and shareholders. Other co-researchers judged that the music industry is increasingly regaining a balance between commercial and creative values, due to the influx of accessible music development and creation enabling technologies lowering the cost of music market entrance.

Positive aspects of disintermediation were perceived as having a revolutionary impact including the reduced risk and costs incurred by artists and record labels, and the lessening of stakeholder roles. Participants often portrayed the bleak consequences of disintermediation in exaggerated measures and while the changes to the definitive roles of stakeholders was considered by artists to be constructive, the experience of change incited fear amongst those stakeholders incurring diminished function and responsibility. Among the judgement of value added to music products, customer recommendations, music accessibility, and the convenience of online distribution were factors widely considered by participants. A contrast also emerged amongst participants regarding the perceived value of recent technological advances impacting the music industry. For many of the participants, technology was perceived as generating extrinsic value by creating a globalised market for music products, particularly for artists previously forced to spend exorbitant amounts of money travelling great distances from Australia to market their music products and tour internationally.

Further, the above findings show that perception of the same music product, its media, its delivery vehicle (music IS), and ultimately their value, is quite different to different music consumers. While such wide-ranging perceptions once prefixed to considerable challenges for the designers of traditionally stable products and services, designers of the new generation of music IS - more dynamic, portable, personal and individually customisable - face much greater challenges as they must vigorously pursue and openly embrace the differences in customer viewpoints, senses, perceptions, as well as, their judgement.

The findings also suggested that the adoption of personal music systems and value chain disintermediation has consequently shifted the focus of value delivery towards consumer-derived preferences. Regarding the impact of e-value chain on stakeholders, the perceived depletion of extrinsic value from digital music formats was considered a major concern, which needs to be compensated for by contributing value to the music product in other ways. E-value chain stakeholders suggested many value-adding mechanisms, which can be invoked by artists themselves by their entrepreneurialism and creative-focus, which can be enhanced by the use of online communities, and deployment of innovative online marketing techniques.

SUMMARY, CONCLUSION AND CHALLENGES FOR FUTURE RESEARCH

This paper has revealed a number of connections between information systems, values and perceptions. Up until now, the perception of value has been poorly understood, often confused with the representation of success or economic measure, and hence exceptionally difficult to accurately determine. The paper introduces the concept of value as a highly subjective notion, much broader than monetary worth, and which is undoubtedly linked to one's perception and value system through various aspects of sense, experience and judgement. The paper reports results of our phenomenological study and presents perceptions by various stakeholders about value of music IS through three themes of technology impact, entrepreneurialism, and value adding.

The new understanding about value perceptions offers artists and value chain stakeholders a current perspective of their role within the e-value chain, providing a significant contribution to their understanding of the evolving Australian music industry and its recent value chain upheaval due to technological impact, disintermediation, and entrepreneurialism. Our study highlights the specific value chain roles where value is perceived to be added and/or depleted, alongside the emergent themes impacting upon the role's value.

According to Carr (2003), business innovation is no longer in the pursuit of technological breakthroughs but rather in the pursuit of added value for clients, management and other stakeholders. Since creation of new value is crucial to innovation, it is important to understand and assess value perceptions from different stakeholders' perspectives along the value chain. Therefore, a rich understanding of as value by different stakeholders can be useful to managers, stakeholders or decision makers attempting to implement innovative technology solutions, or possibly by organisations trying to retain value within their product/service.

A rich understanding of value, as perceived by different stakeholders, can enhance IS development methods to deliver new information systems which create value to business. For example, Boehm's (2005) value-based requirements engineering approach includes identification of stakeholders, determination of their value propositions, negotiation and prioritisation of values, and specification of mutually satisfactory requirements. In developing a '4+1' theory for valued-based software engineering. Findings from our study can be integrated within Boehm's value-based requirements engineering and subsequent phases of value-based systems development.

Our study also points out challenges remain for future research:

- The challenge of identifying and assessing the IS value will further increase with the realisation of new trends in ubiquitous (Jessup & Robey, 2002) and social computing (Lamb & Sawyer, 2005), of which music IS are representative. Ninan et al (2004) suggests that the emerging trends in music IS specifically, already facilitated faster business cycles, greater reliance on digital technology, and led to the decline of live music coinciding with the growth of new markets (Ninan et al., 2004).
- The role for future IS will include not only provision of traditional value by automation of labour-intensive tasks and facilitation of organisational and social functions, but most importantly, assisting individuals in sensing, perceiving and judging personally and socially constructed value derived from digital and digitally distributed products. Stakeholders once external to an IS (i.e. customers and supporting stakeholders) now play an integral role in the newly emerging social machinery through the cycle of feedback, awareness and demand. Our study has revealed that these mechanisms have essentially changed the way a customer is integrated into an information system, whereby the individual is more involved with the process than was previously known.

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